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MONITORED NATURAL ATTENUATION REPORT FOR SS-61 (AOC 1001)

Holloman Air Force Base
New Mexico

June 2005

Contract No.: DACA45-02-D-0012
Delivery Order No.: 5, WAD 05
Bhate Project No.: 9030024.05.05.01

Headquarters, Air Combat Command
Langley Air Force Base, Virginia

49 CES/CEV
Holloman Air Force Base, New Mexico

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Prepared For:

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Prepared By:

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Holloman Air Force Base
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Under Contract To:

U.S. Army Corps of Engineers
Omaha, Nebraska
Under Contract No. DACA45-02-D-0012
Delivery Order No. 05, WAD 05

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HOLLOMAN AIR FORCE BASE, NEW MEXICO

REVIEW SHEET

Frank Gardner Project Manager	Signature	Date
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MONITORED NATURAL ATTENUATION REPORT FOR SS-61 (AOC 1001)

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Foster Wheeler Environmental Corporation, *Final Remedial Investigation Report for Spill Site 61, Holloman Air Force Base, New Mexico*, August 1999.

Foster Wheeler Environmental Corporation, *Final Phase II Remedial Investigation Report for SS-61, Holloman Air Force Base, New Mexico*, December 2000.

Appendix C Graphs Groundwater Elevations and Contaminant Concentrations

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ACRONYMS AND ABBREVIATIONS

AAF	Army Air Field
AOC	Area of Concern
AST	Aboveground storage tank
bgs	Below ground surface
Bhate	Bhate Environmental Associates, Inc.
BTEX	Benzene, toluene, ethylbenzene, and xylenes
°C	Degrees Celsius
Cl^-	Chloride
COC	Contaminant of concern
CO_2	Carbon dioxide
DA	Drainage Area
DCE	Dichloroethene
DO	Dissolved Oxygen
EDB	1,2-Dibromoethane
EDC	1,2-Dichloroethane
E_h	Oxidation reduction potential
EPA	Environmental Protection Agency
°F	Degree Fahrenheit
Fe^{2+}	Ferrous iron
Foster Wheeler	Foster Wheeler Environmental Corporation
FS	Feasibility Study
ft	Feet or foot
H^+	Hydrogen ion
HAFB	Holloman Air Force Base
IDW	Investigation derived waste
IRP	Installation Restoration Program
LF-29	Landfill 29
µg/L	Micrograms per liter
mg/L	Milligrams per liter
MMO	Methane mono-oxygenase
MNA	Monitored natural attenuation
mS/cm	Millisiemens per centimeter

ACRONYMS AND ABBREVIATIONS (continued)

mV	Milli-volt
NA	Natural Attenuation
NAP	Natural attenuation parameter
NFA	No Further Action
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
ORP	Oxidation Reduction Potential
OWS	Oil/water separator
PCE	Perchloroethene
QAPP	Quality Assurance Project Plan
Radian	Radian Corporation
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RI	Remedial Investigation
SS-61	Spill Site 61
SU	Standard Units
SVOC	Semi-volatile organic compound
SWMU	Solid Waste Management Unit
SWPPP	Storm Water Pollution Prevention Plan
TCE	Trichloroethene
TDS	Total dissolved solids
TOC	Total organic carbon
TNT	2,4,6-Trinitrotoluene
TRPH	Total recoverable petroleum hydrocarbons
USACE	United States Army Corps of Engineers
VC	Vinyl chloride
VOC	Volatile organic compound
WRCC	Western Regional Climate Center
WSMR	White Sands Missile Range

1 INTRODUCTION

Bhate Environmental Associates, Inc., (Bhate) has been retained by the U.S. Army Corps of Engineers (USACE), under contract DACA45-02-D-0012, Delivery Order No. 5, to conduct sampling activities to support the *Feasibility Study Work Plan Spill Site 61* (Bhate, November 2003). Sampling results and field parameter measurements were collected to assess the status of natural attenuation at Spill Site 61 (SS-61) located at Holloman Air Force Base (HAFB), New Mexico. The results of these activities are presented in this *Monitored Natural Attenuation Report for SS-61 (AOC 1001).*

In a letter from the New Mexico Environment Department (NMED) dated February 4, 2005, NMED requested that additional data be collected to support monitored natural attenuation (MNA) for the site. It was requested that a groundwater sampling program be established and samples be collected from a sufficient number of wells throughout the plume on at least a semi-annual basis. Bhate submitted a draft *Additional Groundwater Monitoring Work Plan for SS-61 (AOC 1001)*, in June 2005. This plan addressed NMED's requests as follows:

1. Groundwater samples shall be analyzed for volatile organic compounds (VOCs) [including benzene, toluene, ethylbenzene, and xylenes (BTEX); naphthalene; 1,2-dichloroethane (EDC); and 1,2-dibromoethane (EDB)], semi-volatile organic compounds (SVOCs), and metals [including lead]. Samples from two wells, MW-02 and MW-05, shall also be analyzed for trichloroethene (TCE).

2. Groundwater elevations should be collected from all SS-61 and Landfill 29 (LF-29) wells for the development of groundwater potentiometric surface maps.

NMED requested several additional items be addressed. First, that the natural attenuation data and discussion related to the approved *Feasibility Study Work Plan Spill Site 61* submitted by Bhate and dated November 2003, as presented in the *Interim Final Focused Feasibility Study Spill Site 61*, Bhate, September 2004, be recompiled and the two documents submitted separately. Second, NMED requested an additional investigation of the TCE plume, located to the east and southeast of MW-02.

This MNA report is in response to the NMED request that the MNA sampling results be submitted separately. The TCE plume that overlaps some of SS-61 will be designated as a separate Area of Concern (AOC), be set up as an additional site, and receive separate funding. Therefore, the TCE plume will not be fully addressed in this report.

This document has been prepared to provide relevant information on the geologic, hydrologic, and other environmental conditions for HAFB and at the site. Information is provided for the entire Base and its surrounding environ as well as SS-61, specifically.

1.1 HAFB Site Description

HAFB is located in southeastern New Mexico in Otero County, New Mexico, approximately 100 miles north-northeast of El Paso, Texas and six miles west of Alamogordo, New Mexico (Figure 1). HAFB was first established in 1942 as Alamogordo Army Air Field (AAF). From 1942 through 1945, Alamogordo AAF served as the training grounds for over 20 different flight groups, flying primarily B-17s, B-24s, and B-29s. After World War II, most operations had ceased at the base. In 1947, Air Material Command announced the air field would be its primary site for the testing and development of un-manned aircraft, guided missiles, and other research programs. On January 13, 1948, the Alamogordo installation was renamed Holloman Air Force Base, in honor of the late Col. George V. Holloman; a pioneer in guided missile research. In 1968, the 49th Tactical Fighter Wing arrived at HAFB and has remained since. Today, HAFB also serves as the training center for the German Air Force's Tactical Training Center.

1.2 SS-61 Site Description

SS-61 is located in an industrial area in the central part of HAFB. The site is located north of two hangars, Buildings 1079 and 1080, and is divided into two study sections by DeZonia Drive (Figure 2). The northern section of the site consists of a concrete pad, located east of Building 1001, which may have been used for dispensing fuel. North of this pad was a debris pile that covered approximately 1,500 square feet. The pile contained concrete pieces, asphalt rubble, and some piping. Northeast of the concrete pad and debris pile were two aboveground storage tanks (ASTs) that had been removed. The ground surface rises approximately 10 feet toward the former AST area. A partial outline of the containment berm in the area of the northern AST is still visible. The circular berm is approximately 180 feet in diameter, rising approximately 8 feet above grade, and approximately 10 feet wide at the base. No remnant of a berm is visible for the southern AST. A 12-inch diameter steel pipe emerges from the ground at a 45° angle, oriented north to south. The piping was traced to an apparent T-junction located 450 feet south of the AST area. A geophysical survey, conducted during the Phase I Remedial Investigation (RI), traced one branch of the piping west from the junction to an area directly north of the concrete pad to two concrete valving vaults (Foster Wheeler Environmental Corporation [Foster Wheeler] and Groundwater Technology Government Services, December 1997). The other piping branch runs south toward the hangar area.

The southern portion of SS-61, south of DeZonia Drive, consists of two hangars, Building 1079 and Building 1080. South of the hangars is the tarmac. The eastern hangar, Building 1080, is the newer of the two buildings. The western hangar, Building 1079, dates to the 1940s. A concrete sump is located outside the northwest entrance to the hangar. A shallow surface depression, approximately 100 feet (ft) x 70 ft by 3 ft deep, is located in the north parking lot to Building 1079. It was used as a stormwater collection basin. The piping traced from the former ASTs is located underneath Building 1087, east of Building 1079.

1.3 Summary of Previous Investigations

In 1994, during a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) of Solid Waste Management Unit (SWMU) 104, the Former Army Landfill used for the disposal of waste munitions, contamination was detected in samples collected from monitoring well MW-29-05 (Foster Wheeler and Radian Corporation [Radian], July 1994). VOCs detected in the groundwater included benzene, EDC, 2,4,6-trinitrotoluene (TNT), and 1,3,5-trinitrobenzene. Water levels collected from SWMU 104, also designated as Installation Restoration Program (IRP) Site LF-29, indicated a hydraulic gradient to the north-northwest. Monitoring well MW-29-05 was determined as being upgradient of the former landfill; therefore, the source of the contamination was located south-southeast of the former landfill. Based on the results of MW-29-05, a No Further Action (NFA) status was requested for SWMU 104. The area south-southeast of IRP Site LF-29 was designated AOC 1001, due to its location in the vicinity of Building 1001.

1.3.1 Phase I RI

A Phase I and Phase II RFI were conducted at AOC 1001 in 1996 and 1997 (Foster Wheeler and Groundwater Technology Government Services, December 1997). Soil vapor samples, soil samples, and groundwater samples were collected across the area. At this time, results from the investigations designated this area as SS-61.

A Phase I RI was conducted at SS-61 in 1999 (Foster Wheeler, August 1999). The investigation area included two former ASTs, underground piping, debris pile, and a concrete pad that may have been a fuel dispensing area. These are located north of DeZonia Drive. Information on the area is limited because part of the area was used for classified operations conducted by the Strategic Air Command. Aerial photographs indicated that operations at the concrete pad and ASTs began after 1945 and had ended by 1972. Soil samples collected during the Phase I RI indicated the presence of total recoverable petroleum hydrocarbons (TRPH), BTEX, and two explosive constituents (tetryl and trinitrotoluene) immediately above the water table, in the capillary fringe, at the northeast corner of the concrete pad. Groundwater samples collected indicated elevated levels of BTEX, north of the concrete pad, with lower levels of BTEX, EDC, TCE, and explosives to the south and east of the pad. Free product was not observed in the wells sampled. The Phase I RI confirmed that past releases in the vicinity of the concrete pad resulted in elevated concentrations of groundwater contaminants in a plume that extends north toward SWMU 104. Soil sampling showed that there was no continuing source of groundwater contamination. The risk assessment conducted indicated that there was no unacceptable risk to either human or ecological receptors; therefore, the Phase I RI concluded that no remediation was required in the northern section of SS-61.

1.3.2 Phase II RI

The Phase II RI was conducted in 2000 and investigated the southern portion of SS-61, in the vicinity of two hangars, Building 1079 and 1080 (Foster Wheeler, December 2000). Phase II

investigated the area of the two hangars, the outlying areas around the two hangars, an area southeast of Building 1080 where suspected fuel spills occurred during past operations, and in the former stormwater overflow basin north of Building 1079, directly south and upgradient of the concrete pad. Soil sampling results from Phase II indicated the same as results from the Phase I study. There did not appear to be a continuing source of groundwater contamination. An elevated level of TRPH was detected in one soil sample, collected from 1 foot to 2 feet below ground surface (bgs), at the southwest corner of Building 1079. Groundwater sampling results indicated the presence of low-level cross-gradient and upgradient contamination that the Phase II RI report attributed to multiple sources in the vicinity of Building 1079. It was reported that Building 1079 had an oil/water separator (OWS) formerly located at the southeast corner of the building. BTEX constituents were not as prevalent in the samples collected in the southern portion of SS-61; however, low concentrations of chloroform, EDC, and TCE were detected in samples collected from the eastern and western boundaries. The Phase II report attributed these solvents to likely released cleaning fluids used in aircraft maintenance in the area. The Phase II RI presented a discussion of the extent of contamination. For reference purposes, Sections 1.2, 5.0, and the data summary tables of the Phase II RI (Foster Wheeler, December 2000) are attached as Appendix A. Based on the results, no significant risk to human or ecological receptors was found and the Phase II RI recommended NFA.

1.4 Physiography

HAFB is located within the Sacramento Mountains Physiographic Province on the western edge of the Sacramento Mountains (Figure 3). The region is characterized by high tablelands with rolling summit plains; cuesta-formed mountains dipping eastward and of west-facing escarpments with the wide bracketed basin forming the basin and range complex. HAFB is approximately 59,600 acres in area, and is located at a mean elevation of 4,093 feet above sea level. The Base is located in the Tularosa Sub-basin which is part of the Central Closed Basins. The San Andreas Mountains bound the basin to the west (about 30 miles) with the Sacramento Mountains approximately 10 miles to the east. At its widest, the basin is about 60 miles east to west and stretches approximately 150 miles north to south.

SS-61 is located north of the main base area straddling DeZonia Drive. Except for a former stormwater retention pond located north of Building 1079, the surface of SS-61 slopes gently to the southwest. The primary area of the northern portion of SS-61 is a sparsely vegetated area. The southern portion of the site is primarily paved.

1.5 Surface Water

The Tularosa Basin contains all of the surface flow in its boundaries. The nearest inflow of surface waters to the Base comes from the Lost River, located in the north-central region of the Base. The upper reaches of the Three Rivers and the Sacramento River are perennial in the basin. HAFB is dissected by several southwest trending arroyos that control the surface

drainage. Hay Draw arroyo is located in the far north. Malone and Rita's Draw, which drain into the Lost River, and Dillard Draw arroyos are located along the eastern perimeter of the Base. Approximately 10,000 years ago, indications are of a much wetter climate. The present day Lake Otero encompassed a much larger area, possibly upwards of several hundred square miles. Its remains are the Alkali Flat and Lake Lucero. Lake Lucero is a temporary feature of merely a few inches in depth during the rainy season.

Ancient lakes and streams deposited water bearing deposits over the older bedrock basement material. Fractures, cracks, and fissures in the Permian and Pennsylvanian bedrock yield small quantities of relatively good quality water in the deeper peripheral. Potable water is only found from a handful of wells near the edges of the basin with more saline water towards the center. Two of the principal sources of potable water are a long narrow area on the upslope sides of Tularosa and Alamogordo with the other in the far southwestern part of the basin. Alamogordo's water, as well as the Base's, is supplied from Lake Bonito (which is in the Pecos River Basin).

SS-61 is located within Drainage Area 12 (DA-012), as described in the *Draft Storm Water Pollution Prevention Plan* (SWPPP), prepared by CH_2M Hill and dated September 2003. Storm water flow in this 79-acre DA is generally to the southwest (Bhate, January 2005). A topographic map is attached as Figure 4.

1.6 Groundwater

The predominance of the groundwater occurs as an unconfined aquifer in the unconsolidated deposits of the central basin, with the primary source of recharge as rainfall percolation and minor amounts of stream run-off along the western edge of the Sacramento Mountains. Surface water/rainfall migrates downward into the alluvial sediments at the edge of the shallow aquifer near the ranges, and flows downgradient through progressively finer-grained sediments towards the central basin. Because the Tularosa Basin is a closed system, water that enters the area only leaves either through evaporation or percolation. This elevated amount of percolation results in a fairly high water table. Beneath HAFB, groundwater ranges from 5 to 50 feet. Flow for the Base is generally towards the southwest with localized influences from the variations in the topography of the Base. Near the arroyos, groundwater flows directly toward the surface drainage feature.

At SS-61, the hydraulic gradient varies from approximately 0.0071 feet per foot (ft/ft) to 0.002 ft/ft. Localized groundwater flow is to the west-northwest (Figures 4 and 5), which is different than the general flow direction for HAFB. Groundwater was encountered at SS-61 during drilling activities conducted during the RI and Phase II RI at depths ranging from 11 to 30 feet bgs. Well completion logs from the RI and Phase II RI are included in Appendix B.

The New Mexico Water Quality Control Commission (NMWQCC) Regulations are published groundwater quality standards for aquifers with total dissolved solids (TDS) concentrations less than or equal to 10,000 milligrams per liter (mg/L) [20.6.2.3101 New Mexico Administrative Code (NMAC)]. TDS concentrations in samples collected in January 2005 from MW-01, MW-

03, and MW-06 were above 10,000 mg/L; however, concentrations in samples collected from MW-04 and MW-08 had TDS concentrations below 10,000 mg/L. These samples were collected under the Feasibility Study Work Plan (Bhate, November 2003b).

1.7 Climate

As a whole, New Mexico has a mild, arid to semi-arid continental climate characterized by light precipitation totals, abundant sunshine, relatively low humidity, and relatively large annual and diurnal temperature range (Western Regional Climate Center (WRCC), 2003). The climate of the Central Closed Basins varies with elevation. The Base is found in the low areas and is characterized by warm temperatures and dry air. Daytime temperatures often exceed 100 degrees Fahrenheit (°F) in the summer months and are in the middle 50s in the winter. A preponderance of clear skies and relatively low humidity permits rapid night time cooling resulting in average diurnal temperature ranges of 25 to 35°F. Potential evapotranspiration, at 67 inches per year, significantly exceeds annual precipitation, usually less than 10 inches (Foster Wheeler/Radian, 1995). The very low rainfall amounts resulting in the arid conditions, which with the topographically induced wind patterns combining with the sparse vegetation, tend to cause localized "dust devils". Much of the precipitation falls during the mid-summer monsoonal period (July and August) as brief, yet frequent, intense thunderstorms culminating to 30 – 40% of the annual total rainfall.

1.8 Geology

The sedimentary rocks which make up the adjacent mountain ranges are between 500 and 250 million years old (White Sands Missile Range (WSMR), 2003). During the period when the area was submerged under the shallow intra-continental sea, the layers of limestone, shale, gypsum, and sandstone were deposited. In time, these layers were pushed upward through various tectonic forces forming a large bulge on the surface. Approximately 10 million years ago the center began to subside resulting in a vertical drop of thousands of feet leaving the edges still standing (the present day Sacramento and San Andreas mountain ranges). In the millions of years following, rainfall, snowmelt, and wind eroded the mountain sediments depositing them in the valley (i.e. Tularosa Basin). Water carrying eroded gypsum, gravel, and other matter continues to flow into the basin.

As the Tularosa Basin is a bolson, which is a basin with no surface drainage outlet, sediments carried by surface water into a closed basin are bolson deposits. The overlying alluvium generally consists of unconsolidated gravels, sands, and clays. Soils in the basin are derived from the adjacent ranges as erosional deposits of limestone, dolomite, and gypsum. A fining sequence from the ranges towards the basin's center characterizes the area with the near surface soils as alluvial, eolian, and lacustrine deposits. The alluvial fan deposits are laterally discontinuous units of interbedded sand, silt, and clay while the eolian deposits consist primarily of gypsum sands. The eolian and alluvial deposits are usually indistinguishable due to the

reworking of the alluvial sediment by eolian processes. The playa, or lacustrine deposits, consist of clay containing gypsum and are contiguous with the alluvial fan and eolian deposits throughout HAFB. There has been the identification of stiff caliche layers, varying in thickness, at different areas of the Base. At the site, soils are predominantly silty sands and interbedded clays.

Based on review of boring logs from previous investigations, the SS-61 area is primarily underlain by silts, silty sands, silty clays, and clays with gypsum present. It should be noted that previous subsurface investigations conducted in the vicinity of SS-61 reported a caliche layer at depths ranging from approximately 11 to 13 feet bgs. Soil boring logs and well construction diagrams from the RI (Foster Wheeler, August 1999) and Phase II RI (Foster Wheeler, December 2000) are included in Appendix B.

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2 NATURAL ATTENUATION

As defined by the U.S. Environmental Protection Agency (EPA), Natural Attenuation (NA) is the physical, chemical, and biological processes that, under favorable conditions, act to reduce the mass, toxicity, mobility, volume, or concentrations of contaminants in soil and groundwater (EPA, September 1998). The processes that affect natural attenuation include advection, dispersion, sorption, volatilization, and biodegradation of contaminants.

2.1 Biotic Processes

Natural biotic mechanisms that affect contaminants include the mineralization of contaminants or the substitution of various biologic media by metabolic processes. Organic constituents are biodegraded by indigenous microorganisms in the subsurface. During biodegradation, dissolved contaminants in the groundwater are ultimately metabolized into innocuous byproducts such as carbon dioxide, methane, and water.

2.1.1 Aerobic Biodegradation

At SS-61, the predominant contaminants are BTEX constituents. Direct biological degradation is the most important destructive process for BTEX constituents. They are very readily degraded under aerobic conditions until available oxygen is depleted. Mineralization of the BTEX constituents to carbon dioxide and water involves the use of oxygen as a co-substrate in the initial stages of degradation and as an electron acceptor in the later stages.

A way to estimate the potential for natural biodegradation of BTEX constituents in groundwater is the relation of dissolved oxygen (DO) concentrations and BTEX concentrations. A reduction in the DO within the existing BTEX plume is a strong indication that indigenous bacteria are established and actively degrading the BTEX. In general, the concentrations of DO within the plume will be lower than the background concentrations.

2.1.2 Anaerobic Biodegradation

BTEX constituents are biodegraded under anaerobic conditions once DO has been depleted. Benzene is more easily degraded under methanogenic conditions. It has been shown to degrade under sulfate-reducing conditions but not very readily under denitrifying conditions. This is the opposite of ethylbenzene, which appears to degrade anaerobically only under nitrate-reducing conditions.

Chlorinated VOCs, such as EDC and TCE, are biodegraded under natural conditions via reductive dechlorination. Reductive dechlorination is the most important process for the natural biodegradation of the more highly chlorinated contaminants. The chlorinated hydrocarbon is used as an electron acceptor rather than a carbon source. The chlorine atom is removed from the contaminant molecule and replaced by a hydrogen atom. Of the chlorinated contaminants detected at SS-61, TCE is the most susceptible to reductive dechlorination because it is the most oxidized. Conversely, vinyl chloride is the least susceptible to reductive dechlorination because

it is the least oxidized. Biodegradation of chlorinated contaminants under this mechanism is an electron-donor-limited process.

2.1.3 Cometabolism

Cometabolism is the catalyzed degradation of a contaminant by an enzyme or cofactor that is produced by the organism for other purposes; however, there is no benefit to the microorganism (EPA, September 1998). Cometabolism is best seen under aerobic conditions, although it can potentially occur under anaerobic conditions. The rate of cometabolism increases as the degree of dechlorination decreases. Chlorinated contaminants are usually only partially transformed during cometabolic processes, with additional degradation generally required to complete the transformation.

Cometabolism has been shown to occur where petroleum and chlorinated constituents are present in the groundwater. Where BTEX plumes overlay chlorinated plumes, a degradation mechanism of the chlorinated contaminants is by enzymatic activity using BTEX or another substrate to fulfill the bacteria's energy requirement. This is shown by low concentration levels of chlorinated hydrocarbons in the center of the BTEX plume and increased concentrations outward toward the edges of the BTEX plume. Concentrations of chloride will be higher near the center of the BTEX plume and decrease toward the edges of the BTEX plume.

2.2 Natural Attenuation Parameters

The natural geochemistry of an aquifer plays an important role in the biodegradation of contaminants. Conversely, the biodegradation of petroleum and chlorinated contaminants can measurably change the geochemistry of the groundwater in the affected area. By quantifying these changes, NA, also called intrinsic remediation, can be assessed and its importance at SS-61 can be evaluated.

2.2.1 pH

pH is a measurement of the hydrogen ion (H^+) concentration in a solution. A pH value of 7.0 standard units (SU) is considered neutral, while a value lower than 7.0 SU is acidic and a value higher than 7.0 SU is basic or alkaline. The presence and activity of microbial populations in groundwater is affected by pH. Methanogens are especially influenced by pH. The optimal pH range for aerobic degradation is between 6 and 8 SU. For reductive dechlorination via anaerobic degradation, the optimal pH range is greater than 5 SU and less than 7 SU. A pH range of 5.5 to 8.5 SU is generally optimal for degradation of petroleum hydrocarbons.

2.2.2 Temperature

Temperature of groundwater directly affects the solubility of dissolved gasses and other geochemical species. Microbial activity is also affected by temperature. At groundwater

temperatures above 20 degrees Celsius (°C), biochemical processes are accelerated. The lower the temperature, the less likely biological activity and biodegradation is occurring. Microorganisms capable of BTEX degradation mostly favor a mesophilic temperature range and effective biodegradation has been found to be generally occurring within a temperature range of 5° C to 45° C. Extreme temperatures (either hot or cold) prohibit microbial growth and considerably slow down biodegradation of contaminants.

2.2.3 Dissolved Oxygen

DO is the most thermodynamically favored electron acceptor used in the biodegradation of fuel hydrocarbons. DO concentrations are used to estimate the mass of BTEX constituents that can be biodegraded by aerobic conditions. An oxygen level above 0.5 mg/L is generally an indicator of aerobic conditions in which benzene, toluene, and xylenes have been observed to biodegrade effectively. Anaerobic bacteria cannot generally function at DO levels of 0.5 mg/L or higher.

2.2.4 Nitrate

Once DO concentrations have been depleted, nitrate can be used as an electron acceptor for the anaerobic biodegradation of BTEX contaminants by denitrification. Nitrate may be used as an electron acceptor for anaerobic biodegradation of chlorinated VOCs by way of dechlorination. Nitrate concentrations in the impacted portion of the aquifer should be less than 1.0 mg/L for reductive dechlorination. At higher concentrations, nitrate may compete with the reductive pathway.

2.2.5 Ferrous Iron

In some cases, ferrous iron (Fe^{2+}) can be used, under anaerobic processes, as an electron acceptor for the degradation of petroleum constituents. At concentrations of Fe^{2+} greater than 1.0 mg/L, the reductive pathway is possible for chlorinated hydrocarbons.

2.2.6 Sulfate

After DO, nitrate, and available ferrous iron have been depleted, sulfate may be used as an electron acceptor. This anaerobic process is termed sulfate reduction and results in the production of sulfide. At concentrations of sulfate greater than 20 mg/L, there may be competitive exclusion of dechlorination; however, reductive dechlorination can still occur. Sulfate reducing microorganisms are very pH and temperature sensitive.

2.2.7 Ethene and Ethane

Ethene and ethane are typically found in groundwater at sites where chlorinated solvents undergo biological transformation, especially when all chlorinated aliphatic hydrocarbons are reductively dechlorinated generating end products ethene and ethane. Under such reductive dechlorination, through the reductive pathway, perchloroethene (PCE) is reduced through steps to vinyl chloride (VC) which is further reduced to ethene. Ethene may then be reduced to ethane or methane. The

following sequence of reactions presents a typical reductive dechlorination pathway (Freedman and Gossett, 1989):

$$PCE \Rightarrow TCE \Rightarrow DCE^{1} \Rightarrow VC \Rightarrow Ethene \Rightarrow Ethane$$

2.2.8 Methane

Methanogenesis generally occurs after oxygen, nitrate, ferrous iron, and sulfate have been depleted. The presence of methane in groundwater is indicative of strong reducing conditions. During methanogenesis, carbon dioxide is used as the electron acceptor.

2.2.9 Specific Conductance

Specific conductance is a measurement of an aqueous solution's ability to conduct or carry an electric current, which depends on the presence, total concentration, mobility, and valence of charged ionic species (e.g., Ca^{2+}, Na^{+}, Mg^{2+}, HCO_3^{-}, Cl^{-}), turbidity, and the solution's temperature. Conductivity is a measure of the ability of a solution to conduct electricity. Conductivity measurements are used to ensure that groundwater samples collected at a site are representative of the water comprising the saturated zone in which the dissolved contamination is present. If the conductivities of samples taken from different sampling points are radically different, the waters may be from different hydrogeologic zones.

2.2.10 Alkalinity

The total alkalinity of a groundwater system is indicative of the capacity of the water to neutralize acid. Alkalinity is defined as the net concentration of strong base in excess of strong acid with a pure carbon dioxide (CO_2) water system as the point of reference. Alkalinity results from the presence of hydroxides, carbonates, and bicarbonates of elements such as calcium, magnesium, sodium, potassium, or ammonia. In zones of increased microbial activity, there is an increase in alkalinity that results from the dissolution of rock. This dissolution of rock is driven by the carbon dioxide produced by the microorganism's metabolism of the contaminants. Alkalinity maintains the pH of groundwater because it buffers against acids generated during both aerobic and anaerobic biodegradation. Increases in alkalinity due to increased microbial activity are generally taken as twice the normal background.

2.2.11 Chloride

Chloride is the halogen of greatest abundance in natural waters. The chloride form (Cl^{-}) is the only form of major significance in groundwater. Chloride ions do not generally enter into redox reactions, form no important solute complexes with other ions unless the concentration is

[1] DCE: Dichloroethene

extremely high, do not form salts of low solubility, are not significantly absorbed onto mineral surfaces, and are not very important substrates for biochemical processes. However, during biological degradation of chlorinated organics, Cl^- is released into the groundwater. Therefore, Cl^- is a good tracer element to estimate biological activity. Chloride is also measured to ensure that groundwater samples collected at a site are representative of the water comprising the saturated zone in which the dissolved contamination is present (i.e., to ensure that all samples are from the same groundwater flow system). If the chloride concentrations of samples taken from different sampling points are radically different, the waters may be from different hydrogeologic zones.

2.2.12 Oxidation Reduction Potential

Oxidation Reduction Potential (ORP) in groundwater, designated as E_h, is the measure of electron activity. Since redox reactions in groundwater are usually biologically mediated, the ORP depends on and influences the rates of biodegradation. ORP is one of the best indicators of aerobic/anaerobic conditions. Theoretically, aerobic degradation occurs at a highly positive redox potential, indicating highly oxidizing conditions, and anaerobic degradation occurs at a strongly negative redox potential, indicating highly reductive conditions. This is presented in Table 1.

2.2.13 Total Dissolved Solids

The NMWQCC Regulations are published groundwater quality standards for aquifers with TDS concentrations less than or equal to 10,000 mg/L [20.6.2.3101 NMAC]. The TDS concentration is a direct measure of the presence of total ions in the aquifer and is one of the primary criteria for classifying the aquifer based on its use as a potential drinking water source. Under the NMWQCC regulations, if TDS in groundwater is more than 10,000 mg/L, the aquifer is classified as non-potable.

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3 GROUNDWATER SAMPLING AND ANALYSIS

Sampling protocols and analyses conducted were performed in accordance with the *Basewide Quality Assurance Project Plan* (QAPP) (Bhate, December 2003b), the *Feasibility Study (FS) Work Plan* (Bhate, November 2003), and the *Quality Assurance Project Plan Addendum* (Bhate, November 2003) included as Appendix B to the FS Work Plan.

Low flow or low stress techniques were used during purging activities for MNA sampling to minimize the disturbance of the water column and generation of investigation derived waste (IDW).

3.1 Monitoring Well Locations for Sampling

The monitoring wells sampled are shown on Figure 2. Monitoring wells included in the sampling scheme were:

- The three monitoring wells located inside the plume: MW-03, MW-04, and MW-06
- A monitoring well located outside the plume area to provide background information: MW-01
- A monitoring well located downgradient/side gradient on the periphery of the plume: MW-08

3.2 Groundwater Sampling Schedule

Monitoring wells were sampled quarterly for one year. Quarterly sampling was conducted in April 2004, June 2004, September 2004, and December 2004/January 2005.

3.3 Groundwater Levels

Immediately prior to sampling, a complete round of groundwater level measurements were collected from the monitoring wells sampled at SS-61. The water level, time, date, well identification and weather conditions at the time of measurement were permanently recorded. Groundwater potentiometric maps are included for the sampling events presented in Section 3.2 as Figures 5 through 8, respectively. Groundwater elevations are presented in Table 2 and a graph representing the water level fluctuations is attached as Appendix C.

3.4 Groundwater Analytical Methods

Groundwater samples collected from the five monitoring wells specified in Section 3.1 were analyzed for VOCs and various NA parameters. The specific suite of analyses was based on the contaminants present in site groundwater and the geochemical parameters required to evaluate the occurrence of NA processes. The analyses consisted of field and laboratory measurements.

The following is a list of parameters that were analyzed in the field at the time of groundwater sample collection:

- Temperature
- pH
- Dissolved Oxygen
- Specific conductance
- ORP
- Ferrous iron per Hach Method 8146

Temperature, pH, dissolved oxygen, conductivity, and ORP were measured in the field using a multi-parameter sonde and a flow-through cell. Ferrous iron was measured in the field using a HACH Colorimeter and associated reagents.

Groundwater samples were collected for analyses by Associated Laboratories in Orange, California, with a normal turnaround time. The following is a list of parameters that were analyzed by the laboratory:

- VOCs per EPA Method 8260B
- TDS per EPA Method 160.1
- Methane, ethane, and ethene per EPA Method RSK 175
- Chloride per EPA Method 300.0
- Nitrate/nitrite per EPA Method 300.0
- Sulfate per EPA Method 300.0
- Total Organic Carbon (TOC) per EPA Method 9060
- Alkalinity per EPA Method 310.1

4 MONITORED NATURAL ATTENUATION RESULTS

BTEX constituents, under proper subsurface conditions (e.g., pH range, temperature, etc.), are extremely favorable to remediation by biodegradation. During MNA, contaminant concentrations and distribution are monitored over time and compared with initial concentration values. Rates of attenuation can be estimated using groundwater modeling software.

BTEX and other petroleum constituents are the main contaminants of concern (COCs) at SS-61. As part of the FS Work Plan implementation, MNA parameters were collected from monitoring wells MW-01, MW-03, MW-04, MW-06, and MW-08 in April 2004, June 2004, September 2004, and December 2004/January 2005. Laboratory analytical results are summarized in Table 3 and attached as Appendix D. Graphs of the analytical data are included in Appendix C. Figure 9 presents benzene concentrations from the past four MNA sampling events. Figure 10 is an isoconcentration map for the January 2005 benzene data. Figures 11 through 14 present the natural attenuation parameters (NAPs) data for the sampling events stated above, respectively. A summary of the NAP data is presented in Table 4.

4.1 BTEX Concentrations

The range of BTEX concentrations recorded in samples collected during this MNA period (April 2004 to December 2004/January 2005) are as follows:

- BTEX constituents were below detection limits in the samples collected from monitoring well MW-01.
- Concentrations of BTEX constituents in samples collected from monitoring well MW-03 during the monitoring period showed an increasing trend when compared to historical data. Specifically:
  - Benzene concentrations in samples from MW-03 varied between 7,180 micrograms per liter (µg/L) in April 2004 to 16,900 µg/L in January 2005.
  - Toluene concentrations in samples from monitoring well MW-03 varied between 734 µg/L in April 2004 to 4,060 µg/L in January 2005.
  - Ethylbenzene concentrations in samples collected from MW-03 varied between below laboratory detection limits (April 2004) to 309 µg/L (January 2005).
  - Total xylenes concentrations in samples from monitoring well MW-03 varied between 1,870 µg/L in April 2004 to 4,370 µg/L in January 2005.
- No BTEX constituents were detected in any of the samples collected from monitoring well MW-04 with the exception of one. The sample collected in September 2004 had a benzene concentration of 1.5 µg/L.

- The BTEX concentrations show a predominantly decreasing trend in the samples collected from monitoring well MW-06. Specifically:
  - Benzene concentrations in samples from MW-06 varied between 802 µg/L in January 2005 to 11,200 µg/L in September 2004.
  - Toluene was detected at concentrations in samples from monitoring well MW-06 that varied between below laboratory detection limit (April 2004 and September 2004) to 22 µg/L (June 2004).
  - Ethylbenzene concentrations varied between 4.9 µg/L in January 2005 to 464 µg/L in September 2004.
  - Total xylenes concentrations at monitoring well MW-06 varied between 16 µg/L (January 2005) to 188 µg/L (June 2004).
- Toluene, ethylbenzene, and total xylenes were not detected in any of the samples collected from MW-08; however, benzene was detected at concentrations varying between below laboratory detection limit (April 2004 and January 2005) to 282 µg/L (June 2004).

4.2 Field Parameters

Selected groundwater quality parameters were measured as part of the MNA study. These parameters included temperature, pH, DO, ORP, specific conductance, and ferrous iron. Table 4 provides a summary of the field parameters measured. Each parameter is discussed in the following sections.

4.2.1 Temperature

Groundwater temperature affects the rate of many biological and chemical reactions including oxygen solubility in water. The range of temperature measurements recorded in the monitoring well samples during this MNA period (April 2004 to December 2004/January 2005) are as follows:

- Temperature at monitoring well location MW-01 varied between 18.25° C (April 2004) to 20.66° C (June 2004)
- Temperature at monitoring well location MW-03 varied between 20.83 °C (January 2005) to 21.52 °C (June 2004)
- Temperature at monitoring well location MW-04 varied between 18.17 °C (January 2005) to 21.47 °C (September 2004)

- Temperature at monitoring well location MW-06 varied between 19.43 °C (January 2005) to 22.45 °C (September 2004)

- Temperature at monitoring well location MW-08 varied between 18.23 °C (January 2005) to 21.85 °C (September 2004)

4.2.2 pH

Since microbial populations are commonly pH sensitive, the pH of groundwater has a pronounced effect on the presence and metabolic activity of microbes. The range of pH readings recorded in the monitoring well samples during this MNA period (April 2004 to December 2004/January 2005) are as follows:

- pH at monitoring well MW-01 varied between 6.49 SU (December 2004) to 13.39 SU (June 2004)

- pH at monitoring well MW-03 varied between 5.64 SU (January 2005) to 6.38 SU (June 2004)

- pH at monitoring well MW-04 varied between 6.83 SU (January 2005) to 7.41 SU (June 2004)

- pH at monitoring well MW-06 varied between 6.22 SU (January 2005) to 6.62 SU (June 2004)

- pH at monitoring well MW-08 varied between 6.62 SU (January 2005) to 7.01 SU (April 2004)

4.2.3 Dissolved Oxygen

Availability of dissolved oxygen in groundwater is considered one of the most important conditions for rapid biodegradation of petroleum constituents. The range of DO readings recorded in the monitoring well samples during this MNA period (April 2004 to December 2004/January 2005) are as follows.

- In samples from MW-01, DO ranged from 5.33 mg/L (December 2004) to 7.17 mg/L (April 2004)

- DO in samples from monitoring well MW-03 varied from 0.15 mg/L in June 2004 to 5.51 mg/L in April 2004

- In samples from MW-04, DO varied between 2.24 mg/L in January 2005 to 5.57 mg/L in April 2004

- In samples from MW-06, DO varied between 0.2 mg/L (June 2004) to 8.17 mg/L (September 2004)

- DO in samples from monitoring well MW-08 varied between 2.18 mg/L (June 2004) to 6.21 mg/L (April 2004)

4.2.4 Oxidation-Reduction Potential

The ORP of groundwater is a measure of the relative tendency of a solution to accept or donate electrons. Although not always true, a positive E_h value generally indicates that the groundwater is under oxidizing (aerobic) conditions, while a negative value indicates that the groundwater is under chemically reducing (anaerobic) conditions. The range of ORP readings recorded in the monitoring well samples during this MNA period (April 2004 to December 2004/January 2005) are as follows:

- ORP at monitoring well MW-01 varied between 110 milli-volts (mV) (December 2004) to 219.3 mV (April 2004)
- ORP at monitoring well MW-03 varied between -34 mV (June 2004) to 59 mV (January 2005)
- ORP at monitoring well MW-04 varied between 49 mV (June 2004) to 133.9 mV (April 2004)
- ORP at monitoring well MW-06 varied between -220 mV (June 2004) to 29 mV (January 2005)
- ORP at monitoring well MW-08 varied between -188 mV (June 2004) to 175.3 mV (April 2004)

4.2.5 Specific Conductance

The specific conductivity values collected from different monitoring wells represents consistency, which is in turn indicative of the fact that the samples were collected from the same hydrogeologic zone. In addition, as specific conductivity is also indicative of total ion concentration in the groundwater, the site data indicates presence of adequate dissolved solids, which are critical sources of electron acceptors and nutrients for microbial growth. The range of specific conductance readings recorded in the monitoring well samples during this MNA period (April 2004 to December 2004/January 2005) are as follows:

- Specific conductance at monitoring well MW-01 varied between 10.39 millisiemens per centimeter (mS/cm) (April 2004) to 22.77 mS/cm (September 2004)
- Specific conductance at monitoring well MW-03 varied between 26.51 mS/cm (April 2004) to 28.61 mS/cm (September 2004)

- Specific conductance at monitoring well MW-04 varied between 6.987 mS/cm (January 2005) to 9.905 mS/cm (April 2004)
- Specific conductance at monitoring well MW-06 varied between 9.882 mS/cm (April 2004) to 19.379 mS/cm (June 2004)
- Specific conductance at monitoring well MW-08 varied between 2.591 mS/cm (January 2005) to 5.366 mS/cm (June 2004)

4.2.6 Ferrous Iron

The use of ferric iron (Fe^{3+}) as an electron acceptor by microorganisms yields water-soluble ferrous iron (Fe^{2+}). In anaerobic groundwater zones where BTEX and a source of ferric iron are present, ferrous iron can be used as an indicator of biodegradation. The range of ferrous iron concentrations recorded in the monitoring well samples during this MNA period (April 2004 to December 2004/January 2005) are as follows:

- Ferrous iron concentrations at monitoring well MW-01 varied between below detection limit (December 2004) to 0.5 mg/L (June 2004)
- Ferrous iron concentrations at monitoring well MW-03 varied between 0.18 mg/L (September 2004) to 0.62 mg/L (June 2004)
- Ferrous iron concentrations at monitoring well MW-04 varied between below detection limit (January 2005) to 0.25 mg/L (September 2004)
- Ferrous iron concentrations at monitoring well MW-06 varied between 0.19 mg/L (January 2005) to 1.19 mg/L (September 2004)
- Ferrous iron concentrations at monitoring well MW-08 varied between 0.29 mg/L (June 2004) to 1.19 mg/L (September 2004)

4.3 Natural Attenuation Parameters

Both field and laboratory natural attenuation parameters were analyzed as part of the MNA study. Laboratory analysis consisted of alkalinity, nitrate, nitrite, sulfate, ethane, ethene, and methane. Table 4 provides a summary of these parameters.

4.3.1 Chloride

The majority of the chloride concentrations in all the monitoring well samples were observed to be greater than NMWQCC standards. However, the data was consistent among different monitoring wells indicating that groundwater samples were collected from the same hydrogeologic zone. The range of chloride concentrations recorded in the monitoring well samples during the MNA period (April 2004 to December 2004/January 2005) are as follows:

- Chloride concentrations at monitoring well MW-01 varied between 7,520 mg/L (September 2004) to 7,890 mg/L (December 2004)
- Chloride concentrations at monitoring well MW-03 varied between 7,610 mg/L (April 2004) to 9,510 mg/L (September 2004)
- Chloride concentrations at monitoring well MW-04 varied between 633 mg/L (January 2005) to 1,680 mg/L (June 2004)
- Chloride concentrations at monitoring well MW-06 varied between 4,320 mg/L (April 2004) to 4,470 mg/L (September 2004)
- Chloride concentrations at monitoring well MW-08 varied between 70.5 mg/L (April 2004) to 447 mg/L (June 2004)

4.3.2 Nitrate & Nitrite

Nitrate serves as an electron acceptor through the processes of denitrification and nitrate (NO_3^-) reduction. Nitrite (NO_2^-), an intermediate in denitrification, is also an indicator of the nitrate reduction process. It should be noted that individual nitrate and nitrite concentrations were not measured during all the sampling events, as shown on Table 4 (instead total nitrogen concentration was measured). The range of nitrate and nitrite concentration recorded in the monitoring well samples during MNA report (April 2004 to December 2004/January 2005) are as follows:

- In monitoring well MW-01, individual nitrate and nitrite concentrations were measured during two (April 2004 and June 2004) out of four sampling events. The highest nitrate concentration recorded in MW-01 was 80.8 mg/L (June 2004), while nitrite was not detected during either of the sampling events.
- In monitoring well MW-03, individual nitrate and nitrite concentrations were measured during one (April 2004) out of four sampling events. The nitrate and nitrite concentrations were not detected during that sampling event.
- In monitoring well MW-04, individual nitrate and nitrite concentrations were measured during two (April 2004 and June 2004) out of four sampling events. The highest nitrate concentration recorded in MW-04 was 137 mg/L (April 2004), while nitrite was not detected during either of the sampling events.
- In monitoring well MW-06, individual nitrate and nitrite concentrations were measured during one (June 2004) out of four sampling events. The nitrate concentration recorded was 16 mg/L (June 2004) and nitrite was not detected during that sampling event.

- In monitoring well MW-08, individual nitrate and nitrite concentrations were measured during one (April 2004) out of four sampling events. The nitrate concentration recorded was 14.6 mg/L (April 2004) and nitrite was not detected during that sampling event.

4.3.3 Sulfate

Under strongly reducing conditions, after available oxygen, nitrate, and ferric iron have been depleted, sulfate can be used as an electron acceptor. Sulfate depletion or the presence of sulfide may indicate sulfate-reducing activity. The range of sulfate concentrations recorded in the monitoring well samples during this MNA period (April 2004 to December 2004/January 2005) are as follows:

- Sulfate at monitoring well MW-01 varied between 2,470 mg/L (September 2004) to 2,650 mg/L (April 2004)
- Sulfate at monitoring well MW-03 varied between 5,280 mg/L (June 2004) to 6,060 mg/L (September 2004)
- Sulfate at monitoring well MW-04 varied between 3,930 mg/L (January 2005) to 4,930 mg/L (June 2004)
- Sulfate at monitoring well MW-06 varied between 5,890 mg/L (January 2005) to 6,490 mg/L (June 2004)
- Sulfate at monitoring well MW-08 varied between 1,720 mg/L (April 2004) to 2,820 mg/L (June 2004)

4.3.4 Alkalinity

Alkalinity is important in the maintenance of groundwater pH because it buffers the groundwater system against acids generated during both aerobic and anaerobic biodegradation. The range of alkalinity readings recorded in the monitoring well samples during this MNA period (April 2004 to December 2004/January 2005) are as follows:

- At location MW-01:
  - Calcium carbonate concentrations varied between 100 mg/L (April 2004) to 105 mg/L (September 2004)
  - Bicarbonate concentrations varied between 122 mg/L (April 2004) to 128 mg/L (September 2004)
- At location MW-03:
  - Calcium carbonate concentrations varied between 750 mg/L (June 2004) to 910 mg/L (January 2005)

- Bicarbonate concentrations varied between 915 mg/L (June 2004) to 1,110 mg/L (January 2005)

- At location MW-04:
  - Calcium carbonate concentrations varied between 160 mg/L (April 2004) to 180 mg/L (June 2004)
  - Bicarbonate concentrations varied between 174 mg/L (January 2005) to 220 mg/L (June 2004)

- At location MW-06:
  - Calcium carbonate concentrations at monitoring well MW-06 varied between 450 mg/L (January 2005) to 1,300 mg/L (September 2004)
  - Bicarbonate concentrations at monitoring well MW-06 varied between 549 mg/L (January 2005) to 1,590 mg/L (September 2004)

- At location MW-08:
  - Calcium carbonate concentrations varied between 98 mg/L (April 2004) to 437 mg/L (June 2004)
  - Bicarbonate concentrations varied between 119 mg/L (April 2004) to 534 mg/L (June 2004)

No alkalinity as carbonate or hydroxide was detected at any of the monitoring well samples during this sampling period. These results are indicative of the fact that the aquifer has good buffering capacity, which will buffer any possible pH change during the MNA period.

4.3.5 Total Dissolved Solids

An average TDS concentration was calculated from the data collected as part of the MNA study. The average TDS concentration for the aquifer is calculated as 14,140 mg/L, which is more than the acceptable TDS concentration for the potable aquifers. The significantly high TDS concentrations also indicate that the aquifer contains high amounts of dissolved solids, which may be a useful source for microbial nutrients and terminal electron acceptors.

4.3.6 Ethane and Ethene

The range of ethene and ethane concentrations recorded in the monitoring well samples during this MNA period (April 2004 to December 2004/January 2005) are as follows:

- Ethene and ethane were not detected at any of the samples collected from monitoring well MW-01

- Ethene concentrations in samples from monitoring well MW-03 varied between below the detection limit (June 2004) to 0.011 mg/L (January 2005) while ethane concentrations varied between below the detection limit (June 2004) to 0.026 mg/L (January 2005)

- Ethene and ethane were not detected at any of the samples collected from monitoring well MW-04

- Ethene was not detected in any of the samples collected from monitoring well MW-06; however, ethane concentrations varied between 0.012 mg/L (January 2005) to 0.041 mg/L (June 2004)

- Ethene concentrations in samples from monitoring well MW-08 were below the laboratory detection limit at all the samples except the one collected in September 2004 (0.008 mg/L) and ethane concentrations varied between below the laboratory detection limit (April 2004, September 2004, and January 2005) to 0.052 mg/L (June 2004)

4.3.7 Methane

During methanogenesis (an anaerobic biodegradation process), carbon dioxide (or acetate) is used as an electron acceptor, and methane is produced. Methanogenesis generally occurs after oxygen, nitrate, bio-available iron, and sulfate have been depleted. The range of methane concentrations recorded in the monitoring well samples during this MNA period (April 2004 to December 2004/January 2005) are as follows:

- Methane was not detected in any of the samples collected from monitoring wells MW-01, MW-03, and MW-04

- Methane concentrations in samples from well MW-06 varied between 0.023 mg/L (June 2004) to 0.062 mg/L (September 2004)

- Methane in samples from monitoring well MW-08 varied between below laboratory detection limits (April 2004, June 2004, and January 2005) to 0.02 mg/L (September 2004)

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5 MONITORED NATURAL ATTENUATION MODELING

BIOSCREEN Version 1.4, a screening model which simulates remediation through natural attenuation of dissolved hydrocarbons at petroleum fuel release sites, has been used to simulate the natural attenuation process occurring at SS-61. Based on the input of the site specific data and default parameters (used as needed based on BIOSCREEN Manual), the MNA process was simulated. MW-03, showing the highest benzene concentration during the most recent sampling event, was used as a source well. Using a 1st order decay reaction mechanism, the model predicted that in 2 years the peripheral wells will achieve compliance for benzene (considering 5 μg/L as the target compliance concentration).

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6 SUMMARY AND CONCLUSIONS

The MNA data collected during the sampling events conducted under the FS Work Plan (Bhate, November 2003) were reviewed. Sampling was conducted in April 2004, June 2004, September 2004, and December 2004/January 2005.

6.1 Summary

Results of the MNA data review are summarized below:

- All of the measured temperatures were within the mesophilic temperature range.
- The pH measurements, except for the reading from one monitoring well collected in June 2004, are in or very close to the acceptable range for favorable microbial degradation activity at the site.
- The majority of the DO readings were above the favorable DO level of 0.5 mg/L, and were indicative of an oxidizing site condition where oxygen is the dominant electron acceptor.
- The ORP readings indicate a predominantly aerobic-partially anaerobic aquifer condition.
- The overall ferrous iron concentration is showing a decreasing trend, which most likely indicates a decreasing trend of utilizing ferric iron as a terminal electron acceptor.
- The decrease in concentration of nitrate and corresponding increase in the concentration of nitrite most likely is indicating that nitrate is partially acting as a terminal electron acceptor at the site.
- The high sulfate concentration numbers indicate that sulfate is most likely not being used as the terminal electron acceptor at this site.
- The presence of ethane and ethene in the groundwater samples indicate the presence of a secondary chlorinated solvents degradation pathway at the site.
- The presence of trace amounts of methane in the groundwater can be beneficial for the methanotrophs (aerobic bacteria) that oxidize methane as an energy and carbon source through the enzyme methane mono-oxygenase (MMO). The MMO can co-metabolize or transform non-growth substrates by either growing or resting cells. Methanotrophs, which are ubiquitous, can co-metabolize many aliphatic compounds, alkanes, and aromatic compounds, which should be beneficial for the biodegradation of BTEX constituents at this site.

6.2 Conclusions

Based on the summary of results, the following conclusions can be reached.

- If the pH readings stay at the current level for the site without a further drop in the acidic range or increase into the strongly alkaline range, pH will be favorable for continued BTEX biodegradation activities.
- The measured temperatures were very favorable for growth and activity of the microorganisms that are primarily responsible for BTEX biodegradation.
- The overall site DO is showing a decreasing trend, which is an indication that indigenous bacteria have been established and are actively degrading the BTEX.
- As oxygen is being used as terminal electron acceptor during BTEX biodegradation by the naturally occurring microbial population, pockets of partially anaerobic environments may develop, which is also substantiated by the DO levels at the monitoring wells.
- Reductive dechlorination of the chlorinated constituents is occurring. However, as the site condition is predominantly aerobic, and chlorinated solvents best degrade under reducing conditions, the chlorinated solvent degradation is expected to be very slow.

Overall, as seen by the data and the modeling, currently the BTEX is being actively degraded at SS-61. In accordance with the draft *Additional Groundwater Monitoring Work Plan for SS-61 (AOC 1001)*, submitted by Bhate in June 2005, MNA monitoring will continue.

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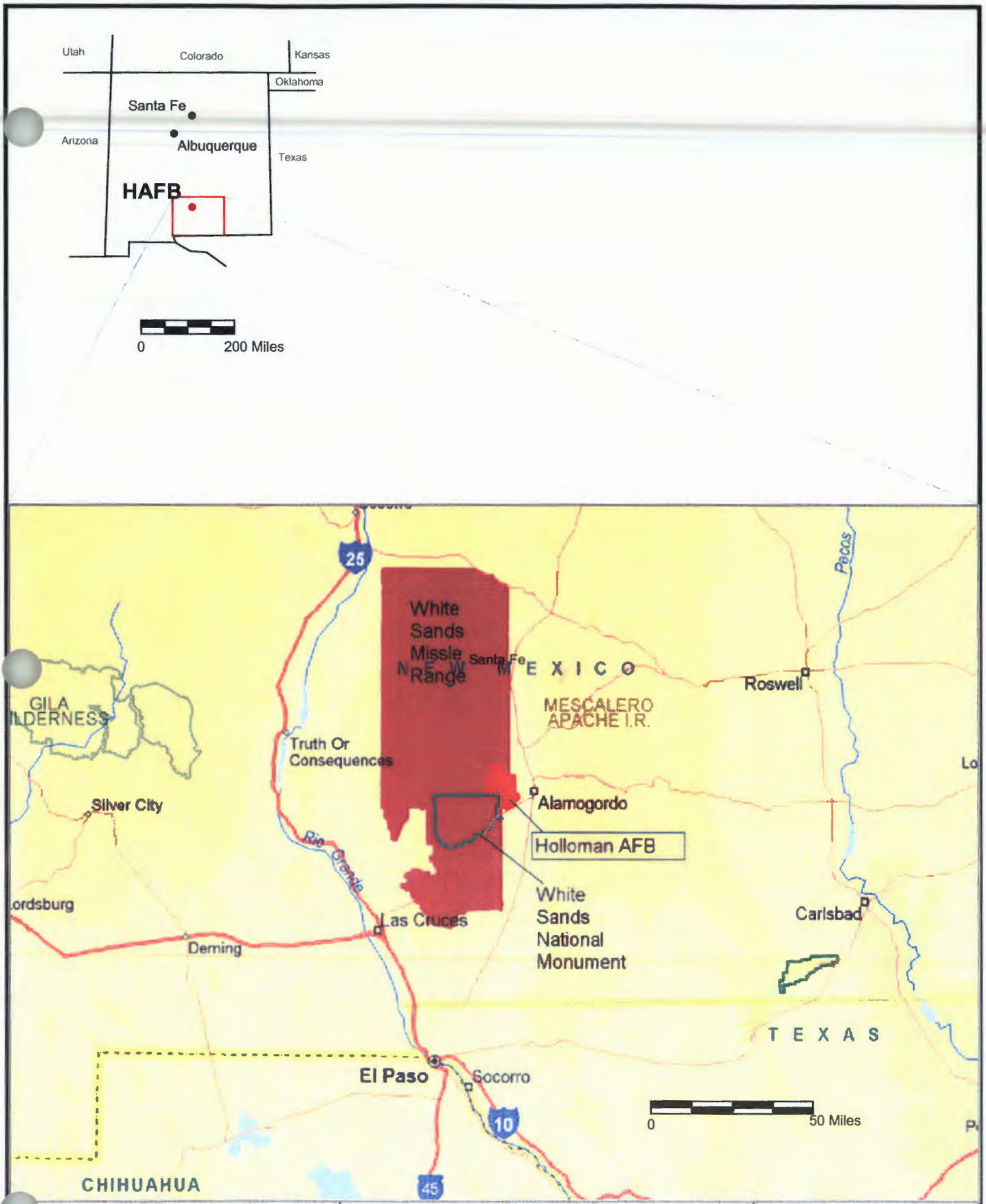
20 NMAC 6.2, December 1995. Water Quality Control Commission Regulations, NMED Water Quality Bureau.

FIGURES



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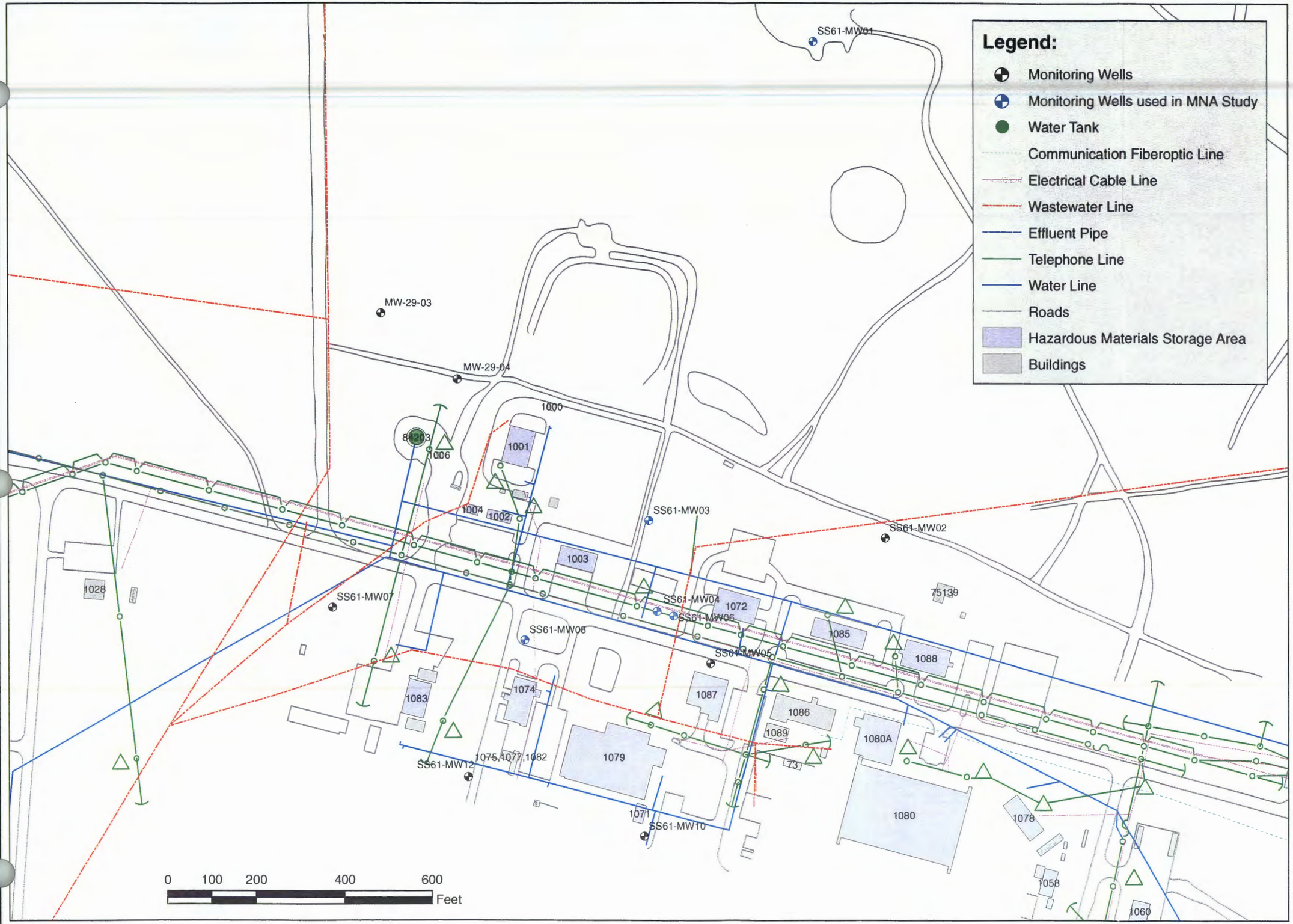
LOCATION MAP

PROJECT NO.	SCALE:	DATE:	DRAWN BY: SSD/MRM
9030024	SHOWN	06/01/05	FILE: Figure 1

Monitored Natural Attenuation Report for SS-61

Figure 1

Holloman AFB, NM



MONITORED NATURAL ATTENUATION REPORT
SPILL SITE 61
U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT

HOLLOMAN AIR FORCE BASE, NEW MEXICO

Figure 2

SITE PLAN WITH MONITORING WELL AND UTILITY LOCATIONS

DRAWN BY:	CM/MRM
DRAWING NO:	Figure 2
DATE	6/01/05
SCALE	AS SHOWN
PROJECT NO	9030024

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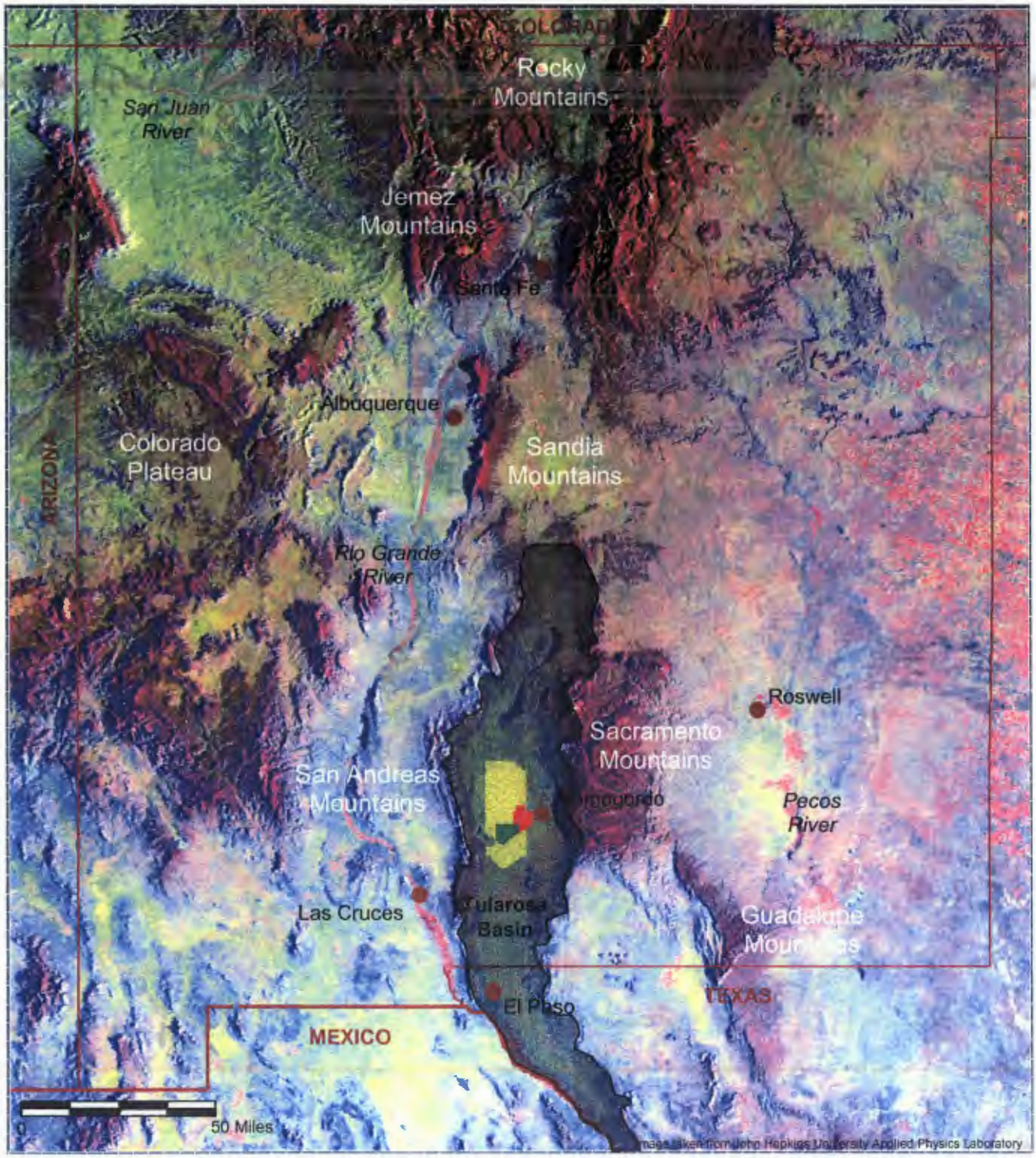

NORTH

Holloman AFB
White Sands National Monument
White Sands Missile Range

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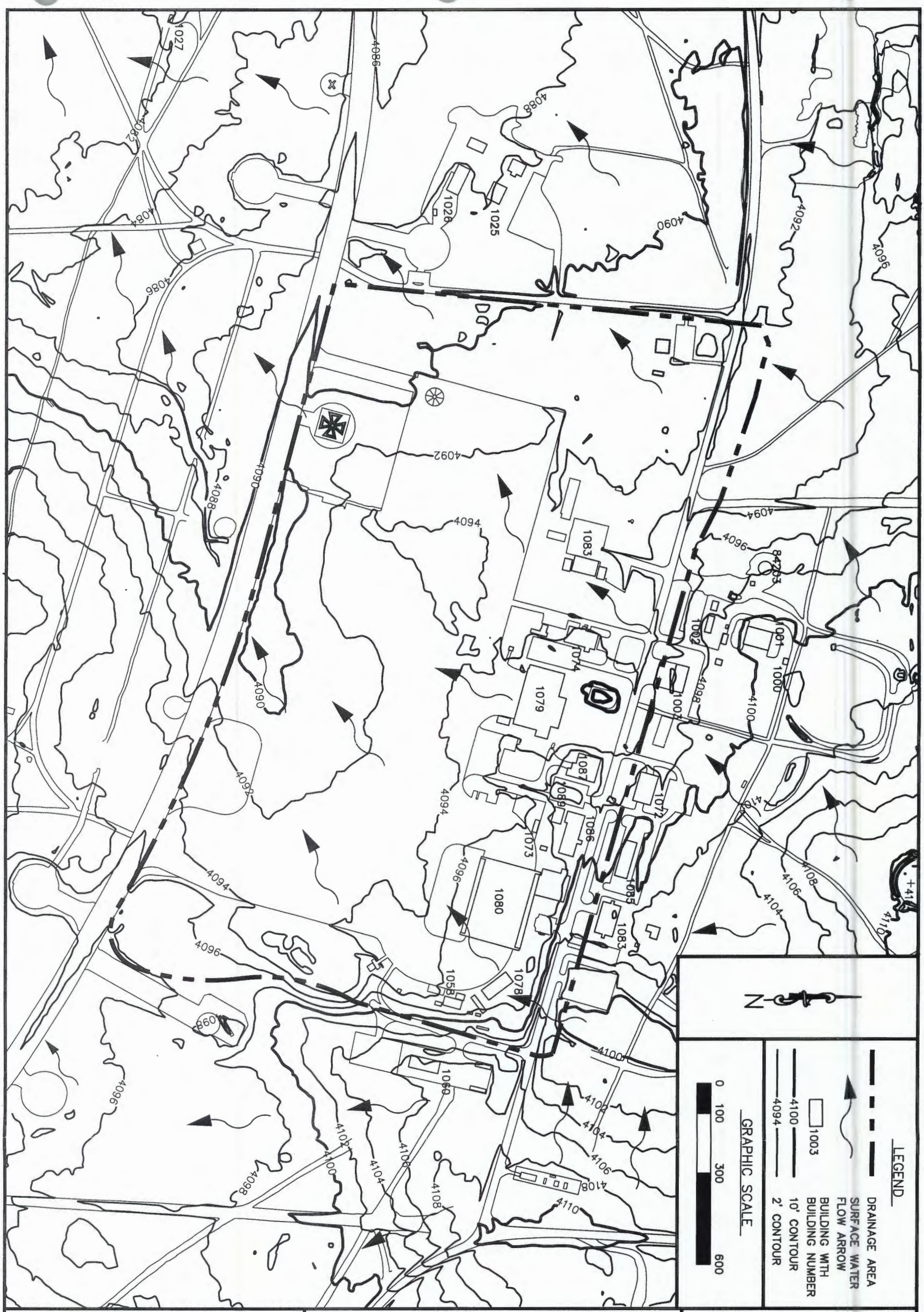
PHYSIOGRAPHIC MAP

PROJECT NO.:	SCALE:	DATE:	DRAWN BY:	SSD/MRM
9030024	SHOWN	06/01/05	FILE:	Figure 3

Monitored Natural Attenuation Report for SS-61

Figure 3

Holloman AFB, NM



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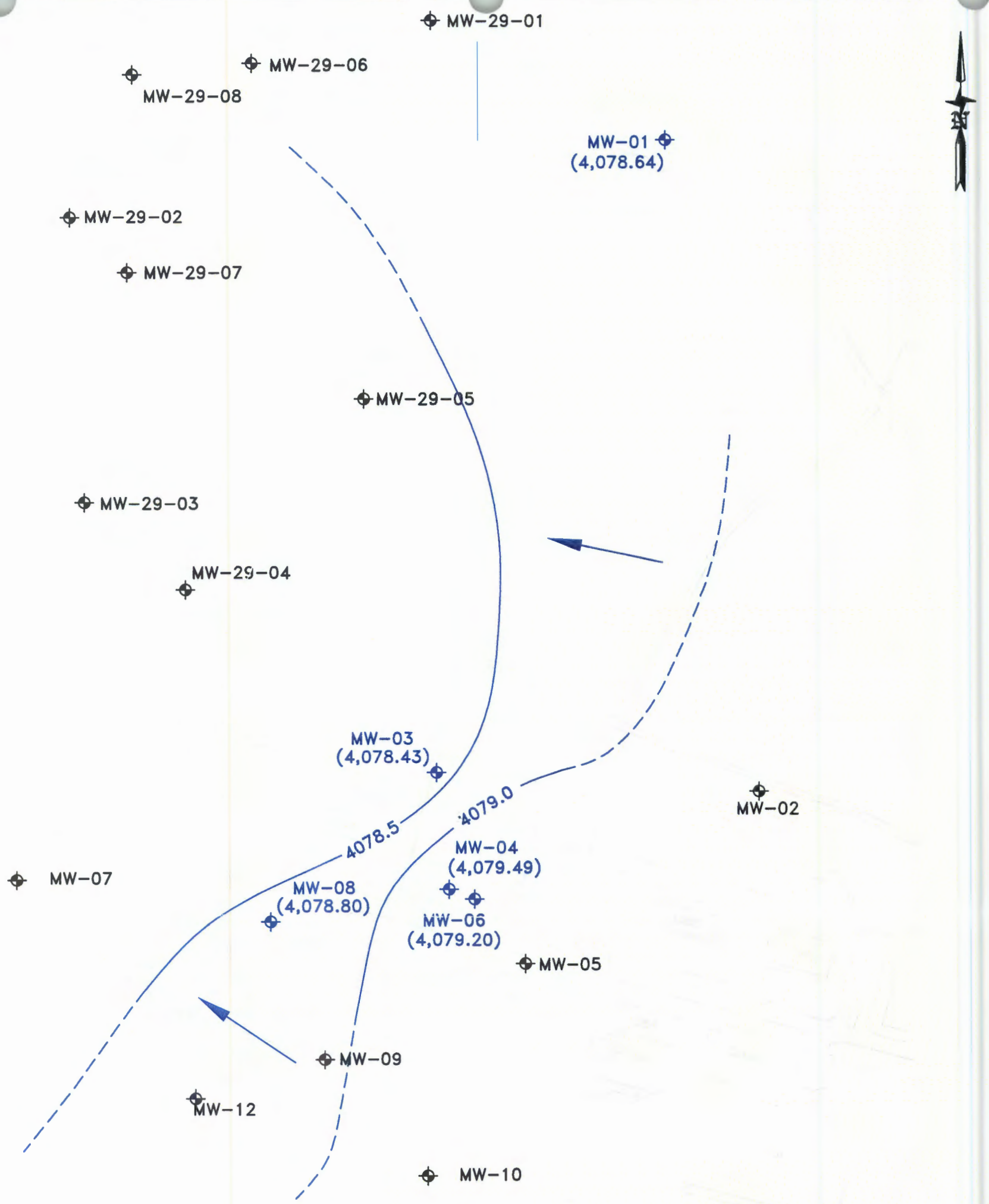
TOPOGRAPHIC MAP

PROJECT NO.	SCALE	DATE	DRAWN BY: SKN
9030024	1"=300'	5/27/05	DRAWING NO: DA_12

MONITORED NATURAL ATTENUATION REPORT
SPILL SITE 61
U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT

HOLLOMAN AFB, NEW MEXICO

SHEET NO: FIGURE 4



LEGEND

- Monitoring Wells
- Monitoring Wells in MNA Sampling
- (4,079.20) Groundwater Surface Elevation
- —4,079.0— Groundwater Contour Elevation (Dashed Where Inferred)
- Groundwater Flow Direction

0 100 200 400
SCALE IN FEET

NOTES:

Drawing was taken from Foster Wheeler Environmental Corporation drawing entitled, "Extent of Groundwater Contamination During the RI", dated September 17, 2000.

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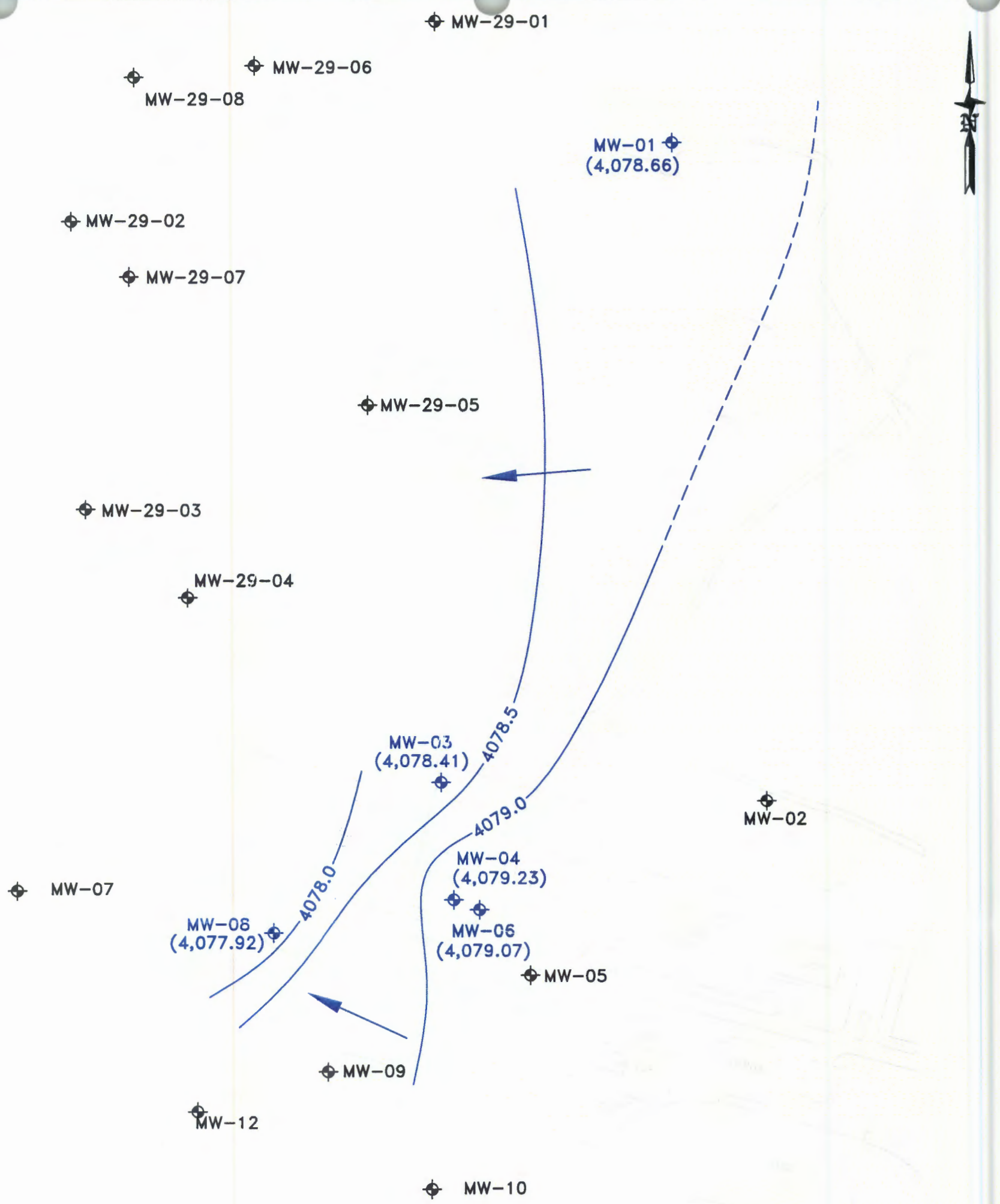
POTENTIOMETRIC SURFACE MAP
(APRIL 2004)

MONITORED NATURAL ATTENUATION REPORT
SPILL SITE 61
U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT

PROJECT NO.	SCALE	DATE	DRAWN BY: EP/CEP/MRM	HOLLOMAN AIR FORCE BASE, NEW MEXICO
9030024	1"=200'	6/01/05	DRAWING NO: 9030024-05	Figure 5



LEGEND

- Monitoring Wells
- Monitoring Wells in MNA Sampling
- (4,078.66) Groundwater Surface Elevation
- —4,079.0— Groundwater Contour Elevation (Dashed Where Inferred)
- Groundwater Flow Direction

0 100 200 400
SCALE IN FEET

NOTES:

Drawing was taken from Foster Wheeler Environmental Corporation drawing entitled, "Extent of Groundwater Contamination During the RI", dated September 17, 2000.

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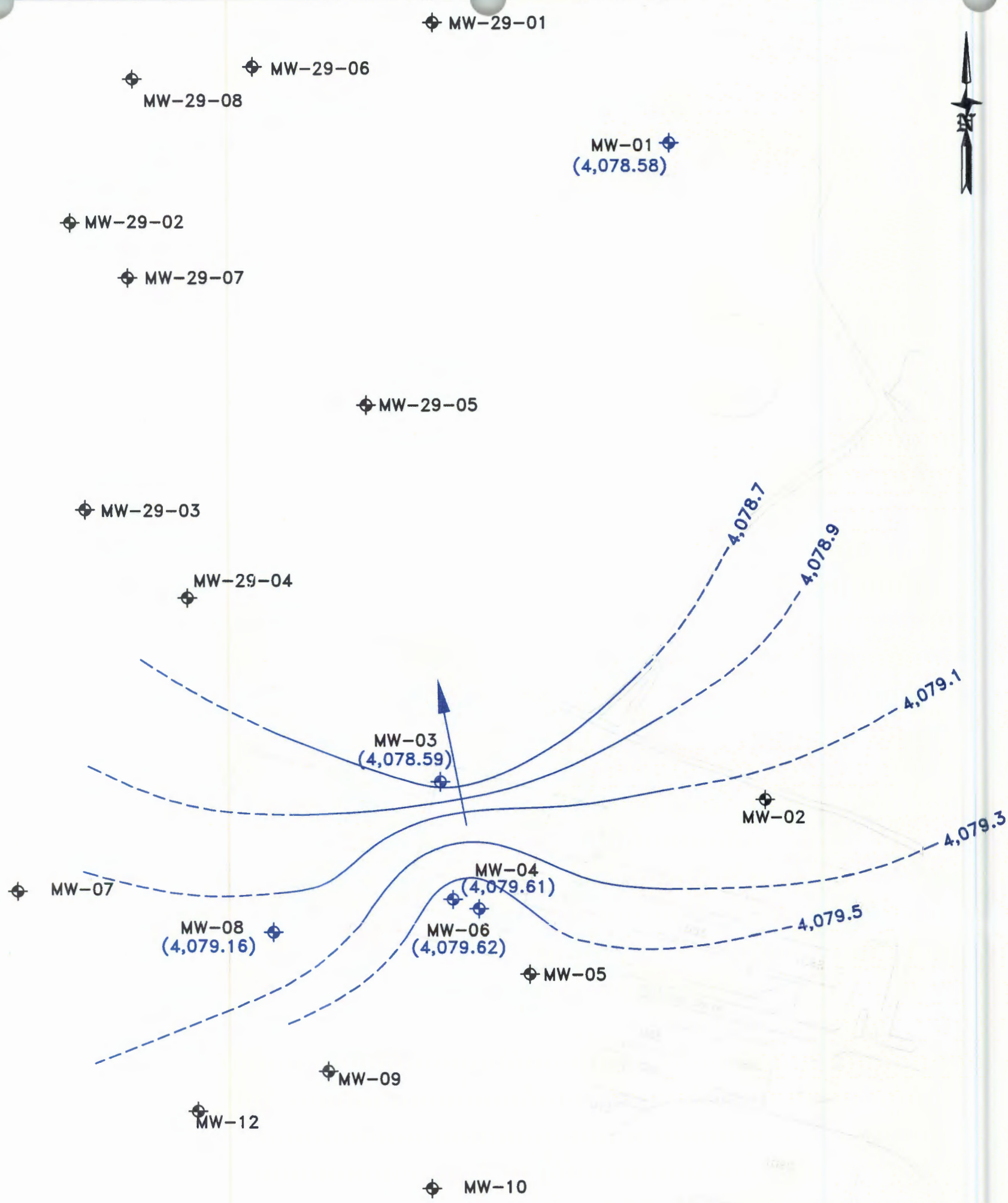
POTENTIOMETRIC SURFACE MAP
(JUNE 2004)

MONITORED NATURAL ATTENUATION REPORT
SPILL SITE 61
U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT

PROJECT NO.	SCALE	DATE	DRAWN BY: EP/CEP/MRM	HOLLOMAN AIR FORCE BASE, NEW MEXICO
9030024	1"=200'	6/01/05	DRAWING NO: 9030024-06	Figure 6



0 100 200 400

SCALE IN FEET

NOTES:

Information depicted was taken from Foster Wheeler Environmental Corporation drawing entitled, "Extent of Groundwater Contamination During the RI", dated September 17, 2000.

LEGEND:

⌖	MONITORING WELL LOCATION
⌖	MONITORING WELLS SAMPLED UNDER MNA
— 4,079.1 —	GROUNDWATER POTENTIOMETRIC CONTOUR (DASHED WHERE INFERRED)
(4,078.58)	GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
→	DIRECTION OF GROUNDWATER FLOW

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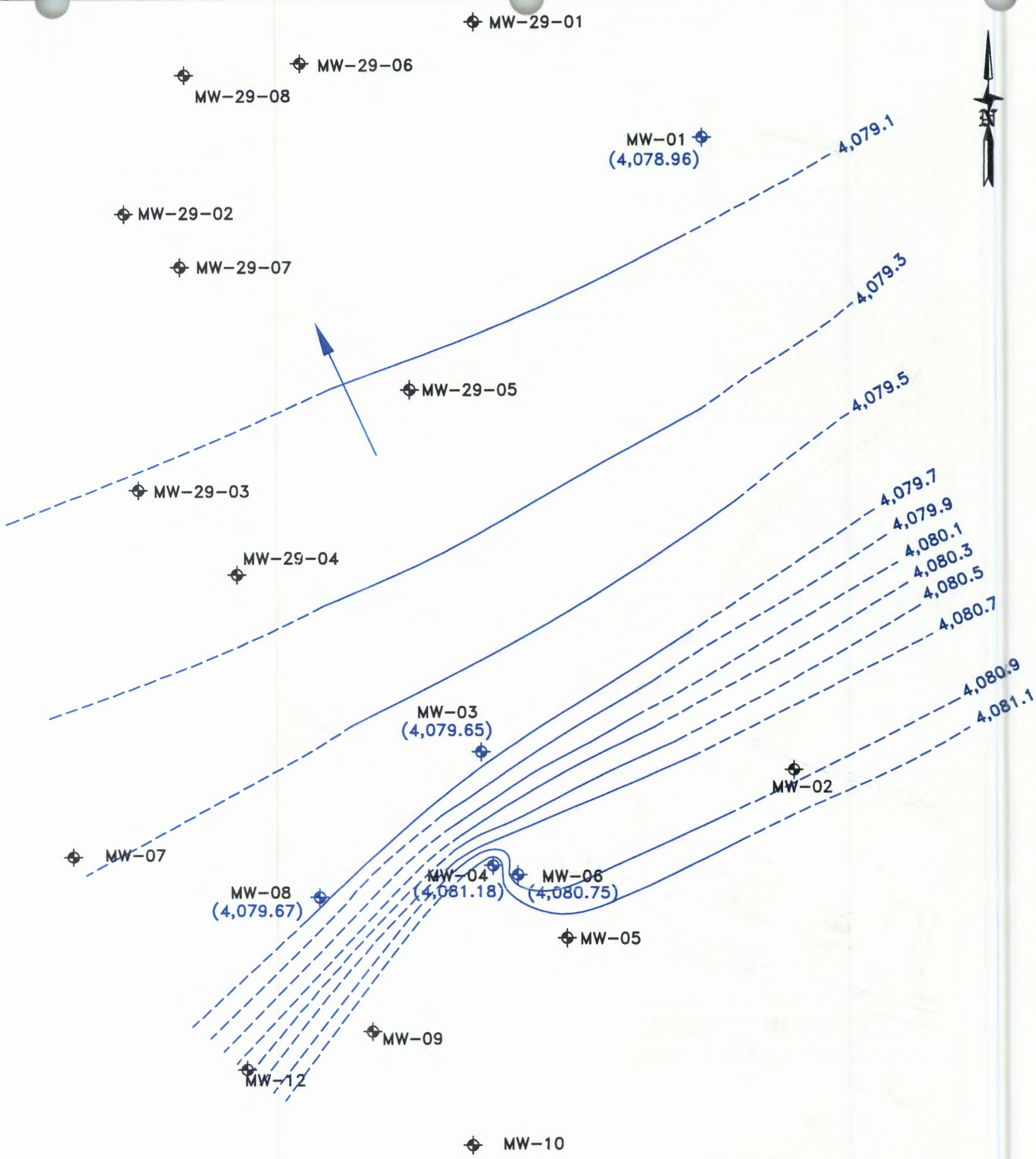
POTENTIOMETRIC SURFACE MAP
(SEPTEMBER 2004)

MONITORED NATURAL ATTENUATION REPORT
SPILL SITE 61
U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT

PROJECT NO.	SCALE	DATE	DRAWN BY: EP/CEP/MRM	HOLLOMAN AIR FORCE BASE, NEW MEXICO
9030024	1"=200'	6/01/05	DRAWING NO: 9030024-07	Figure 7



0 100 200 400

SCALE IN FEET

NOTES:

Information depicted was taken from Foster Wheeler Environmental Corporation drawing entitled, "Extent of Groundwater Contamination During the RI", dated September 17, 2000.

LEGEND:

⌖	MONITORING WELL LOCATION
⌖	MONITORING WELLS SAMPLED UNDER MNA
— 4,079.1 —	GROUNDWATER POTENTIOMETRIC CONTOUR (DASHED WHERE INFERRED)
(4,078.96)	GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
→	DIRECTION OF GROUNDWATER FLOW

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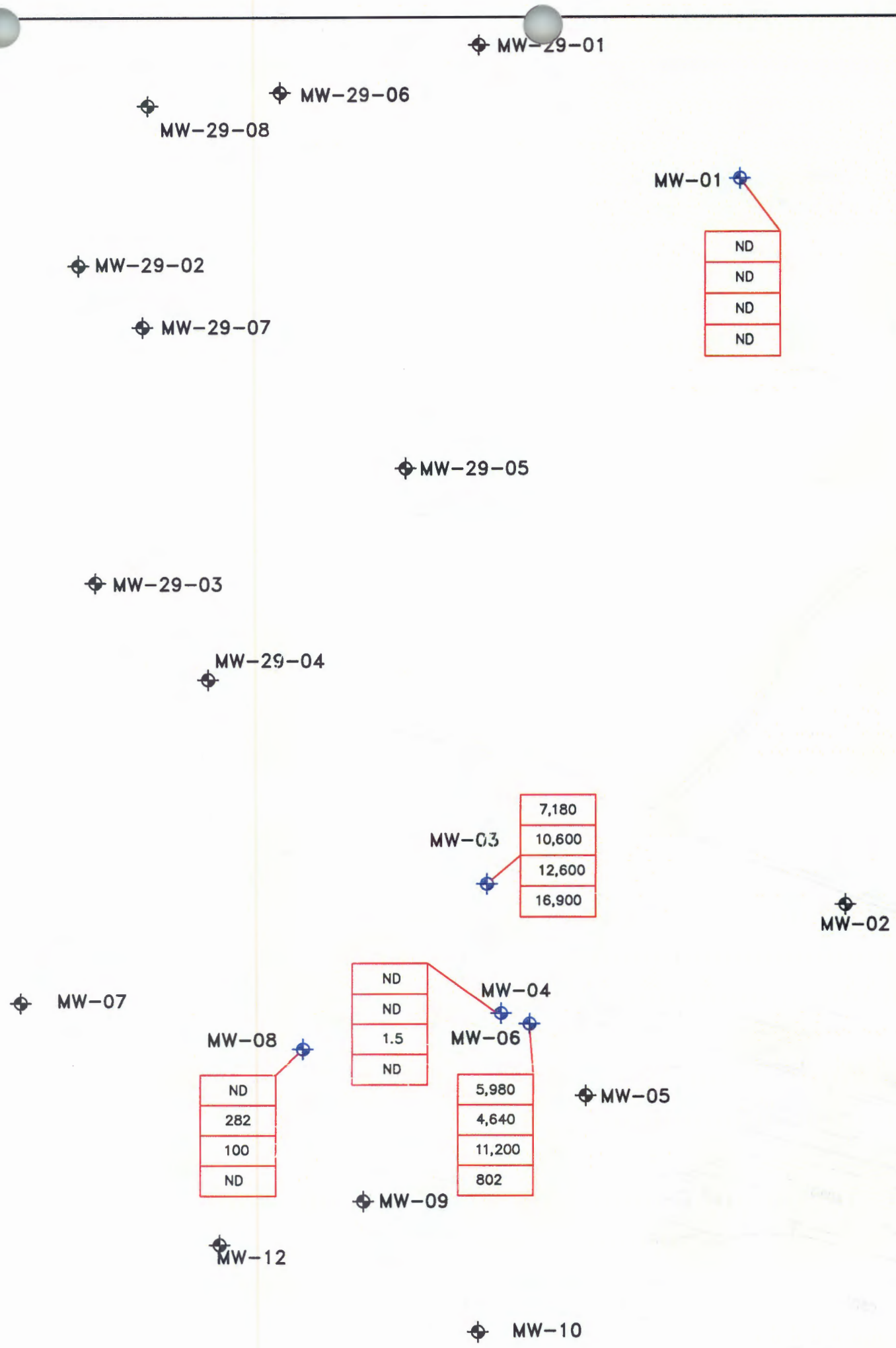
POTENTIOMETRIC SURFACE MAP
(JANUARY 2005)

MONITORED NATURAL ATTENUATION REPORT
SPILL SITE 61
U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT

PROJECT NO.	SCALE	DATE	DRAWN BY: EP/CEP/MRM	HOLLOMAN AIR FORCE BASE, NEW MEXICO
9030024	1"=200'	6/01/05	DRAWING NO: 9030024-08	Figure 8



LEGEND

- Monitoring Wells
- Monitoring Wells in MNA Sampling
- ND Not Detected
- µg/L micrograms per Liter

Benzene (April 2004)	µg/L
Benzene (June 2004)	µg/L
Benzene (September 2004)	µg/L
Benzene (January 2005)	µg/L

0 100 200 400
SCALE IN FEET

NOTES:

Drawing taken from Foster Wheeler Environmental Corporation drawing entitled, "Extent of Groundwater Contamination During the RI", dated September 17, 2000.

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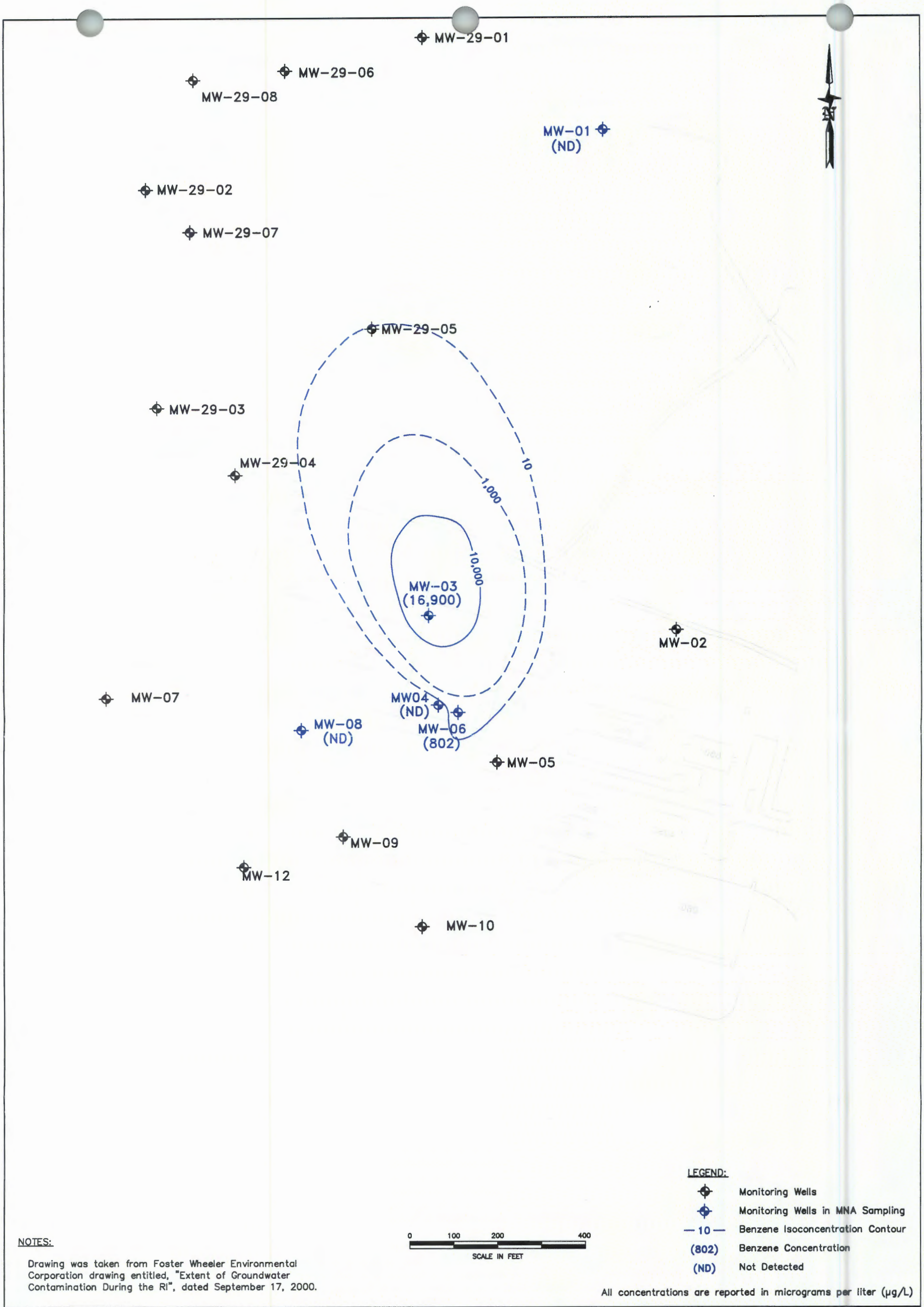
BENZENE CONCENTRATIONS

MONITORED NATURAL ATTENUATION REPORT
SPILL SITE 61
U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT

PROJECT NO.	SCALE	DATE	DRAWN BY: EP/CEP/TES	HOLLOMAN AIR FORCE BASE, NEW MEXICO
9030024	1"=200'	6/01/05	DRAWING NO: 9030024-09	Figure 9



LEGEND:

- Monitoring Wells
- Monitoring Wells in MNA Sampling
- — 10 — Benzene Isoconcentration Contour
- (802) Benzene Concentration
- (ND) Not Detected

All concentrations are reported in micrograms per liter (µg/L)

0 100 200 400
SCALE IN FEET

NOTES:

Drawing was taken from Foster Wheeler Environmental Corporation drawing entitled, "Extent of Groundwater Contamination During the RI", dated September 17, 2000.

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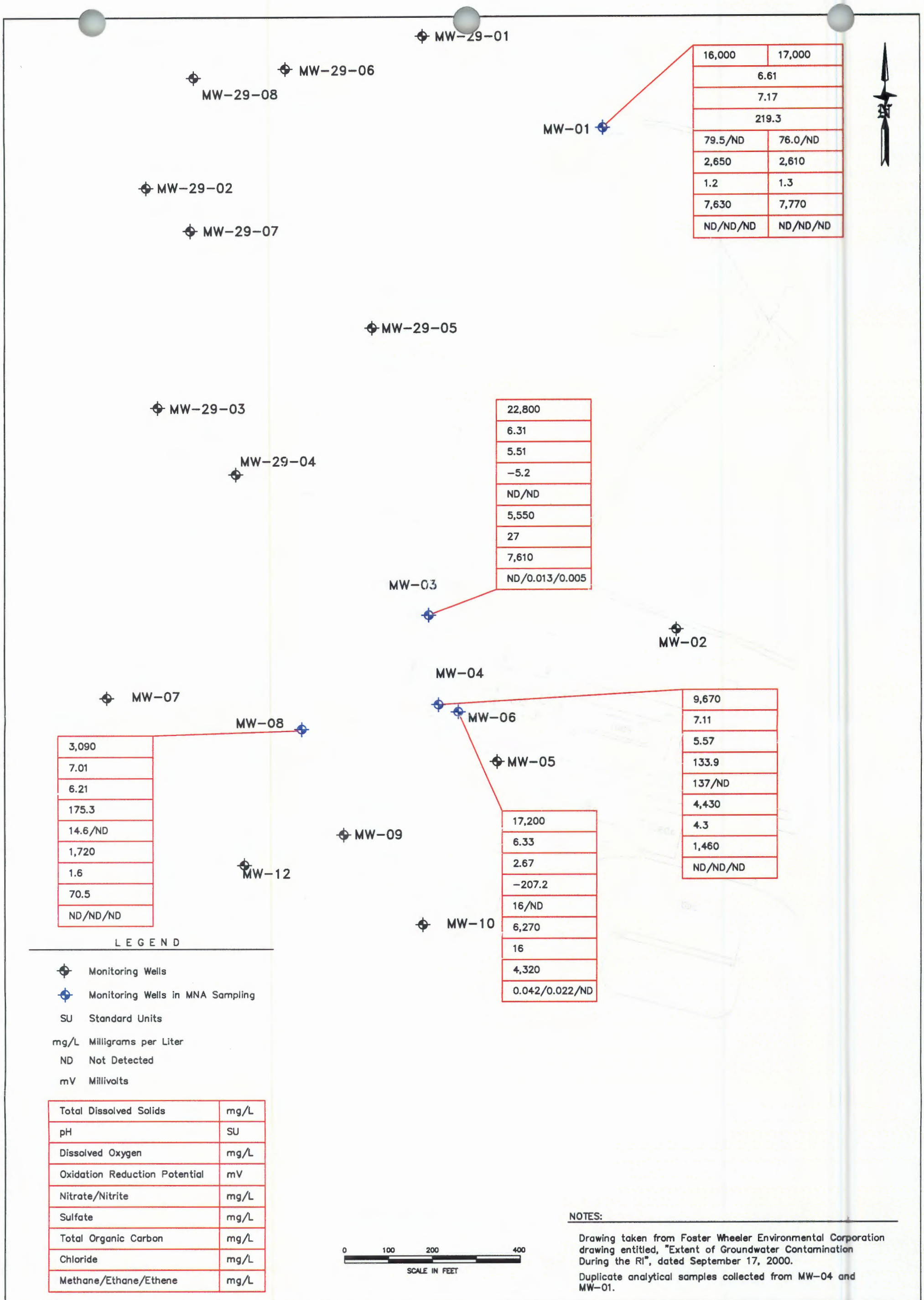
BENZENE ISOCONCENTRATION MAP
(JANUARY 2005)

MONITORED NATURAL ATTENUATION REPORT
SPILL SITE 61
U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT

PROJECT NO.	SCALE	DATE	DRAWN BY:	HOLLOMAN AIR FORCE BASE, NEW MEXICO
9030024	1"=200'	6/01/05	EP/CEP/MRM	
			DRAWING NO: 9030024-10	Figure 10



LEGEND

- Monitoring Wells
- Monitoring Wells in MNA Sampling
- SU Standard Units
- mg/L Milligrams per Liter
- ND Not Detected
- mV Millivolts

Total Dissolved Solids	mg/L
pH	SU
Dissolved Oxygen	mg/L
Oxidation Reduction Potential	mV
Nitrate/Nitrite	mg/L
Sulfate	mg/L
Total Organic Carbon	mg/L
Chloride	mg/L
Methane/Ethane/Ethene	mg/L

NOTES:

Drawing taken from Foster Wheeler Environmental Corporation drawing entitled, "Extent of Groundwater Contamination During the RI", dated September 17, 2000.

Duplicate analytical samples collected from MW-04 and MW-01.

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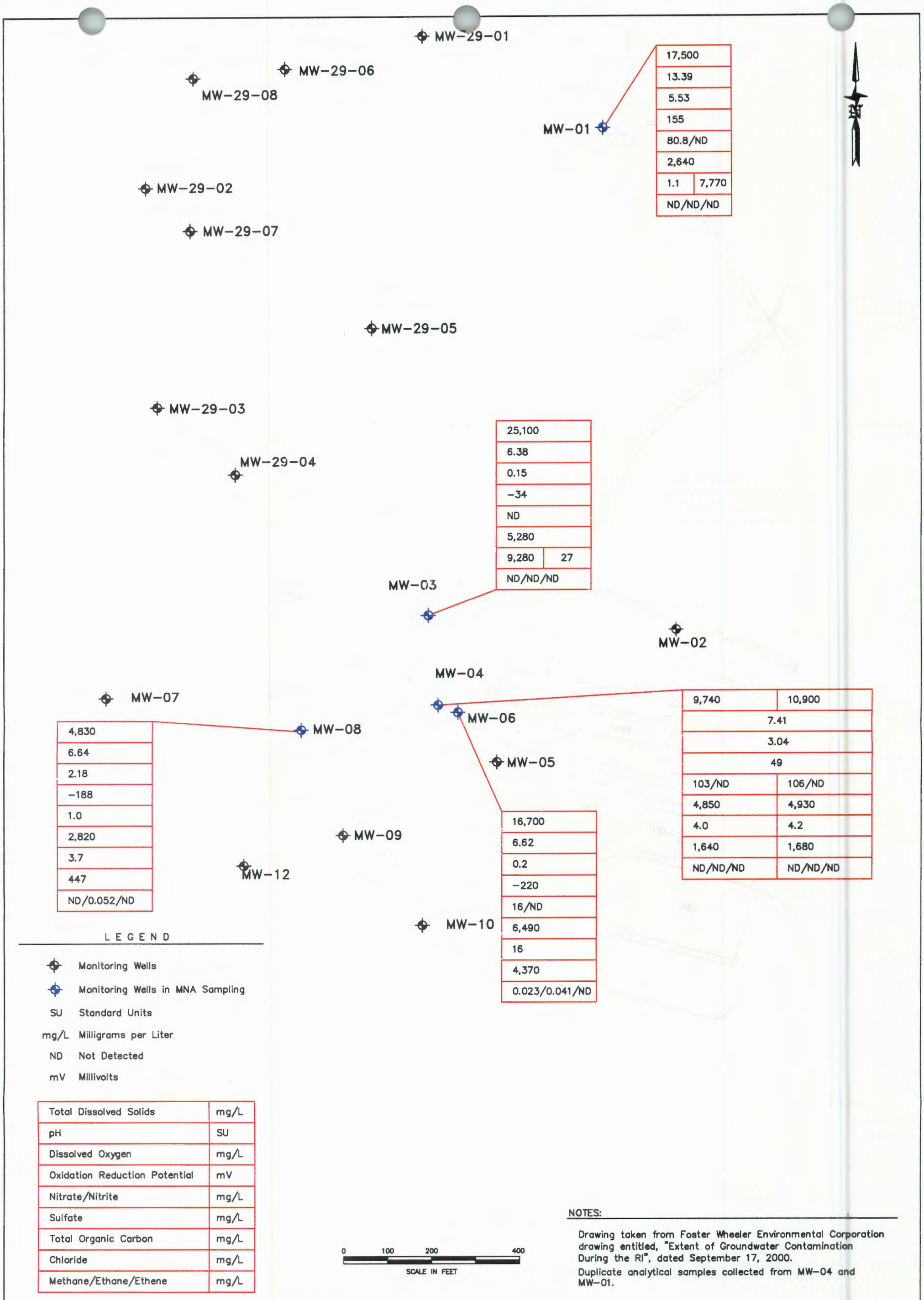
NATURAL ATTENUATION PARAMETERS
(APRIL 2004)

MONITORED NATURAL ATTENUATION REPORT
SPILL SITE 61
U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT

PROJECT NO.	SCALE	DATE	DRAWN BY: EP/CEP/TES	HOLLOMAN AIR FORCE BASE, NEW MEXICO
9030024	1"=200'	6/01/05	DRAWING NO: 9030024-11	Figure 11



LEGEND

- Monitoring Wells
- Monitoring Wells in MNA Sampling
- SU Standard Units
- mg/L Milligrams per Liter
- ND Not Detected
- mV Millivolts

Total Dissolved Solids	mg/L
pH	SU
Dissolved Oxygen	mg/L
Oxidation Reduction Potential	mV
Nitrate/Nitrite	mg/L
Sulfate	mg/L
Total Organic Carbon	mg/L
Chloride	mg/L
Methane/Ethane/Ethene	mg/L

NOTES:

Drawing taken from Foster Wheeler Environmental Corporation drawing entitled, "Extent of Groundwater Contamination During the RI", dated September 17, 2000.

Duplicate analytical samples collected from MW-04 and MW-01.

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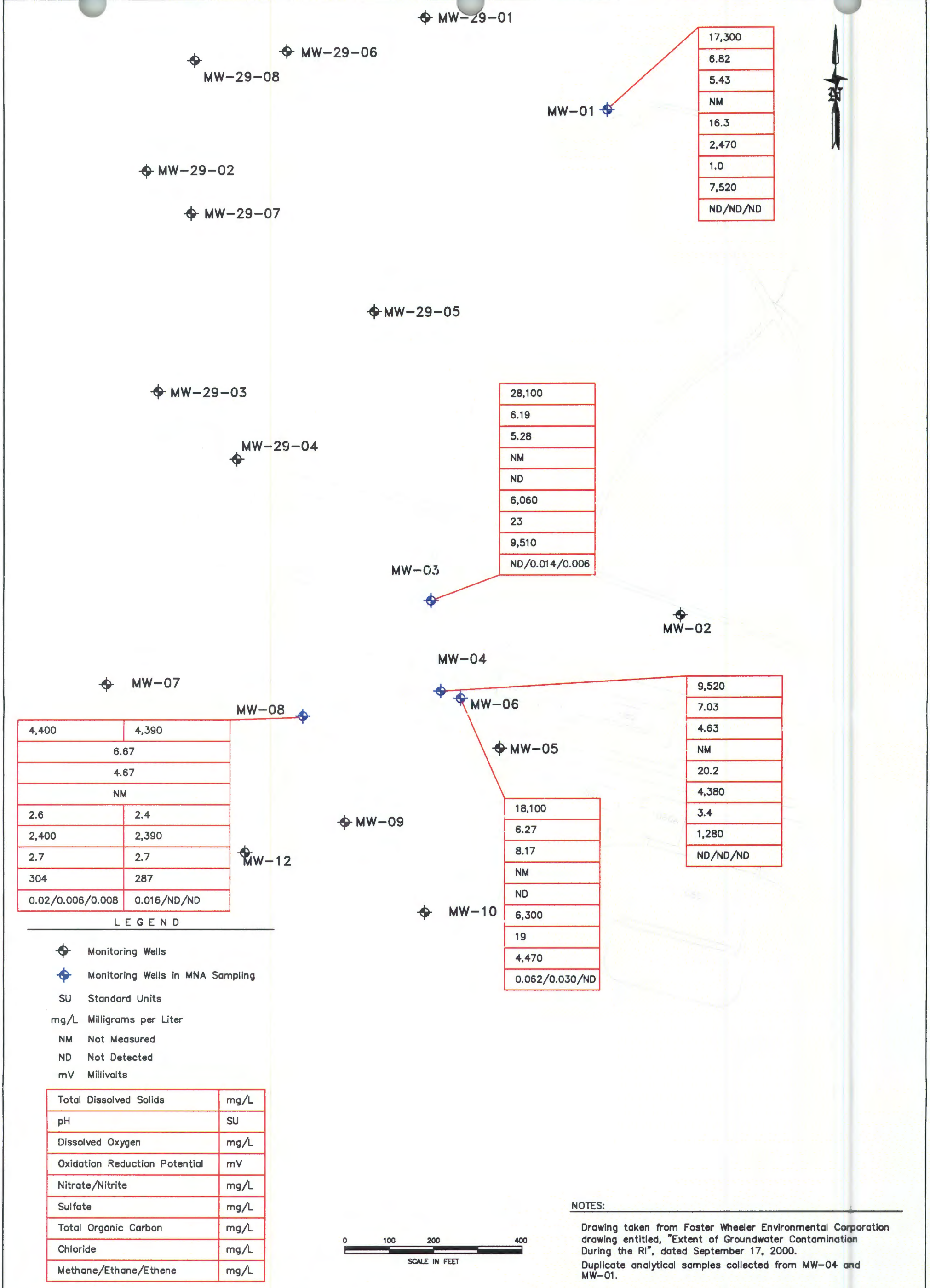
NATURAL ATTENUATION PARAMETERS
(JUNE 2004)

MONITORED NATURAL ATTENUATION REPORT
SPILL SITE 61
U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT

PROJECT NO.	SCALE	DATE	DRAWN BY:	HOLLOMAN AIR FORCE BASE, NEW MEXICO
9030024	1"=200'	6/01/05	EP/CEP/MRM	
			DRAWING NO: 9030024-12	Figure 12



LEGEND

- Monitoring Wells
- Monitoring Wells in MNA Sampling
- SU Standard Units
- mg/L Milligrams per Liter
- NM Not Measured
- ND Not Detected
- mV Millivolts

Total Dissolved Solids	mg/L
pH	SU
Dissolved Oxygen	mg/L
Oxidation Reduction Potential	mV
Nitrate/Nitrite	mg/L
Sulfate	mg/L
Total Organic Carbon	mg/L
Chloride	mg/L
Methane/Ethane/Ethene	mg/L

NOTES:

Drawing taken from Foster Wheeler Environmental Corporation drawing entitled, "Extent of Groundwater Contamination During the RI", dated September 17, 2000.

Duplicate analytical samples collected from MW-04 and MW-01.

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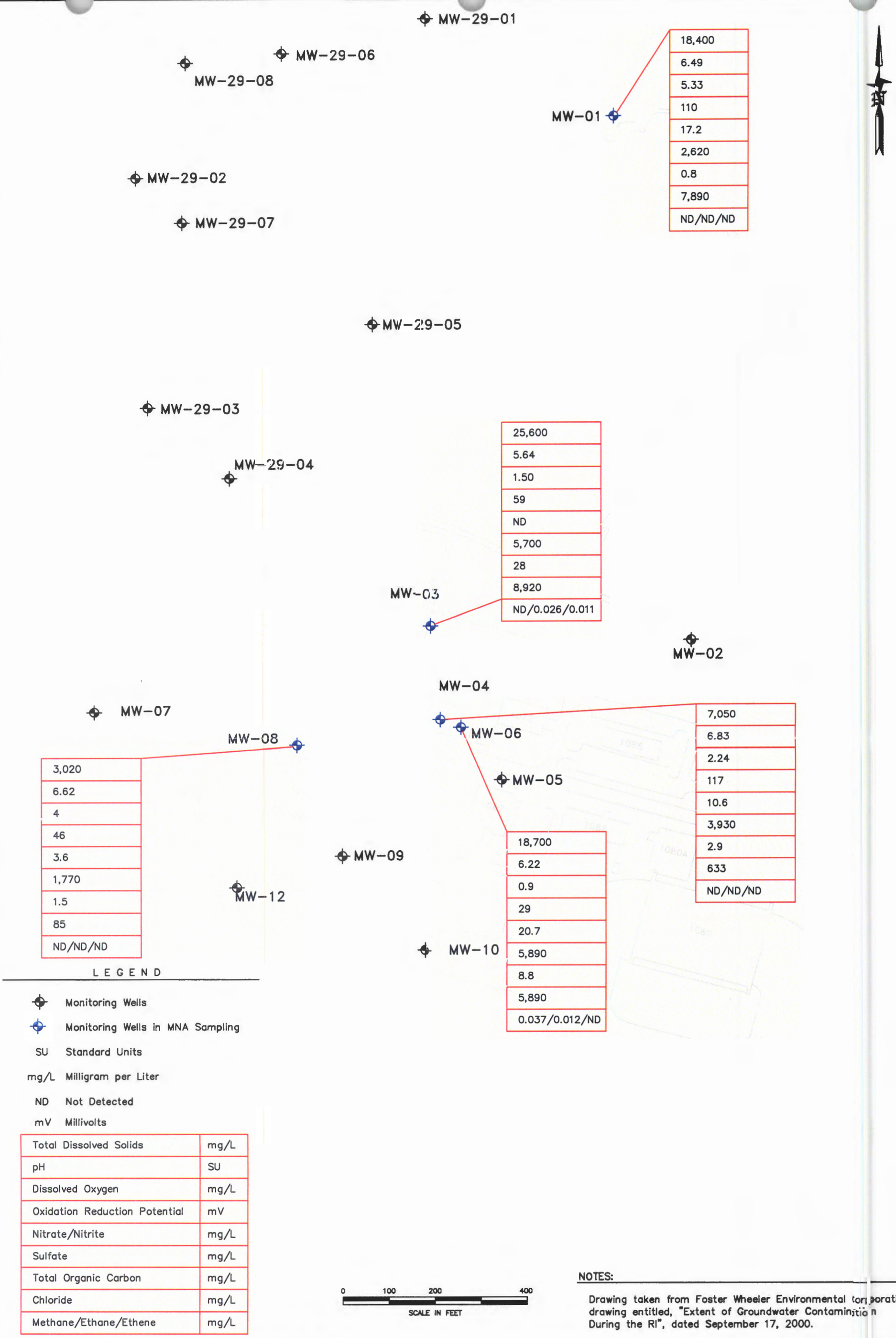
NATURAL ATTENUATION PARAMETERS
(SEPTEMBER 2004)

MONITORED NATURAL ATTENUATION REPORT
SPILL SITE 61
U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT

PROJECT NO.	SCALE	DATE	DRAWN BY: EP/CEP/MRM	HOLLOMAN AIR FORCE BASE, NEW MEXICO
9030024	1"=200'	6/01/05	DRAWING NO: 9030024-13	Figure 13



LEGEND

- Monitoring Wells
- Monitoring Wells in MNA Sampling
- SU Standard Units
- mg/L Milligram per Liter
- ND Not Detected
- mV Millivolts

Total Dissolved Solids	mg/L
pH	SU
Dissolved Oxygen	mg/L
Oxidation Reduction Potential	mV
Nitrate/Nitrite	mg/L
Sulfate	mg/L
Total Organic Carbon	mg/L
Chloride	mg/L
Methane/Ethane/Ethene	mg/L

0 100 200 400
SCALE IN FEET

NOTES:

Drawing taken from Foster Wheeler Environmental Corporation drawing entitled, "Extent of Groundwater Contamination During the RI", dated September 17, 2000.

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NATURAL ATTENUATION PARAMETERS
(JANUARY 2005)

MONITORED NATURAL ATTENUATION REPORT
SPILL SITE 61
U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT

PROJECT NO.	SCALE	DATE	DRAWN BY: EP/CEP/MRM	HOLLOMAN AIR FORCE BASE, NEW MEXICO
9030024	1"=200'	6/01/05	DRAWING NO: 9030024-14	Figure 14

TABLES

Table 1

Electron Acceptors, Redox Potential, and Reaction Preference for Biodegradation Pathways[i]

Monitored Natural Attenuation Report for SS-61

Holloman AFB, New Mexico

Electron Acceptor	Type of Reaction	Metabolic By-Product	Oxidation Reduction Potential (millivolts)[ii]
Oxygen (O_2)	Aerobic	Carbon Dioxide (CO_2) /Water (H_2O)	820
Nitrate (NO_3)	Anaerobic Respiration	Nitrogen Gas (N^2)/ Carbon Dioxide (CO_2)	740
Ferric Iron (Fe^{3+})	Anaerobic	Ferrous Iron (Fe^{2+})	-50
Sulfate (SO_4^{-2})	Anaerobic Respiration	Hydrogen Sulfide (H_2S)	-220
Carbon Dioxide (CO_2)	Anaerobic Respiration	Methane (CH_4)	-240

[i] Thor Kallestad, Sojourn Environmental Co., November 1999.

[ii] At pH=7

Table 2
Groundwater Elevations
Monitored Natural Attenuation Report for SS-61
Holloman AFB, New Mexico

Monitoring Well	Top of Casing Elevation (ft amsl)	Depth to Water from TOC (ft)					
		April 1999	May 2000	April 2004	June 2004	September 2004	January 2005
SS61-MW01	4,110.06	30.52	30.98	31.42	31.40	31.48	31.10
SS61-MW03	4,098.41	19.12	19.11	19.98	20.00	19.82	18.76
SS61-MW04	4,095.41	19.10	15.39	15.92	16.18	15.80	14.23
SS61-MW06	4,096.32	16.10	15.81	17.12	17.25	16.70	15.57
SS61-MW08	4,093.94	--	15.33	15.14	16.02	14.78	14.27

Monitoring Well	Top of Casing Elevation (ft amsl)	Groundwater Elevation (ft amsl)					
		April 1999	May 2000	April 2004	June 2004	September 2004	January 2005
SS61-MW01	4,110.06	4079.54	4,079.08	4,078.64	4,078.66	4,078.58	4,078.96
SS61-MW03	4,098.41	4079.29	4,079.30	4,078.43	4,078.41	4,078.59	4,079.65
SS61-MW04	4,095.41	4076.31	4,080.02	4,079.49	4,079.23	4,079.61	4,081.18
SS61-MW06	4,096.32	4080.22	4,080.51	4,079.20	4,079.07	4,079.62	4,080.75
SS61-MW08	4,093.94	--	4,078.61	4,078.80	4,077.92	4,079.16	4,079.67

Notes:
amsl = Above mean sea level
ft = Feet
TOC = Top of casing
-- Not installed in 1999.

Table 3
Analytical Summary of Volatile Organic Compounds
Monitored Natural Attenuation Report for SS-61 (AOC-1001)
Holloman AFB, New Mexico
Bhate Proj. No.: 9030024

Well ID	Units	NMWQCC ≤10,000 mg/L TDS	SS61-MW01							SS61-MW01-a	SS61-MW03			
Sample Date			June 1996	April 1999	May 2000	April 2004	June 2004	September 2004	December 2004	April 2004	June 1996	April 1999	May 2000	April 2004
VOCs (8260B)														
1,2-Dibromomethane (EDB)	µg/L	0.1	NS	ND	ND	ND	ND	ND	ND	ND	NS	ND	18 J	ND
1,2-Dichlorobenzene	µg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	160 J	ND
1,2-Dichloroethane	µg/L	10	ND	ND	ND	ND	ND	ND	ND	ND	940	ND	ND	ND
1,2-Dichloropropane	µg/L	NE	ND	NS	NS	ND	ND	ND	ND	ND	1.6	NS	NS	ND
1,2,4-Trimethylbenzene	µg/L	NE	NS	ND	NS	ND	ND	ND	ND	ND	NS	ND	NS	ND
1,3,5-Trimethylbenzene	µg/L	NE	NS	ND	NS	ND	ND	ND	ND	ND	NS	ND	NS	ND
2-Hexanone	µg/L	NE	NS	NS	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND
Benzene	µg/L	10	ND	ND	ND	ND	ND	ND	ND	ND	11,000	8,200	7,300 J	7,180
Bromoform	µg/L	NE	ND	NS	NS	ND	ND	ND	ND	ND	1.6	NS	NS	ND
Chloroethane	µg/L	NE	ND	NS	NS	ND	ND	ND	ND	ND	5.4	NS	NS	ND
Chloroform	µg/L	100	ND	ND	ND	ND	ND	ND	ND	ND	3.6	ND	ND	ND
Dibromomethane	µg/L	NE	ND	NS	NS	ND	ND	ND	ND	ND	6.8	NS	NS	ND
Ethylbenzene	µg/L	750	ND	ND	ND	ND	ND	ND	ND	ND	65	ND	22 J	ND
Isopropylbenzene (Cumene)	µg/L	NE	NS	ND	NS	ND	ND	ND	ND	ND	NS	ND	NS	194 J
n-Propylbenzene	µg/L	NE	NS	ND	NS	ND	ND	ND	ND	ND	NS	ND	NS	ND
sec-Butyl benzene	µg/L	NE	NS	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND
tert-Butyl benzene	µg/L	NE	NS	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND
[illegible]uene	µg/L	750	ND	ND	NS	ND	ND	ND	ND	ND	NS	900	NS	734
o-Xylene	µg/L	NE	NS	ND	NS	ND	NR	ND	NR	ND	NS	770	NS	NR
m,p-Xylene	µg/L	NE	NS	ND	NS	ND	NR	ND	NR	ND	NS	1,200	NS	NR
Total xylenes	µg/L	620	ND	NS	NS	ND	ND	ND	ND	ND	NS	NS	NS	1,870
TPH (JP-4)	µg/L	NE	ND	NS	ND	ND	ND	ND	ND	ND	NS	NS	1,400 J	ND

Notes:
NMWQCC - New Mexico Water Quality Control Commission
µg/L - Microgram per liter
VOCs - Volatile Organic compounds
EDB - Ethylene dibromide
mg/L - Milligrams per liter
NS - Not Sampled
ND - Not Detected
TPH - Total petroleum hydrocarbons
J - Analyte detected, but concentration is estimated
TDS - Total dissolved solids

TDS concentration not known

TDS concentration >10,000 mg/L

TDS concentration <10,000 mg/L

NE - No established standard
NR - Not reported

Groundwater quality standards are for waters with a TDS concentration less than 10,000 mg/L. Bold represents exceedances of NMWQCC standards in samples from wells with less than 10,000 mg/L TDS.

Table 3
Analytical Summary of Volatile Organic Compounds
Monitored Natural Attenuation Report for SS-61 (AOC-1001)
Holloman AFB, New Mexico
Bhate Proj. No.: 9030024

Well ID	Units	NMWQCC ≤10,000 mg/L TDS	May-00			SS61-MW04							SS61-MW04-a	
Sample Date			June 2004	September 2004	January 2005	June 1996	April 1999	May 2000	April 2004	June 2004	September 2004	January 2005	June 1996	June 2004
VOCs (8260B)														
1,2-Dibromomethane (EDB)	µg/L	0.1	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	NS	ND
1,2-Dichlorobenzene	µg/L	NE	ND	ND	ND	ND	ND	49 J	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/L	10	395 J	477	602	3.8	ND	ND	1.1 J	1.4 J	1.1 J	ND	3.4	1.2 J
1,2-Dichloropropane	µg/L	NE	ND	ND	ND	NS	NS	NS	ND	ND	ND	ND	NS	ND
1,2,4-Trimethylbenzene	µg/L	NE	212 J	267	274 J	NS	24	NS	ND	ND	ND	ND	NS	ND
1,3,5-Trimethylbenzene	µg/L	NE	101 J	150 J	152 J	NS	12	NS	ND	ND	ND	ND	NS	ND
2-Hexanone	µg/L	NE	ND	ND	ND	NS	NS	16 J	ND	ND	ND	ND	NS	ND
Benzene	µg/L	10	10,600	12,600	16,900	2.9	ND	1,100 J	ND	ND	1.5	ND	2.2	ND
Bromoform	µg/L	NE	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND
Chloroethane	µg/L	NE	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND
Chloroform	µg/L	100	ND	ND	ND	0.52	ND	ND	ND	ND	ND	ND	0.29	ND
Dibromomethane	µg/L	NE	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	750	231 J	295	309 J	0.53	ND	5.5 J	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	µg/L	NE	354 J	393	426 J	NS	94	ND	ND	1 J	ND	ND	NS	1 J
n-Propylbenzene	µg/L	NE	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	NS	ND
sec-Butyl benzene	µg/L	NE	ND	ND	ND	NS	ND	10 J	ND	ND	ND	ND	NS	ND
tert-Butyl benzene	µg/L	NE	ND	ND	ND	NS	ND	5.7 J	ND	ND	ND	ND	NS	ND
[illegible]ene	µg/L	750	1,950	3,460	4,060	NS	ND	NS	ND	ND	ND	ND	NS	ND
o-Xylene	µg/L	NE	NR	NR	NR	NS	5	NS	ND	ND	ND	NR	NS	ND
m,p-Xylene	µg/L	NE	NR	NR	NR	NS	13	NS	ND	ND	ND	NR	NS	ND
Total xylenes	µg/L	620	3,050	4,150	4,370	NS	NS	NS	ND	ND	ND	ND	NS	ND
TPH (JP-4)	µg/L	NE	ND	NA	NA	NS	NS	650	ND	ND	ND	ND	NS	ND

Notes:
NMWQCC - New Mexico Water Quality Control Commission
µg/L - Microgram per liter
VOCs - Volatile Organic compounds
EDB - Ethylene dibromide
mg/L - Milligrams per liter
NS - Not Sampled
ND - Not Detected
TPH - Total petroleum hydrocarbons
J - Analyte detected, but concentration is estimated
TDS - Total dissolved solids

TDS concentration not known

TDS concentration >10,000 mg/L

TDS concentration <10,000 mg/L

NE - No established standard
NR - Not reported

Groundwater quality standards are for waters with a TDS concentration less than 10,000 mg/L. Bold represents exceedances of NMWQCC standards in samples from wells with less than 10,000 mg/L TDS.

Table 3
Analytical Summary of Volatile Organic Compounds
Monitored Natural Attenuation Report for SS-61 (AOC-1001)
Holloman AFB, New Mexico
Bhate Proj. No.: 9030024

Well ID	Units	NMWQCC ≤10,000 mg/L TDS	SS61-MW06						SS61-MW08					SS61-MW08-a
Sample Date			April 1999	May 2000	April 2004	June 2004	September 2004	January 2005	May 2000	April 2004	June 2004	September 2004	January 2005	September 2004
VOCs (8260B)														
1,2-Dibromomethane (EDB)	µg/L	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/L	NE	ND	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/L	10	ND	ND	ND	61	ND	8.5	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/L	NE	NS	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	µg/L	NE	1,400	NS	ND	76	ND	5.4	NS	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	µg/L	NE	NS	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
2-Hexanone	µg/L	NE	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/L	10	14,000	13,000 J	5,980	4,640	11,200	802	3.3	ND	**282**	**100**	ND	**105**
Bromoform	µg/L	NE	NS	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
Chloroethane	µg/L	NE	NS	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
Chloroform	µg/L	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/L	NE	NS	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	750	1,300	720 J	347	210	464	4.9 J	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	µg/L	NE	2,600	ND	1,260	1,330	1,670	352	ND	ND	15 J	5.2	ND	5.9
n-Propylbenzene	µg/L	NE	ND	ND	ND	11 J	ND	1.3 J	ND	ND	ND	ND	ND	ND
sec-Butyl benzene	µg/L	NE	ND	14 J	ND	ND	ND	4.7 J	ND	ND	ND	ND	ND	ND
tert-Butyl benzene	µg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
[illegible]ene	µg/L	750	6,800	NS	ND	22 J	ND	9.8	NS	ND	ND	ND	ND	ND
o-Xylene	µg/L	NE	3,300	NS	NR	NR	NR	NR	NS	ND	NR	NR	NR	ND
m,p-Xylene	µg/L	NE	7,800	NS	NR	NR	NR	NR	NS	ND	NR	NR	NR	ND
Total xylenes	µg/L	620	NS	NS	28 J	188	180 J	16	NS	ND	ND	ND	ND	ND
TPH (JP-4)	µg/L	NE	NS	2,500 J	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND

Notes:
NMWQCC - New Mexico Water Quality Control Commission
µg/L - Microgram per liter
VOCs - Volatile Organic compounds
EDB - Ethylene dibromide
mg/L - Milligrams per liter
NS - Not Sampled
ND - Not Detected
TPH - Total petroleum hydrocarbons
J - Analyte detected, but concentration is estimated
TDS - Total dissolved solids

TDS concentration not known
TDS concentration >10,000 mg/L
TDS concentration <10,000 mg/L

NE - No established standard
NR - Not reported

Groundwater quality standards are for waters with a TDS concentration less than 10,000 mg/L. Bold represents exceedances of NMWQCC standards in samples from wells with less than 10,000 mg/L TDS.

Table 4
Natural Attenuation and Field Parameters
Monitored Natural Attemuation Report for SS-61 (AOC 1001)
Holloman AFB, New Mexico

Well ID	Units	NMWQCC (≤10,000 mg/L TDS)	SS61-MW01					SS61-MW03				SS61-MW04		
Date Sampled			4/13/2004	4/13/2004 D	6/8/2004	9/2/2004	12/28/2004	4/14/2004	6/9/2004	9/1/2004	1/10/2005	4/12/2004	6/11/2004	6/11/2004 D
Relative Location			Upgradient					Plume				Plume		
Natural Attenuation Parameters														
Chloride (300.0)	mg/L	250	7,630	7,580	7,770	7,520	7,890	7,610	9,280	9,510	8,920	**1,460**	**1,640**	1,680
Nitrate/Nitrite -N (300.0)	mg/L	10	NR	NR	NR	16.3	17.2	NR	ND	ND	ND	NR	NR	NR
Nitrate (300.0)	mg/L	10	79.5	76.0	80.8	NR	NR	ND	NR	NR	NR	**137**	**103**	106
Nitrite (300.0)	mg/L	NE	ND	ND	ND	NR	NR	ND	NR	NR	NR	ND	ND	ND
Sulfate (300.0)	mg/L	600	2,650	2,610	2,640	2,470	2,620	5,550	5,280	6,060	5,700	**4,430**	**4,850**	4,930
Alkalinity (310.1)														
as Calcium Carbonate	mg/L	NE	100	100	103	105	103	888	750	777	910	160	173	180
as Bicarbonate	mg/L	NE	122	122	125	128	125	1,080	915	949	1,110	195	210	220
as Carbonate	mg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
as Hydroxide	mg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOC (415.1)	mg/L	NE	1.2	1.3	1.1	1.0	0.8	27	27	23	28	4.3	4.0	4.2
TDS (160.1)	mg/L	1,000	16,000	17,100	17,500	17,300	18,400	22,800	25,100	28,100	25,600	**9,670**	**9,740**	10,900
Ethane (RSK-175)	mg/L	NE	ND	ND	ND	ND	ND	0.013	ND	0.014	0.026	ND	ND	ND
Ethene (RSK-175)	mg/L	NE	ND	ND	ND	ND	ND	0.005	ND	0.006	0.011	ND	ND	ND
Methane (RSK-175)	mg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Parameters														
Temperature	°C	NE	18.25		20.66	19.36	18.87	21.21	21.52	21.29	20.83	19.68	20.79	
pH	SU	6-9	6.61		13.39	6.82	6.49	6.31	6.38	6.19	5.64	7.11	7.41	
DO	mg/L	NE	7.17		5.53	5.43	5.33	5.51	0.15	5.28	1.50	5.57	3.04	
ORP	mV	NE	219.3		155	NM	110	-5.2	-34	NM	59	133.9	49	
Turbidity	NTU	NE	NM		NM	NM	NM	NM	NM	NM	NM	NM	NM	
Conductivity	mS/cm	NE	10.39		21.99	22.77	20.61	26.51	27.979	28.61	26.71	9.905	10.301	
Ferrous iron	mg/L	1.0	NM		0.5	0.01	ND	NM	0.62	0.18	0.5	NM	0.02	

Notes:
NMWQCC apply if TDS less than 10,000 mg/L.
Bold are exceedances when TDS less than 10,000 mg/L.
DO - dissolved oxygen
ORP - oxidation reduction potential
TDS - total dissolved solids
mg/L - milligrams per liter
NM - not measured
NE - Not established
D - Duplicate
NA - Not analyzed

°C - degrees Celsius
SU - standard units
mV - millivolts
mS/cm - millisiemens per centimeter
NR - not reported
NTU - nephelometric turbidity unit
ND - Not Detected
DO value in mg/L calculated from percent DO

Table 4
Natural Attenuation and Field Parameters
Monitored Natural Attemuation Report for SS-61 (AOC 1001)
Holloman AFB, New Mexico

Well ID	Units	NMWQCC (≤10,000 mg/L TDS)	SS61-MW04		SS61-MW06				SS61-MW08				
Date Sampled			9/2/2004	1/20/2005	4/6/2004	6/11/2004	9/3/2004	1/11/2005	4/12/2004	6/9/2004	9/3/2004	9/3/2004 D	1/21/2005
Relative Location			Plume		Plume				Downgradient				
Natural Attenuation Parameters													
Chloride (300.0)	mg/L	250	**1,280**	**633**	4,320	4,370	4,470	4,400	70.5	**447**	**304.0**	**287.0**	85
Nitrate/Nitrite -N (300.0)	mg/L	10	**20.2**	**10.6**	ND	NR	ND	20.7	NR	1.0	2.6	2.4	3.6
Nitrate (300.0)	mg/L	10	NR	NR	NR	16	NR	NR	**14.6**	NR	NR	NR	NR
Nitrite (300.0)	mg/L	NE	NR	NR	NR	ND	NR	NR	ND	NR	NR	NR	NR
Sulfate (300.0)	mg/L	600	**4,380**	**3,930**	6,270	6,490	6,300	5,890	**1,720**	**2,820**	**2,400**	**2,390**	**1,770**
Alkalinity (310.1)													
as Calcium Carbonate	mg/L	NE	167	143	1,140	883	1,300	450	98	437	303	285	133
as Bicarbonate	mg/L	NE	204	174	1,390	1,080	1,590	549	119	534	369	348	162
as Carbonate	mg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
as Hydroxide	mg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOC (415.1)	mg/L	NE	3.4	2.9	16	16	19	8.8	1.6	3.7	2.7	2.7	1.5
TDS (160.1)	mg/L	1,000	**9,520**	**7,050**	17,200	16,700	18,100	18,700	**3,090**	**4,830**	**4,400**	**4,390**	**3,020**
Ethane (RSK-175)	mg/L	NE	ND	ND	0.022	0.041	0.030	0.012	ND	0.052	0.006	ND	ND
Ethene (RSK-175)	mg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	0.008	ND	ND
Methane (RSK-175)	mg/L	NE	ND	ND	0.042	0.023	0.062	0.037	ND	ND	0.020	0.016	ND
Field Parameters													
Temperature	°C	NE	21.47	18.17	22.17	20.79	22.45	19.43	19.75	21.77	21.85		18.23
pH	SU	6-9	7.03	6.83	6.33	6.62	6.27	6.22	7.01	6.64	6.67		6.62
DO	mg/L	NE	4.63	2.24	2.67	0.2	8.17	0.9	6.21	2.18	4.67		4.00
ORP	mV	NE	NM	117	-207.2	-220.0	NM	29.0	175.3	-188	NM		46
Turbidity	NTU	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM		NM
Conductivity	mS/cm	NE	10.32	6.987	9.882	19.379	11.55	18.010	2.625	5.366	3.137		2.591
Ferrous iron	mg/L	1.0	0.25	ND	NM	0.45	1.19	0.19	NM	0.29	1.19		0.97

Notes:
NMWQCC apply if TDS less than 10,000 mg/L.
Bold are exceedances when TDS less than 10,000 mg/L.

DO - dissolved oxygen
ORP - oxidation reduction potential
TDS - total dissolved solids
mg/L - milligrams per liter
NM - not measured
NE - Not established
D - Duplicate
NA - Not analyzed

°C - degrees Celsius
SU - standard units
mV - millivolts
mS/cm - millisiemens per centimeter
NR - not reported
NTU - nephelometric turbidity unit
ND - Not Detected
DO value in mg/L calculated from percent DO

TABLES

Table 1

Electron Acceptors, Redox Potential, and Reaction Preference for Biodegradation Pathways[i]

Monitored Natural Attenuation Report for SS-61

Holloman AFB, New Mexico

Electron Acceptor	Type of Reaction	Metabolic By-Product	Oxidation Reduction Potential (millivolts)[ii]
Oxygen (O_2)	Aerobic	Carbon Dioxide (CO_2) /Water (H_2O)	820
Nitrate (NO_3)	Anaerobic Respiration	Nitrogen Gas (N^2)/ Carbon Dioxide (CO_2)	740
Ferric Iron (Fe^{3+})	Anaerobic	Ferrous Iron (Fe^{2+})	-50
Sulfate (SO_4^{-2})	Anaerobic Respiration	Hydrogen Sulfide (H_2S)	-220
Carbon Dioxide (CO_2)	Anaerobic Respiration	Methane (CH_4)	-240

[i] Thor Kallestad, Sojourn Environmental Co., November 1999.

[ii] At pH=7

Table 2
Groundwater Elevations
Monitored Natural Attenuation Report for SS-61
Holloman AFB, New Mexico

Monitoring Well	Top of Casing Elevation (ft amsl)	Depth to Water from TOC (ft)					
		April 1999	May 2000	April 2004	June 2004	September 2004	January 2005
SS61-MW01	4,110.06	30.52	30.98	31.42	31.40	31.48	31.10
SS61-MW03	4,098.41	19.12	19.11	19.98	20.00	19.82	18.76
SS61-MW04	4,095.41	19.10	15.39	15.92	16.18	15.80	14.23
SS61-MW06	4,096.32	16.10	15.81	17.12	17.25	16.70	15.57
SS61-MW08	4,093.94	--	15.33	15.14	16.02	14.78	14.27

Monitoring Well	Top of Casing Elevation (ft amsl)	Groundwater Elevation (ft amsl)					
		April 1999	May 2000	April 2004	June 2004	September 2004	January 2005
SS61-MW01	4,110.06	4079.54	4,079.08	4,078.64	4,078.66	4,078.58	4,078.96
SS61-MW03	4,098.41	4079.29	4,079.30	4,078.43	4,078.41	4,078.59	4,079.65
SS61-MW04	4,095.41	4076.31	4,080.02	4,079.49	4,079.23	4,079.61	4,081.18
SS61-MW06	4,096.32	4080.22	4,080.51	4,079.20	4,079.07	4,079.62	4,080.75
SS61-MW08	4,093.94	--	4,078.61	4,078.80	4,077.92	4,079.16	4,079.67

Notes:
amsl = Above mean sea level
ft = Feet
TOC = Top of casing
-- Not installed in 1999.

Table 3
Analytical Summary of Volatile Organic Compounds
Monitored Natural Attenuation Report for SS-61 (AOC-1001)
Holloman AFB, New Mexico
Bhate Proj. No.: 9030024

Well ID	Units	NMWQCC ≤10,000 mg/L TDS	SS61-MW01							SS61-MW01-a	SS61-MW03			
Sample Date			June 1996	April 1999	May 2000	April 2004	June 2004	September 2004	December 2004	April 2004	June 1996	April 1999	May 2000	April 2004
VOCs (8260B)														
1,2-Dibromomethane (EDB)	µg/L	0.1	NS	ND	ND	ND	ND	ND	ND	ND	NS	ND	18 J	ND
1,2-Dichlorobenzene	µg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	160 J	ND
1,2-Dichloroethane	µg/L	10	ND	ND	ND	ND	ND	ND	ND	ND	940	ND	ND	ND
1,2-Dichloropropane	µg/L	NE	ND	NS	NS	ND	ND	ND	ND	ND	1.6	NS	NS	ND
1,2,4-Trimethylbenzene	µg/L	NE	NS	ND	NS	ND	ND	ND	ND	ND	NS	ND	NS	ND
1,3,5-Trimethylbenzene	µg/L	NE	NS	ND	NS	ND	ND	ND	ND	ND	NS	ND	NS	ND
2-Hexanone	µg/L	NE	NS	NS	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND
Benzene	µg/L	10	ND	ND	ND	ND	ND	ND	ND	ND	11,000	8,200	7,300 J	7,180
Bromoform	µg/L	NE	ND	NS	NS	ND	ND	ND	ND	ND	1.6	NS	NS	ND
Chloroethane	µg/L	NE	ND	NS	NS	ND	ND	ND	ND	ND	5.4	NS	NS	ND
Chloroform	µg/L	100	ND	ND	ND	ND	ND	ND	ND	ND	3.6	ND	ND	ND
Dibromomethane	µg/L	NE	ND	NS	NS	ND	ND	ND	ND	ND	6.8	NS	NS	ND
Ethylbenzene	µg/L	750	ND	ND	ND	ND	ND	ND	ND	ND	65	ND	22 J	ND
Isopropylbenzene (Cumene)	µg/L	NE	NS	ND	NS	ND	ND	ND	ND	ND	NS	ND	NS	194 J
n-Propylbenzene	µg/L	NE	NS	ND	NS	ND	ND	ND	ND	ND	NS	ND	NS	ND
sec-Butyl benzene	µg/L	NE	NS	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND
tert-Butyl benzene	µg/L	NE	NS	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND
[illegible]uene	µg/L	750	ND	ND	NS	ND	ND	ND	ND	ND	NS	900	NS	734
o-Xylene	µg/L	NE	NS	ND	NS	ND	NR	ND	NR	ND	NS	770	NS	NR
m,p-Xylene	µg/L	NE	NS	ND	NS	ND	NR	ND	NR	ND	NS	1,200	NS	NR
Total xylenes	µg/L	620	ND	NS	NS	ND	ND	ND	ND	ND	NS	NS	NS	1,870
TPH (JP-4)	µg/L	NE	ND	NS	ND	ND	ND	ND	ND	ND	NS	NS	1,400 J	ND

Notes:
NMWQCC - New Mexico Water Quality Control Commission
µg/L - Microgram per liter
VOCs - Volatile Organic compounds
EDB - Ethylene dibromide
mg/L - Milligrams per liter
NS - Not Sampled
ND - Not Detected
TPH - Total petroleum hydrocarbons
J - Analyte detected, but concentration is estimated
TDS - Total dissolved solids

TDS concentration not known

TDS concentration >10,000 mg/L

TDS concentration <10,000 mg/L

NE - No established standard
NR - Not reported

Groundwater quality standards are for waters with a TDS concentration less than 10,000 mg/L. Bold represents exceedances of NMWQCC standards in samples from wells with less than 10,000 mg/L TDS.

Table 3
Analytical Summary of Volatile Organic Compounds
Monitored Natural Attenuation Report for SS-61 (AOC-1001)
Holloman AFB, New Mexico
Bhate Proj. No.: 9030024

Well ID	Units	NMWQCC ≤10,000 mg/L TDS	May-00			SS61-MW04							SS61-MW04-a	
Sample Date			June 2004	September 2004	January 2005	June 1996	April 1999	May 2000	April 2004	June 2004	September 2004	January 2005	June 1996	June 2004
VOCs (8260B)														
1,2-Dibromomethane (EDB)	µg/L	0.1	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	NS	ND
1,2-Dichlorobenzene	µg/L	NE	ND	ND	ND	ND	ND	49 J	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/L	10	395 J	477	602	3.8	ND	ND	1.1 J	1.4 J	1.1 J	ND	3.4	1.2 J
1,2-Dichloropropane	µg/L	NE	ND	ND	ND	NS	NS	NS	ND	ND	ND	ND	NS	ND
1,2,4-Trimethylbenzene	µg/L	NE	212 J	267	274 J	NS	24	NS	ND	ND	ND	ND	NS	ND
1,3,5-Trimethylbenzene	µg/L	NE	101 J	150 J	152 J	NS	12	NS	ND	ND	ND	ND	NS	ND
2-Hexanone	µg/L	NE	ND	ND	ND	NS	NS	16 J	ND	ND	ND	ND	NS	ND
Benzene	µg/L	10	10,600	12,600	16,900	2.9	ND	1,100 J	ND	ND	1.5	ND	2.2	ND
Bromoform	µg/L	NE	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND
Chloroethane	µg/L	NE	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND
Chloroform	µg/L	100	ND	ND	ND	0.52	ND	ND	ND	ND	ND	ND	0.29	ND
Dibromomethane	µg/L	NE	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	750	231 J	295	309 J	0.53	ND	5.5 J	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	µg/L	NE	354 J	393	426 J	NS	94	ND	ND	1 J	ND	ND	NS	1 J
n-Propylbenzene	µg/L	NE	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	NS	ND
sec-Butyl benzene	µg/L	NE	ND	ND	ND	NS	ND	10 J	ND	ND	ND	ND	NS	ND
tert-Butyl benzene	µg/L	NE	ND	ND	ND	NS	ND	5.7 J	ND	ND	ND	ND	NS	ND
[illegible]ene	µg/L	750	1,950	3,460	4,060	NS	ND	NS	ND	ND	ND	ND	NS	ND
o-Xylene	µg/L	NE	NR	NR	NR	NS	5	NS	ND	ND	ND	NR	NS	ND
m,p-Xylene	µg/L	NE	NR	NR	NR	NS	13	NS	ND	ND	ND	NR	NS	ND
Total xylenes	µg/L	620	3,050	4,150	4,370	NS	NS	NS	ND	ND	ND	ND	NS	ND
TPH (JP-4)	µg/L	NE	ND	NA	NA	NS	NS	650	ND	ND	ND	ND	NS	ND

Notes:
NMWQCC - New Mexico Water Quality Control Commission
µg/L - Microgram per liter
VOCs - Volatile Organic compounds
EDB - Ethylene dibromide
mg/L - Milligrams per liter
NS - Not Sampled
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TPH - Total petroleum hydrocarbons
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TDS concentration not known

TDS concentration >10,000 mg/L

TDS concentration <10,000 mg/L

NE - No established standard
NR - Not reported

Groundwater quality standards are for waters with a TDS concentration less than 10,000 mg/L. Bold represents exceedances of NMWQCC standards in samples from wells with less than 10,000 mg/L TDS.

Table 3
Analytical Summary of Volatile Organic Compounds
Monitored Natural Attenuation Report for SS-61 (AOC-1001)
Holloman AFB, New Mexico
Bhate Proj. No.: 9030024

Well ID	Units	NMWQCC ≤10,000 mg/L TDS	SS61-MW06						SS61-MW08					SS61-MW08-a
Sample Date			April 1999	May 2000	April 2004	June 2004	September 2004	January 2005	May 2000	April 2004	June 2004	September 2004	January 2005	September 2004
VOCs (8260B)														
1,2-Dibromomethane (EDB)	µg/L	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/L	NE	ND	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/L	10	ND	ND	ND	61	ND	8.5	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/L	NE	NS	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	µg/L	NE	1,400	NS	ND	76	ND	5.4	NS	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	µg/L	NE	NS	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
2-Hexanone	µg/L	NE	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/L	10	14,000	13,000 J	5,980	4,640	11,200	802	3.3	ND	**282**	**100**	ND	**105**
Bromoform	µg/L	NE	NS	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
Chloroethane	µg/L	NE	NS	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
Chloroform	µg/L	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/L	NE	NS	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	750	1,300	720 J	347	210	464	4.9 J	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	µg/L	NE	2,600	ND	1,260	1,330	1,670	352	ND	ND	15 J	5.2	ND	5.9
n-Propylbenzene	µg/L	NE	ND	ND	ND	11 J	ND	1.3 J	ND	ND	ND	ND	ND	ND
sec-Butyl benzene	µg/L	NE	ND	14 J	ND	ND	ND	4.7 J	ND	ND	ND	ND	ND	ND
tert-Butyl benzene	µg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
[illegible]ene	µg/L	750	6,800	NS	ND	22 J	ND	9.8	NS	ND	ND	ND	ND	ND
o-Xylene	µg/L	NE	3,300	NS	NR	NR	NR	NR	NS	ND	NR	NR	NR	ND
m,p-Xylene	µg/L	NE	7,800	NS	NR	NR	NR	NR	NS	ND	NR	NR	NR	ND
Total xylenes	µg/L	620	NS	NS	28 J	188	180 J	16	NS	ND	ND	ND	ND	ND
TPH (JP-4)	µg/L	NE	NS	2,500 J	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND

Notes:
NMWQCC - New Mexico Water Quality Control Commission
µg/L - Microgram per liter
VOCs - Volatile Organic compounds
EDB - Ethylene dibromide
mg/L - Milligrams per liter
NS - Not Sampled
ND - Not Detected
TPH - Total petroleum hydrocarbons
J - Analyte detected, but concentration is estimated
TDS - Total dissolved solids

TDS concentration not known
TDS concentration >10,000 mg/L
TDS concentration <10,000 mg/L

NE - No established standard
NR - Not reported

Groundwater quality standards are for waters with a TDS concentration less than 10,000 mg/L. Bold represents exceedances of NMWQCC standards in samples from wells with less than 10,000 mg/L TDS.

Table 4
Natural Attenuation and Field Parameters
Monitored Natural Attemuation Report for SS-61 (AOC 1001)
Holloman AFB, New Mexico

Well ID	Units	NMWQCC (≤10,000 mg/L TDS)	SS61-MW01					SS61-MW03				SS61-MW04		
Date Sampled			4/13/2004	4/13/2004 D	6/8/2004	9/2/2004	12/28/2004	4/14/2004	6/9/2004	9/1/2004	1/10/2005	4/12/2004	6/11/2004	6/11/2004 D
Relative Location			Upgradient					Plume				Plume		
Natural Attenuation Parameters														
Chloride (300.0)	mg/L	250	7,630	7,580	7,770	7,520	7,890	7,610	9,280	9,510	8,920	**1,460**	**1,640**	1,680
Nitrate/Nitrite -N (300.0)	mg/L	10	NR	NR	NR	16.3	17.2	NR	ND	ND	ND	NR	NR	NR
Nitrate (300.0)	mg/L	10	79.5	76.0	80.8	NR	NR	ND	NR	NR	NR	**137**	**103**	106
Nitrite (300.0)	mg/L	NE	ND	ND	ND	NR	NR	ND	NR	NR	NR	ND	ND	ND
Sulfate (300.0)	mg/L	600	2,650	2,610	2,640	2,470	2,620	5,550	5,280	6,060	5,700	**4,430**	**4,850**	4,930
Alkalinity (310.1)														
as Calcium Carbonate	mg/L	NE	100	100	103	105	103	888	750	777	910	160	173	180
as Bicarbonate	mg/L	NE	122	122	125	128	125	1,080	915	949	1,110	195	210	220
as Carbonate	mg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
as Hydroxide	mg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOC (415.1)	mg/L	NE	1.2	1.3	1.1	1.0	0.8	27	27	23	28	4.3	4.0	4.2
TDS (160.1)	mg/L	1,000	16,000	17,100	17,500	17,300	18,400	22,800	25,100	28,100	25,600	**9,670**	**9,740**	10,900
Ethane (RSK-175)	mg/L	NE	ND	ND	ND	ND	ND	0.013	ND	0.014	0.026	ND	ND	ND
Ethene (RSK-175)	mg/L	NE	ND	ND	ND	ND	ND	0.005	ND	0.006	0.011	ND	ND	ND
Methane (RSK-175)	mg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Parameters														
Temperature	°C	NE	18.25		20.66	19.36	18.87	21.21	21.52	21.29	20.83	19.68	20.79	
pH	SU	6-9	6.61		13.39	6.82	6.49	6.31	6.38	6.19	5.64	7.11	7.41	
DO	mg/L	NE	7.17		5.53	5.43	5.33	5.51	0.15	5.28	1.50	5.57	3.04	
ORP	mV	NE	219.3		155	NM	110	-5.2	-34	NM	59	133.9	49	
Turbidity	NTU	NE	NM		NM	NM	NM	NM	NM	NM	NM	NM	NM	
Conductivity	mS/cm	NE	10.39		21.99	22.77	20.61	26.51	27.979	28.61	26.71	9.905	10.301	
Ferrous iron	mg/L	1.0	NM		0.5	0.01	ND	NM	0.62	0.18	0.5	NM	0.02	

Notes:
NMWQCC apply if TDS less than 10,000 mg/L.
Bold are exceedances when TDS less than 10,000 mg/L.
DO - dissolved oxygen
ORP - oxidation reduction potential
TDS - total dissolved solids
mg/L - milligrams per liter
NM - not measured
NE - Not established
D - Duplicate
NA - Not analyzed

°C - degrees Celsius
SU - standard units
mV - millivolts
mS/cm - millisiemens per centimeter
NR - not reported
NTU - nephelometric turbidity unit
ND - Not Detected
DO value in mg/L calculated from percent DO

Table 4
Natural Attenuation and Field Parameters
Monitored Natural Attemuation Report for SS-61 (AOC 1001)
Holloman AFB, New Mexico

Well ID	Units	NMWQCC (≤10,000 mg/L TDS)	SS61-MW04		SS61-MW06				SS61-MW08				
Date Sampled			9/2/2004	1/20/2005	4/6/2004	6/11/2004	9/3/2004	1/11/2005	4/12/2004	6/9/2004	9/3/2004	9/3/2004 D	1/21/2005
Relative Location			Plume		Plume				Downgradient				
Natural Attenuation Parameters													
Chloride (300.0)	mg/L	250	**1,280**	**633**	4,320	4,370	4,470	4,400	70.5	**447**	**304.0**	**287.0**	85
Nitrate/Nitrite -N (300.0)	mg/L	10	**20.2**	**10.6**	ND	NR	ND	20.7	NR	1.0	2.6	2.4	3.6
Nitrate (300.0)	mg/L	10	NR	NR	NR	16	NR	NR	**14.6**	NR	NR	NR	NR
Nitrite (300.0)	mg/L	NE	NR	NR	NR	ND	NR	NR	ND	NR	NR	NR	NR
Sulfate (300.0)	mg/L	600	**4,380**	**3,930**	6,270	6,490	6,300	5,890	**1,720**	**2,820**	**2,400**	**2,390**	**1,770**
Alkalinity (310.1)													
as Calcium Carbonate	mg/L	NE	167	143	1,140	883	1,300	450	98	437	303	285	133
as Bicarbonate	mg/L	NE	204	174	1,390	1,080	1,590	549	119	534	369	348	162
as Carbonate	mg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
as Hydroxide	mg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOC (415.1)	mg/L	NE	3.4	2.9	16	16	19	8.8	1.6	3.7	2.7	2.7	1.5
TDS (160.1)	mg/L	1,000	**9,520**	**7,050**	17,200	16,700	18,100	18,700	**3,090**	**4,830**	**4,400**	**4,390**	**3,020**
Ethane (RSK-175)	mg/L	NE	ND	ND	0.022	0.041	0.030	0.012	ND	0.052	0.006	ND	ND
Ethene (RSK-175)	mg/L	NE	ND	ND	ND	ND	ND	ND	ND	ND	0.008	ND	ND
Methane (RSK-175)	mg/L	NE	ND	ND	0.042	0.023	0.062	0.037	ND	ND	0.020	0.016	ND
Field Parameters													
Temperature	°C	NE	21.47	18.17	22.17	20.79	22.45	19.43	19.75	21.77	21.85		18.23
pH	SU	6-9	7.03	6.83	6.33	6.62	6.27	6.22	7.01	6.64	6.67		6.62
DO	mg/L	NE	4.63	2.24	2.67	0.2	8.17	0.9	6.21	2.18	4.67		4.00
ORP	mV	NE	NM	117	-207.2	-220.0	NM	29.0	175.3	-188	NM		46
Turbidity	NTU	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM		NM
Conductivity	mS/cm	NE	10.32	6.987	9.882	19.379	11.55	18.010	2.625	5.366	3.137		2.591
Ferrous iron	mg/L	1.0	0.25	ND	NM	0.45	1.19	0.19	NM	0.29	1.19		0.97

Notes:
NMWQCC apply if TDS less than 10,000 mg/L.
Bold are exceedances when TDS less than 10,000 mg/L.

DO - dissolved oxygen
ORP - oxidation reduction potential
TDS - total dissolved solids
mg/L - milligrams per liter
NM - not measured
NE - Not established
D - Duplicate
NA - Not analyzed

°C - degrees Celsius
SU - standard units
mV - millivolts
mS/cm - millisiemens per centimeter
NR - not reported
NTU - nephelometric turbidity unit
ND - Not Detected
DO value in mg/L calculated from percent DO

APPENDIX A

SUMMARY OF PREVIOUS INVESTIGATIONS AT SS-61

Foster Wheeler Environmental Corporation, *Final Phase II Remedial Investigation Report for SS-61, Holloman Air Force Base, New Mexico,* December 2000.

southern portion of SS-61 is limited because this part of the site has been used by the U.S. Army for aircraft maintenance and storage for the White Sands Missile Range. Despite the lack of detailed information about the operations, the Phase II RI was designed to provide sufficient data to adequately characterize the source, nature, and extent of contamination in this area. The Phase II RI consisted of:

- Conducting personal interviews
- Searching records available on base
- Mapping site cultural features
- Surveying the area using geophysics to locate the underground piping and other potential sources

Soil and groundwater sampling was conducted throughout the southern area in the suspected source areas and at upgradient and downgradient locations. The Phase II data are combined in this report with the summary information from previous investigations for site characterization.

1.1 Purpose

The purpose of this report is to present the results of the Phase II RI and previous investigations of SS-61 and the surrounding area. These results were used to complete the following assessments:

- Soil and groundwater sampling results, along with information on site features, were used to assess the nature and extent of contamination in the northern part of the site and to confirm the existence of upgradient sources to the south.
- Fuel constituent concentrations in soil and groundwater were compared to action levels established by the NMED for petroleum-contaminated sites at Holloman AFB (NMED, 1995).
- Concentrations of other site contaminants were compared to human health medium-specific screening levels (HHSLs) developed by EPA Region VI (EPA, 1999).
- A site conceptual model and screening-level risk assessment were provided to document the potential exposure pathways and risks to human and ecological receptors at the site.

The conclusions of the assessments listed above were then used to support recommendations for the closure of this site.

1.2 SITE DESCRIPTION AND BACKGROUND

SS-61 is located in the central part of Holloman AFB at the edge of an industrial area (Figure 1-2). The northern part of the site, which was the focus of the Phase I RI, is approximately 300 feet (ft) north of two aircraft hangars. The primary focus of the Phase II RI is the southern part of SS-61,

which consists of potentially impacted soil and groundwater in the vicinity of the following two features:

- The two hangars where fuel and waste fluids may have been previously disposed
- The underground piping, which connected one or both of the former ASTs in the northern part of the site that traverses the site from north to south toward the aircraft tarmac

The Phase II RI investigation area is bounded on the north and south by DeZonia Drive and the aircraft tarmac, respectively. The east and west boundaries of the site extend just past the two hangars, Buildings 1079 and 1080. Samples were collected outside of the investigation area to delineate contaminated groundwater potentially migrating from the hangar areas.

Most of the investigated area is relatively flat and paved in asphalt, concrete, or coarse gravel. Sparse vegetation is present along with some brush in areas originally designated as landscaping. The eastern hangar, Building 1080, is the newer of the two structures. Infrequent activity was observed in the area of Building 1080, and there was no indication of external sumps or fuel spills that could have leached to groundwater in the past. The western hangar, Building 1079, is an older structure that dates back to the 1940s as observed in an aerial photograph from 1942 (Appendix C). In the vicinity of Building 1079, an underground concrete sump was observed outside of the northwest entrance of the hangar. Site personnel indicated that they did not dispose of anything in the sump as it currently appears dry and unused. A shallow surface depression, approximately 3 ft deep, is in the parking lot north of Building 1079 and measures approximately 100 x 70 ft. According to base Civil Engineering personnel (St. John, 2000), the area was used as a surface overflow basin used as a stormwater collection basin.

Contamination at SS-61 was first detected during Phase II of the Table 1 RFI of SWMU 104 in 1994 (Foster Wheeler and Radian Corporation [Radian], 1997). This landfill, located north of Building 1001 and northwest of SS-61, was used for disposal of waste munitions. During Phase II of the Table 1 RFI, monitoring well MW-29-05 was installed and sampled upgradient from the landfill. Groundwater contamination detected in MW-29-05 included benzene, 1,2-dichloroethane (1,2-DCA), 2,4,6-trinitrotoluene (TNT), and 1,3,5-trinitrobenzene. Water levels measured in the SWMU 104 wells indicated a hydraulic gradient for groundwater flow to the north-northwest. Therefore, the source of the contamination was believed to be to the south-southeast of the landfill. Based on these results, a recommendation for No Further Action status was requested for SWMU 104. The area southeast of the landfill was designated Area of

Concern (AOC)-1001. An investigation of AOC-1001 was conducted to assess the nature and extent of the groundwater contamination detected in MW-29-05 and to locate the source of this contamination.

Two investigations were conducted at AOC-1001 prior to the RI of SS-61, one in 1996 and one in 1997, to delineate the contamination and locate its source (Foster Wheeler and GTI, 1997b). These investigations detected soil contamination and the highest groundwater contaminant concentrations in the vicinity of the concrete pad. Groundwater samples were collected from 24 direct push technology (DPT) locations and 11 monitoring wells in the vicinity of AOC-1001 and SWMU 104. The resulting data outlined a groundwater contaminant plume extending to the north of the concrete pad area. Groundwater monitoring results suggest that this plume also extends to the east (crossgradient) and south-southeast (upgradient) from the concrete pad.

SS-61 was added as an IRP site upon completion of a CERCLA site investigation (SI) and RFI in 1996 and 1997 (Foster Wheeler and GTI, 1997b). At that time, it was concluded that an additional RI was required to determine the nature and extent of soil and groundwater contamination, develop a site conceptual model, and collect information in support of screening-level human health and ecological risk assessments. Field activities for the RI were conducted from March through April 1999.

The six other SWMUs are located within the vicinity of SS-61 and are listed below:

- SWMU 36—Oil-water separator at Building 1001
- SWMU 37—Oil-water separator at Building 1080
- SWMU 38—Oil-water separator at Building 1080A
- SWMU 126—Waste oil tank at Building 1001
- SWMU 164—Pond at Building 1080
- SWMU 212 (IRP Site SD-28)—Former North Area washrack

These Table 2 and 3 SWMUs are listed in the Base's RCRA Permit and were investigated under during the RFI or the IRP, and are not believed to be the sources of the contamination observed at SS-61. These six SWMUs have been proposed to the NMED for No Further Action status as part of the modification to the Base's RCRA Permit.

1.3 SUMMARY OF SITE INVESTIGATIONS

Three separate investigations have taken place at SS-61 prior to the Phase II RI. These three programs include the following investigations and they are discussed in the two subsections below.

- Phase I RFI in 1996 (Foster Wheeler and GTI, 1997b)
- Phase II RFI in 1997 (Foster Wheeler and GTI, 1997b)
- Phase I RI in 1999 (Foster Wheeler, 1999b)

1.3.1 Phase I and Phase II RFI

[redacted], and Phases I and II of an RFI were conducted in 1996 and 1997. The RFI objective was to determine the source and extent of soil and groundwater contamination southeast of SWMU 104. The results of the Phase I and Phase II investigations were presented in the RFI report for AOC-1001 (Foster Wheeler and GTI, 1997b) and are summarized in Section 2.0 of this report.

The scope of the Phase I RFI of AOC-1001 included the following field activities:

- A passive soil vapor survey was conducted that included 49 sample points spread over a grid with 50-ft spacing. The intent of the soil vapor survey was to identify target areas for soil and groundwater collection.
- Based on the results of the soil vapor survey, 10 soil borings were sampled and DPT soil and groundwater samples were collected for chemical analysis.

The Phase II RFI focused on the area south of the bermed areas and east of Building 1001 and SWMU 104. Because benzene and 1,2-DCA were identified in groundwater during the Phase I RFI, the Phase II RFI consisted of:

- Collection of 17 soil and 23 groundwater samples (including field duplicates) followed by analysis using onsite mobile and offsite laboratories
- Installation and sampling of four monitoring wells in critical areas identified through DPT sampling to better define groundwater quality and flow direction
- Installation of four piezometers and measurement of groundwater levels to better characterize groundwater elevation and flow direction across the site

In December 1997, the area previously referred to as AOC-1001 was designated as IRP Site SS-61. At this time, an SI was conducted and it was determined that an RI would be needed to complete the site investigation.

Soil sSampling conducted during the SI and the 1996 and 1997 investigations detected benzene, toluene, ethylbenzene, and xylenes (BTEX), as well as 1,2-DCA, tetryl, and TNT. Most detections of these compounds were in samples collected directly above the water table (depths greater than 15 ft below ground surface [bgs]) where groundwater contamination is interpreted to have entered the capillary fringe. Benzene, ethylbenzene, and xylenes were detected in only one sample collected from unsaturated vadose zone soil above the capillary fringe. These detections occurred in a soil sample collected north of the concrete pad at a depth of 11 to 12 ft bgs. Tetryl and TNT were detected in one sample collected west of the AST area at a depth of 15 to 18 ft bgs. Groundwater contaminants included BTEX, 1,2-DCA, and trichloroethene (TCE). The results of these previous investigations indicated possible soil contamination in the area of the concrete pad and a broad groundwater contaminant plume extending to the north from SS-61, as well as crossgradient to the east and possibly upgradient to the south-southeast.

1.3.2 Phase I RI

In March and April 1999, the Phase I RI was conducted to complete the characterization of the site and to refine the assessment of the source and extent of soil and groundwater contamination in this area to the southeast of SWMU 104. Contamination was detected in the upgradient well at SWMU 104 in 1994.

The results of the following field activities are summarized in this report (Foster Wheeler, 1999b):

- Collection of soil and groundwater samples at 12 locations using a DPT rig. The sampling locations were distributed:
  - Near the pipeline identified along the east edge of the site near the southern berm and north of Building 1072
  - In the vicinity of the concrete pad
  - Near Building 1001
  - South of the concrete pad
  - Upgradient of SS-61 near the hangars (Buildings 1079 and 1080)

- Collection of surface soil and sediment samples in the vicinity of the concrete pad and within the northern bermed area, as well as at a location where the buried pipeline extends above the ground surface at the former southern AST, to support the evaluation of human health and ecological risk at the site
- Installation and sampling of two monitoring wells southeast of the concrete pad to evaluate water quality upgradient of SS-61
- Sampling of eight existing wells in the area associated with SS-61 and SWMU 104 to help define the source of shallow groundwater contamination in the area
- Excavation of a test pit at the north side of the western concrete vault to determine if a subsurface release has occurred

In March and April 1999, the Phase I RI field sampling was conducted. The objective was conducted to locate the source and assess the extent of fuel contamination in soil and groundwater to the southeast of solid waste management unit (SWMU) 104 (LF-29). Contamination was detected in the upgradient monitoring well at SWMU 104 in 1994.

Detailed mapping of the site and geophysical data collection were conducted during the Phase I RI to identify potential sources of this groundwater contamination. These activities located the underground piping that connected the former ASTs to the concrete pad. Phase I RI samples were collected at the following locations to confirm the contaminant source:

- In the area of the two former ASTs to the northeast of the site
- Along the pipeline that once connected the former ASTs to a concrete pad in the southwest part of the site
- Under and around the concrete pad where AST-related underground piping emerges
- Near a debris pile that lies to the north of the concrete pad
- In the southeastern portion of the parking area outside Building 1001, where motor vehicle maintenance is conducted
- Upgradient of SS-61 in an area surrounding two hangars

Groundwater samples collected during the RI confirmed that past releases in the vicinity of the concrete pad account for the elevated concentrations of groundwater contaminants in a plume that extends to the north toward SWMU 104. However, soil sampling showed that there is no continuing source of groundwater contamination above the water table in this area. Groundwater sampling conducted to the south and southeast of the pad indicates that there is also crossgradient and upgradient groundwater contamination attributable to one or more other

sources that have not yet been characterized.

All total recoverable petroleum hydrocarbon (TRPH) soil sample concentrations in the northern part of the site were below the 1,000-milligrams per kilograms (mg/kg)-action level. No continuing source of groundwater contamination was indicated by soil sample results and no free product was observed at the water table at any of the groundwater sampling locations. Of the soil samples collected above the capillary fringe zone affected by groundwater contamination, only one contained a benzene concentration above the Holloman AFB screening level of 25 mg/kg. This benzene concentration and other individual soil and groundwater analytes were evaluated in a human-health risk assessment (HHRA) and screening-level ecological risk assessment. The risk assessments concluded that no unacceptable risk is posed to either human or ecological receptors. Therefore, no remediation is required to protect human health and the environment in the northern part of SS-61.

As a result of the Phase I RI, an additional investigation was recommended to the south of the AST system and concrete pad area investigated to date. The Phase II RI was recommended to locate and characterize upgradient sources of the observed groundwater contamination. Groundwater sampling at three locations in the southern part of SS-61 indicated these sources may be located in the vicinity of the hangars, Buildings 1079 and 1080.

1.4 DOCUMENT ORGANIZATION

This report presents information gathered as a result of the 2000 Phase II RI field activities and the previous investigations to support recommendations for SS-61. The remainder of this report is organized into the following sections:

- Section 2.0 — Remedial Investigation Field Program
- Section 3.0 — Physical Setting
- Section 4.0 — Applicable or Relevant and Appropriate Requirements
- Section 5.0 — Nature and Extent of Contamination
- Section 6.0 — Contaminant Fate and Transport
- Section 7.0 — Screening-Level Risk Assessment
- Section 8.0 — Summary and Conclusions

5.0 NATURE AND EXTENT OF CONTAMINATION

The evaluation of the nature and extent of contamination is based on the analytical results for samples collected during the Phase I and Phase II RFIs in 1996 and 1997 (Foster Wheeler and GTI, 1997), the Phase I RI in 1999 (Foster Wheeler, 1999b), and the Phase II RI in 2000 (Foster Wheeler, 2000). A summary of the sample results is presented below for the following media:

- Soil vapor sampled during the Phase I RFI
- Soil sampled during both phases of the RFI and of the RI
- Groundwater samples collected at DPT locations and from monitoring wells during both phases of the RFI and of the RI

5.1 SOIL VAPOR SURVEY RESULTS

During the Phase I RFI, a passive soil vapor survey was performed to help locate the source of contamination. Forty-nine passive soil vapor points (Gore-Sorbers^{SM}) were installed 3 ft bgs in a grid with a 50-ft spacing. The survey was conducted upgradient of well MW-29-05 and within the area believed to be a former fuel storage area. The Gore-Sorbers^{SM} remained in the ground for approximately two weeks.

The soil vapor samples were analyzed for VOCs, semivolatile organic compounds (SVOCs), and explosives using thermal desorption gas chromatography, and mass selective detection laboratory analysis. A trace of BTEX was detected in only one sample collected on the northwest side of the northern bermed area at a concentration of 1.12 micrograms (μg). The 1.12 micrograms per kilograms (μg/kg) BTEX result consisted of 0.80 μg of toluene and 0.32 μg of total xylenes. Undecane was detected in 22 soil vapor samples at concentrations ranging from 0.02 to 0.26 μg. Diesel-range alkanes (C11, C13, and C15) were also detected in a sample located near DP01 north of the fenced area of Building 1001 at a concentration of 0.26 μg. Undecane and diesel-range alkanes were also detected at 0.10 μg in a laboratory blank, so the actual presence of undecane and diesel-range alkanes in the samples is suspect. No SVOCs or explosives were detected above method reporting limits in any of the soil vapor samples (Foster Wheeler and GTI, 1997).

5.2 SOIL

5.2.1 Phase I RFI Soil Sampling Results

Phase I RFI soil sampling analytical results are also presented in previous reports and summarized in Table 5-1 (Foster Wheeler and GTI, 1997; Foster Wheeler, 1999b). Figure 5-1 presents the distribution of analytes detected in soil during the RFI. Methylene chloride was detected in soil samples collected from borings DP09A and DP10 at concentrations ranging from 10,000 to 17,000 μg/kg. Methylene chloride was also detected in the method blank at a

concentration of 3.86 µg/kg. No other VOCs were detected in the soil samples collected during the Phase I RFI. The soil sample collected from DP08 from 15 to 18 ft bgs contained two explosives, tetryl at 1,000 µg/kg and TNT at 1,000 µg/kg.

5.2.2 Phase II RFI Soil Sampling Results

Phase II RFI soil sampling analytical results are also summarized in Table 5-1 and presented in previous reports (Foster Wheeler and GTI, 1997b; Foster Wheeler, 1999b). Figure 5-1 presents the distribution of analytes detected in soil during the RFI. Selected soil samples were analyzed onsite by the mobile laboratory for specific halogenated hydrocarbons and BTEX using modified EPA Methods 8010/8020. BTEX was identified in only two samples. One sample collected from DP22 at 11 to 12 ft bgs contained 37,970 µg/kg of total BTEX, and one sample from DP23 collected at 17 to 20 ft bgs contained 430 µg/kg of total BTEX. The benzene concentration of 29,400 µg/kg in the sample from DP22 slightly exceeds the 25 mg/kg Holloman AFB action level for benzene. No other VOCs were detected in the soil samples analyzed by the mobile laboratory during the Phase II RFI.

The offsite laboratory analyzed two of the DPT soil samples and the four soil samples collected during the installation of monitoring wells SS61-MW01 through SS61-MW04 for halogenated hydrocarbons and BTEX using EPA Methods 8010/8020. These results are provided in Table 5-1 and presented in Figure 5-1. Benzene (3.2 µg/kg) was detected in the 20 to 22 ft-bgs sample collected from the borehole MW02. The soil sample collected from the borehole MW03 at 18 to 20 ft bgs contained 446.4 µg/kg of total BTEX and 37 µg/kg of 1,2-DCA. No other VOCs were detected in any of the soil samples collected during the Phase II RFI.

5.2.3 Phase I RI Soil Sampling Results

During the RI field activities conducted in April 1999, 17 soil samples were collected to determine the source of contamination resulting from previous activities in the vicinity of SS-61. Soil samples in three separate categories were collected and analyzed as follows:

- Seven subsurface soil samples, including one field duplicate, were collected from three DPT locations; these samples were analyzed offsite for VOCs using EPA SW-846 Methods 5035/8260B and TRPH using EPA Method 418.1
- Eight surface soil samples (0 to 0.5 ft bgs) (including one duplicate) and one sediment sample were collected and analyzed for VOCs using SW-846 Methods 5035/8260B and TRPH using EPA Method 418.1
- A test pit bgs excavated on the north side of the western vault and one soil sample was collected at a depth of 13 ft; this sample was analyzed for VOCs using SW-846 Methods 5035/8260B and TRPH using EPA Method 418.1.

The analytical results for the soil samples are provided in Table 5-2 and the distribution of contaminants in soil in the northern part of SS-61 is presented in Figure 5-1.

TRPH was detected in 11 of the 17 soil samples collected during the Phase I RI (including 1 field duplicate sample). Of the 11 soil samples containing TRPH, 6 samples were collected from surface soil and sediment in the vicinity of the concrete pad (Figure 5-1). Surface soil and sediment concentrations of TRPH ranged from 23 to 270 mg/kg, and the highest concentration of TRPH was detected in the sediment sample collected from the eastern concrete vault. TRPH was also detected in four subsurface soil samples and one field duplicate sample near the concrete pad and the fenced area north of Building 1072 (Figure 5-1). TRPH was detected in unsaturated soil at concentrations ranging from 54 to 99 mg/kg in four samples collected from the test pit and DP30. TRPH was detected in one subsurface sample and field duplicate collected from DP31, north of Building 1072. TRPH concentrations in soil samples collected during the RI do not exceed the Holloman AFB action level of 1,000 mg/kg.

VOCs were detected in only one sample collected from 16 to 18 ft bgs at DP30, and, like TRPH, are associated with contaminated groundwater. The VOCs detected in this soil sample are associated with gasoline hydrocarbons, and the only BTEX compound detected in this sample was ethylbenzene (Figure 5-1). Benzene was not detected in any soil samples collected during the RI.

5.2.4 Phase II RI Soil Sampling Results

A total of 40 soil samples was collected during the Phase II RI conducted in April and May 2000. The purpose of the investigation was to determine the nature and extent of fuel contamination in the soil and groundwater at SS-61. Whereas Phase I of the RI concentrated on the northern portion of SS-61, Phase II concentrated on the upgradient and crossgradient sources of the southern portion of the site.

Soil samples were collected using DPT. The primary sample areas included Building 1079, Building 1080, and the parking lot on the north side of Building 1079. Twenty borings were drilled and one to three samples were collected from each boring. The samples were analyzed for VOCs and TRPH using SW-846 Methods 5030/8260B and 9071/418.1, respectively. Analytical results for the soil samples are provided in Table 5-3. Figure 5-2 presents the distribution of TRPH~~JP-4~~ and VOCs in soil samples collected during the Phase II RI.

TRPH~~JP-4~~ was detected at four of the 20 DPT locations. TRPH~~JP-4~~ was detected at DP39 and DP40 in the 1- to 2-ft interval at concentrations of 260- and 7,800 mg/kg, respectively. At DP41, TRPH~~JP-4~~ was detected in the 8- to 9-ft interval at a concentration of 210 mg/kg. TRPH~~JP-4~~ was also detected at DP44 in the 11- to 12-ft interval at a concentration of 46 mg/kg.

Several VOCs were detected in one sample collected at 21 to 22 ft bgs from DP43 and included the following (significant concentrations are noted): benzene (2,800 □g/kg), ethylbenzene, isopropylbenzene, n-propylbenzene, toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, o-xylene, and m-xylene. The sample was collected from groundwater-saturated soil at the capillary fringe. Isopropylbenzene was also detected at DP49 in the 15- to 16-ft interval at a concentration 1,100 □g/kg. Styrene occurred as an isolated detection at DP49 at 11.5 to 12.5 ft bgs and a concentration of 1,400 □g/kg.

5.3 GROUNDWATER

5.3.1 Phase I and Phase II RFI Groundwater Sampling and Monitoring Results

Phase I RFI groundwater samples were analyzed for VOCs by EPA Method 8260A and explosives by EPA Method 8330. Phase II RFI groundwater samples were analyzed for VOCs by EPA Methods 8010/8020. The VOC analytical list was shortened for Phase II because only BTEX constituents and 1,2-DCA were identified in the groundwater samples collected during Phase I. Because the holding time was exceeded for some of the Phase I explosives samples, 6 of the Phase II DPT points were also sampled for explosives analyses. Analytical results for groundwater samples collected during the Phase I and Phase II RFIs are presented in Table 5-4. Figure 5-3 shows the distribution of groundwater contaminants during the Phase I and Phase II RFIs.

5.3.1.1 Phase I RFI Groundwater Results

Ten groundwater samples were collected during Phase I. The analytical results for these samples (DP01 through DP10) are summarized in Table 5-4. Benzene was detected in groundwater samples collected from 7 of the 10 Phase I DPT locations. Benzene concentrations in the seven samples ranged from 80 micrograms per liter (µg/L) to 7,200 µg/L (Table 5-4). Ethylbenzene and total xylenes were detected in DP02 at concentrations of 890 and 13 µg/L, respectively. Total xylenes were also detected in groundwater at DP03 (31 µg/L) and DP06 (18 µg/L). 1,2-DCA was detected in groundwater samples collected from DP05 (140 µg/L) and DP09A (18 µg/L). No other VOCs were detected in groundwater samples collected during Phase I. Analytical results indicated that no explosives constituents occurred above method reporting limits in any of the groundwater samples collected during Phase I.

5.3.1.2 Phase II RFI Groundwater Results

A total of 17 groundwater samples (including 2 duplicates) were obtained from 14 DPT points (DP11 through DP20 and DP22 through DP25 [DP21 was not installed]). Eleven DPT samples (DP11 [duplicate], DP12 [duplicate], DP16 through DP20, DP18 [duplicate], and DP23 through DP25) were analyzed onsite by the mobile laboratory for specific halogenated hydrocarbons and BTEX using modified EPA Methods 8010/8020. Samples DP11 through DP15 and DP22 were analyzed offsite. One water sample (DP16) was also analyzed for gasoline, diesel, and oil using modified EPA Method 8015. These results are summarized in Table 5-4 and are also presented in previous reports (Foster Wheeler and GTI, 1997b; Foster Wheeler, 1999b).

BTEX constituents associated with gasoline hydrocarbons were detected in 14 of 17 DPT groundwater samples collected during Phase II including 2 duplicate samples. Benzene was detected in 14 groundwater samples, including 2 duplicate samples, and ranged in concentration from 2.8 to 8,640 µg/L. Ethylbenzene was detected at six DPT locations, ranging from 40 to 523 µg/L. Toluene was detected in four DPT groundwater samples, and ranged from 460 to 3,620 µg/L. Total xylenes concentrations were detected at eight locations, ranging from 4.9 to 3,800 µg/L.

VOCs not associated with gasoline hydrocarbons were detected in up to 12 DPT well point locations sampled during Phase II. 1,2-DCA was detected in 13 of the 17 Phase II groundwater DPT samples including 2 duplicate samples and ranged from 3.8 µg/L to 315 µg/L. TCE was the

only other VOC detected in groundwater samples collected from DP15 (5.6 µg/L) and DP20 (14 µg/L).

The water sample from DP16 was also analyzed for gasoline, diesel, and oil by modified EPA Method 8015 to characterize the possible source of the contamination at SS-61. Only gasoline was detected in the sample from DP16, located north of the concrete pad and east of the fenced area at Building 1001 at a concentration of 41,000 µg/L (Foster Wheeler and GTI, 1997b).

The offsite laboratory analyzed groundwater samples from six of the DPT well points for explosives (Table 5-4). Explosives were detected only in the groundwater sample from DP22 where four compounds were detected at levels ranging from 1.6 to 35 µg/L.

Six groundwater samples (including one duplicate) were also obtained from five monitoring wells at the site (MW-29-05 and SS61-MW01 through SS61-MW04) and analyzed offsite for VOCs by EPA Methods 8010/8020. These results are summarized in Table 5-4. Benzene was detected in all wells except SS61-MW01 at concentrations ranging from 0.43 µg/L (SS61-MW02) to 11,000 µg/L (SS61-MW03). The maximum total BTEX concentration (19,165 µg/L) was detected in SS61-MW03 northeast of the concrete pad. 1,2-DCA was also detected in all wells except SS61-MW01 at concentrations ranging from 1.8 µg/L (SS61-MW02) to 940 µg/L (SS61-MW03). TCE was detected in two wells. Other low concentrations of VOCs were detected in groundwater samples as presented in Table 5-4.

5.3.2 Phase I Remedial Investigation Groundwater Sampling Results

During the RI in April 1999, 24 groundwater samples (including 2 duplicates) were collected at 12 DPT locations and from 10 monitoring wells and analyzed for VOCs using SW-846 Method 8260B. The analytical results are summarized in Table 5-5 and a map showing the distribution of VOCs detected in groundwater is presented in Figure 5-4.

During the RI, VOCs were detected in groundwater samples collected from all 12 DPT locations and 8 monitoring wells. Based on the constituents detected and the extent of VOCs in groundwater, one source of contamination is a past release of gasoline-related hydrocarbons in the vicinity of the concrete pad. BTEX compounds were detected in groundwater across the site as far south as DP29 and downgradient of the concrete pad in groundwater sampled at MW-29-05. Benzene was the contaminant most frequently detected and occurred at the highest concentration of all of the BTEX constituents at levels ranging from 7 µg/L at SS61-MW02 to 19,000 µg/L at DP33. Toluene, ethylbenzene, and xylenes were also detected in groundwater at SS-61. Besides BTEX, other gasoline-related VOCs were detected in groundwater and include 1,2-dibromoethane, 1,2-dichlorobenzene, isopropylbenzene, n-propylbenzene, sec-butylbenzene, tert-butylbenzene, and trimethylbenzene isomers (Table 5-5). At SS61-MW05, where the highest BTEX concentrations were detected, an electronic probe was used to check for the presence of floating product, but none was found.

VOCs not related to gasoline were also detected in groundwater during the RI and include 1,2-DCA, TCE, and chloroform (Table 5-5). These VOCs are common solvents that exhibit a different pattern of distribution at the site. The source of this low-level groundwater contamination may be upgradient in the area of the hangars.

5.3.3 Phase II RI Groundwater Sampling Results

During the Phase II RI in April and May 2000, a total of 36 groundwater samples were collected at 20 DPT locations and from 16 monitoring wells. The analytical results are summarized in Table 5-6. Figure 5-5 presents the distribution of VOCs and JP-4 detected in groundwater samples collected at SS-61 and the surrounding area during the Phase II RI.

VOCs were detected in 9 groundwater samples collected from DPT locations and 11 samples collected from monitoring wells. The most commonly detected VOC was benzene, which was detected in 10 groundwater samples ranging in concentration from 0.86 to 13,000 □g/L. Isopropylbenzene, which was detected in nine groundwater samples, ranging in concentration from 7.8 to 5,600 □g/L. Most of the DPT groundwater samples had sporadic detections of VOCs, with the exception of DP43 and DP49. Nine VOCs were detected in the groundwater at DP43, including benzene, ethylbenzene, isopropylbenzene, n-propylbenzene, toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, o-xylene, and m-xylene. The 10 VOCs detected at DP49 included benzene, sec-butylbenzene, tert-butylbenzene, ethylbenzene, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, o-xylene, and m-xylene. In the southern portion of SS-61 benzene was detected in four samples collected from DP39 located south of building 1079, and DP43, DP49, and DP50, all located on the south side of DeZonia Drive, northwest of Building 1079.

The highest levels of VOCs in groundwater were detected in wells MW03, MW04, and MW06, which are all located north of DeZonia Drive in the vicinity of the concrete pad. Gasoline fuel-related VOCs detected in all three samples included benzene, ethylbenzene, isopropylbenzene, toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and m-xylene. 1,2-Dichlorobenzene and p-xylenes were also detected at MW03. Sec-butylbenzene, tert-butylbenzene, 1,2-dichlorobenzene, 2-hexanone, n-propylbenzene, styrene, and o-xylene were additional VOCs detected at MW04. Additional VOCs detected at MW06 included sec-butylbenzene, naphthalene, n-propylbenzene, and o-xylene.

VOCs consisting of chlorinated solvent, not related to gasoline, were detected at low levels at the site (chloroform, 1,1-dichloroethane, 1,2-DCA, and TCE). These chlorinated solvents were detected in samples collected from DPT locations on the east side of SS-61 in the vicinity of the eastern hangar, Building 1080. None of these samples show contamination related to petroleum fuels.

JP-4 was detected in the groundwater at nine DPT locations. Concentrations ranged from 530 to 60,000 □g/L. JP-4 contamination is concentrated around the area of Building 1079. JP-4 was detected in three samples collected from monitoring wells MW03, MW04, and MW06 in the

vicinity of the concrete pad north of DeZonia Drive. Concentrations of JP-4 in these three wells ranged from 650 to 2,500 □g/L.

5.4 SUMMARY OF THE NATURE AND EXTENT OF CONTAMINATION

Results from soil sampling conducted during the Phase I and Phase II RFI field activities in 1996 and 1997 indicated detections of BTEX and 1,2-DCA. Most of these analytes were detected in samples collected directly above the water table (depths greater than 15 ft bgs), where groundwater contamination is interpreted to have entered the capillary fringe. The results of these previous investigations indicated possible soil contamination in the area of the concrete pad and a broad groundwater contaminant plume extending downgradient from the concrete pad, crossgradient to the east and northeast and possibly upgradient (Foster Wheeler and GTI, 1997b).

According to the interpretation of the chemical analytical results from the Phase I and Phase II RFIs and the results of the Phase I and Phase II RIs, a contaminant release occurred in the vicinity of the concrete pad. The location of this past release is best shown by groundwater BTEX concentrations during the Phase I RI (Figure 5-6), since no significant remnant soil contamination was detected. The results also indicated additional upgradient releases of groundwater contamination in the area south of DeZonia Drive. These upgradient releases were suspected because partial delineation of the groundwater contaminant plume during the Phase I RI showed that the plume extends both crossgradient and upgradient from the concrete pad (Figure 5-6).

The geophysical survey conducted during the Phase I RI also indicated that the underground piping from the former ASTs led not only to the concrete pad, but also south toward an area where the two hangars are located (Buildings 1079 and 1080). Based on the findings during the Phase I RI, a Phase II RI was conducted in April and May 2000 and concentrated on investigating the southern portion of SS-61. Samples collected during the Phase II RI indicated that contamination exists in the southern portion of SS-61. Currently, groundwater contamination extends about 100 ft south of Building 1079 to the north toward LF-29 and encompasses the area occupied by the two hangars (Figure 5-7).

Groundwater samples collected upgradient directly south and southwest of the concrete pad contained gasoline-related constituents resulting from past spills or leaks from underground pipes in the vicinity of SS-61. MW10 is the southernmost location where gasoline-related constituents were detected; these detections are likely the result of a past release from an oil/water separator formerly located at the southeast corner of Building 1079. If these releases accumulated at the watertable as free product, they would be observed as light nonaqueous phase liquid (LNAPL). LNAPL was not observed during any of the sampling activities at SS-61 during the Phase II RI.

Soil action levels applicable to Holloman AFB include standards for petroleum hydrocarbons (1,000 mg/kg) and benzene (25 mg/kg). Benzene was detected in four samples during previous investigations. One of those samples, collected during the Phase II RFI from DP22 at 11 to 12 ft bgs, exceeded the standard with a concentration of 29,400 □g/kg, just above the action level. Benzene was detected in one soil sample collected during the Phase II RI at a concentration less than the action level. Petroleum hydrocarbons were detected in soil at SS-61 at levels less than 1,000 mg/kg. Only one soil sample collected during the Phase II RI exceeded the petroleum

hydrocarbon action level. ~~JP-4~~TRPH was detected at a concentration of 7,800 mg/kg at DP40 in the sample collected from 1 to 2 ft. This isolated occurrence of petroleum is likely the result of a previous surface spill in the area. Surface petroleum contamination was not visible in the area surrounding DP40.

Since groundwater at SS-61 contains TDS exceeding 10,000 mg/L, similar to TDS concentrations measured across the base, state groundwater quality standards do not apply. However, any continuing source of groundwater contamination, if present, must be removed. No significant vadose zone soil contamination was detected in any of the three previous investigations that could be a continuing source of groundwater contamination. All elevated concentrations of contaminants occurred in samples collected from the capillary fringe, immediately above the water table. Measurable LNAPL has not been observed at SS-61 during the RI or in monitoring wells sampled downgradient of the site. Groundwater contaminant concentrations in each monitoring well are generally similar between the RFI Phase II and RI Phase I sampling events.

The original Phase I RI field program included nine DPT groundwater locations and two upgradient monitoring wells to the southeast of the concrete pad to confirm the presence of an upgradient source. During the Phase I RI field program, three additional DPT groundwater locations were added in the area of the two hangars. Two of the samples were collected downgradient from the hangars, and the third was collected upgradient from the hangars at the edge of the aircraft taxiway. These additional groundwater samples contained low levels of VOCs.

During the Phase II RI field investigation, contamination in the southern portion of SS-61 was investigated. Of the 36 groundwater samples collected, 10 samples had detections of benzene ranging from 0.86 to 60,000 □g/L. Only one soil sample contained benzene. VOCs were only detected in the soil at two sample locations. Nineteen groundwater samples contained low levels of various VOCs.

As described in Section 5.3, groundwater contaminants in the northern and southern portions of SS-61 differ to the extent of that BTEX-related fuel products predominant in groundwater to the north and jet fuel-related constituents detected in groundwater to the south. A comparison of DPT groundwater data collected at locations where monitoring wells were subsequently installed indicated that DPT groundwater samples contain higher concentrations of ~~TPH~~JP-4 and BTEX. This difference likely occurs because DPT groundwater sampling procedures are not comparable to the presample purging required for development and sampling of monitoring wells. DPT groundwater samples represent a less-disturbed, or stagnant, aliquot that is probably more influenced by contaminants contained within the capillary fringe, which slowly leach to groundwater and remain localized. Chlorinated solvents in groundwater occur sporadically in the western and eastern edges of the site and are most likely the result of minor releases of cleaning fluids during past maintenance operations at both hangars.

Table 5-1. Analytical Results for Soil Detections, Phases I and II RFI Site Characterization (1996 and 1997)

Location	Depth Interval	VOC (µg/kg)						Explosives (µg/kg)	
		Benzene	1,2-Dichloroethane	Ethylbenzene	Toluene	Total Xylenes	Methylene Chloride	Tetryl	Trinitrotoluene
On-Site Mobile Laboratory Analyses									
Phase I									
SS61-DP01	9-12	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP01	15-18	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP01	18-21	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP02	9-12	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP02	15-18	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP02	18-21	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP03	9-12	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP03	15-18	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP03	18-21	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP04	9-12	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP04	15-18	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP04	24-27	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP05	9-12	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP05	15-18	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP05	18-21	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP06	6-9	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP06	12-15	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP06	18-21	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP07	9-12	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP07	15-18	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP07	18-21	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP08	9-12	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP08	15-18	ND	ND	ND	ND	ND	ND	**1,000**	**1,000**
SS61-DP08	21-24	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP09A	18-21	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP09A	21-24	ND	ND	ND	ND	ND	**13,000**	ND	ND
SS61-DP09A	24-27	ND	ND	ND	ND	ND	**17,000**	ND	ND
SS61-DP10	18-21	ND	ND	ND	ND	ND	**10,000**	ND	ND
SS61-DP10	21-24	ND	ND	ND	ND	ND	**15,000**	ND	ND
SS61-DP10	24-27	ND	ND	ND	ND	ND	**17,000**	ND	ND
Phase II									
SS61-DP11	16-19	ND	ND	ND	ND	ND	ND	NR	NR
SS61-DP11 (dup)	16-19	ND	ND	ND	ND	ND	ND	NR	NR
SS61-DP12	16-19	ND	ND	ND	ND	ND	ND	NR	NR
SS61-DP15	18-21	ND	ND	ND	ND	ND	ND	NR	NR
SS61-DP16	12-15	ND	ND	ND	ND	ND	ND	NR	NR
SS61-DP17	14-17	ND	ND	ND	ND	ND	ND	NR	NR
SS61-DP18	19-22	ND	ND	ND	ND	ND	ND	NR	NR
SS61-DP18 (dup)	19-22	ND	ND	ND	ND	ND	ND	NR	NR
SS61-DP22	11-12	**29,400**	ND	**6,540**	ND	**2,030**	ND	NR	NR
SS61-DP23	17-20	**360**	ND	ND	ND	**70**	ND	NR	NR
SS61-DP24	17-20	ND	ND	ND	ND	ND	ND	NR	NR

Table 5-1. Analytical Results for Soil Detections, Phases I and II RFI Site Characterization (1996 and 1997)

Location	Depth Interval	VOC (µg/kg)						Explosives (µg/kg)	
		Benzene	1,2-Dichloroethane	Ethylbenzene	Toluene	Total Xylenes	Methylene Chloride	Tetryl	Trinitrotoluene
Off-Site Fixed Laboratory Analyses									
SS61-DP11	16-19	ND	ND	ND	ND	ND	ND	NR	NR
SS61-DP18	19-22	ND	ND	ND	ND	ND	ND	NR	NR
SS61-MW01	30-32	ND	ND	ND	ND	ND	ND	NR	NR
SS61-MW02	20-22	3.2	ND	ND	ND	ND	ND	NR	NR
SS61-MW03	18-20	330	37	7.4	24	85	ND	NR	NR
SS61-MW04	15-17	ND	ND	ND	ND	ND	ND	NR	NR

Notes:

ft - feet

mg/kg - Milligrams per kilogram

NR - Analysis not requested

ND - Analyte detected or reported at less that the detection limit

VOC - Volatile organic compound

Table 5-2. Analytical Results for Soil Detections, Phase I Remedial Investigation

Location	Depth Interval (ft)	TRPH (mg/kg)	VOCs (µg/kg)															
			Benzene	sec-Butyl-benzene	tert-Butyl-benzene	Chloroform	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloro-ethane	Ethyl-benzene	Isopropyl-benzene	n-Propyl-benzene	Toluene	Trichloro-ethene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	o-Xylene	m,p-Xylenes
SS61-DP30	0-0.5t	61	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP30	8-10	**54**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP30	16-18	**99**	ND	ND	ND	ND	ND	ND	ND	**630**	**1,700**	**760**	ND	ND	**12,000**	**10,000**	ND	ND
SS61-DP31	4-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP31	14-16	**250**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP32	3-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP32	12-14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-SS01	0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-SS02	0-0.5	**23**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-SS03	0-0.5	**93**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-SS04	0-0.5	**33**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-SS05	0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-SS06	0-0.5	**51**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-SD01	0-0.5	**270**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-TP01	13-13.5	**91**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-SS01(dup)	0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP31(dup)	4-6	**31**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

ft - feet

mg/kg - milligrams per kilogram

ND - Analyte detected or reported at less that the detection limit

TRPH - total recoverable petroleum hydrocarbons

VOC - volatile organic compound

µg/kg - micrograms per kilogram

Table 5-3. Summary of Analytical Results for Soil Samples Collected During the Phase II RI

Location	Depth Interval (ft)	TRPH (mg/kg)	VOCs (µg/kg)									
			Benzene	Ethyl-benzene	Isopropyl-benzene	n-Propyl-benzene	Styrene	Toluene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	o-Xylene	m-Xylenes
DPT Soil Samples												
SS61-DP38	5 - 6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP38	10 - 11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP39	1 - 2	**260**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP39	10 - 11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP39	16 - 17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP40	1 - 2	**7,800**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP40	5 - 6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP40	8.5 - 9.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP41	3 - 4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP41	8 - 9	**210**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP42	6 -7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP42	9 - 10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP43	1 - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP43	17 - 18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP43	21 - 22	ND	**2,800**	**7,400**	**17,000**	**1,400**	ND	**21,000**	**13,000**	**6,200**	**14,000**	**34,000**
SS61-DP44	1 - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP44	7 - 8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP44	11 - 12	**46**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP45	1 - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP45	9 - 10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP45	12 - 13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP46	1 - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP46	5 - 6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP46	9 - 10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP47	8 - 9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP47	11 - 12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP48	11 - 12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP49	1 - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP49	11.5 - 12.5	ND	ND	ND	ND	ND	**1,400**	ND	ND	ND	ND	ND
SS61-DP49	15 - 16	ND	ND	ND	**1,100**	ND	ND	ND	ND	ND	ND	ND
SS61-DP50	1 - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP50	10 - 11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP50	15 - 16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP51	14 - 15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP52	15 - 16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP53	15 - 16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP54	14 - 15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP55	12 - 13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP56	15 - 16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP57	11 - 12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

DPT - Direct push technology
ft - Feet
mg/kg - Milligrams per kilogram
ND - Not detected
TRPH - Total recoverable petroleum hydrocarbons
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram

Table 5-4. Analytical Results for Groundwater Detections, Phases I and II RFI Site Characterization (1996 and 1997)

Location	VOCs (µg/L)							
	Benzene	Bromoform	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromomethane	1,2-Dichlorobenzene
On-Site Mobile Laboratory Analyses								
Phase I								
SS61-DP01	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP02	**7,200**	ND	ND	ND	ND	ND	ND	ND
SS61-DP03	**3,400**	ND	ND	ND	ND	ND	ND	ND
SS61-DP04	**96**	ND	ND	ND	ND	ND	ND	ND
SS61-DP05	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP06	**6,000**	ND	ND	ND	ND	ND	ND	ND
SS61-DP07	**1,900**	ND	ND	ND	ND	ND	ND	ND
SS61-DP08	**570**	ND	ND	ND	ND	ND	ND	ND
SS61-DP09	**80**	ND	ND	ND	ND	ND	ND	ND
SS61-DP10	ND	ND	ND	ND	ND	ND	ND	ND
Phase II								
SS61-DP11 (dup)	**10.1**	ND	ND	ND	ND	ND	ND	ND
SS61-DP12 (dup)	**2,200**	ND	ND	ND	ND	ND	ND	ND
SS61-DP16	**4,080**	ND	ND	ND	ND	ND	ND	ND
SS61-DP17	**3,900**	ND	ND	ND	ND	ND	ND	ND
SS61-DP18	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP18 (dup)	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP19	**922**	ND	ND	ND	ND	ND	ND	ND
SS61-DP20	**59**	ND	ND	ND	ND	ND	ND	ND
SS61-DP23	**640**	ND	ND	ND	ND	ND	ND	ND
SS61-DP24	**5,100**	ND	ND	ND	ND	ND	ND	ND
SS61-DP25	ND	ND	ND	ND	ND	ND	ND	ND
MW-29-05	**46**	ND	**0.65**	ND	**0.26**	ND	**0.3**	ND
SS61-MW01	ND	ND	ND	ND	ND	ND	ND	ND
SS61-MW02	**0.43**	ND	ND	ND	**2.5**	**0.22**	ND	**5.3**
SS61-MW03	**11,000**	**1.6**	ND	**5.4**	**3.6**	ND	**6.8**	ND
SS61-MW04	**2.9**	ND	ND	ND	**0.52**	0.2	ND	ND
SS61-MW04 (Dup)	**2.2**	ND	ND	ND	**0.29**	ND	ND	ND
Off-Site Fixed Laboratory Analyses								
SS61-DP11	**7.9**	ND	ND	ND	ND	ND	ND	ND
SS61-DP12	**1,900**	ND	ND	ND	ND	ND	ND	ND
SS61-DP13	**704**	ND	ND	ND	ND	ND	ND	ND
SS61-DP14	**1,420**	ND	ND	ND	ND	ND	ND	ND
SS61-DP15	**2.8**	ND	ND	ND	ND	ND	ND	ND
SS61-DP22	**8,640**	ND	ND	ND	ND	ND	ND	ND

Note: The sample collected at SS61-DP16 was also analyzed for gasoline, diesel, and oil

ND - Analyte detected or reported at less that the detection limit

VOC - Volatile organic compound

µg/L - Micrograms per liter

Table 5-4. Analytical Results for Groundwater Detections, Phases I and II RFI Site Characterization (1996 and 1997)

Location	VOCs (µg/L)							
	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,2-Dichloroethane	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene
On-Site Mobile Laboratory Analyses								
Phase I								
SS61-DP01	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP02	ND	ND	ND	ND	ND	ND	ND	890
SS61-DP03	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP04	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP05	ND	ND	ND	140	ND	ND	ND	ND
SS61-DP06	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP07	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP08	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP09	ND	ND	ND	18	ND	ND	ND	ND
SS61-DP10	ND	ND	ND	ND	ND	ND	ND	ND
Phase II								
SS61-DP11 (dup)	ND	ND	ND	104	ND	ND	ND	ND
SS61-DP12 (dup)	ND	ND	ND	102	ND	ND	ND	ND
SS61-DP16	ND	ND	ND	178	ND	ND	ND	308
SS61-DP17	ND	ND	ND	315	ND	ND	ND	40
SS61-DP18	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP18 (dup)	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP19	ND	ND	ND	13.1	ND	ND	ND	336
SS61-DP20	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP23	ND	ND	ND	21	ND	ND	ND	140
SS61-DP24	ND	ND	ND	288	ND	ND	ND	230
SS61-DP25	ND	ND	ND	ND	ND	ND	ND	ND
MW-29-05	ND	ND	ND	210	0.4	0.27	0.22	0.76
SS61-MW01	ND	ND	ND	ND	ND	ND	ND	ND
SS61-MW02	1.9	1.2	1.1	1.8	ND	ND	ND	ND
SS61-MW03	ND	ND	ND	940	1.6	ND	ND	65
SS61-MW04	ND	ND	ND	3.8	ND	ND	ND	0.53
SS61-MW04 (Dup)	ND	ND	ND	3.4	ND	ND	ND	ND
Off-Site Fixed Laboratory Analyses								
SS61-DP11	ND	ND	ND	87	ND	ND	ND	ND
SS61-DP12	ND	ND	ND	118	ND	ND	ND	ND
SS61-DP13	ND	ND	ND	47	ND	ND	ND	ND
SS61-DP14	ND	ND	ND	60	ND	ND	ND	ND
SS61-DP15	ND	ND	ND	3.8	ND	ND	ND	ND
SS61-DP22	ND	ND	ND	310	ND	ND	ND	523

Note: The sample collected at SS61-DP1(

ND - Analyte detected or reported at less t

VOC - Volatile organic compound

µg/L - Micrograms per liter

Table 5-4. Analytical Results for Groundwater Detections, Phases I and II RFI Site Characterization (1996 and 1997)

Location	VOCs (ug/L)			Explosives (µg/L)			
	Toluene	Total Xylenes	Trichloroethene	Nitrobenzene	RDX	Tetryl	1,3,5-Trinitrobenzene
On-Site Mobile Laboratory Analyses							
Phase I							
SS61-DP01	ND	ND	ND	ND	ND	ND	ND
SS61-DP02	ND	13	ND	ND	ND	ND	ND
SS61-DP03	ND	31	ND	ND	ND	ND	ND
SS61-DP04	ND	ND	ND	ND	ND	ND	ND
SS61-DP05	ND	ND	ND	ND	ND	ND	ND
SS61-DP06	ND	18	ND	ND	ND	ND	ND
SS61-DP07	ND	ND	ND	ND	ND	ND	ND
SS61-DP08	ND	ND	ND	ND	ND	ND	ND
SS61-DP09	ND	ND	ND	ND	ND	ND	ND
SS61-DP10	ND	ND	ND	ND	ND	ND	ND
Phase II							
SS61-DP11 (dup)	ND	ND	ND	ND	ND	ND	ND
SS61-DP12 (dup)	ND	ND	ND	ND	ND	ND	ND
SS61-DP16	2,600	2,400	ND	ND	ND	ND	ND
SS61-DP17	ND	17	ND	ND	ND	ND	ND
SS61-DP18	ND	ND	ND	ND	ND	ND	ND
SS61-DP18 (dup)	ND	ND	ND	ND	ND	ND	ND
SS61-DP19	ND	6	ND	ND	ND	ND	ND
SS61-DP20	ND	ND	14	ND	ND	ND	ND
SS61-DP23	460	940	ND	ND	ND	ND	ND
SS61-DP24	1,030	3,800	ND	ND	ND	ND	ND
SS61-DP25	ND	ND	ND	ND	ND	ND	ND
MW-29-05	0.81	0.89	ND	ND	ND	ND	ND
SS61-MW01	ND	ND	ND	ND	ND	ND	ND
SS61-MW02	ND	ND	45	ND	ND	ND	ND
SS61-MW03	2,300	5,800	1.8	ND	ND	ND	ND
SS61-MW04	ND	2.32	ND	ND	ND	ND	ND
SS61-MW04 (Dup)	ND	3.2	ND	ND	ND	ND	ND
Off-Site Fixed Laboratory Analyses							
SS61-DP11	ND	ND	ND	ND	ND	ND	ND
SS61-DP12	ND	ND	ND	ND	ND	ND	ND
SS61-DP13	ND	4.9	ND	ND	ND	ND	ND
SS61-DP14	ND	30	ND	ND	ND	ND	ND
SS61-DP15	ND	ND	5.6	ND	ND	ND	ND
SS61-DP22	3,620	1,140	ND	7.4	35	1.6	13

Note: The sample collected at SS61-DP1(

ND - Analyte detected or reported at less t

VOC - Volatile organic compound

µg/L - Micrograms per liter

Table 5-5. Analytical Results for Groundwater Detections in the Phase I Remedial Investigation

Location	Detected VOC Concentrations (µg/L)															
	Benzene	sec-Butyl-benzene	tert-Butyl-benzene	Chloroform	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloro-ethane	Ethyl-benzene	Isopropyl-benzene	n-Propyl-benzene	Toluene	Trichloro-ethene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	o-Xylene	m,p-Xylenes
SS61-DP26	2,900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP27	6,900	ND	ND	ND	ND	ND	ND	ND	1,700	ND	2,000	ND	ND	ND	1,500	2,400
SS61-DP28	440	ND	ND	ND	ND	ND	ND	ND	ND	ND	6	ND	ND	ND	3	5
SS61-DP29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	ND	ND	ND	ND	ND
SS61-DP30	15,000	ND	ND	ND	1,400	ND	ND	1,700	5,400	ND	20,000	ND	1,100	ND	3,100	7,400
SS61-DP31	8,700	ND	ND	ND	ND	ND	ND	670	1,400	ND	960	ND	ND	ND	640	1,100
SS61-DP32	18,000	28	ND	ND	49	ND	ND	1,100	3,300	53	1,200	ND	ND	ND	530	1,400
SS61-DP33	19,000	ND	ND	ND	110	ND	ND	750	650	27	14,000	ND	ND	ND	1,600	3,300
SS61-DP34	8,100	ND	ND	ND	ND	ND	ND	1,400	2,700	ND	600	ND	1,600	940	2,200	5,100
SS61-DP35	89	11	6	ND	ND	ND	ND	290	1,900	94	3	ND	ND	ND	9	ND
SS61-DP36	ND	ND	ND	ND	ND	ND	ND	ND	8	ND	ND	16	ND	ND	ND	ND
SS61-DP37	ND	ND	ND	8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-MW01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-MW02	7	ND	ND	ND	ND	9	ND	3	ND	ND	ND	34	ND	ND	ND	ND
SS61-MW03	8,200	ND	ND	ND	ND	ND	ND	ND	ND	ND	900	ND	ND	ND	770	1,200
SS61-MW04	ND	ND	ND	ND	ND	ND	ND	ND	94	ND	ND	ND	24	12	5	13
SS61-MW05	ND	ND	ND	ND	ND	ND	ND	3	66	ND	ND	ND	ND	ND	ND	ND
SS61-MW06	14,000	ND	ND	ND	ND	ND	ND	1,300	2,600	ND	6,800	ND	1,400	ND	3,300	7,800
MW-29-02	ND	ND	ND	ND	ND	ND	27	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-29-03	ND	ND	ND	9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-29-05	440	ND	ND	ND	ND	ND	190	ND	640	ND	ND	ND	ND	ND	ND	ND
MW-29-06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-MW04D	ND	ND	ND	ND	ND	ND	ND	ND	160	ND	ND	ND	41	21	8	23
SS61DP31WD	14,000	ND	ND	ND	ND	ND	ND	1,900	3,400	ND	1,900	ND	1,100	ND	1,800	3,300

Notes:

µg/L - micrograms per liter

ND - Analyte detected or reported at less that the detection limit

VOC - Volatile organic compound

Table 5-6. Analytical Results for Groundwater Detections, Phase II Remedial Investigation

Location	TPH JP-4 (µg/L)	VOCs (µg/L) Benzene	Chloroform	sec-Butyl-benzene	tert-Butyl-benzene	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloroethane	1,1-Dichloro-ethane	Ethyl-benzene	2-Hexanone
DPT Groundwater Samples											
SS61-DP38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP39	**5,600 J**	**8,900**	ND	ND	**85**	ND	ND	ND	ND	ND	ND
SS61-DP40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP42	**1,100 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP43	**60,000**	**9,100**	ND	ND	ND	ND	ND	ND	ND	**940**	ND
SS61-DP44	**3,400 J**	ND	ND	ND	**7.3**	ND	ND	ND	ND	ND	ND
SS61-DP45	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP46	**530 J**	ND	ND	ND	ND	ND	**6.2**	ND	ND	ND	ND
SS61-DP47	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP49	**3,600**	**200 J**	ND	**15 J**	**8 J**	ND	ND	ND	ND	**3,700 J**	ND
SS61-DP50	**860 J**	**270 J**	ND	ND	**6.9 J**	ND	ND	ND	ND	ND	ND
SS61-DP51	**760 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP52	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP53	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP54	**840**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-DP56	ND	ND	ND	ND	ND	ND	ND	ND	**15**	ND	ND
SS61-DP57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Monitoring Well Samples											
SS61-MW01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-MW02	ND	**0.86**	**0.63**	ND	ND	ND	**5.6**	ND	ND	ND	ND
SS61-MW03	**1,400 J**	**7,300 J**	ND	ND	ND	**18 J**	**160 J**	ND	ND	**22 J**	ND
SS61-MW04	**650**	**1,100 J**	ND	**10 J**	**5.7 J**	ND	**49 J**	ND	ND	**5.5 J**	**16 J**
SS61-MW05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-MW06	**2,500 J**	**13,000 J**	ND	**14 J**	ND	ND	ND	ND	ND	**720 J**	ND
SS61-MW07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-MW08	ND	**3.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-MW09	ND	ND	**0.54**	ND	ND	ND	ND	ND	ND	ND	ND
SS61-MW10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS61-MW11	ND	ND	**2.6 J**	ND	ND	ND	ND	ND	ND	ND	ND
SS61-MW12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-29-02	ND	ND	**1.3**	ND	ND	ND	ND	**22**	ND	ND	ND
MW-29-03	ND	ND	**6**	ND	ND	ND	ND	ND	ND	ND	ND
MW-29-05	ND	**79**	ND	**3.5**	**2.2**	ND	ND	**160**	ND	ND	ND
MW-29-06	ND	ND	ND	ND	ND	ND	ND	**3.1**	ND	ND	ND

Notes:

DPT - Direct push technology

ND - Not detected above the reporting limit

TPH - Total petroleum hydrocarbons

VOCs - Volatile organic compounds

µg/L - Micrograms per liter

APPENDIX B

LITHOLOGIC LOGS AND WELL CONSTRUCTION DIAGRAMS

Foster Wheeler Environmental Corporation, *Final Remedial Investigation Report for Spill Site 61, Holloman Air Force Base, New Mexico,* August 1999.

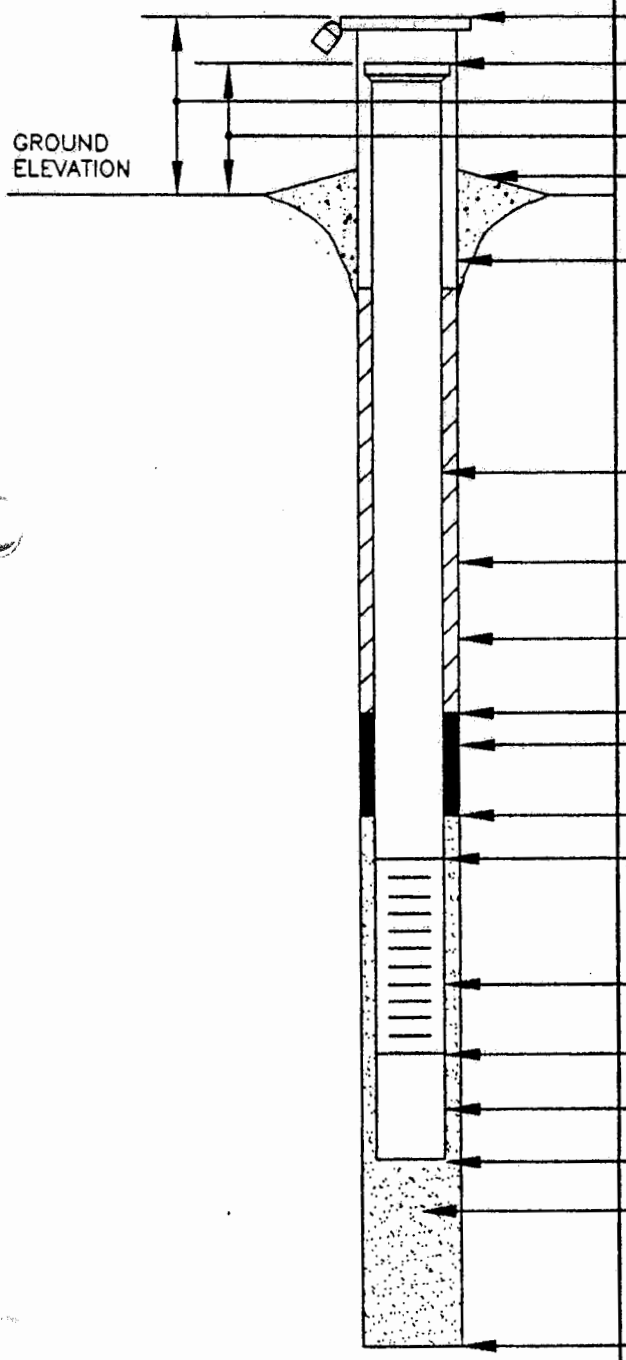
Foster Wheeler Environmental Corporation, *Final Phase II Remedial Investigation Report for SS-61, Holloman Air Force Base, New Mexico,* December 2000.

WELL NO. SS61-MW05

OVERBURDEN
MONITORING WELL SHEET

PROJECT: SS-61 RF
PROJECT NO.: 5155.0022.0003 BORING NO.: SS61-MW05
ELEVATION: N/A DATE: 4/9/99
FIELD GEOLOGIST: Carol Bieniulis

DRILLER: D. Hogan-Alliance
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Teflon bailer/pump



ELEVATION OF TOP OF SURFACE CASING: N/A
ELEVATION OF TOP OF RISER PIPE: N/A
STICK-UP TOP OF SURFACE CASING: 4.0 ft from pad surface
STICK-UP RISER PIPE: 3.5 ft from pad surface
TYPE OF SURFACE SEAL: Concrete
I.D. OF SURFACE CASING: 6 in.
TYPE OF SURFACE CASING: steel
RISER PIPE I.D.: 2 in.
TYPE OF RISER PIPE: PVC
BOREHOLE DIAMETER: 6 ~~8~~ in. CLB 041699
TYPE OF BACKFILL: grout-bentonite/concrete
ELEVATION/DEPTH TOP OF SEAL: 9.5 ft bgs
TYPE OF SEAL: bentonite
PDSCo bentonite chips
DEPTH OF SAND PACK: 12.5 ft bgs
ELEVATION/DEPTH TOP OF SCREEN: 14.5 ft bgs
TYPE OF SCREEN: PVC slotted pipe CLB 081399
SLOT SIZE X LENGTH: 0.10 slot, 10 ft length
TYPE OF SAND PACK: 10/20 Colorado silica sand
ELEVATION/DEPTH BOTTOM OF SCREEN: 24 ft bgs
TYPE OF SUMP: PVC cap
LENGTH OF SUMP 0.5 ft
ELEVATION/DEPTH BOTTOM OF SAND PACK: 25 ft
TYPE OF BACKFILL BELOW OBSERVATION WELL: none
ELEVATION/DEPTH OF HOLE: 25 ft

NOT TO SCALE

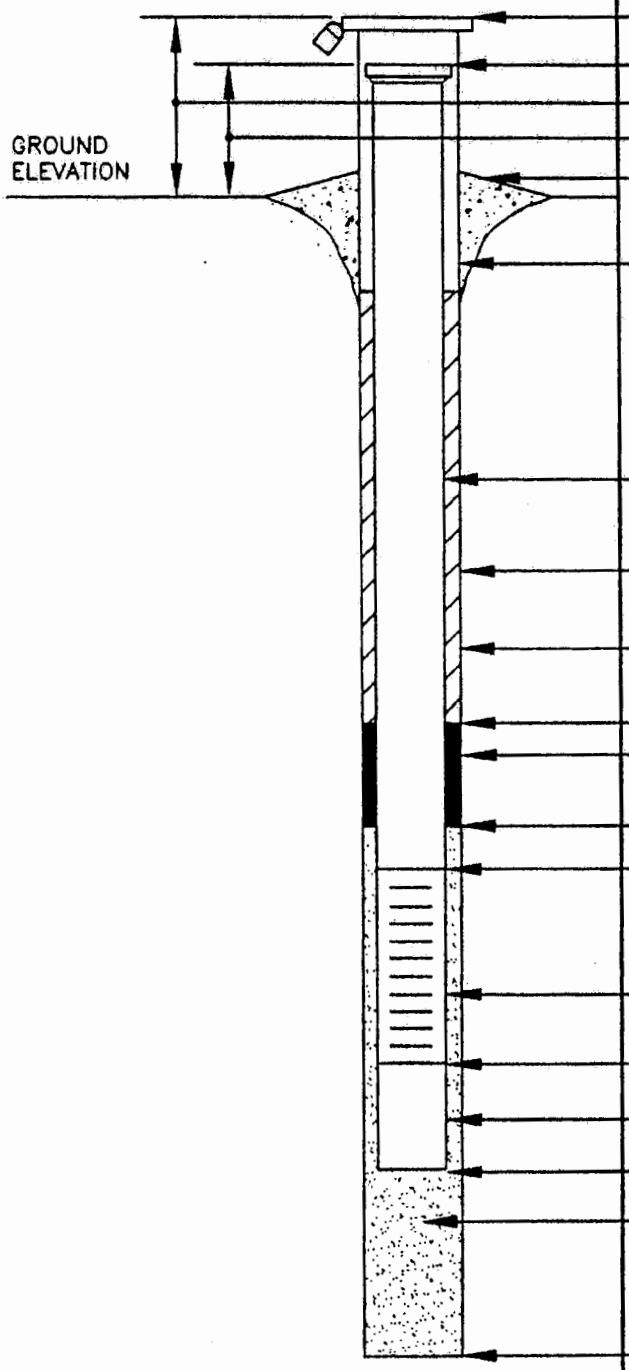
D:\PROJECTS\5155KIRK\Mw_log(blank).DWG

WELL NO. SS61-MW06

OVERBURDEN
MONITORING WELL SHEET

PROJECT: SS61 RI
PROJECT NO.: 5155.0022.0003 BORING NO.: SS61-MW06
ELEVATION: N/A DATE: 4/8/99
FIELD GEOLOGIST: Carol Bieniulis

DRILLER: D. Hogan - Alliance
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Teflon bailer / pump



ELEVATION OF TOP OF SURFACE CASING: N/A
ELEVATION OF TOP OF RISER PIPE: N/A
STICK-UP TOP OF SURFACE CASING: 2.9 ft from pad surf
STICK-UP RISER PIPE: 2.8 ft from pad surface
TYPE OF SURFACE SEAL: concrete
I.D. OF SURFACE CASING: 6 in.
TYPE OF SURFACE CASING: steel
RISER PIPE I.D.: 2 in.
TYPE OF RISER PIPE: PVC
BOREHOLE DIAMETER: 6 in
TYPE OF BACKFILL: grout - bentonite/concrete
ELEVATION/DEPTH TOP OF SEAL: 8.0 ft
TYPE OF SEAL: bentonite
PDSCo bentonite chips
DEPTH OF SAND PACK: 11.8 ft
ELEVATION/DEPTH TOP OF SCREEN: 14.0 ~~11.8~~ ft
TYPE OF SCREEN: PVC slotted pipe CLB 041694 CLB 081399
SLOT SIZE X LENGTH: 0.10 slot, 10 ft length
TYPE OF SAND PACK: 10/20 Colorado silica sand
ELEVATION/DEPTH BOTTOM OF SCREEN: 24.0 ft
TYPE OF SUMP: PVC cap
LENGTH OF SUMP 0.5 ft
ELEVATION/DEPTH BOTTOM OF SAND PACK:
TYPE OF BACKFILL BELOW OBSERVATION WELL: none
ELEVATION/DEPTH OF HOLE: 24.5 ft

NOT TO SCALE

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HTRW DRILLING LOG

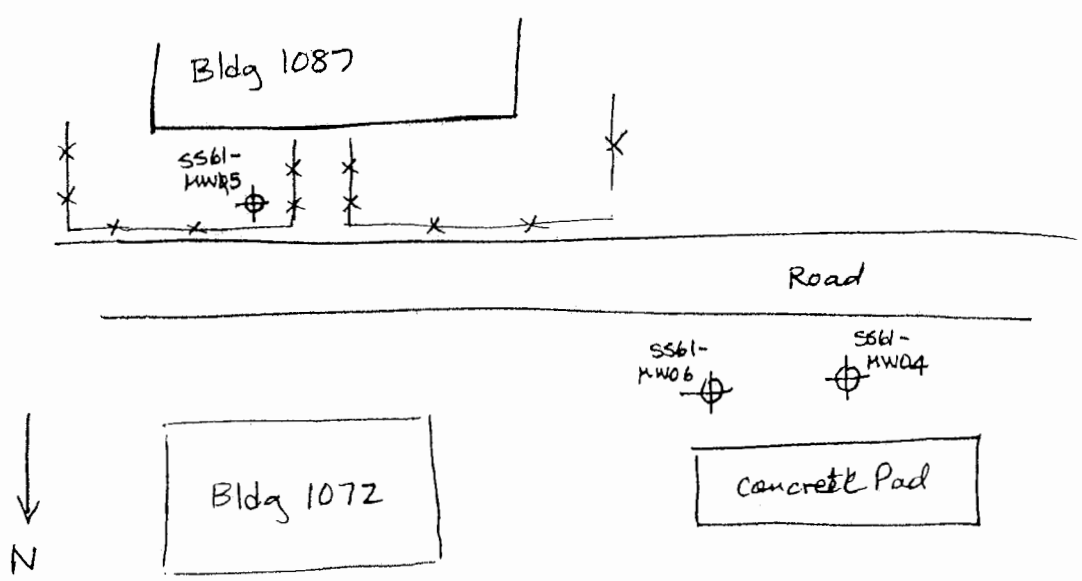
DISTRICT: OMAHA		HOLE NO.: SS61-MW05
1. COMPANY NAME: FOSTER WHEELER ENVIRONMENTAL CORPORATION	2. DRILLING SUBCONTRACTOR: Alliance Environmental, Inc.	SHEET 1 OF 3
3. SITE: SS-61, Holloman AFB, NM	4. LOCATION: SS61- MW05	
5. NAME OF DRILLER:	6. MANUFACTURERS DESIGNATION OF DRILL: Mobile Drill, model B-61	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Hollow-stem auger 4.25 in ID 8.5 in OD	8. HOLE LOCATION: with yard north of Bldg. 1087	
	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 4-9-99	11. DATE COMPLETED: 4-9-99
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: ~19 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 18.5 ft	
14. TOTAL DEPTH OF HOLE: 24.5 ft	17. OTHER WATER LEVEL MEASURMENTS (SPECIFY):	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES:
none	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHERS (SPECIFY)	OTHERS (SPECIFY)	OTHERS (SPECIFY)	21. TOTAL CORE REC. %
None	NA	NA	NA	NA	NA	100

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHERS (SPECIFY)	23. SIGNATURE OF INSPECTOR
Install monitoring well	—	X	—	Carol Bienulis

LOCATION SKETCH/COMMENTS:



PROJECT #:	SITE:	LOCATION:
5155.0022.0003.H0000	SS-61, Holloman AFB, NM	SS61-MW05

HTRW DRILLING LOG	DISTRICT	LOCATION: SS61-MW05
1. PROJECT # 5155.0022.0003.H0000	2. INSPECTOR Carol Bieniulis	SHEET 2 OF 3

ELEV.	DEPTH (feet)	FIELD SCREEN RESULTS	USCS CLASS.	MATERIAL DESCRIPTION	COMMENTS
	1.0	BKGD		Fill material, poorly sorted	
	2	BKGD	CL	Clayey sand w/ some gravel, slightly moist, low plasticity, 10YR 6/2, poorly sorted	
	3				
	4	BKGD	CL	Clay with some sand and silt, med plasticity, slight. moist, 10YR 7/4	
	5				
	6			same as above	
	7	BKGD			
	8				
	9		SC	Clayey sand w/ some gravel, slightly moist, poorly sorted, 7.5 YR 7/2	
	10				
	11	BKGD			
	12				
	13				
	14	BKGD	CL	Sandy clay, slightly moist, low plasticity, well sorted/graded, 7.5 YR 7/2 CLB 041099	
	15				
	16			Silty clay, no sand or gravel, well graded, low plasticity, slightly moist, 7.5 YR 6/4	
	17				
	18				
	19	BKG	ML	Clay w/ silt, well graded, slightly moist, high plasticity, 7.5 YR 7/4 CLB	▽ Water
	20				

PROJECT #:	SITE:	LOCATION:
5155.0022.0003.H0000	SS-61, Holloman AFB, NM	SS61-MW05

HTRW DRILLING LOG	DISTRICT	LOCATION:
	OMAHA	SS61-MW05
1. PROJECT # 5155.0022.0003.H0000	2. INSPECTOR Carol Bieniulis	SHEET 3 OF 3

ELEV.	DEPTH (feet)	FIELD SCREEN RESULTS	USCS CLASS.	MATERIAL DESCRIPTION	COMMENTS
	21			Same as above	
	22	BKGD			
	23				
	24	BKGD	ML	Clay w/ silt, well graded. saturated, very plastic, 5YR 6/4.	Strong petroleum odor
			CL	silty clay w/ some sand, saturated, med plasticity, well graded, 10YR 5/1	Very Strong Petroleum Odor
				TD = 24.5 ft	
				Water at 18.5 ft (0820)	
				Measured at 14.3 ft (0945)	Need to take water level again

HTRW DRILLING LOG

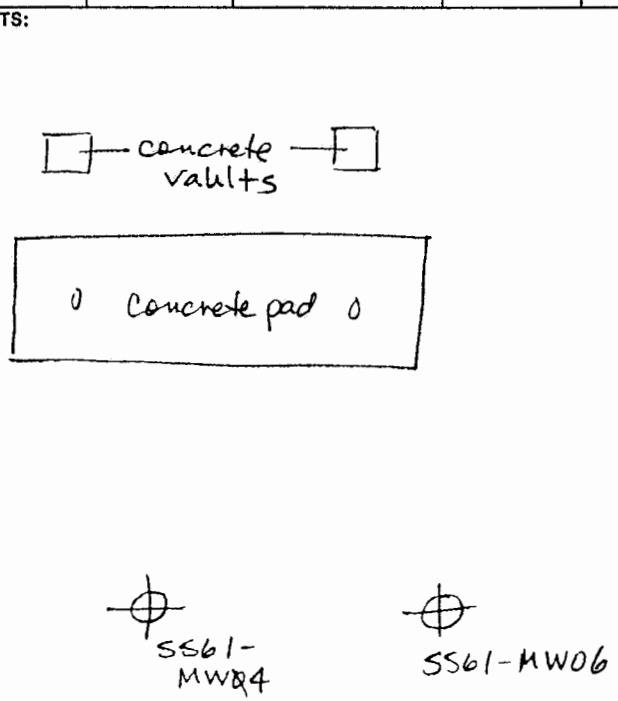
DISTRICT: OMAHA		HOLE NO.: SS61-MW06
1. COMPANY NAME: FOSTER WHEELER ENVIRONMENTAL CORPORATION	2. DRILLING SUBCONTRACTOR: Alliance Environmental, Inc.	SHEET 1 OF 3
3. SITE: SS-61, Holloman AFB, NM	4. LOCATION: SS61-MW06	
5. NAME OF DRILLER: Dave Hogain - Alliance	6. MANUFACTURERS DESIGNATION OF DRILL: Mobile Drill, Model B-61	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Hollow-stem auger, 4.25 in ID, 8.5 in OD	8. HOLE LOCATION: South of east end of concrete pad	
	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 4-8-99	11. DATE COMPLETED: 4-8-99
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: ~19 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 19.5 ft	
14. TOTAL DEPTH OF HOLE: 24.5	17. OTHER WATER LEVEL MEASURMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES:
none	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHERS (SPECIFY)	OTHERS (SPECIFY)	OTHERS (SPECIFY)	21. TOTAL CORE REC. %
none	NA	NA	NA	NA	NA	100 NA

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHERS (SPECIFY)	23. SIGNATURE OF INSPECTOR
Monitoring well installation		X		Carl Brennlis 4/30/99

LOCATION SKETCH/COMMENTS:



PROJECT #:	SITE:	LOCATION:
5155.0022.0003.H0000	SS-61, Holloman AFB, NM	SS61-MW&6

HTRW DRILLING LOG	DISTRICT	LOCATION:
	OMAHA	SS61-MW&6
1. PROJECT # 5155.0022.0003.H0000	2. INSPECTOR Carol Bieniulis	SHEET 2 OF 3

ELEV.	DEPTH (feet)	FIELD SCREEN RESULTS	USCS CLASS.	MATERIAL DESCRIPTION	COMMENTS
	1	BKGD		See HTRW Drilling Log for SS61-DP34 for lithologic descriptions to 22.0 ft in depth	
	2				
	3				
	4				
	5	BKGD			
	6				
	7				
	8				
	9				
	10	BKGD			
	11				
	12				
	13				
	14				
	15	BKGD			
	16				
	17				
	18				
	19	12 ppm			▽ water
	20				

PROJECT #:	SITE:	LOCATION:
5155.0022.0003.H0000	SS-61, Holloman AFB, NM	SS61-MW06

HTRW DRILLING LOG	DISTRICT	LOCATION:
	OMAHA	MW06
1. PROJECT # 5155.0022.0003.H0000	2. INSPECTOR Carol Bieniulis	SHEET 3 OF 3

ELEV.	DEPTH (feet)	FIELD SCREEN RESULTS	USCS CLASS.	MATERIAL DESCRIPTION	COMMENTS
	21				
	22				
	23	30ppm	SC-SM	Clayey and sandy silt, well-graded, saturated, med to poor plasticity, 2.5YR 7/1	Strong petroleum odor
	24				
				TD = 24.5 ft water encountered at ~19 ft	

HTRW DRILLING LOG

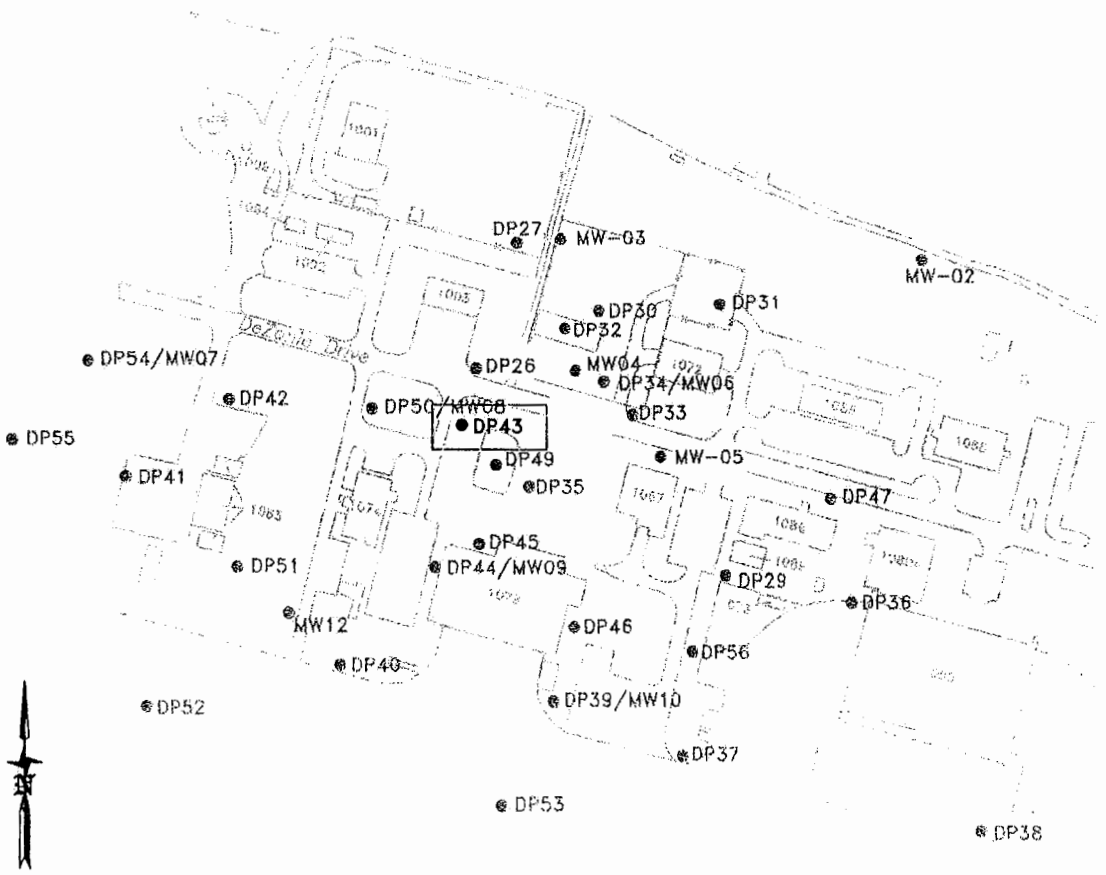
DISTRICT: OMAHA	HOLE NUMBER: SS61-DP43	
1. COMPANY NAME: Foster Wheeler Environmental Corp.	2. DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 3
3. PROJECT: 515.0027.0007 H2000	4. LOCATION: SS-61, Holloman AFB	
5. NAME OF DRILLER: Rafe Jones	6. MANUFACTURER'S DESIGNATION OF DRILL:	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8. HOLE LOCATION: SS61-DP43	
	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 5/2/00	11. DATE COMPLETED: 5/2/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 23 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 12.45 ft bgs at 1200 on 5/3/00	
14. TOTAL DEPTH OF HOLE: 25.5 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	soil and water		soil -TRPH	water - TPH-JP4		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	w/ bentonite	N/A		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 Inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-DP43

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP43

PROJECT 5155.0027.0007 H2000 | INSPECTOR Luke Darragh | SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Tan Silty SAND, dry, loose, fine to medium Sand, trace coarse Sand	1.0 ppm				SM
	2	Brown Silty CLAY, dry, soft, low plasticity, trace fine Sand					CL
	4	Brown/Tan Clayey SAND, moist, medium density, fine to medium Sand, trace coarse Sand	0.30 ppm				SC
	6	Grey/Tan Silty CLAY, moist, soft, low plasticity, trace fine Sand					CL
	8	same as above - color change to brown					
	10	Brown Clayey SILT, moist, soft, fine Sand, trace medium and coarse Sand	1.0 ppm				ML
	12	Brown Silty CLAY, moist, medium stiffness, medium plasticity, some fine Sand	7.95 ppm				CL
	14						
		same as above, Silty CLAY	53.25 ppm				CL
	16	Grey/Green Silty CLAY, moist, stiff, slight plasticity, some fine Sand					CL
		same as above - strong odor	45.22 ppm				CL
	18	Brown Silty CLAY, moist, stiff, fine Sand and small crystals	33.5 ppm				CL

PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-DP43

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP43

PROJECT 5155.0027.0007 H2000

INSPECTOR Luke Darragh

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Brown Silty CLAY, moist, stiff, medium plasticity, some fine Sand and crystals, strong odors	2000 ppm				CL
	22	Same as above, (Silty CLAY) Wet at about 23 ft	2022 ppm				CL
	24	Same as above but saturated	1795 ppm				CL
	26	TD = 25.5 ft					

PROJECT 5155.0027.0007 H2000 HOLE NO. SS61-DP43

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

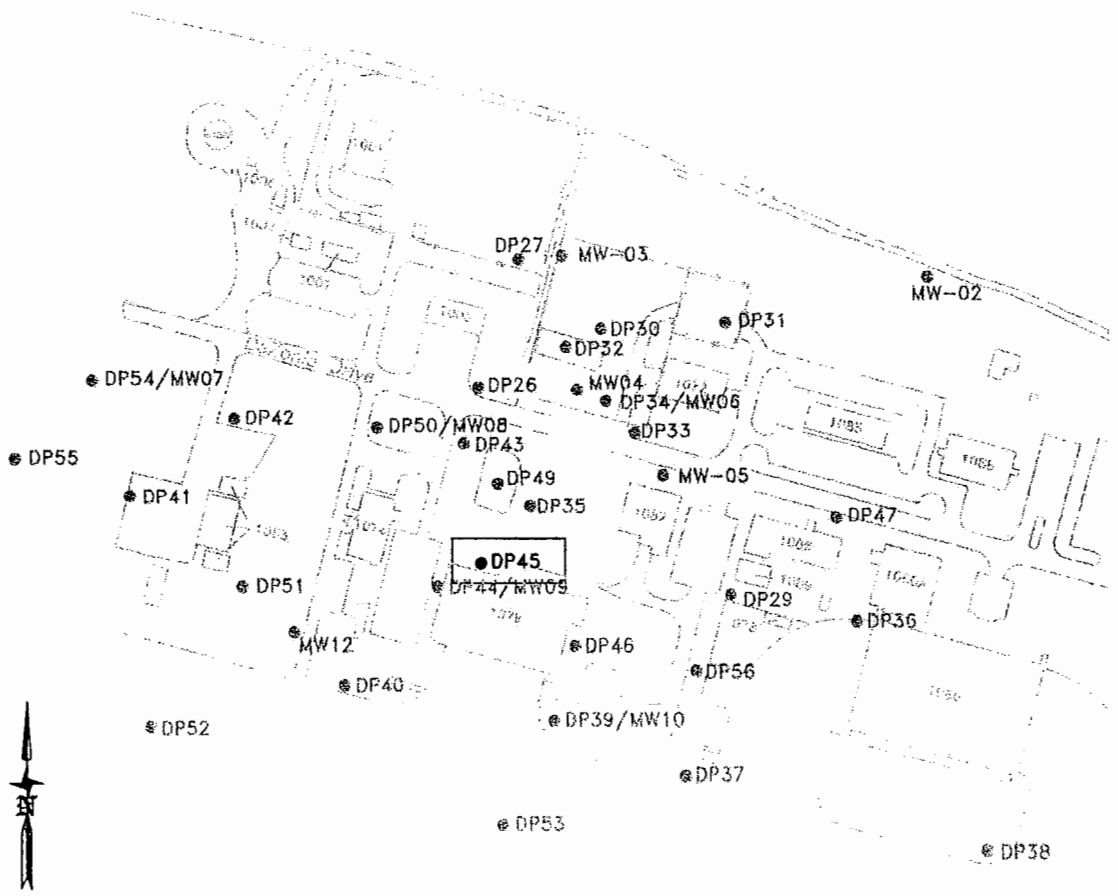
DISTRICT: OMAHA		HOLE NUMBER: SS61-DP45
1. COMPANY NAME: Foster Wheeler Environmental Corp.	2. DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 2 SHEETS
3. PROJECT: 5155.0027.0007	4. LOCATION: SS-61, Holloman AFB	
5. NAME OF DRILLER: Rafe Jones	6. MANUFACTURER'S DESIGNATION OF DRILL:	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8. HOLE LOCATION: SS61-DP45	
	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 5/2/00	11. DATE COMPLETED: 5/2/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 13 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 11.60 ft bgs on 5/3/00	
14. TOTAL DEPTH OF HOLE: 19.5 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None			

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	soil and water	N/A	soil - TRPH	water - TPH-JP4		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	w/ bentonite	N/A		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 inch = 300 feet



PROJECT	HOLE NO.
5155.0027.0007	SS61-DP45

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP45

PROJECT 5155.0027.0007 H2000 | INSPECTOR Luke Darragh | SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	2 4	Brown Clayey SILT with fine Sand, dry, soft tip of sampler wet at 4 ft	1.30 ppm				ML
	6	Grey/Tan Clayey SILT with fine Sand, very moist, soft, trace medium Sand	1.25 ppm				ML
	8	Grey, well graded SAND with Gravel, dry, loose, trace Silt, gravel rounded to 10 mm in size					SW
	10	Tan Silty CLAY, very moist, soft, fine to medium Sand	0.79 ppm		SS61DP45S901 SS61DP45S902		CL
	12	Same as above with a trace of rounded gravel to 10 mm in size	1.5 ppm		SS61DP45S1201		CL
	14	Same as above except wet at about 13 ft	0.47 ppm				CL
	16	Brown Silty CLAY, wet soft, low plasticity, some fine to medium Sand, trace coarse Sand	240 ppm				CL
	18	Same as above (Silty CLAY) but stained grey/green from 18.5 to 19.5 ft, odor	1329 ppm				CL
		TD = 19.5 ft					

PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-DP45

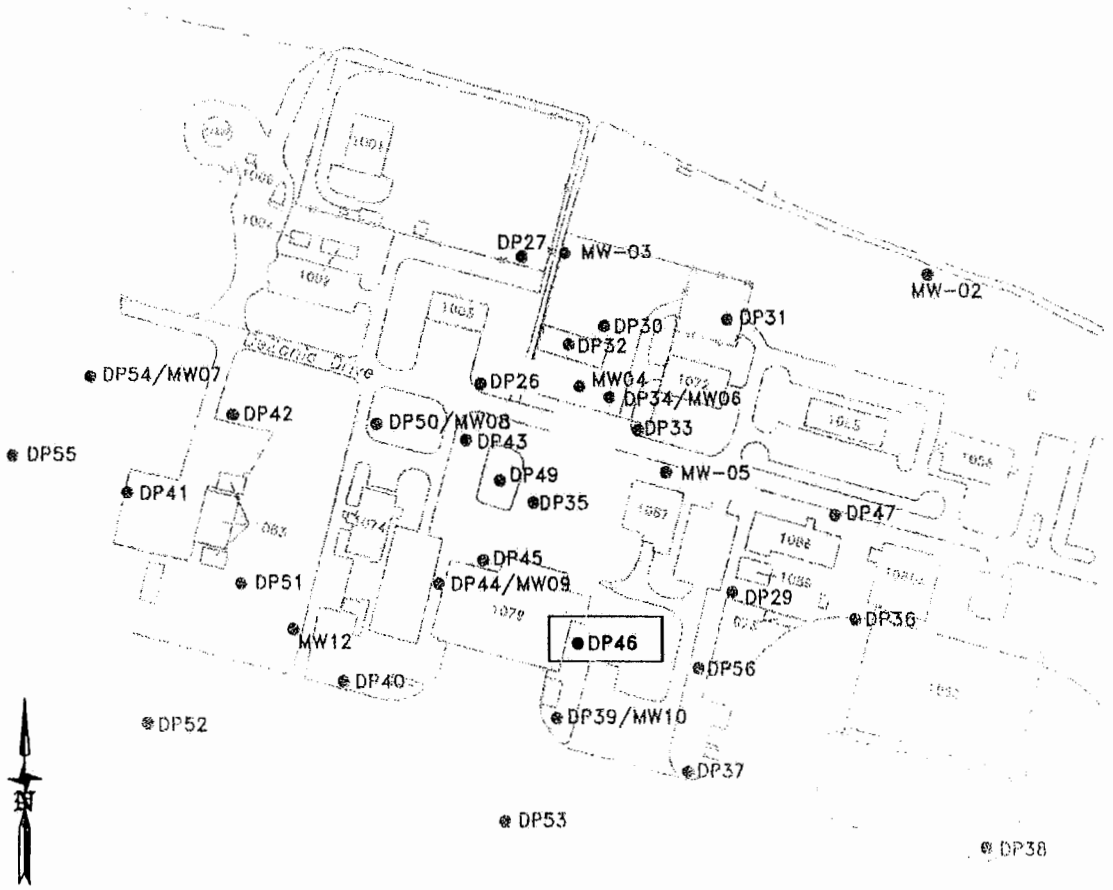
HTRW DRILLING LOG

DISTRICT: OMAHA	HOLE NUMBER: SS61-DP46	
1. COMPANY NAME: Foster Wheeler Environmental Corp.	2. DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 1 SHEETS
3. PROJECT: 5155.0027.0007	4. LOCATION: SS-61, Holloman AFB	
5. NAME OF DRILLER: Rafe Jones	6. MANUFACTURER'S DESIGNATION OF DRILL	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8. HOLE LOCATION: SS61-DP46	
	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 5/3/00	11. DATE COMPLETED: 5/3/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 12 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 11.04 ft 15 minutes after drilling	
14. TOTAL DEPTH OF HOLE: 20 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	soil and water	N/A	soil - TRPH	water - TPH-JP4		
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR: Luke Darragh		
	w/ bentonite	N/A				

LOCATION SKETCH/COMMENTS — SCALE 1 inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-DP46

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP46

PROJECT 5155.0027.0007 H2000 | INSPECTOR Luke Darragh | SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		gravel and stone (road cover)					
	2	Grey Silty SAND, dry, loose, fine to medium Sand, trace coarse Sand	0.31 ppm				SM
	4	Grey Sandy SILT, dry, soft, fine Sand	0.40 ppm		SS61DP46S501		ML
	6						
	8	Grey/Brown poorly graded SAND, dry, dense, medium to coarse Sand, very little fines			SS61DP46S901		SP
	10	Grey/Tan Silty CLAY, very moist, soft, trace medium Sand, low plasticity Same as above- color change to brown	0.43 ppm				CL
	12	Tan/Grey Clayey SILT, wet, soft, some medium Sand	0.57 ppm				ML
	14						
	16	Black/Grey well graded SAND, moist, loose, some angular gravel up to 20 mm in size					SW
	18	Brown Silty CLAY, wet, stiff, medium Plasticity, some medium Sand, white crystals	0.91 ppm				CL
		Same as Above, slight odor, color change to tan at 19 ft TD = 20 ft	2.53 ppm				CL

PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-DP46

HTRW DRILLING LOG

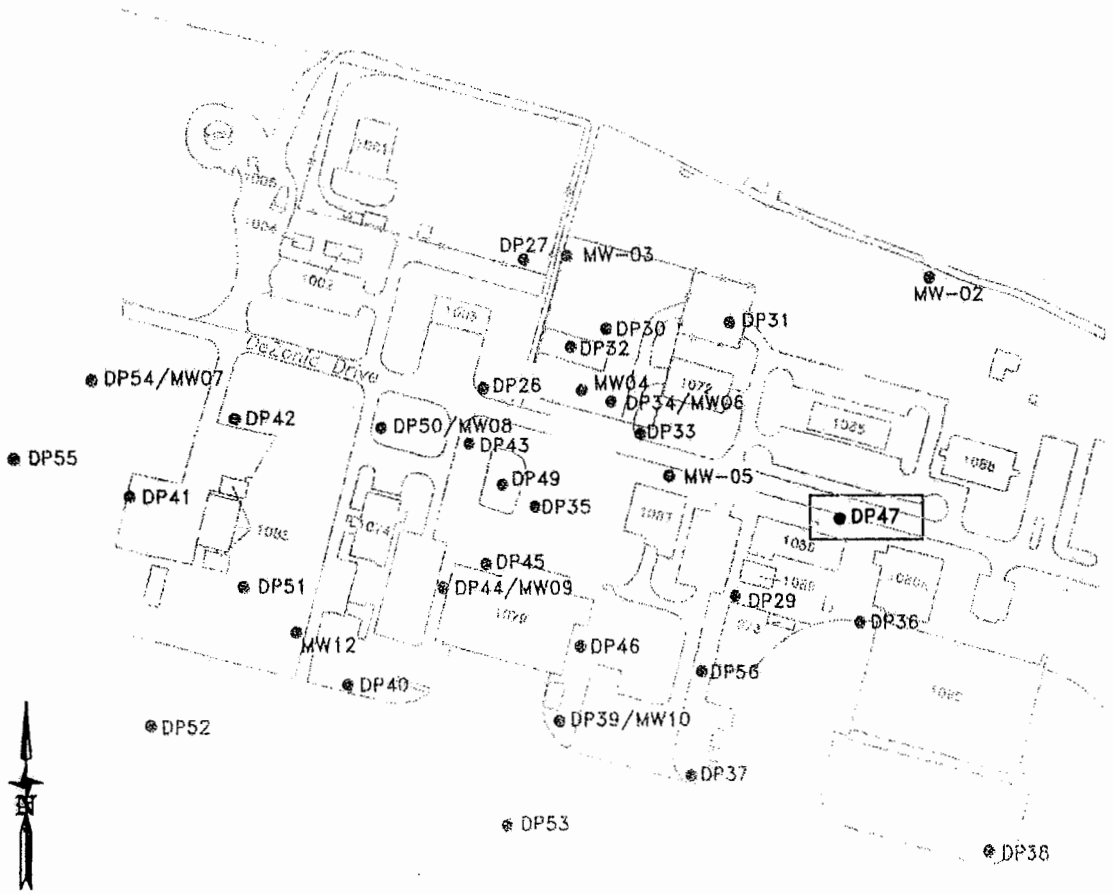
DISTRICT: OMAHA		HOLE NUMBER: SS61-DP47
1. COMPANY NAME: Foster Wheeler Environmental Corp.	2. DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 2
3. PROJECT: 5155.0027.0007 H2000	4. LOCATION: SS-61, Holloman AFB	
5. NAME OF DRILLER: Rafe Jones	6. MANUFACTURER'S DESIGNATION OF DRILL	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8. HOLE LOCATION: SS61-DP47	
	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 5/4/00	11. DATE COMPLETED: 5/4/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 14.8 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 13.75 ft at 1145 hours on 5/5/00	
14. TOTAL DEPTH OF HOLE: 19.5 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	soil and water	N/A	soil - TRPH	water - TPH-JP4		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	w/ bentonite	N/A		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-DP47

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP47

PROJECT 5155.0027.0007 H2000 | INSPECTOR Luke Darragh | SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	2	Grey/Tan Silty SAND, dry, loose, medium Sand some coarse Sand					SM
	4	Same as above, color change to Brown					SM
	6	Light brown SILT, damp, soft, trace fine Sand					ML
	8	Same as above but dry	1.21 ppm		SS61DP47S801		ML
	10	Light brown Sandy SILT, damp, soft, fine Sand			SS61DP47S1101		ML
	12						
	14	Light brown Silty CLAY, very moist, soft, low plasticity, some fine Sand					CL
	16	Light brown Silty CLAY, damp, stiff, fine white Sand lenses (caliche)					CL
	18	same as above, very moist					CL
		Grey Silty SAND, very moist, fine Sand lenses, some coarse Sand, some Clay					SM
		Total Depth=19.5 ft					

PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-DP47

HTRW DRILLING LOG

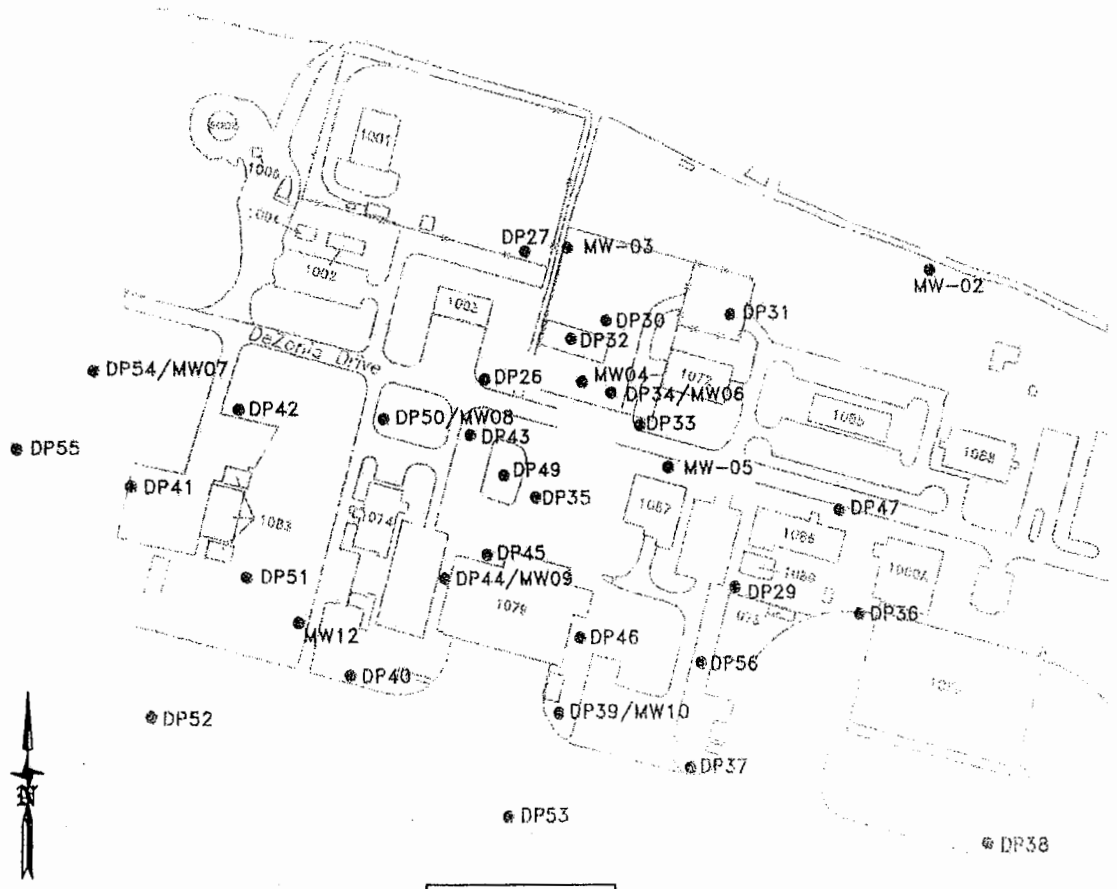
DISTRICT: OMAHA		HOLE NUMBER: SS61-DP48
1.COMPANY NAME: Foster Wheeler Environmental Corp.	2.DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 2 SHEETS
3.PROJECT: 5155.0027.0007	4.LOCATION: SS-61, Holloman AFB	
5.NAME OF DRILLER: Rafe Jones	6.MANUFACTURER'S DESIGNATION OF DRILL	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8.HOLE LOCATION: SS61-DP48	
	9.SURFACE ELEVATION: N/A	
	10.DATE STARTED: 5/10/00	11.DATE COMPLETED: 5/10/00
12.OVERBURDEN THICKNESS: N/A	15.DEPTH GROUNDWATER ENCOUNTERED: 15.0 ft	
13.DEPTH DRILLED INTO ROCK: N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 10.51 ft, 2 hours after drilling	
14.TOTAL DEPTH OF HOLE: 19.5 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	soil and water	N/A	soil - TRPH	water - TPH-JP4		

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
	W/ Bentonite	N/A		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 inch = 300 feet



DP48 not shown

PROJECT 5155.0027.0007 — HOLE NO. SS61-DP48

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT OMAHA		HOLE NUMBER SS61-DP48
1.COMPANY NAME Foster Wheeler Environmental Corp.	2.DRILL SUBCONTRACTOR Indian Fire and Safety	SHEET 1 OF SHEETS 2
3.PROJECT 5155.0027.0007 H2000	4.LOCATION SS-61, Holloman AFB	
5.NAME OF DRILLER Rafe Jones	6.MANUFACTURER'S DESIGNATION OF DRILL	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8.HOLE LOCATION SS61-DP48	
	9.SURFACE ELEVATION N/A	
	10.DATE STARTED 5/10/00	11.DATE COMPLETED 5/10/00
12.OVERBURDEN THICKNESS N/A	15.DEPTH GROUNDWATER ENCOUNTERED 15.0 ft	
13.DEPTH DRILLED INTO ROCK N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 10.51 ft, 2 hours after drilling	
14.TOTAL DEPTH OF HOLE 19.5 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	soil and water	N/A	soil - TRPH	water - TPH-JP4		

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
	W/ Bentonite	N/A		

LOCATION SKETCH/COMMENTS	SCALE

PROJECT 5155.0027.0007 H2000	HOLE NO. SS61-DP48

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP48

PROJECT 5155.0027.0007 H2000

INSPECTOR Luke Darragh

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	2 4	Light Brown SILT, dry, soft, trace fine to medium Sand					ML
	6	Light brown Silty CLAY, dry, medium Stiffness, low plasticity, trace fine Sand					CL
	8 10	Grey Silty CLAY, dry, stiff, low plasticity, fine white Sand lenses throughout					CL
	12	Reddish brown Silty CLAY, damp, soft, low plasticity, trace fine to medium Sand, white sand lenses, moist at 13 ft.					CL
	14	Grey Clayey SAND, damp, medium density, medium to coarse Sand					SC
	16	Light brown Silty SAND, wet, loose, fine Sand					SM
	18	Grey Sandy CLAY, wet, stiff, low plasticity, fine Sand					CL
		Total Depth = 19.5 ft					

PROJECT 5155.0027.0007 H2000 HOLE NO. SS61-DP48

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

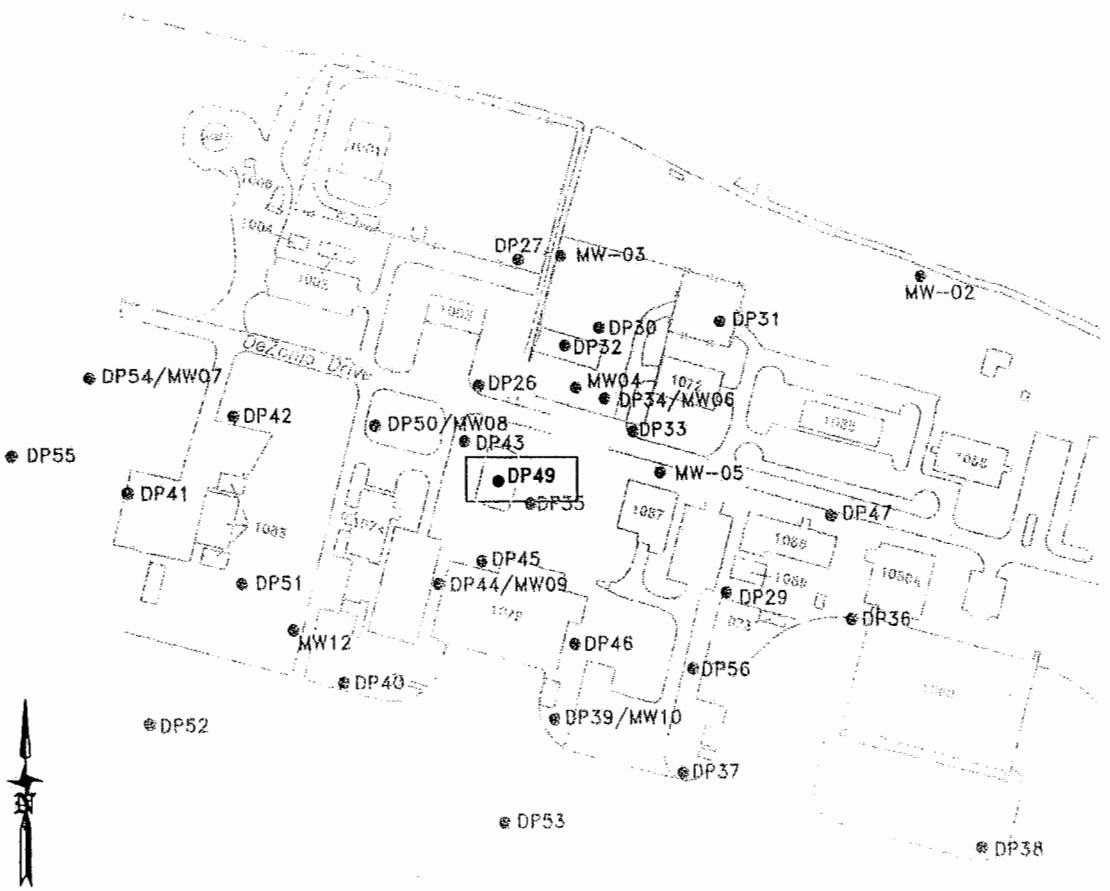
DISTRICT: OMAHA		HOLE NUMBER: SS61-DP49
1.COMPANY NAME: Foster Wheeler Environmental Corp.	2.DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 3
3.PROJECT: 5155.0027.0007	4.LOCATION: SS-61, Holloman AFB	
5.NAME OF DRILLER: Rafe Jones	6.MANUFACTURER'S DESIGNATION OF DRILL:	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8.HOLE LOCATION: SS61-DP49	
	9.SURFACE ELEVATION: N/A	
	10.DATE STARTED: 5/10/00	11.DATE COMPLETED: 5/10/00
12.OVERBURDEN THICKNESS: N/A	15.DEPTH GROUNDWATER ENCOUNTERED: 16.5 ft	
13.DEPTH DRILLED INTO ROCK: N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 8.75 ft prior to sampling about 30 minutes after drilling	
14.TOTAL DEPTH OF HOLE: 21.5 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	soil and water	N/A	soil - TRPH	water - TPH-JP4		

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
	w/ bentonite			Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-DP49

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP49

PROJECT 5155.0027.0007 H2000 | INSPECTOR Luke Darragh | SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	2, 4	Light Brown Clayey SILT with Sand, damp/moist, soft, fine Sand, some medium Sand					ML
	6	Grey/Tan Silty SAND, moist, loose, medium Sand, trace coarse Sand					SM
	8, 10	Brown Silty CLAY, damp, stiff, low plasticity, fine white Sand lenses	0.56 ppm				CL
	12, 14	Brown Silty CLAY, damp, medium stiffness, low plasticity, trace medium Sand	69 ppm		SS61DP49S1101		CL
	16	Light brown Silty CLAY, damp, stiff, low plasticity, fine Sand lenses, trace crystals Discoloration and odor from 16-16.5 ft, very moist			SS61DP491601		CL
	18	Grey Silty CLAY, wet, stiff, low plasticity, large crystals and white Sand lenses					CL

PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-DP49

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP49

PROJECT 5155.0027.0007 H2000

INSPECTOR Luke Darragh

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Grey Silty SAND, wet, loose, fine Sand, trace medium Sand, discoloration, odor					SM
	22	TD = 21.5 ft					

PROJECT 5155.0027.0007 H2000

HOLE NO. SS61-DP49

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

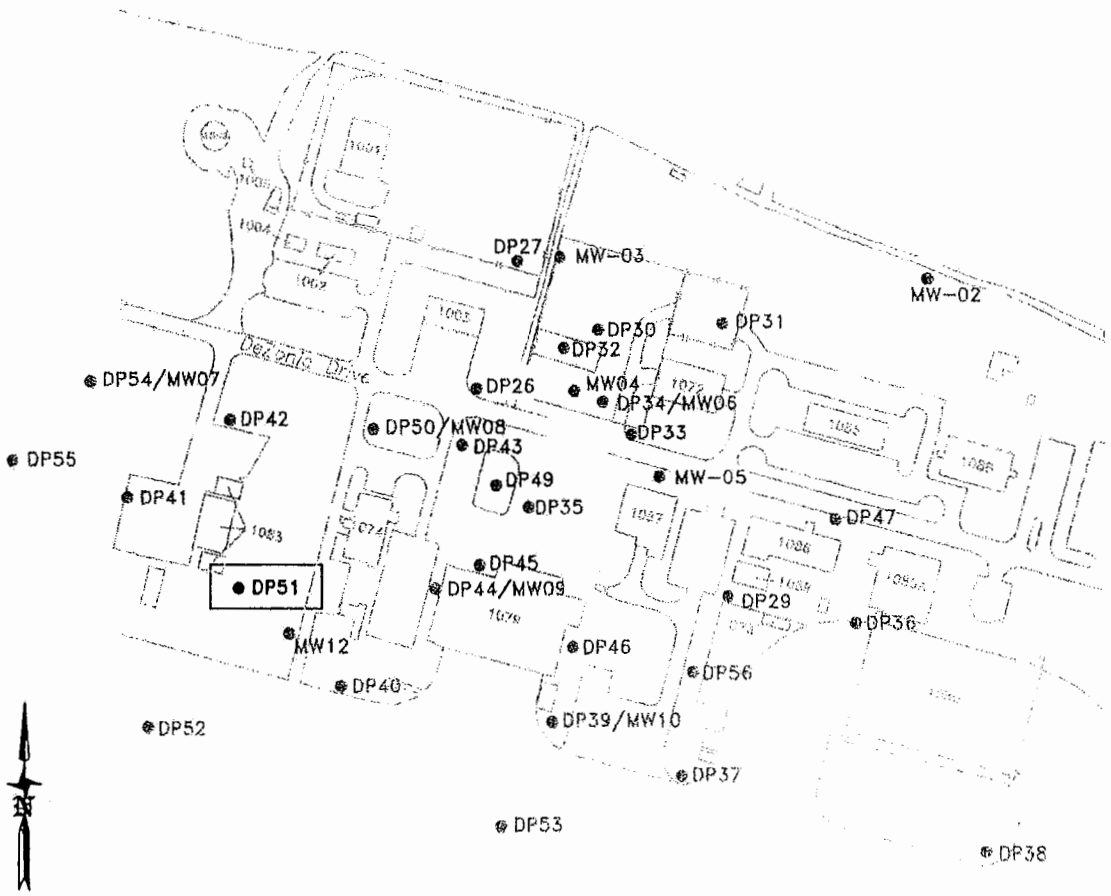
DISTRICT: OMAHA	HOLE NUMBER: SS61-DP51	
1. COMPANY NAME: Foster Wheeler Environmental Corp.	2. DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 2 SHEETS
3. PROJECT: 5155.0027.0007	4. LOCATION: SS-61, Holloman AFB	
5. NAME OF DRILLER: Rafe Jones	6. MANUFACTURER'S DESIGNATION OF DRILL	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8. HOLE LOCATION: SS61-DP51	
	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 5/11/00	11. DATE COMPLETED: 5/11/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 15.5 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 20.5 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	soil and water	N/A	Soil - TRPH	water - TPH-JP4		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	w/ bentonite	N/A		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-DP51

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: SS61-DP51

PROJECT: 5155.0027.0007 H2000

INSPECTOR: Luke Darragh

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	2	Brown Silty CLAY, dry, soft, fine white Sand lenses throughout, low plasticity					CL
	4						
	6	Light brown Sandy SILT with fine sand, damp, soft, trace medium Sand					ML
	8						
	10	Grey/Tan Clayey SILT, some medium Sand, moist, soft, trace coarse Sand					ML
	12	Same as above with more medium Sand and coarse Sand (rounded)					ML
	14	Brown Silty CLAY, moist, soft, low plasticity, medium to coarse rounded Sand			SS61DP51S1401 SS61DP51S1402		CL
	16	Grey Silty CLAY, wet, soft, some medium to coarse Sand					CL
	18	Reddish brown Silty CLAY, very moist, fine to medium white Sand lenses, some small crystals, low plasticity					CL
		Grey/Green Silty CLAY, wet, soft, low plasticity, some medium to coarse Sand, discoloration and odor TD = 20.5 ft					CL

PROJECT 5155.0027.0007 H2000 HOLE NO. SS61-DP51

HTRW DRILLING LOG

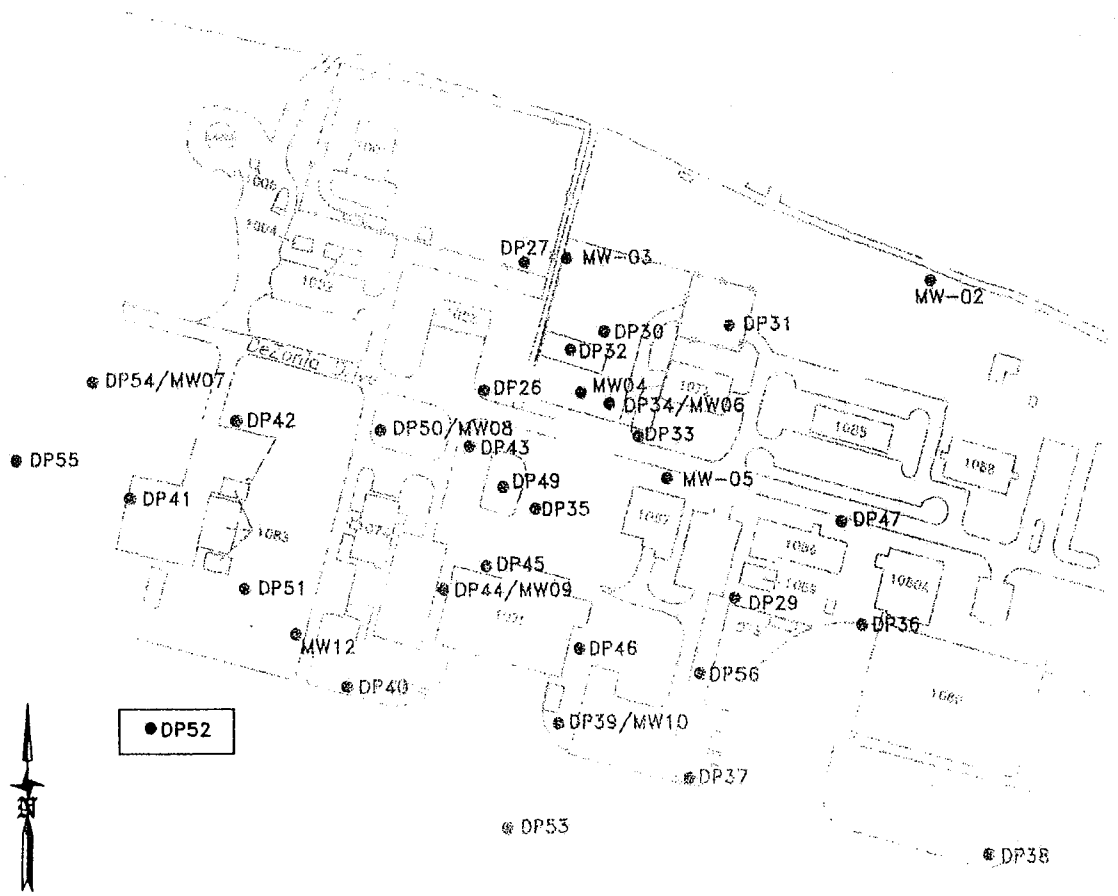
DISTRICT: OMAHA		HOLE NUMBER: SS61-DP52
1.COMPANY NAME: Foster Wheeler Environmental Corp.	2.DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 3 SHEETS
3.PROJECT: 5155.0027.0007	4.LOCATION: SS-61, Holloman AFB	
5.NAME OF DRILLER: Rafe Jones	6.MANUFACTURER'S DESIGNATION OF DRILL	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8.HOLE LOCATION: SS61-DP52	
	9.SURFACE ELEVATION: N/A	
	10.DATE STARTED: 5/11/00	11.DATE COMPLETED: 5/11/00
12.OVERBURDEN THICKNESS: N/A	15.DEPTH GROUNDWATER ENCOUNTERED: 18 ft	
13.DEPTH DRILLED INTO ROCK: N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 16.25 ft, 5 minutes after drilling	
14.TOTAL DEPTH OF HOLE: 24.5 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	soil and water	N/A	soil - TRPH	water - TPH-JP4		

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
	w/ bentonite	N/A		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-DP52

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP52

PROJECT 5155.0027.0007 H2000 | INSPECTOR Luke Darragh | SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		0-13 inches- black top and cement					
	2	Tan Silty SAND, dry, loose, medium to coarse Sand, trace subrounded gravel 7 mm in size					SM
	4	Tan Sandy SILT, damp, soft, medium Sand, trace fine Sand					ML
	6	Tan Silty SAND, damp, loose, medium Sand, some subangular gravel 10 mm in size					SM
	8	Reddish brown SILT, dry, soft, trace fine to medium Sand					ML
	10	Brown Silty SAND, damp, loose, medium Sand, trace coarse Sand					SM
	12	Reddish brown Silty CLAY, damp, soft, small crytals throughout, trace large crystals 20 mm in size, medium plasticity, fine white Sand lenses (Caliche)					CL
	14						
	16				SS61DP52S1501		
	18	Reddish brown Silty CLAY, wet, medium plasticity, soft, white and brown Sand lenses throughout, small crystals					CL

PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-DP52

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP52

PROJECT 5155.0027.0007 H2000

INSPECTOR Luke Darragh

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Same as above					CL
	22	Brown/Tan Clayey SILT with Sand, wet, soft, medium Sand, trace coarse Sand					ML
	24	TD = 24.5 ft					

PROJECT 5155.0027.0007 H2000

HOLE NO. SS61-DP52

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

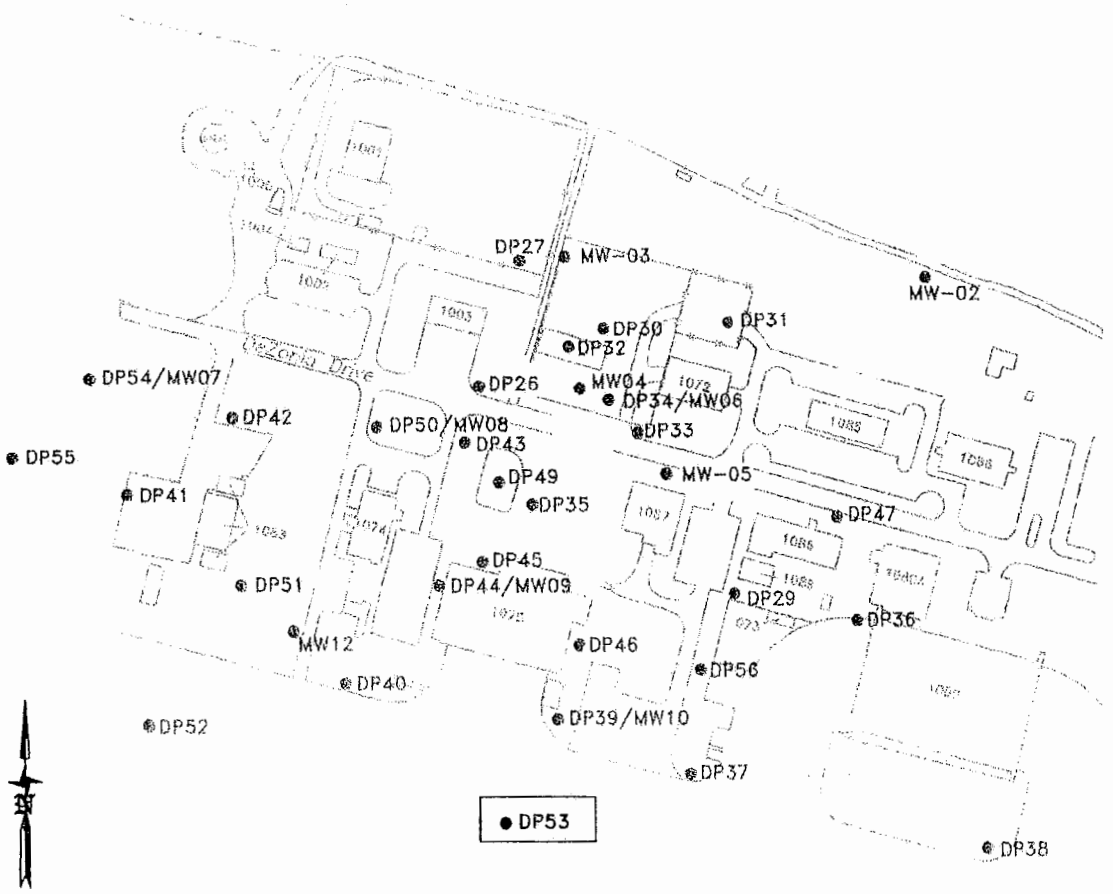
DISTRICT: OMAHA		HOLE NUMBER: SS61-DP53
1.COMPANY NAME: Foster Wheeler Environmental Corp.	2.DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 3 SHEETS
3.PROJECT: 5155.0027.0007	4.LOCATION: SS-61, Holloman AFB	
5.NAME OF DRILLER: Rafe Jones	6.MANUFACTURER'S DESIGNATION OF DRILL:	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8.HOLE LOCATION: SS61-DP53	
	9.SURFACE ELEVATION: N/A	
	10.DATE STARTED: 5/11/00	11.DATE COMPLETED: 5/11/00
12.OVERBURDEN THICKNESS: N/A	15.DEPTH GROUNDWATER ENCOUNTERED: 22.5 ft	
13.DEPTH DRILLED INTO ROCK: N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 11.59 ft, 5 minutes after drilling	
14.TOTAL DEPTH OF HOLE: 24.5 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	soil and water	N/A	soil - TRPH	water - TPH-JP4		

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
	w/bentonite	N/A		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 Inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-DP53

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP53

PROJECT 5155.0027.0007 H2000 | INSPECTOR Luke Darragh | SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		asphalt/ concrete					
	2	Tan Silty CLAY, moist, soft, Trace fine and medium Sand					CL
	4 6	Tan Sandy SILT, moist, soft, fine to medium Sand					ML
	8 10	Brown Silty CLAY with Sand, damp/ moist, soft, fine to medium Sand very wet from 8.5 to 9.0 ft					CL
	12 14	Light brown Silty CLAY, damp, soft, some fine white Sand lenses throughout, medium plasticity					CL
		Brown Silty CLAY with Sand, damp, soft, medium to coarse Sand					CL
	16	Reddish Brown Clayey SILT, damp, medium stiffness, trace fine Sand					ML
	18	Reddish Brown Silty CLAY, damp, medium stiffness, medium plasticity, fine Sand lenses and small crystals					CL
		Same as above but very moist at 19 ft					CL

PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-DP53

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: SS61-DP53

PROJECT: 5155.0027.0007 H2000

INSPECTOR: Luke Darragh

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Reddish Brown Silty CLAY, very moist, soft, sand lenses and crystals					CL
	22	Silty SAND, moist, loose, fine Sand, some medium Sand					SM
		Same as above but wet					SM
	24	Reddish Brown Silty CLAY, wet, stiff, some medium Sand					CL
		TD = 24.5 ft					
	26						

PROJECT 5155.0027.0007 H2000 HOLE NO. SS61-DP53

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

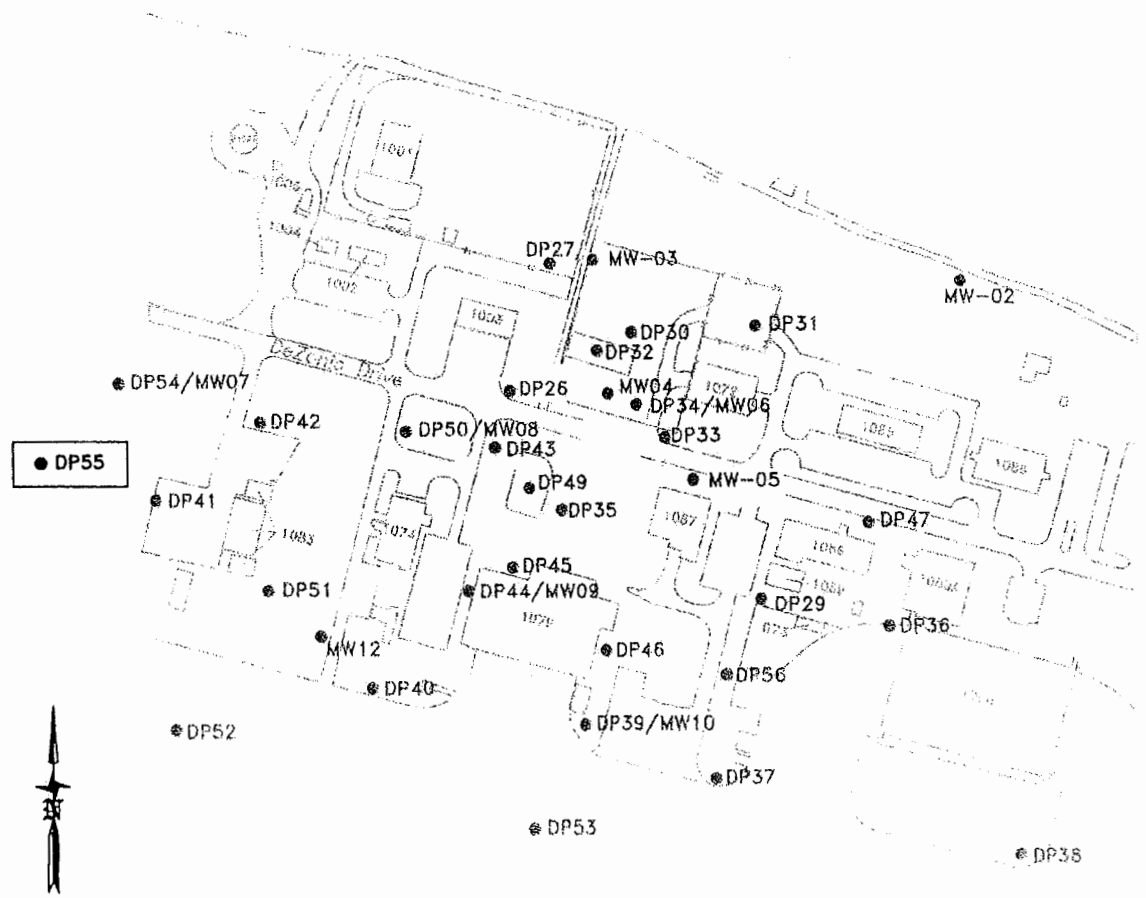
DISTRICT: OMAHA	HOLE NUMBER: SS61-DP55	
1.COMPANY NAME: Foster Wheeler Environmental Corp.	2.DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 2 SHEETS
3.PROJECT: 5155.0027.0007	4.LOCATION: SS-61, Holloman AFB	
5.NAME OF DRILLER: Rafe Jones	6.MANUFACTURER'S DESIGNATION OF DRILL	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8.HOLE LOCATION: SS61-DP55	
	9.SURFACE ELEVATION: N/A	
	10.DATE STARTED: 5/12/00	11.DATE COMPLETED: 5/12/00
12.OVERBURDEN THICKNESS: N/A	15.DEPTH GROUNDWATER ENCOUNTERED: 16.0 ft	
13.DEPTH DRILLED INTO ROCK: N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 14.95 ft, 5 minutes after drilling	
14.TOTAL DEPTH OF HOLE: 19.0 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	soil and water	N/A	soil - TRPH	water - TPH-JP4		

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
	w/ bentonite	N/A		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-DP55

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP55

PROJECT 5155.0027.0007 H2000 | INSPECTOR Luke Darragh | SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Some asphalt near surface Light brown Clayey SILT with Sand, damp, soft, fine to medium Sand					ML
	2	Light brown Silty CLAY with fine Sand, damp, soft, low plasticity					CL
	4	Reddish brown SILT, dry, soft, trace fine Sand					ML
	6	Grey/Tan SAND with Silt, well graded, dry, loose, some Clay					SW
	8	Brown Silty CLAY, damp, stiff, fine white Sand lenses, small crystals					CL
	10						
	12	Reddish brown Silty CLAY, damp, soft, moderate plasticity, some fine Sand			SS61DP55S1201		CL
	14	Grey Silty CLAY, wet, soft, some fine to medium Sand, trace coarse Sand					CL
	16	Reddish brown Silty CLAY with Sand, wet, soft, low plasticity, medium to coarse Sand					CL
	18						
		Total Depth = 19 ft					

PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-DP55

HTRW DRILLING LOG

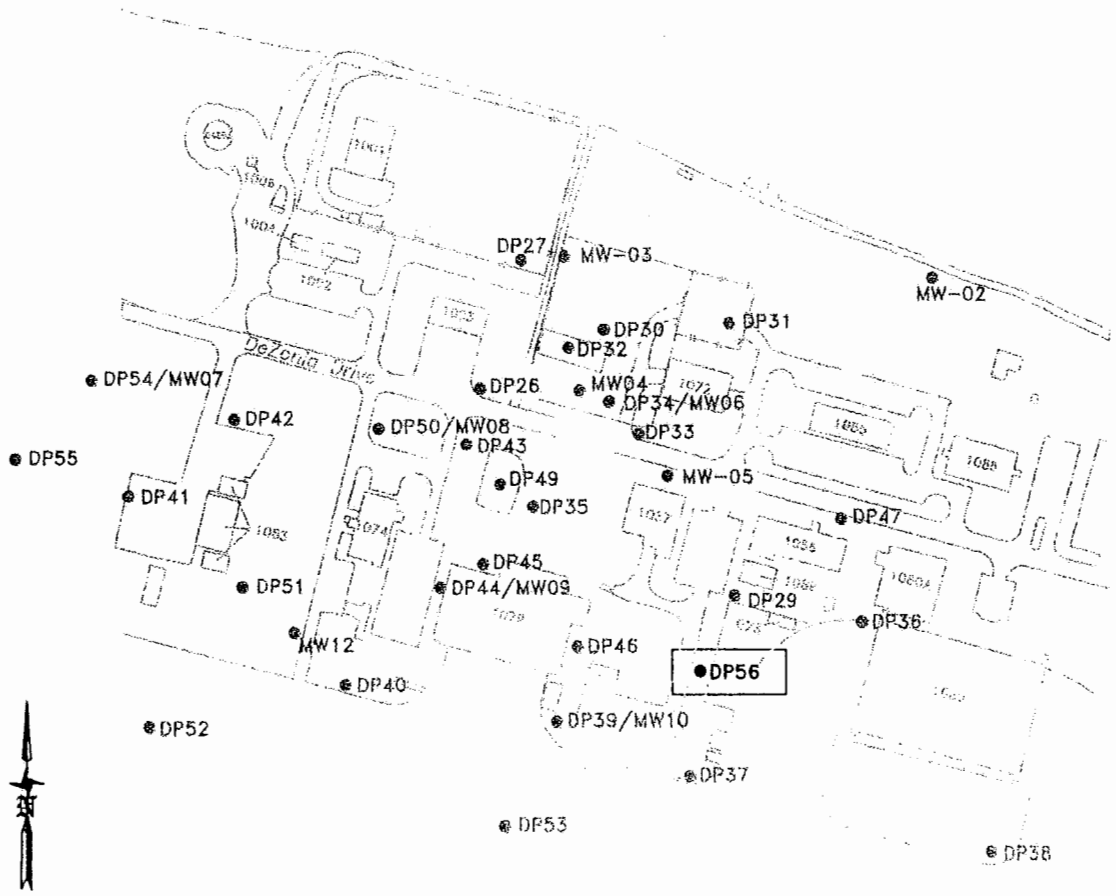
DISTRICT: OMAHA		HOLE NUMBER: SS61-DP56
1. COMPANY NAME: Foster Wheeler Environmental Corp.	2. DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 3 SHEETS
3. PROJECT: 5155.0027.0007	4. LOCATION: SS-61, Holloman AFB	
5. NAME OF DRILLER: Rafe Jones	6. MANUFACTURER'S DESIGNATION OF DRILL	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8. HOLE LOCATION: SS61-DP56	
	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 5/12/00	11. DATE COMPLETED: 5/12/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 18 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 18.03 ft, 5 minutes after drilling	
14. TOTAL DEPTH OF HOLE: 23.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 12.76 ft after sampling	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	soil and water	N/A	soil - TRPH	water - TPH-JP4		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	w/ bentonite	N/A		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-DP56

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP56

PROJECT 5155.0027.0007 H2000 | INSPECTOR Luke Darragh | SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	2	Reddish brown Silty SAND, dry, fine to medium Sand, trace coarse Sand					SM
	4	Reddish brown SILT, damp, soft, trace fine Sand					ML
	6						
	8	Reddish brown Sandy SILT, very moist/wet, soft, fine Sand					ML
	10	Grey Silty CLAY, damp, soft, some fine to medium Sand					CL
	12	Reddish brown Silty CLAY, damp/moist, stiff, fine grey Sand lenses, moderate plasticity					CL
	14	Light brown Clayey SILT, damp/moist, soft, trace fine Sand					ML
	16	Reddish brown Silty CLAY, moist, stiff, fine white Sand lenses (caliche), moderate plasticity					CL
	18	Same as above but very moist					CL
		Same as above but wet					CL
		Same as above but not as wet- moist					CL

PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-DP56

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP56

PROJECT 5155.0027.0007 H2000

INSPECTOR Luke Darragh

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	22	Reddish brown Silty CLAY, wet, stiff, fine white Sand lenses, moderate plasticity Slight discoloration from 22 to 23 ft					CL
	24	Total Depth = 23 ft					

PROJECT 5155.0027.0007 H2000

HOLE NO. SS61-DP56

ENG FORM 5056A--R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

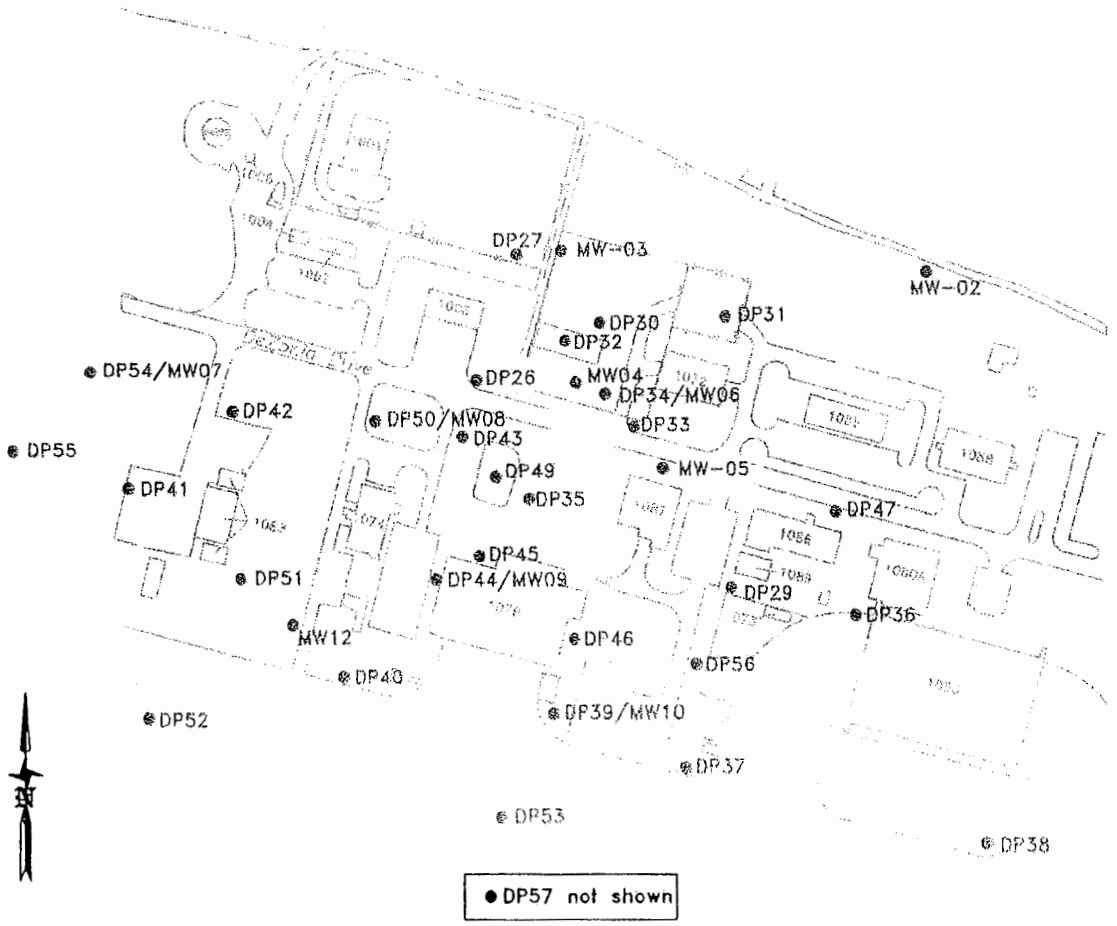
DISTRICT: OMAHA		HOLE NUMBER: SS61-DP57
1.COMPANY NAME: Foster Wheeler Environmental Corp.	2.DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF SHEETS 2
3.PROJECT: 5155.0027.0007	4.LOCATION: SS-61, Holloman AFB	
5.NAME OF DRILLER: Rafe Jones	6.MANUFACTURER'S DESIGNATION OF DRILL	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8.HOLE LOCATION: SS61-DP57	
	9.SURFACE ELEVATION: N/A	
	10.DATE STARTED: 5/12/00	11.DATE COMPLETED: 5/12/00
12.OVERBURDEN THICKNESS: N/A	15.DEPTH GROUNDWATER ENCOUNTERED: 13 ft	
13.DEPTH DRILLED INTO ROCK: N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 7.11 ft, 5 minutes after drilling	
14.TOTAL DEPTH OF HOLE: 15.0 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
None			

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	soil and water	N/A	soil - TRPH	water - TPH-JP4		

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
	w/ bentonite	N/A		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 Inch = 300 feet



PROJECT	HOLE NO.
5155.0027.0007	SS61-DP57

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP57

PROJECT 5155.0027.0007 H2000

INSPECTOR Luke Darragh

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	2	Light brown Silty CLAY, very moist, soft, low plasticity, trace fine Sand					CL
	4	Reddish brown Silty CLAY with Sand, very moist, fine white Sand lenses, trace crystals					CL
	6	Brown Silty SAND, very moist, loose, fine and medium Sand, trace coarse Sand					SM
	8	Reddish brown Silty CLAY, moist, stiff, slight plasticity, fine white Sand lenses					CL
	10	Reddish brown Silty CLAY with Sand, moist, soft, fine Sand, trace medium Sand					CL
	12	Brown Clayey SAND, well graded, loose, trace subrounded gravel					SW
	14	Brown Silty CLAY, very moist, medium stiffness, low plasticity					CL
	16	Total Depth = 15.0 ft					
	18						

PROJECT 5155.0027.0007 H2000 HOLE NO. SS61-DP57

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

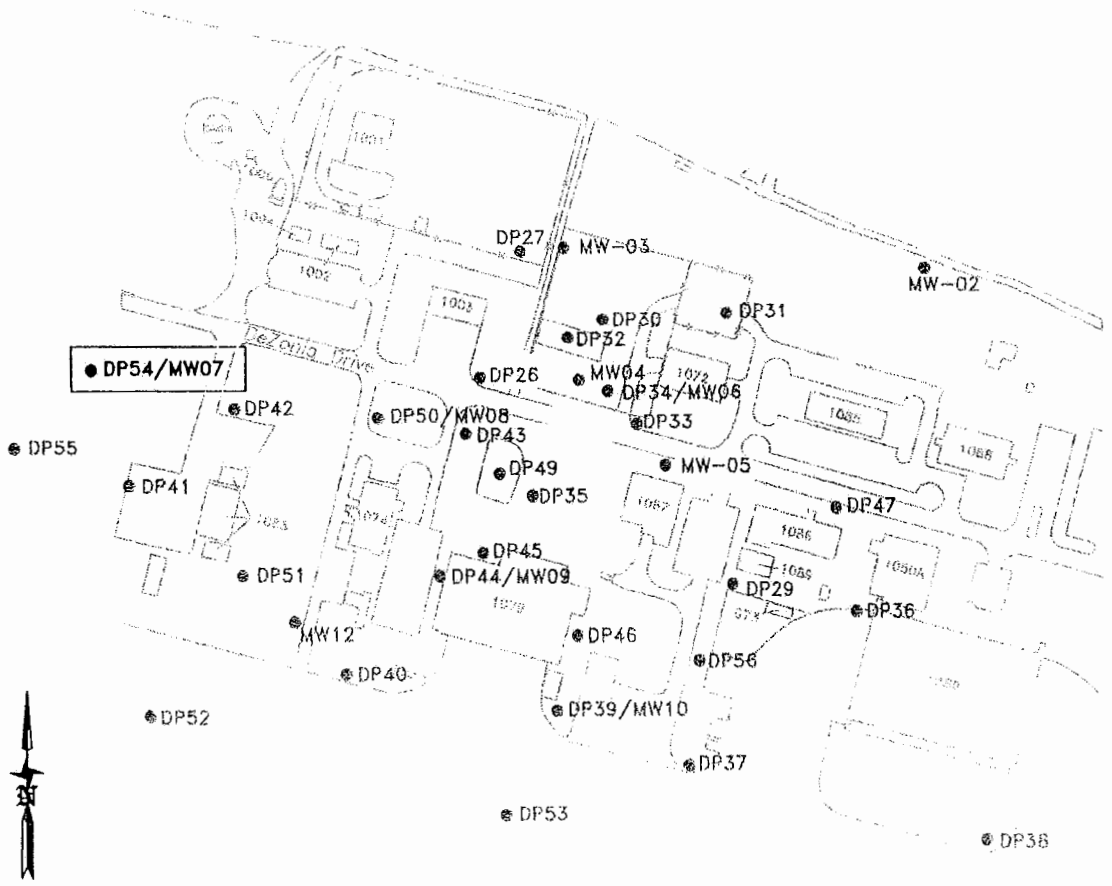
DISTRICT: OMAHA		HOLE NUMBER: SS61-DP54/MW07
1.COMPANY NAME: Foster Wheeler Environmental Corp.	2.DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 3 SHEETS
3.PROJECT: 5155.0027.0007	4.LOCATION: SS-61, Holloman AFB	
5.NAME OF DRILLER: Rafe Jones	6.MANUFACTURER'S DESIGNATION OF DRILL	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8.HOLE LOCATION: SS61-DP54/MW07	
	9.SURFACE ELEVATION: N/A	
	10.DATE STARTED: 5/12/00	11.DATE COMPLETED: 5/12/00
12.OVERBURDEN THICKNESS: N/A	15.DEPTH GROUNDWATER ENCOUNTERED: 19.0 ft	
13.DEPTH DRILLED INTO ROCK: N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 15.25 ft, 10 minutes after drilling	
14.TOTAL DEPTH OF HOLE: 22 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	soil and water	N/A	soil - TRPH	water - TPH-JP4		

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
	w/ bentonite	N/A		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-DP54/MW07

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP54/MW07

PROJECT 5155.0027.0007 H2000 | INSPECTOR Luke Darragh | SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	2	Tan Silty SAND, dry, loose, medium to coarse Sand, trace subrounded gravel 15 mm in size					SM
	4	Light brown Silty CLAY with Sand, damp, soft, low plasticity, medium Sand					CL
	6	Light brown Sandy SILT, soft, fine to medium Sand					ML
		Tan Silty SAND, dry, loose, medium Sand					SM
	8	Tan Silty SAND, dry, loose, medium to coarse Sand					SM
	10	Reddish brown Silty CLAY, damp, soft, medium plasticity, trace medium white Sand lenses					CL
	12	Same as above with a medium stiffness					CL
	14	Same as above with medium to coarse Sand					CL
		Same as above with a color change to grey			SS61DP54S1401		CL
	16 18	Grey Silty CLAY, damp/moist, soft, some medium to coarse Sand					CL
							CL

PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-DP54/MW07

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP54/MW07

PROJECT 5155.0027.0007 H2000

INSPECTOR Luke Darragh

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Reddish brown Silty CLAY, wet, medium stiffness, medium to high plasticity, trace medium Sand and 5 mm crystals					CL
	22	TD = 22 ft					

PROJECT 5155.0027.0007 H2000

HOLE NO. SS61-DP54/MW07

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

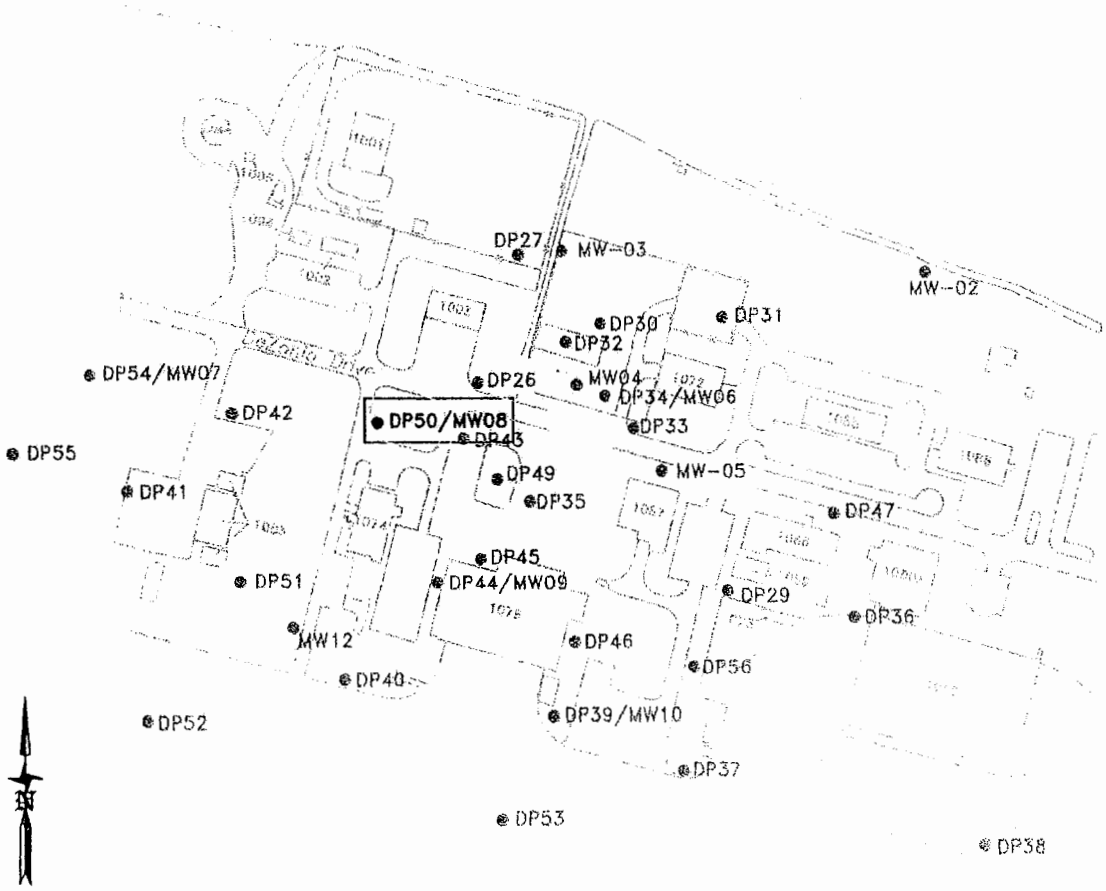
DISTRICT: OMAHA		HOLE NUMBER: SS61-DP50/MW08
1. COMPANY NAME: Foster Wheeler Environmental	2. DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 3 SHEETS
3. PROJECT: 5155.0027.0007	4. LOCATION: SS61, Holloman AFB	
5. NAME OF DRILLER: Rafe Jones	6. MANUFACTURER'S DESIGNATION OF DRILL	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8. HOLE LOCATION: SS61-DP50/MW08	
	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 5/11/00	11. DATE COMPLETED: 5/11/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 20.5 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 12.72 ft 4 hours after drilling	
14. TOTAL DEPTH OF HOLE: 22.5 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None			

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	soil and water	N/A	soil - TRPH	water - TPH-JP4		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	w/ bentonite	Yes, MW-08		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-DP50/MW08

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP50/MW08

PROJECT 5155.0027.0007 H2000 | INSPECTOR Luke Darragh | SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		0-6 inches is gravel					
	2	Light brown Clayey SILT, dry, soft, some fine Sand					ML
	4	Light brown Sandy SILT with fine Sand, damp, soft, trace coarse Sand					ML
	6	Grey Silty CLAY, stiff, low plasticity, some medium Sand					CL
	8	Same as above but damp			SS61DP50S1001		CL
	10	Light Brown Silty CLAY with medium Sand, moist, soft Very moist from 12.5 to 13 ft					CL
	12	Light brown Silty CLAY, moist, low plasticity, medium stiffness, some fine Sand, trace medium Sand			SS61DP50S1501		CL
	14	Same as above but has moderate plasticity, slight odor	75.23 ppm				CL
	16	Grey Silty CLAY, moist, medium stiffness, fine white Sand lenses, some small crystals and some discoloration, odor	36.0 ppm				CL
	18						

PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-DP50/MW08

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP50/MW08

PROJECT 5155.0027.0007 H2000

INSPECTOR Luke Darragh

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	22	Grey Silty CLAY with fine to medium Sand, wet, soft, low plasticity, discoloration and an odor					CL
	24	TD = 22.5 ft					

PROJECT 5155.0027.0007 H2000

HOLE NO. SS61-DP50/MW08

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

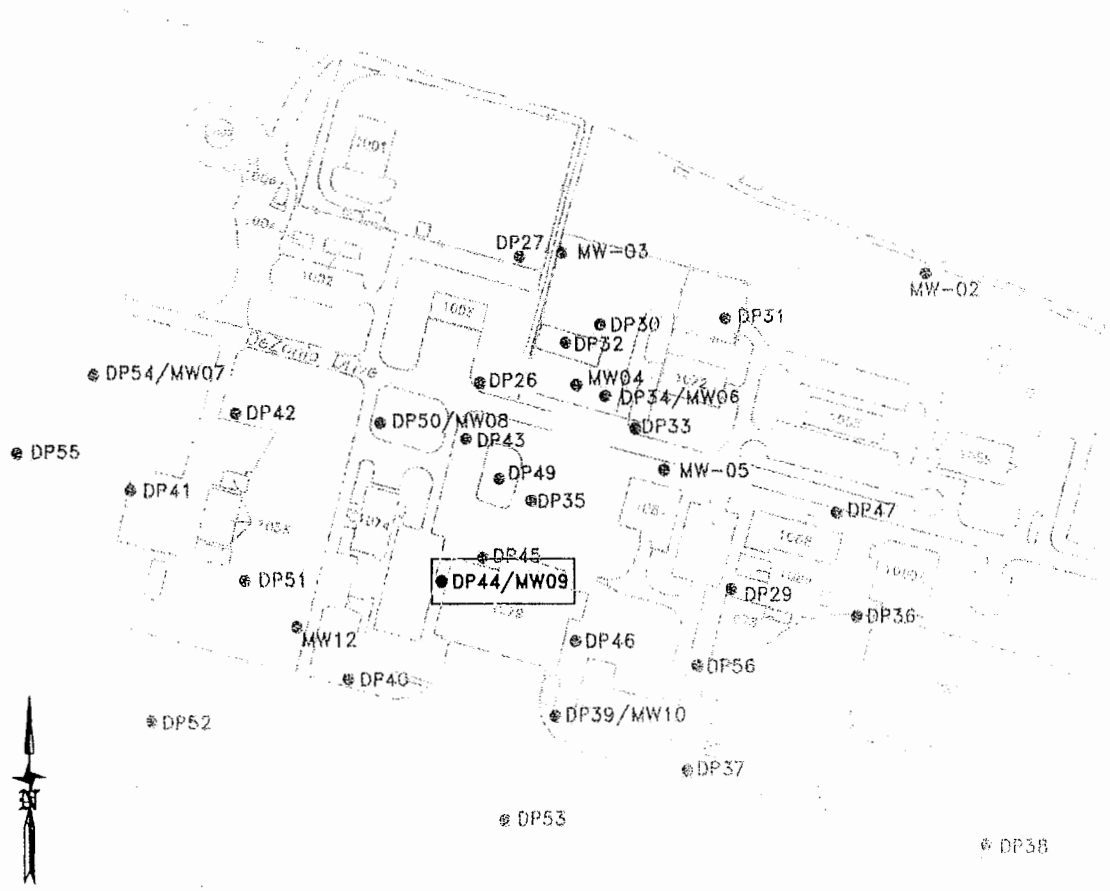
DISTRICT: OMAHA		HOLE NUMBER: SS61-DP44/MW09
1.COMPANY NAME: Foster Wheeler Environmental Corp.	2.DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF SHEETS 2
3.PROJECT: 5155.0027.0007 H2000	4.LOCATION: SS-61, Holloman AFB	
5.NAME OF DRILLER: Rafe Jones	6.MANUFACTURER'S DESIGNATION OF DRILL:	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8.HOLE LOCATION: SS61-DP44/MW09	
	9.SURFACE ELEVATION: N/A	
	10.DATE STARTED: 5/2/00	11.DATE COMPLETED: 5/2/00
12.OVERBURDEN THICKNESS: N/A	15.DEPTH GROUNDWATER ENCOUNTERED: 14 ft	
13.DEPTH DRILLED INTO ROCK: N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 12.65 ft at 1200 hrs, 5/3/00	
14.TOTAL DEPTH OF HOLE: 21 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	soil and water		soil - TRPH	water - TPH-JP4		

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
	w/ bentonite	yes, MW-09		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-DP44/MW09

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP44/MW09

PROJECT 5155.0027.0007 H2000

INSPECTOR Luke Darragh

SHEET 2 OF SHEETS 2

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Fill and gravel					
	2	Brown Silty CLAY with fine Sand, damp, soft, low plasticity	0.70 ppm				CL
	4						
	6	Brown Sandy SILT with fine Sand, very moist, soft wet from 5-6 ft	0.54 ppm				ML
	8						
	10	Light grey Silty CLAY with fine Sand, moist, soft	0.35 ppm				CL
	12	Same Silty Clay as above but wet at 14 ft and stained from 13-14 ft, odor	0.75 ppm				CL
	14	Grey/Tan Silty CLAY with some fine Sand, wet, low plasticity, odor	26.26 ppm				CL
	16	Brown Silty CLAY, fine Sand, wet, soft, low plasticity, trace odor	0.93 ppm				CL
	18	Same Silty Clay as above, odor					CL
		Grey Silty CLAY with gravel, wet, soft, odor (same down to TD of 21 ft) TD = 21 ft	119 ppm				CL

PROJECT 5155.0027.0007 H2000

HOLE NO. SS61-DP44/MW09

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

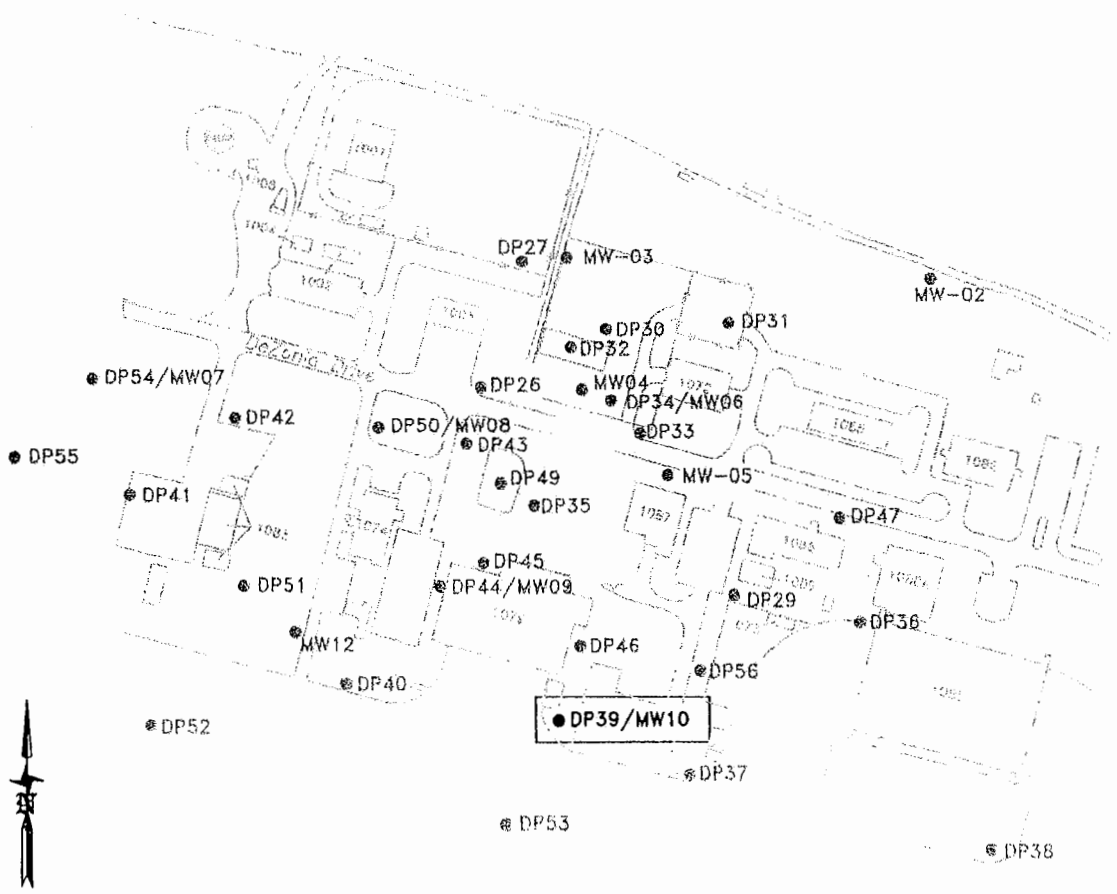
DISTRICT: OMAHA		HOLE NUMBER: SS61-DP39/MW10
1.COMPANY NAME: Foster Wheeler Environmental Corp	2.DRILL SUBCONTRACTOR: Indian Fire and Safety	SHEET 1 OF 2 SHEETS
3.PROJECT: 5155.0027.0007 H2000	4.LOCATION: SS-61, Holloman AFB	
5.NAME OF DRILLER: Rafe Jones	6.MANUFACTURER'S DESIGNATION OF DRILL	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8.HOLE LOCATION: SS61-DP39	
	9.SURFACE ELEVATION: N/A	
	10.DATE STARTED: 5/3/00	11.DATE COMPLETED: 5/3/00
12.OVERBURDEN THICKNESS: N/A	15.DEPTH GROUNDWATER ENCOUNTERED: 18 ft	
13.DEPTH DRILLED INTO ROCK: N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 12.0ft, 10 minutes after drilling	
14.TOTAL DEPTH OF HOLE: 19 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	N/A

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	water and soil	N/A		TRPH - soil	TPH-JP4 -water	

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
	w/ bentonite	N/A		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 Inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-DP39/MW10

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-DP39/MW10

PROJECT 5155.0027.0007 H2000

INSPECTOR Luke Darragh

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	2	Grey Clayey SILT with medium Sand and some fine Sand, damp and soft	ND				ML
	4						
	6	Grey Sandy SILT, fine Sand, moist, soft	0.12 ppm				ML
	8	same as above but very moist					ML
	10	Grey Silty CLAY, moist, slight plasticity, some fine Sand, stiff	0.22 ppm		SS61DP39S1001		CL
	12	Brown Silty CLAY, slightly plastic, trace fine to medium Sand, moist, stiff	0.87 ppm				CL
	14						
	16	Brown Silty CLAY, slight plasticity, damp, stiff, trace fine to medium Sand 16-17' color change to grey, odor, stained	494 ppm		SS61DP39S1401		CL
	18	Same as above but wet at 18 ft	454 ppm				CL
		TD = 19.0 ft					

PROJECT 5155.0027.0007 H2000

HOLE NO. SS61-DP39/MW10

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

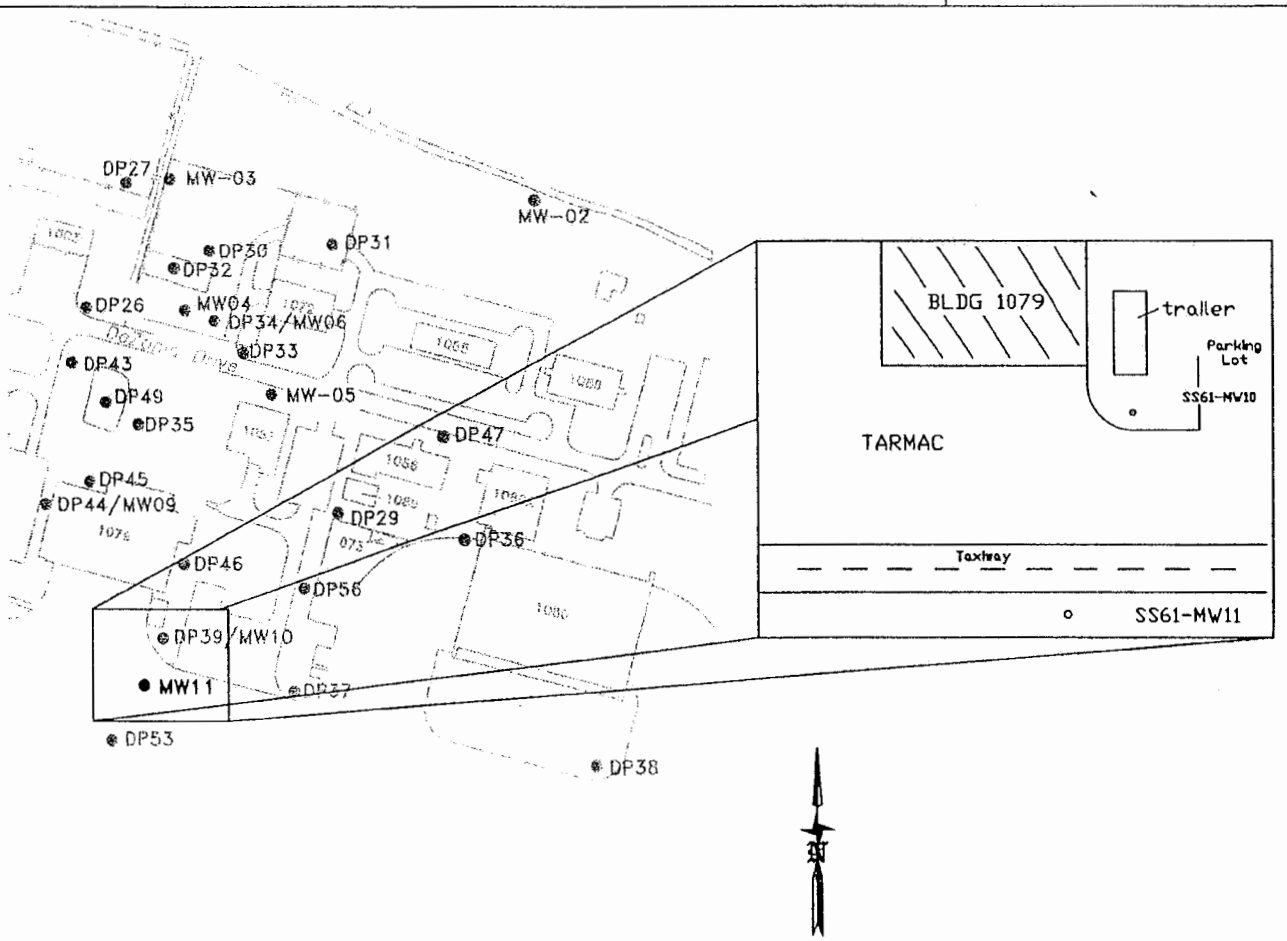
DISTRICT: OMAHA		HOLE NUMBER: SS61-MW11
1.COMPANY NAME: Foster Wheeler Environmental Corp.	2.DRILL SUBCONTRACTOR: Enviro-Drill	SHEET 1 OF 3 SHEETS
3.PROJECT: 5155.0027.0007	4.LOCATION: SS-61, Holloman AFB	
5.NAME OF DRILLER: D. Starnes	6.MANUFACTURER'S DESIGNATION OF DRILL: CME 75 hollow stem auger	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8.HOLE LOCATION: SS61-MW11	
	9.SURFACE ELEVATION: N/A	
	10.DATE STARTED: 5/24/00	11.DATE COMPLETED: 5/24/00
12.OVERBURDEN THICKNESS: N/A	15.DEPTH GROUNDWATER ENCOUNTERED: 17.5 ft	
13.DEPTH DRILLED INTO ROCK: N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	
14.TOTAL DEPTH OF HOLE: 23.0 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
None			

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	N/A	N/A	N/A			

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
		YES, MW-11		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-MW11

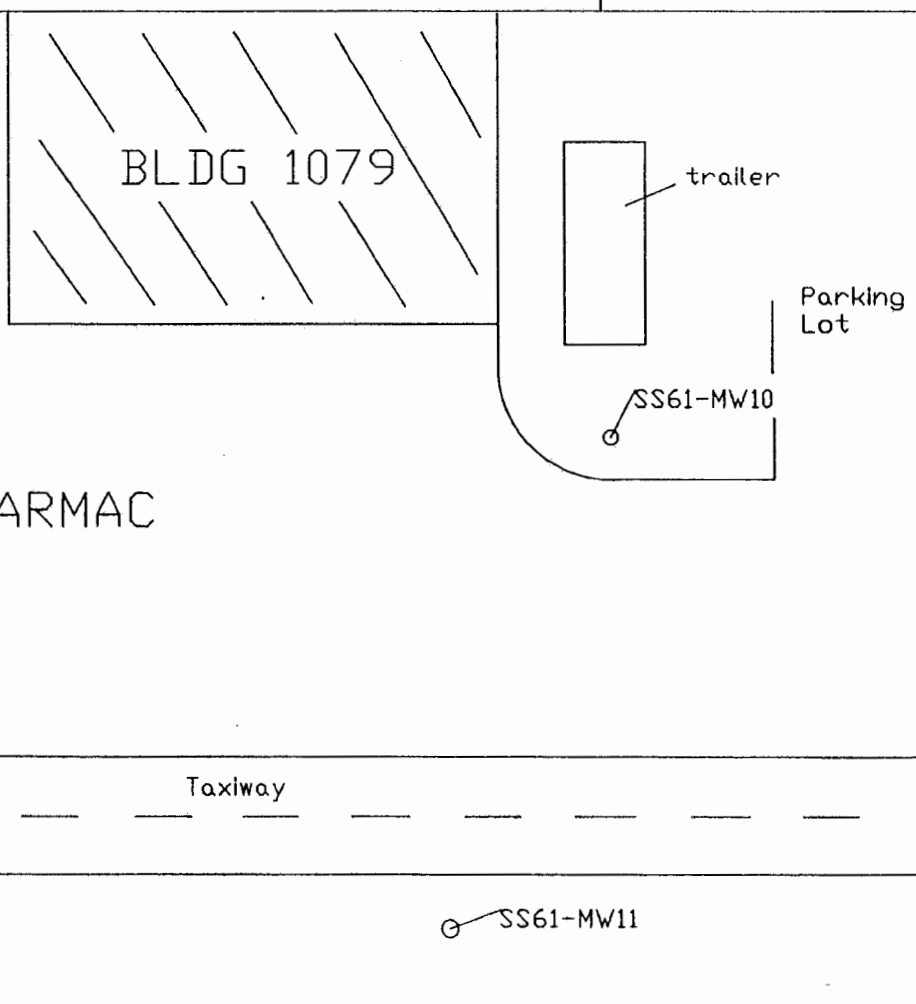
ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT OMAHA		HOLE NUMBER SS61-MW11
1.COMPANY NAME Foster Wheeler Environmental Corp.	2.DRILL SUBCONTRACTOR Enviro-Drill	SHEET 1 OF SHEETS 3
3.PROJECT 5155.0027.0007 H2000	4.LOCATION SS-61, Holloman AFB	
5.NAME OF DRILLER D. Starnes	6.MANUFACTURER'S DESIGNATION OF DRILL CME 75 hollow stem auger	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8.HOLE LOCATION SS61-MW11	
HSA 8 inch O.D. augers	9.SURFACE ELEVATION N/A	
	10.DATE STARTED 5/24/00	11.DATE COMPLETED 5/24/00
12.OVERBURDEN THICKNESS N/A	15.DEPTH GROUNDWATER ENCOUNTERED 17.5 ft	
13.DEPTH DRILLED INTO ROCK N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A	
14.TOTAL DEPTH OF HOLE 23.0 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A	

18.GEOTECHNICAL SAMPLES None	DISTURBED N/A	UNDISTURBED N/A	19.TOTAL NUMBER OF CORE BOXES			
20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	N/A	N/A	N/A			
22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR		
		YES, MW-11				

LOCATION SKETCH/COMMENTS | SCALE



PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-MW11

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-MW11

PROJECT 5155.0027.0007 H2000 | INSPECTOR Jill Jefferson | SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	2	Brown SILT with some Sand, trace moisture, well graded					SM
	4 6	Light reddish brown CLAY with some silt, moist, moderately plastic, well graded					CL
	8	Light reddish brown CLAY with Silt and fine grained Sand, slightly moist					CL
	10 12	Light brown SILT with some fine grained Sand, slightly moist					SM
	14	Light reddish brown CLAY with some Silt, not plastic, slightly moist					CL
	16	Medium reddish brown CLAY with some SILT, not plastic, slightly moist					CL
	18	Same as above but more dense Water encountered at 17.5 ft					CL

PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-MW11

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-MW11

PROJECT 5155.0027.0007 H2000

INSPECTOR Jill Jefferson

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	22	Same as above but more moist and moderately plastic					CL No visible contamination or odors
	24	Total Depth = 23.0 ft					

PROJECT 5155.0027.0007 H2000

HOLE NO. SS61-MW11

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

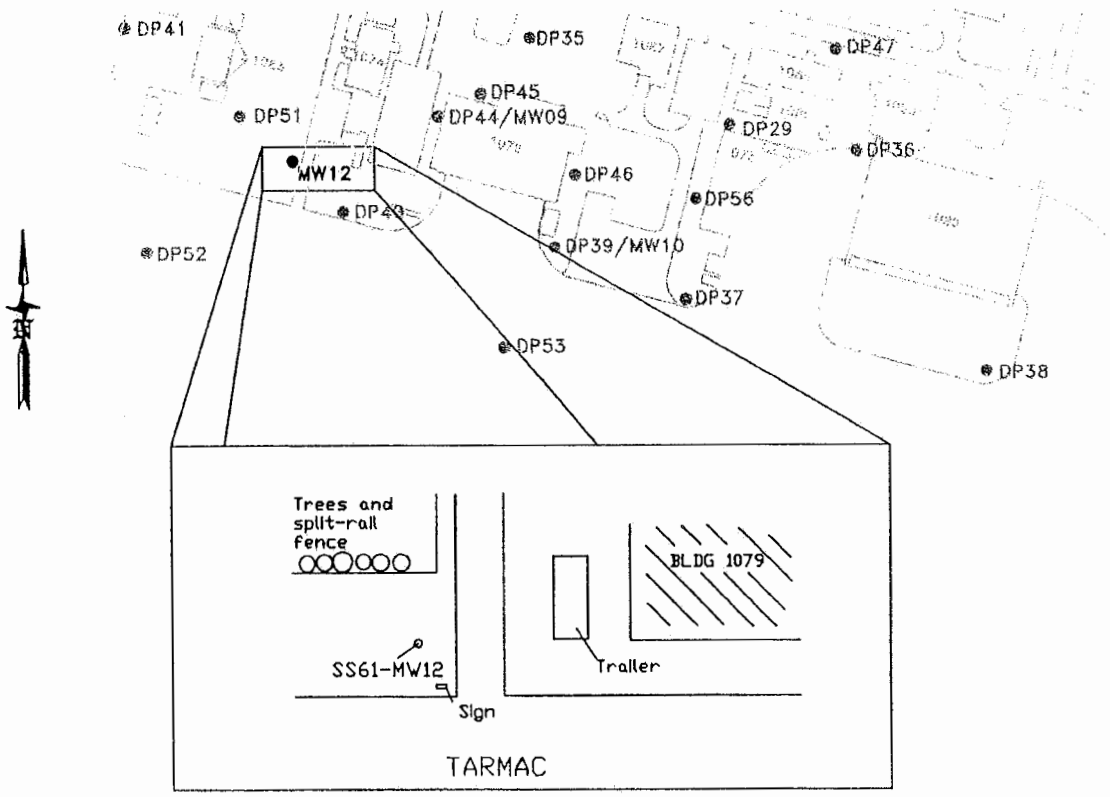
DISTRICT: OMAHA		HOLE NUMBER: SS61-MW12
1.COMPANY NAME: Foster Wheeler Environmental	2.DRILL SUBCONTRACTOR: Enviro-Drill	SHEET 1 OF 3 SHEETS
3.PROJECT: 5155.0027.0007	4.LOCATION: SS-61, Holloman AFB	
5.NAME OF DRILLER: D. Starnes	6.MANUFACTURER'S DESIGNATION OF DRILL: CME 75 hollow stem auger	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Rig	8.HOLE LOCATION: SS61-MW12	
	9.SURFACE ELEVATION: N/A	
	10.DATE STARTED: 5/23/00	11.DATE COMPLETED: 5/23/00
12.OVERBURDEN THICKNESS: N/A	15.DEPTH GROUNDWATER ENCOUNTERED: 17.5 ft	
13.DEPTH DRILLED INTO ROCK: N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	
14.TOTAL DEPTH OF HOLE: 23.0 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	N/A	N/A	N/A			

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
		YES, MW-12		Luke Darragh

LOCATION SKETCH/COMMENTS — SCALE 1 Inch = 300 feet



PROJECT 5155.0027.0007 — HOLE NO. SS61-MW12

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

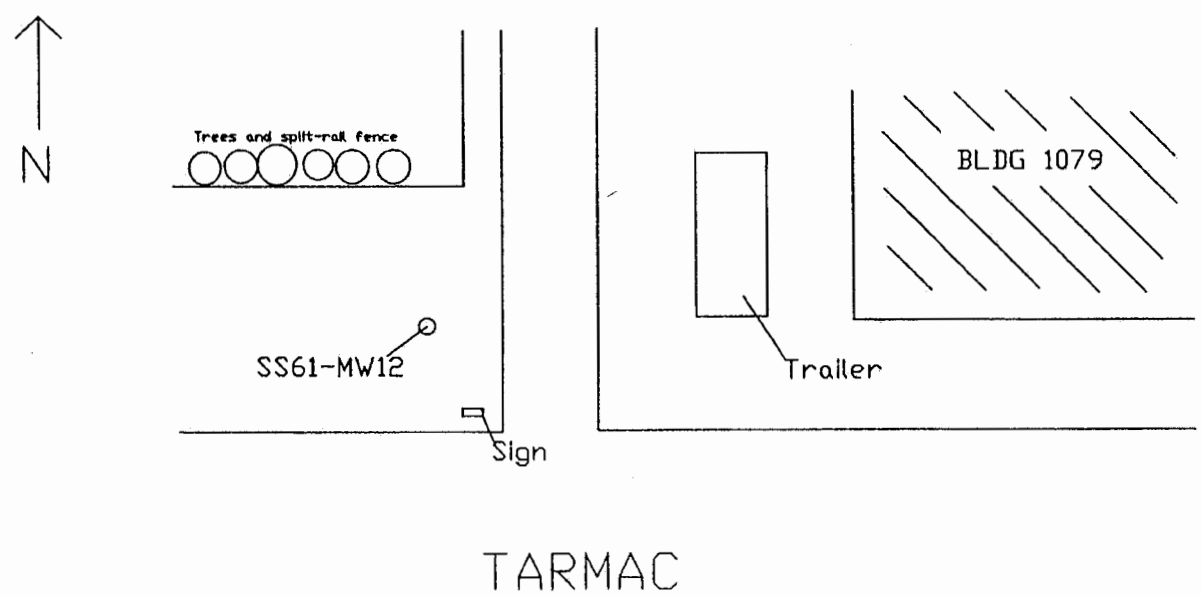
DISTRICT OMAHA		HOLE NUMBER SS61-MW12
1.COMPANY NAME Foster Wheeler Environmental	2.DRILL SUBCONTRACTOR Enviro-Drill	SHEET 1 OF SHEETS 3
3.PROJECT 5155.0027.0007 H2000	4.LOCATION SS-61, Holloman AFB	
5.NAME OF DRILLER D. Starnes	6.MANUFACTURER'S DESIGNATION OF DRILL CME 75 hollow stem auger	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8.HOLE LOCATION SS61-MW12	
HSA 8 inch O.D. augers	9.SURFACE ELEVATION N/A	
	10.DATE STARTED 5/23/00	11.DATE COMPLETED 5/23/00
12.OVERBURDEN THICKNESS N/A	15.DEPTH GROUNDWATER ENCOUNTERED 17.5 ft	
13.DEPTH DRILLED INTO ROCK N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A	
14.TOTAL DEPTH OF HOLE 23.0 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
None	N/A	N/A	

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOTAL CORE RECOVERY %
	N/A	N/A	N/A			

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
		YES, MW-12		

LOCATION SKETCH/COMMENTS | SCALE



PROJECT 5155.0027.0007 H2000	HOLE NO. SS61-MW12

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-MW12

PROJECT 5155.0027.0007 H2000 | INSPECTOR Jill Jefferson | SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Dark brown fill material with some Clay, moderately plastic, trace moisture					
	2	Light brown SILT with some Clay, no plasticity or cementation, trace moisture					ML
	4						
		Same as above but color change to light reddish brown					ML
	6	Light reddish brown fine grained SAND with some Silt, trace moisture, no cementation, well graded					SM
	8						
	10	Light reddish brown SILT with some Clay and caliche, trace moisture, no plasticity, well graded					ML
	12	Light reddish brown CLAY with trace of Silt, moderately plastic, slightly moist					CL
	14						
		Medium reddish brown CLAY with trace of Silt, moist, moderately plastic					CL
	16	Same as above but more moist and contains caliche nodules					CL
	18	Groundwater encountered at 17.5 ft					

PROJECT 5155.0027.0007 H2000 | HOLE NO. SS61-MW12

HTRW DRILLING LOG

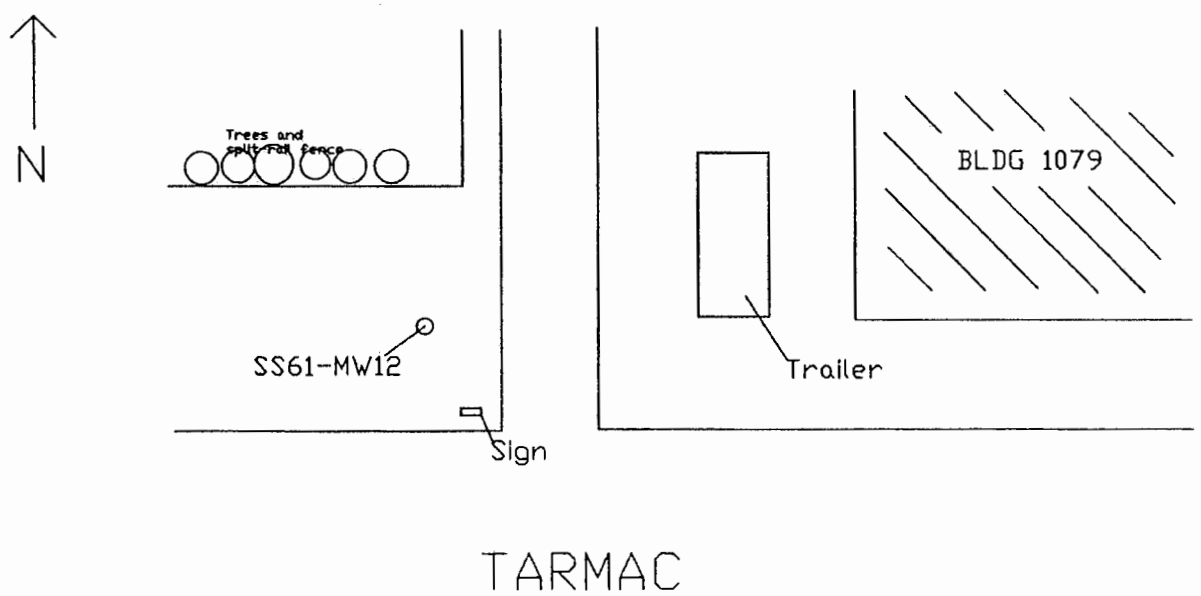
DISTRICT OMAHA		HOLE NUMBER SS61-MW12
1.COMPANY NAME Foster Wheeler Environmental	2.DRILL SUBCONTRACTOR Enviro-Drill	SHEET 1 OF SHEETS 3
3.PROJECT 5155.0027.0007 H2000	4.LOCATION SS-61, Holloman AFB	
5.NAME OF DRILLER D. Starnes	6.MANUFACTURER'S DESIGNATION OF DRILL CME 75 hollow stem auger	
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8.HOLE LOCATION SS61-MW12	
HSA 8 inch O.D. augers	9.SURFACE ELEVATION N/A	
	10.DATE STARTED 5/23/00	11.DATE COMPLETED 5/23/00
12.OVERBURDEN THICKNESS N/A	15.DEPTH GROUNDWATER ENCOUNTERED 17.5 ft	
13.DEPTH DRILLED INTO ROCK N/A	16.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14.TOTAL DEPTH OF HOLE 23.0 ft	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A	

18.GEOTECHNICAL SAMPLES	DISTURBED N/A	UNDISTURBED N/A	19.TOTAL NUMBER OF CORE BOXES

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21.TOLAL CORE RECOVERY %
	N/A	N/A	N/A			

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR
		YES, MW-12		

LOCATION SKETCH/COMMENTS | SCALE



PROJECT 5155.0027.0007 H2000	HOLE NO. SS61-MW12

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SS61-MW12

PROJECT 5155.0027.0007 H2000

INSPECTOR Jill Jefferson

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	22	Same as above					CL No visible contamination or odors
	24	Total Depth = 23.0 ft					

PROJECT 5155.0027.0007 H2000

HOLE NO. SS61-MW12

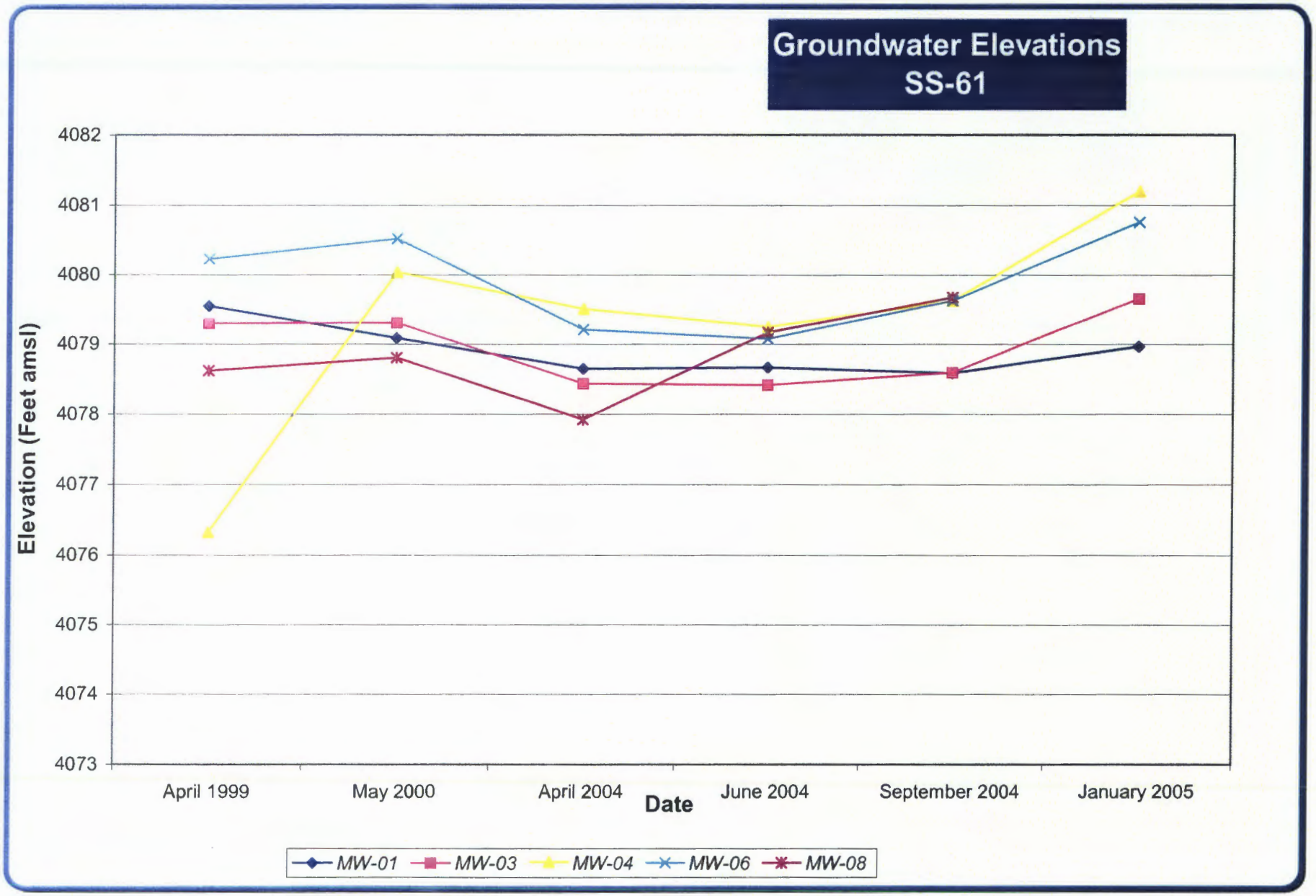
ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

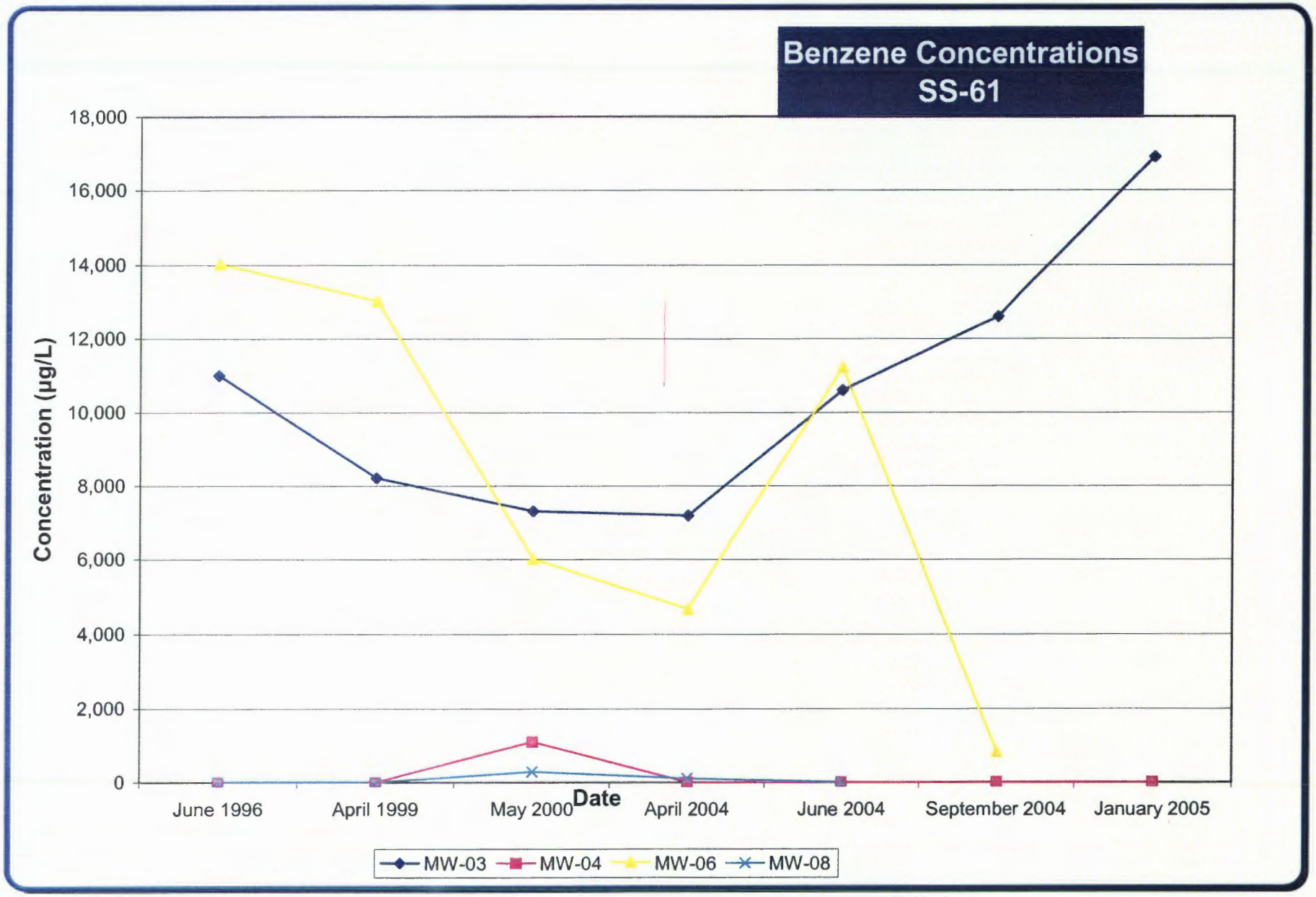
APPENDIX C

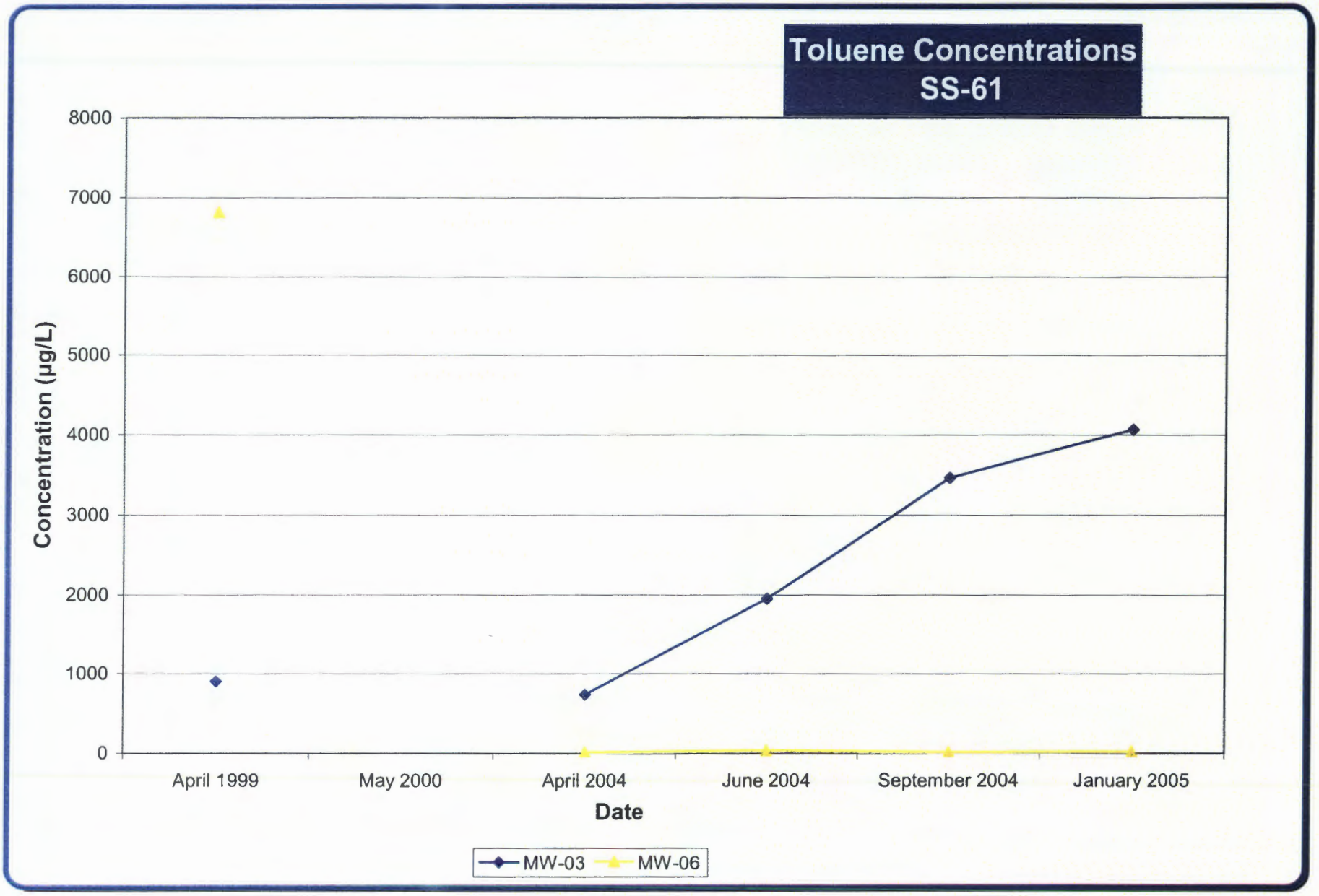
GRAPHS

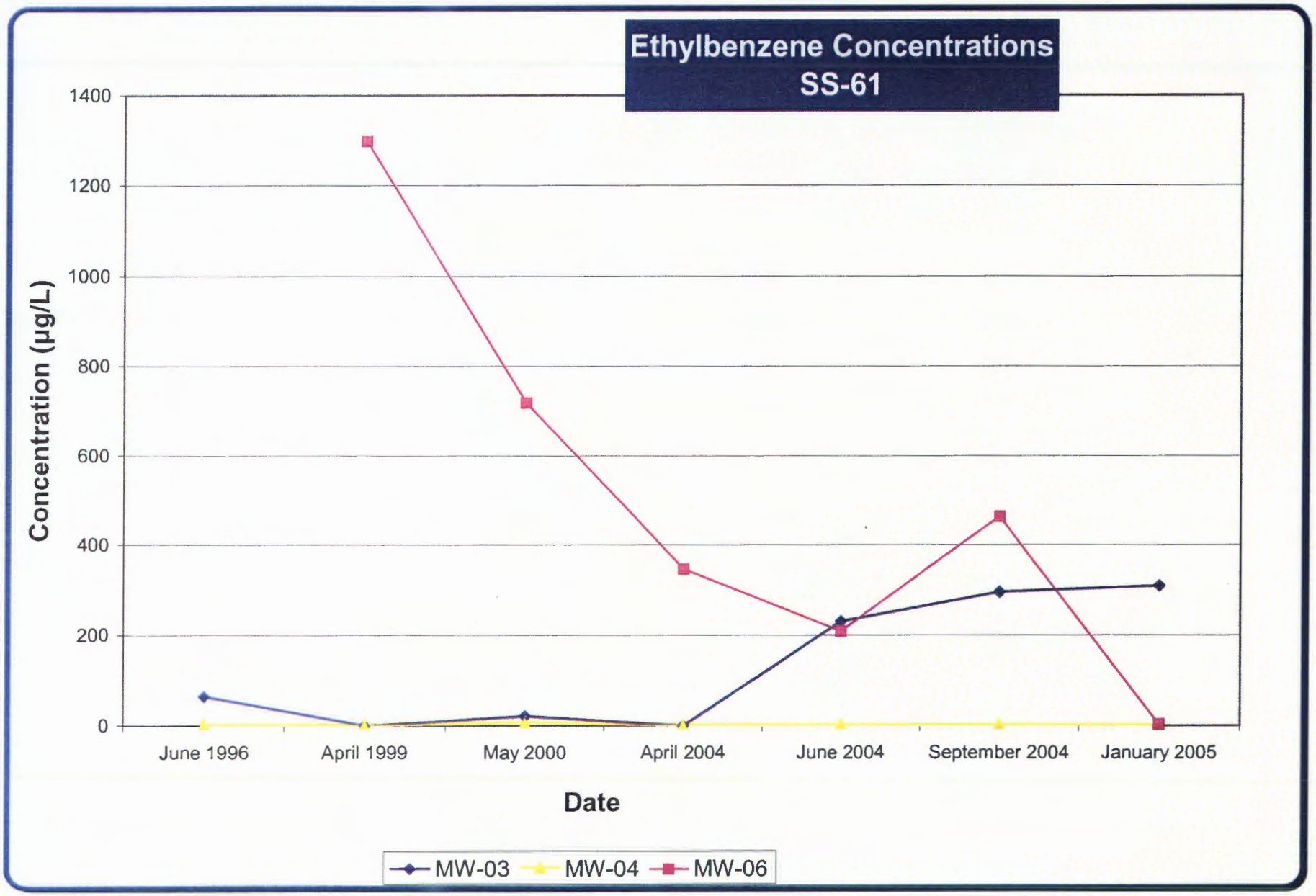
GROUNDWATER ELEVATION AND CONTAMINANT CONCENTRATIONS

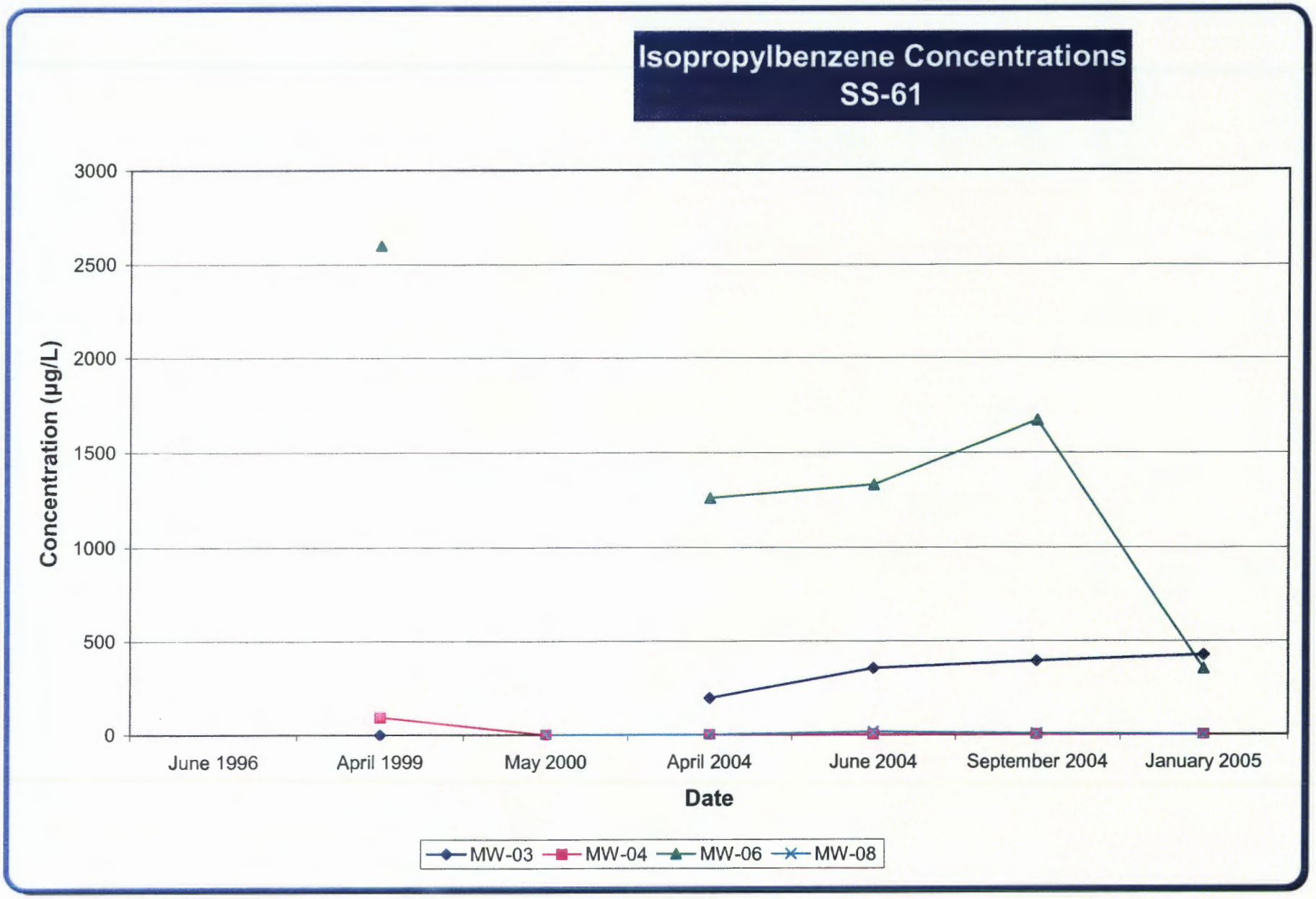


AMSL - Above Mean Sea Level


Benzene Concentrations
SS-61
Concentration (µg/L)
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
June 1996
April 1999
May 2000
April 2004
June 2004
September 2004
January 2005
Date
MW-03
MW-04
MW-06
MW-08


Toluene Concentrations
SS-61
8000
7000
6000
5000
4000
3000
2000
1000
0
Concentration (µg/L)
April 1999
May 2000
April 2004
June 2004
September 2004
January 2005
Date
MW-03
MW-06


Ethylbenzene Concentrations
SS-61
Concentration (µg/L)
1400
1200
1000
800
600
400
200
0
June 1996
April 1999
May 2000
April 2004
June 2004
September 2004
January 2005
Date
MW-03
MW-04
MW-06


Isopropylbenzene Concentrations
SS-61
Concentration (µg/L)
3000
2500
2000
1500
1000
500
0
June 1996
April 1999
May 2000
April 2004
June 2004
September 2004
January 2005
Date
MW-03
MW-04
MW-06
MW-08

APPENDIX D

LABORATORY ANALYTICAL RESULTS

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 127675

REPORTED 04/21/2004

RECEIVED [redacted]

PROJECT Holmn, SS61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
512561	SS61-MW01
512562	SS61-MW01-a
512563	SS61-MW01-ms
512564	SS61-MW01-msd
512565	Trip Blank
512566	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing , all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 512561 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01
Date Sampled: 04/13/2004
me Sampled: 09:10
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
160.1 Filterable Residue (TDS)						
Filterable Residue (TDS)	16000	1	6.0	mg/L	04/14/04	LN
300.0 Chloride by Ion Chromatography						
Chloride	7630	100	100.0	mg/L	04/15/04	BGS
Nitrate (as NO3)	79.5	10	4.4	mg/L	04/15/04	BGS
Nitrite (as NO2)	ND	10	3.3	mg/L	04/15/04	BGS
Sulfate	2650	100	100.0	mg/L	04/15/04	BGS
310.1 Alkalinity						
Alkalinity as Calcium Carbonate	100	1	5.0	mg/L	04/15/04	DK
Bicarbonate	122	1	5.0	mg/L	04/15/04	DK
Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Hydroxide	ND	1	5.0	mg/L	04/15/04	DK
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512561 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01
Date Sampled: 04/13/2004
me Sampled: 09:10
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,3-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/16/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
2-Hexanone	ND	1	20	ug/L	04/16/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/16/04	AM
Acetone	ND	1	100	ug/L	04/16/04	AM
Acetonitrile	ND	1	50	ug/L	04/16/04	AM
Acrolein	ND	1	200	ug/L	04/16/04	AM
Acrylonitrile	ND	1	10	ug/L	04/16/04	AM
Allyl chloride	ND	1	5	ug/L	04/16/04	AM
Benzene	ND	1	1	ug/L	04/16/04	AM
Benzyl chloride	ND	1	5	ug/L	04/16/04	AM
Bromobenzene	ND	1	5	ug/L	04/16/04	AM
Bromochloromethane	ND	1	5	ug/L	04/16/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/16/04	AM
Bromoform	ND	1	5	ug/L	04/16/04	AM
Bromomethane	ND	1	5	ug/L	04/16/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/16/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/16/04	AM
Chlorobenzene	ND	1	5	ug/L	04/16/04	AM
Chloroethane	ND	1	5	ug/L	04/16/04	AM
Chloroform	ND	1	5	ug/L	04/16/04	AM
Chloromethane	ND	1	5	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/16/04	AM
Dibromomethane	ND	1	5	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/16/04	AM
Ethyl benzene	ND	1	5	ug/L	04/16/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/16/04	AM
Iodomethane	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512561 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01
Date Sampled: 04/13/2004
Time Sampled: 09:10
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/16/04	AM
m and p-Xylene	ND	1	5	ug/L	04/16/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/16/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/16/04	AM
Methylene chloride	ND	1	5	ug/L	04/16/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/16/04	AM
Naphthalene	ND	1	5	ug/L	04/16/04	AM
o-Xylene	ND	1	5	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/16/04	AM
Pentachloroethane	ND	1	5	ug/L	04/16/04	AM
Propionitrile	ND	1	100	ug/L	04/16/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Styrene	ND	1	5	ug/L	04/16/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/16/04	AM
Toluene	ND	1	5	ug/L	04/16/04	AM
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Trichloroethene	ND	1	5	ug/L	04/16/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/16/04	AM
Vinyl acetate	ND	1	50	ug/L	04/16/04	AM
Vinyl chloride	ND	1	5	ug/L	04/16/04	AM
Xylenes, total	ND	1	5	ug/L	04/16/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	96	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	121	%	70 - 135
Surr3 - Toluene-d8	104	%	70 - 135
Surr4 - p-Bromofluorobenzene	100	%	70 - 135

9060 Total Organic Carbon (TOC)

Total Organic Carbon	1.2	2	1.0	mg/L	04/15/04	QP

RSK-175 Hydrocarbons

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512561 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01
Date Sampled: 04/13/2004
Time Sampled: 09:10
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
RSK-175 Hydrocarbons						
Ethane	ND	1	0.005	mg/L	04/15/04	LT
Ethene	ND	1	0.005	mg/L	04/15/04	LT
Methane	ND	1	0.005	mg/L	04/15/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512562 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01-a
Date Sampled: 04/13/2004
Time Sampled: 09:10
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
160.1 Filterable Residue (TDS)						
Filterable Residue (TDS)	17100	1	6.0	mg/L	04/14/04	LN
300.0 Chloride by Ion Chromatography						
Chloride	7580	100	100.0	mg/L	04/15/04	BGS
Nitrate (as NO3)	76.0	10	4.4	mg/L	04/15/04	BGS
Nitrite (as NO2)	ND	10	3.3	mg/L	04/15/04	BGS
Sulfate	2610	100	100.0	mg/L	04/15/04	BGS
310.1 Alkalinity						
Alkalinity as Calcium Carbonate	100	1	5.0	mg/L	04/15/04	DK
Bicarbonate	122	1	5.0	mg/L	04/15/04	DK
Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Hydroxide	ND	1	5.0	mg/L	04/15/04	DK
260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512562 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01-a
Date Sampled: 04/13/2004
Time Sampled: 09:10
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,3-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/16/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
2-Hexanone	ND	1	20	ug/L	04/16/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/16/04	AM
Acetone	ND	1	100	ug/L	04/16/04	AM
Acetonitrile	ND	1	50	ug/L	04/16/04	AM
Acrolein	ND	1	200	ug/L	04/16/04	AM
Acrylonitrile	ND	1	10	ug/L	04/16/04	AM
Allyl chloride	ND	1	5	ug/L	04/16/04	AM
Benzene	ND	1	1	ug/L	04/16/04	AM
Benzyl chloride	ND	1	5	ug/L	04/16/04	AM
Bromobenzene	ND	1	5	ug/L	04/16/04	AM
Bromochloromethane	ND	1	5	ug/L	04/16/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/16/04	AM
Bromoform	ND	1	5	ug/L	04/16/04	AM
Bromomethane	ND	1	5	ug/L	04/16/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/16/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/16/04	AM
Chlorobenzene	ND	1	5	ug/L	04/16/04	AM
Chloroethane	ND	1	5	ug/L	04/16/04	AM
Chloroform	ND	1	5	ug/L	04/16/04	AM
Chloromethane	ND	1	5	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/16/04	AM
Dibromomethane	ND	1	5	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/16/04	AM
Ethyl benzene	ND	1	5	ug/L	04/16/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/16/04	AM
Iodomethane	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512562 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01-a
Date Sampled: 04/13/2004
Time Sampled: 09:10
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/16/04	AM
m and p-Xylene	ND	1	5	ug/L	04/16/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/16/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/16/04	AM
Methylene chloride	ND	1	5	ug/L	04/16/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/16/04	AM
Naphthalene	ND	1	5	ug/L	04/16/04	AM
o-Xylene	ND	1	5	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/16/04	AM
Pentachloroethane	ND	1	5	ug/L	04/16/04	AM
Propionitrile	ND	1	100	ug/L	04/16/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Styrene	ND	1	5	ug/L	04/16/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/16/04	AM
Toluene	ND	1	5	ug/L	04/16/04	AM
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Trichloroethene	ND	1	5	ug/L	04/16/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/16/04	AM
Vinyl acetate	ND	1	50	ug/L	04/16/04	AM
Vinyl chloride	ND	1	5	ug/L	04/16/04	AM
Xylenes, total	ND	1	5	ug/L	04/16/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	91	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	120	%	70 - 135
Surr3 - Toluene-d8	103	%	70 - 135
Surr4 - p-Bromofluorobenzene	101	%	70 - 135

9060 Total Organic Carbon (TOC)

Total Organic Carbon	1.3	2	1.0	mg/L	04/15/04	QP

RSK-175 Hydrocarbons

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512562 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01-a
Date Sampled: 04/13/2004
Time Sampled: 09:10
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
RSK-175 Hydrocarbons						
Ethane	ND	1	0.005	mg/L	04/15/04	LT
Ethene	ND	1	0.005	mg/L	04/15/04	LT
Methane	ND	1	0.005	mg/L	04/15/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512563 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01-ms
Date Sampled: 04/13/2004
Time Sampled: 09:10
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
160.1 Filterable Residue (TDS)						
Filterable Residue (TDS)	18000	1	6.0	mg/L	04/14/04	LN
300.0 Chloride by Ion Chromatography						
Chloride	7330	200	200.0	mg/L	04/15/04	BGS
Nitrate (as NO3)	77.3	20	8.8	mg/L	04/15/04	BGS
Nitrite (as NO2)	ND	20	6.6	mg/L	04/15/04	BGS
Sulfate	2600	200	200.0	mg/L	04/15/04	BGS
310.1 Alkalinity						
Alkalinity as Calcium Carbonate	100	1	5.0	mg/L	04/15/04	DK
Bicarbonate	122	1	5.0	mg/L	04/15/04	DK
Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Hydroxide	ND	1	5.0	mg/L	04/15/04	DK
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512563 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01-ms
Date Sampled: 04/13/2004
Time Sampled: 09:10
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,3-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/16/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
2-Hexanone	ND	1	20	ug/L	04/16/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/16/04	AM
Acetone	ND	1	100	ug/L	04/16/04	AM
Acetonitrile	ND	1	50	ug/L	04/16/04	AM
Acrolein	ND	1	200	ug/L	04/16/04	AM
Acrylonitrile	ND	1	10	ug/L	04/16/04	AM
Allyl chloride	ND	1	5	ug/L	04/16/04	AM
Benzene	ND	1	1	ug/L	04/16/04	AM
Benzyl chloride	ND	1	5	ug/L	04/16/04	AM
Bromobenzene	ND	1	5	ug/L	04/16/04	AM
Bromochloromethane	ND	1	5	ug/L	04/16/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/16/04	AM
Bromoform	ND	1	5	ug/L	04/16/04	AM
Bromomethane	ND	1	5	ug/L	04/16/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/16/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/16/04	AM
Chlorobenzene	ND	1	5	ug/L	04/16/04	AM
Chloroethane	ND	1	5	ug/L	04/16/04	AM
Chloroform	ND	1	5	ug/L	04/16/04	AM
Chloromethane	ND	1	5	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/16/04	AM
Dibromomethane	ND	1	5	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/16/04	AM
Ethyl benzene	ND	1	5	ug/L	04/16/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/16/04	AM
Iodomethane	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512563 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01-ms
Date Sampled: 04/13/2004
Time Sampled: 09:10
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/16/04	AM
m and p-Xylene	ND	1	5	ug/L	04/16/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/16/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/16/04	AM
Methylene chloride	ND	1	5	ug/L	04/16/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/16/04	AM
Naphthalene	ND	1	5	ug/L	04/16/04	AM
o-Xylene	ND	1	5	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/16/04	AM
Pentachloroethane	ND	1	5	ug/L	04/16/04	AM
Propionitrile	ND	1	100	ug/L	04/16/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Styrene	ND	1	5	ug/L	04/16/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/16/04	AM
Toluene	ND	1	5	ug/L	04/16/04	AM
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Trichloroethene	ND	1	5	ug/L	04/16/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/16/04	AM
Vinyl acetate	ND	1	50	ug/L	04/16/04	AM
Vinyl chloride	ND	1	5	ug/L	04/16/04	AM
Xylenes, total	ND	1	5	ug/L	04/16/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	93	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	118	%	70 - 135
Surr3 - Toluene-d8	104	%	70 - 135
Surr4 - p-Bromofluorobenzene	101	%	70 - 135

9060 Total Organic Carbon (TOC)

Total Organic Carbon	1.6	2	1.0	mg/L	04/15/04	QP

RSK-175 Hydrocarbons

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512563 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01-ms
Date Sampled: 04/13/2004
me Sampled: 09:10
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
RSK-175 Hydrocarbons						
Ethane	ND	1	0.005	mg/L	04/15/04	LT
Ethene	ND	1	0.005	mg/L	04/15/04	LT
Methane	ND	1	0.005	mg/L	04/15/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512564 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01-msd
Date Sampled: 04/13/2004
ne Sampled: 09:10
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
160.1 Filterable Residue (TDS)						
Filterable Residue (TDS)	16300	1	6.0	mg/L	04/14/04	LN
300.0 Chloride by Ion Chromatography						
Chloride	7410	100	100.0	mg/L	04/15/04	BGS
Nitrate (as NO3)	72.1	10	4.4	mg/L	04/15/04	BGS
Nitrite (as NO2)	ND	10	3.3	mg/L	04/15/04	BGS
Sulfate	2560	100	100.0	mg/L	04/15/04	BGS
310.1 Alkalinity						
Alkalinity as Calcium Carbonate	100	1	5.0	mg/L	04/15/04	DK
Bicarbonate	122	1	5.0	mg/L	04/15/04	DK
Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Hydroxide	ND	1	5.0	mg/L	04/15/04	DK
260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512564 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01-msd
Date Sampled: 04/13/2004
ue Sampled: 09:10
npled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,3-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/16/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
2-Hexanone	ND	1	20	ug/L	04/16/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/16/04	AM
Acetone	ND	1	100	ug/L	04/16/04	AM
Acetonitrile	ND	1	50	ug/L	04/16/04	AM
Acrolein	ND	1	200	ug/L	04/16/04	AM
Acrylonitrile	ND	1	10	ug/L	04/16/04	AM
Allyl chloride	ND	1	5	ug/L	04/16/04	AM
Benzene	ND	1	1	ug/L	04/16/04	AM
Benzyl chloride	ND	1	5	ug/L	04/16/04	AM
Bromobenzene	ND	1	5	ug/L	04/16/04	AM
Bromochloromethane	ND	1	5	ug/L	04/16/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/16/04	AM
Bromoform	ND	1	5	ug/L	04/16/04	AM
Bromomethane	ND	1	5	ug/L	04/16/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/16/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/16/04	AM
Chlorobenzene	ND	1	5	ug/L	04/16/04	AM
Chloroethane	ND	1	5	ug/L	04/16/04	AM
Chloroform	ND	1	5	ug/L	04/16/04	AM
Chloromethane	ND	1	5	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/16/04	AM
Dibromomethane	ND	1	5	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/16/04	AM
Ethyl benzene	ND	1	5	ug/L	04/16/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/16/04	AM
Iodomethane	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512564 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01-msd
Date Sampled: 04/13/2004
me Sampled: 09:10
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/16/04	AM
m and p-Xylene	ND	1	5	ug/L	04/16/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/16/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/16/04	AM
Methylene chloride	ND	1	5	ug/L	04/16/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/16/04	AM
Naphthalene	ND	1	5	ug/L	04/16/04	AM
o-Xylene	ND	1	5	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/16/04	AM
Pentachloroethane	ND	1	5	ug/L	04/16/04	AM
Propionitrile	ND	1	100	ug/L	04/16/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Styrene	ND	1	5	ug/L	04/16/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/16/04	AM
Toluene	ND	1	5	ug/L	04/16/04	AM
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Trichloroethene	ND	1	5	ug/L	04/16/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/16/04	AM
Vinyl acetate	ND	1	50	ug/L	04/16/04	AM
Vinyl chloride	ND	1	5	ug/L	04/16/04	AM
Xylenes, total	ND	1	5	ug/L	04/16/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	95	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	121	%	70 - 135
Surr3 - Toluene-d8	104	%	70 - 135
Surr4 - p-Bromofluorobenzene	104	%	70 - 135

9060 Total Organic Carbon (TOC)

Total Organic Carbon	1.6	2	1.0	mg/L	04/15/04	QP

RSK-175 Hydrocarbons

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512564 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW01-msd
Date Sampled: 04/13/2004
Time Sampled: 09:10
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
RSK-175 Hydrocarbons						
Ethane	ND	1	0.005	mg/L	04/15/04	LT
Ethene	ND	1	0.005	mg/L	04/15/04	LT
Methane	ND	1	0.005	mg/L	04/15/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512565 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled: 04/13/2004
me Sampled:
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/16/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
2-Hexanone	ND	1	20	ug/L	04/16/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/16/04	AM
Acetone	ND	1	100	ug/L	04/16/04	AM
Acetonitrile	ND	1	50	ug/L	04/16/04	AM
Acrolein	ND	1	200	ug/L	04/16/04	AM
Acrylonitrile	ND	1	10	ug/L	04/16/04	AM
Allyl chloride	ND	1	5	ug/L	04/16/04	AM
Benzene	ND	1	1	ug/L	04/16/04	AM
Benzyl chloride	ND	1	5	ug/L	04/16/04	AM
Bromobenzene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512565 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled: 04/13/2004
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Bromochloromethane	ND	1	5	ug/L	04/16/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/16/04	AM
Bromoform	ND	1	5	ug/L	04/16/04	AM
Bromomethane	ND	1	5	ug/L	04/16/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/16/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/16/04	AM
Chlorobenzene	ND	1	5	ug/L	04/16/04	AM
Chloroethane	ND	1	5	ug/L	04/16/04	AM
Chloroform	ND	1	5	ug/L	04/16/04	AM
Chloromethane	ND	1	5	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/16/04	AM
Dibromomethane	ND	1	5	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/16/04	AM
Ethyl benzene	ND	1	5	ug/L	04/16/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/16/04	AM
Iodomethane	ND	1	5	ug/L	04/16/04	AM
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/16/04	AM
m and p-Xylene	ND	1	5	ug/L	04/16/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/16/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/16/04	AM
Methylene chloride	ND	1	5	ug/L	04/16/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/16/04	AM
Naphthalene	ND	1	5	ug/L	04/16/04	AM
o-Xylene	ND	1	5	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/16/04	AM
Pentachloroethane	ND	1	5	ug/L	04/16/04	AM
Propionitrile	ND	1	100	ug/L	04/16/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Styrene	ND	1	5	ug/L	04/16/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/16/04	AM
Toluene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512565 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled: 04/13/2004
ne Sampled:
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
8260B Volatile Organic Compounds					
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04 AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04 AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04 AM
Trichloroethene	ND	1	5	ug/L	04/16/04 AM
Trichlorofluoromethane	ND	1	5	ug/L	04/16/04 AM
Vinyl acetate	ND	1	50	ug/L	04/16/04 AM
Vinyl chloride	ND	1	5	ug/L	04/16/04 AM
Xylenes, total	ND	1	5	ug/L	04/16/04 AM
Surrogates				**Units**	**Control Limits**
Surr1 - Dibromofluoromethane	90			%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	115			%	70 - 135
Surr3 - Toluene-d8	103			%	70 - 135
Surr4 - p-Bromofluorobenzene	100			%	70 - 135

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512566 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
160.1 Filterable Residue (TDS)						
Filterable Residue (TDS)	ND	1	6.0	mg/L	04/14/04	LN
300.0 Chloride by Ion Chromatography						
Chloride	ND	1	1.0	mg/L	04/15/04	BGS
Nitrate (as NO3)	ND	1	0.44	mg/L	04/15/04	BGS
Nitrite (as NO2)	ND	1	0.33	mg/L	04/15/04	BGS
Sulfate	ND	1	1.0	mg/L	04/15/04	BGS
310.1 Alkalinity						
Alkalinity as Calcium Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Bicarbonate	ND	1	5.0	mg/L	04/15/04	DK
Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Hydroxide	ND	1	5.0	mg/L	04/15/04	DK
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512566 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,3-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/16/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
2-Hexanone	ND	1	20	ug/L	04/16/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/16/04	AM
Acetone	ND	1	100	ug/L	04/16/04	AM
Acetonitrile	ND	1	50	ug/L	04/16/04	AM
Acrolein	ND	1	200	ug/L	04/16/04	AM
Acrylonitrile	ND	1	10	ug/L	04/16/04	AM
Allyl chloride	ND	1	5	ug/L	04/16/04	AM
Benzene	ND	1	1	ug/L	04/16/04	AM
Benzyl chloride	ND	1	5	ug/L	04/16/04	AM
Bromobenzene	ND	1	5	ug/L	04/16/04	AM
Bromochloromethane	ND	1	5	ug/L	04/16/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/16/04	AM
Bromoform	ND	1	5	ug/L	04/16/04	AM
Bromomethane	ND	1	5	ug/L	04/16/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/16/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/16/04	AM
Chlorobenzene	ND	1	5	ug/L	04/16/04	AM
Chloroethane	ND	1	5	ug/L	04/16/04	AM
Chloroform	ND	1	5	ug/L	04/16/04	AM
Chloromethane	ND	1	5	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/16/04	AM
Dibromomethane	ND	1	5	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/16/04	AM
Ethyl benzene	ND	1	5	ug/L	04/16/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/16/04	AM
Iodomethane	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512566 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/16/04	AM
m and p-Xylene	ND	1	5	ug/L	04/16/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/16/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/16/04	AM
Methylene chloride	ND	1	5	ug/L	04/16/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/16/04	AM
Naphthalene	ND	1	5	ug/L	04/16/04	AM
o-Xylene	ND	1	5	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/16/04	AM
Pentachloroethane	ND	1	5	ug/L	04/16/04	AM
Propionitrile	ND	1	100	ug/L	04/16/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Styrene	ND	1	5	ug/L	04/16/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/16/04	AM
Toluene	ND	1	5	ug/L	04/16/04	AM
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Trichloroethene	ND	1	5	ug/L	04/16/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/16/04	AM
Vinyl acetate	ND	1	50	ug/L	04/16/04	AM
Vinyl chloride	ND	1	5	ug/L	04/16/04	AM
Xylenes, total	ND	1	5	ug/L	04/16/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	89	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	111	%	70 - 135
Surr3 - Toluene-d8	109	%	70 - 135
Surr4 - p-Bromofluorobenzene	104	%	70 - 135

9060 Total Organic Carbon (TOC)

Total Organic Carbon	ND	1	0.5	mg/L	04/15/04	QP

RSK-175 Hydrocarbons

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512566 **Client:** BHATE

Matrix: WATER **Client Sample ID:** Laboratory Method Blank

Date Sampled:

me Sampled:

mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
RSK-175 Hydrocarbons						
Ethane	ND	1	0.005	mg/L	04/15/04	LT
Ethene	ND	1	0.005	mg/L	04/15/04	LT
Methane	ND	1	0.005	mg/L	04/15/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127675

Matrix: WATER

Prep. Date: 04/14/04

Analysis Date: 04/14/04

ID#'s in Batch: LR 127675, 127709

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	16,300	16,296	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	286	293	98	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 127707-512663

Matrix: WATER

Prep.Date: 04/14/04

Analysis Date: 04/14/04

Lab ID#'s in Batch: LR 127707, 127583, 127675, 127595, 127701, 127703, 127704, 127705, 127674

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	104	200	284	276	90	86	3
SO4	300.0	93	200	277	280	92	93	1
NO3	300.0	ND	100	91	90	91	90	1
NO2	300.0	ND	100	86.1	88.9	86	89	3

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	50	50	99	90%	110%
SO4	300.0	ND	50	50	100	90%	110%
NO3	300.0	ND	23.1	25	92	90%	110%
NO2	300.0	ND	4.7	5	94	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 127645-512420

Matrix: WATER

Prep.Date: 04/15/04

Analysis Date: 04/15/04

Lab ID#'s in Batch: LR 127645, 127675, 127791, 127674, 127736, 127721, 127722, 127723,

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	4	200	194	195	95	96	1
SO4	300.0	29	200	234	231	103	101	1
NO3	300.0	3.4	100	105	104	102	101	1
NO2	300.0	ND	100	114.0	111.0	114	111	3

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

		PREP BLK	LCS				
Test	Method	Value	Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	49	50	97	90%	110%
SO4	300.0	ND	51	50	102	90%	110%
NO3	300.0	ND	24.3	25	97	90%	110%
NO2	300.0	ND	5.1	5	102	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 127683-512587

Matrix: WATER

Prep.Date: 04/19/04

Analysis Date: 04/19/04

Lab ID#'s in Batch: LR 127683, 127675, 127791, 127876, 127878, 127829, 127956, 127957, 127958

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	218	200	417	422	100	102	1
SO4	300.0	96	200	297	299	101	102	1
NO3	300.0	ND	100	101	101	101	101	0
NO2	300.0	ND	100	95.6	95.2	96	95	0

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	50	50	101	90%	110%
SO4	300.0	ND	51	50	102	90%	110%
NO3	300.0	ND	25.6	25	102	90%	110%
NO2	300.0	ND	5.5	5	109	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127675/512564

Matrix: WATER

Method : 310.1

Prep. Date: 04/15/04

Analysis Date: 04/15/04

ID#'s in Batch: LR 127791, 127602, 127603, 127675

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Sample Result	Sample Duplicate	RPD
Bicarbonate	122	122	0.0
Carbonate	ND	ND	0.0
Hydroxide	ND	ND	0.0
Total Alkalinity as CaCO3	100	100	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate
ND = "U" - Not Detected

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127675-864 D

Matrix: WATER

Prep. Date: 04/15/04

Analysis Date: 04/15/04

ID#'s in Batch: LR 127675

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
CH4	RSK-175	ND	ND	0.0
C2H4	RSK-175	ND	ND	0.0

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127602

Matrix: WATER

Prep. Date: 04/15/04

Analysis Date: 04/15/04

ID#'s in Batch: LR 127602, 127791, 127603, 127675

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1	4.6	10	14.4	14.8	98	102	3

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	10	10	100	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 127676-559

Analysis Date: 04/17/04 9:36 AM

Applies to: LR 127602, 127603, 127675, 127791, 127520, 127582, 127676, 127640, 127677

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	25	28.95	26.34	116	105	9	22	59-172
MTBE	ND	25	22.21	20.67	89	83	7	24	62-137
Benzene	ND	25	25.90	25.64	104	103	1	24	62-137
Trichloroethene	ND	25	33.57	34.15	134	137	2	21	66-142
Toluene	ND	25	26.14	26.48	105	106	1	21	59-139
Chlorobenzene	ND	25	25.86	25.85	103	103	0	21	60-133

QC Sample: LCS
Analysis Date: 04/16/04 2:56 PM

LCS RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	68.21	136	59-172
MTBE	ND	50	48.79	98	62-137
Benzene	ND	50	52.44	105	62-137
Trichloroethene	ND	50	53.62	107	66-142
Toluene	ND	50	53.75	108	59-139
Chlorobenzene	ND	50	53.11	106	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS
DBFM	89	92	94	94	99
1,2-DCA	111	113	93	87	101
Tol-d8	109	103	103	104	103
p-BFB	104	100	98	96	99

ASSOCIATED LABORATORIES

NARRATIVE

Date: April 14, 2004

Narrative for Lab Request LR: 127336, 127602, 127603, 127675

Client Project Identification:
Project: Holmn, SS61
This narrative includes all samples as shown on the attached Lab Request final report.

Analyses Requested:

- EPA 160.1 – Filterable Residue (TDS).
- EPA 300.0 – Anions by IC.
- EPA 310.0 – Alkalinity.
- EPA 415.1 – Total Organic Carbon.
- RSK-175 – Hydrocarbons.
- EPA 8260B – Volatile Organic Compounds.

Data Validation:

Holding Times
All EPA designated holding times were met.

Calibration
Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

Quality Control Samples
All QC results were within control for all methods analyzed.

Other Anomalies or Comments
The reporting limit (DLR) is adjusted if dilution of the sample is necessary.

Associated Laboratories
806 N. Batavia
Orange, CA 92868

Phone: 714-771-6900
Fax: 714-538-1209

LAB REQUEST: **127602, 127603, 127675**

CLIENT: **BHATE**

TABLE OF CONTENTS
(In chronological order)

EPA 160.1 - Filterable Residue (TDS)

EPA 300.0 - Anions by IC

EPA 310.1 - Alkalinity

EPA 415.1 - Total Organic Carbon (TOC)

RSK-175 - Hydrocarbons

EPA 8260B - Volatile Organic Compounds

BHATE

Environmental Engineers and Scientists

127675

Chain of Custody and Analytical Request

Facility/Base I.D.: Holmn

Project Name / Site Name: SS61

Client Name: USACE

Collected by: Germann, Kevin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	SULFATE 9038	NITRATE/NITRITE 2900	VOC 8260	TDS 160.1	chloride 300	TOC 9060	ALKALINITY 310.1	METHANE/ETHANE/ETHENE RSK 175	Ambient Blank Control Num
SS61-MW01	SS61-MW01	13 04 2004	0910	34'-34'	N	1	WG	11	/	/	/	/	/	/	/	/	
SS61-MW01-a	SS61-MW01	13 04 2004	0910	34'-34'	FD	1	WG	11	/	/	/	/	/	/	/	/	
SS61-MW01-MS	SS61-MW01	13 04 2004	0910	34'-34'	MS	1	WG	11	/	/	/	/	/	/	/	/	
SS61-MW01-msd	SS61-MW01	13 04 2004	0910	34'-34'	MSD	1	WG	11	/	/	/	/	/	/	/	/	
Trip Blank	SS61-MW01			-	TB			2			/						
				-													
				-													
				-													
				-													
				-													
				-													

Sample Analysis Requested (5)

COMMENTS: Please Fax results to 505-679-2148
Fed Ex # 845705836262
EMAil PDF to Holloman

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. KG	4/13/04	1600	1. [signature]	4/14	10[illegible]
2.			2.		
3.			3. [signature]	4-14-04	1:3[illegible]

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: Shipped No.:

Method of Shipment: Fed EX Airbill Number:

Analytical Lab: ASSOCIATed Delivery Locatio

Lab Recipient: Delivery Date/Ti

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 127791

REPORTED 04/22/2004

RECEIVED [redacted]

PROJECT Holmn, SS61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
513062	SS61-MW03
513063	Trip Blank
513064	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 513062 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW03
Date Sampled: 04/14/2004
Time Sampled: 09:50
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
160.1 Filterable Residue (TDS)						
Filterable Residue (TDS)	22800	1	6.0	mg/L	04/15/04	LN
300.0 Chloride by Ion Chromatography						
Chloride	7610	100	100.0	mg/L	04/15/04	BGS
Nitrate (as NO3)	ND	1	0.44	mg/L	04/15/04	BGS
Nitrite (as NO2)	ND	10	3.3	mg/L	04/19/04	BGS
Sulfate	5550	100	100.0	mg/L	04/15/04	BGS
310.1 Alkalinity						
Alkalinity as Calcium Carbonate	888	1	5.0	mg/L	04/15/04	DK
Bicarbonate	1080	1	5.0	mg/L	04/15/04	DK
Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Hydroxide	ND	1	5.0	mg/L	04/15/04	DK
260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	100	500.0	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	100	500.0	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	100	500.0	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	100	500.0	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	100	500.0	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	100	500.0	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	100	500.0	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	100	500.0	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	100	500.0	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	100	500.0	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	100	500.0	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	100	500.0	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	100	500.0	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	100	500.0	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	100	500.0	ug/L	04/16/04	AM
1,2-Dichloroethane	ND	100	500.0	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	100	500.0	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	100	500.0	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	100	500.0	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 513062 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW03
Date Sampled: 04/14/2004
Time Sampled: 09:50
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,3-Dichloropropane	ND	100	500.0	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	100	500.0	ug/L	04/16/04	AM
1-Chlorohexane	ND	100	500.0	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	100	500.0	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	100	10000.0	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	100	500.0	ug/L	04/16/04	AM
2-Chlorotoluene	ND	100	500.0	ug/L	04/16/04	AM
2-Hexanone	ND	100	2000.0	ug/L	04/16/04	AM
4-Chlorotoluene	ND	100	500.0	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	100	1000.0	ug/L	04/16/04	AM
Acetone	ND	100	10000.0	ug/L	04/16/04	AM
Acetonitrile	ND	100	5000.0	ug/L	04/16/04	AM
Acrolein	ND	100	20000.0	ug/L	04/16/04	AM
Acrylonitrile	ND	100	1000.0	ug/L	04/16/04	AM
Allyl chloride	ND	100	500.0	ug/L	04/16/04	AM
Benzene	7180	100	100.0	ug/L	04/16/04	AM
Benzyl chloride	ND	100	500.0	ug/L	04/16/04	AM
Bromobenzene	ND	100	500.0	ug/L	04/16/04	AM
Bromochloromethane	ND	100	500.0	ug/L	04/16/04	AM
Bromodichloromethane	ND	100	500.0	ug/L	04/16/04	AM
Bromoform	ND	100	500.0	ug/L	04/16/04	AM
Bromomethane	ND	100	500.0	ug/L	04/16/04	AM
Carbon Disulfide	ND	100	500.0	ug/L	04/16/04	AM
Carbon tetrachloride	ND	100	500.0	ug/L	04/16/04	AM
Chlorobenzene	ND	100	500.0	ug/L	04/16/04	AM
Chloroethane	ND	100	500.0	ug/L	04/16/04	AM
Chloroform	ND	100	500.0	ug/L	04/16/04	AM
Chloromethane	ND	100	500.0	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	100	500.0	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	100	500.0	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	100	2000.0	ug/L	04/16/04	AM
Dibromochloromethane	ND	100	500.0	ug/L	04/16/04	AM
Dibromomethane	ND	100	500.0	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	100	500.0	ug/L	04/16/04	AM
Ethyl benzene	ND	100	500.0	ug/L	04/16/04	AM
Ethyl methacrylate	ND	100	5000.0	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	100	500.0	ug/L	04/16/04	AM
Iodomethane	ND	100	500.0	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 513062 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW03
Date Sampled: 04/14/2004
Time Sampled: 09:50
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Isopropylbenzene (Cumene)	194 J	100	500.0	ug/L	04/16/04	AM
Methacrylonitrile	ND	100	3500.0	ug/L	04/16/04	AM
Methyl methacrylate	ND	100	500.0	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	100	100.0	ug/L	04/16/04	AM
Methylene chloride	ND	100	500.0	ug/L	04/16/04	AM
n-Butylbenzene	ND	100	500.0	ug/L	04/16/04	AM
n-Propylbenzene	ND	100	500.0	ug/L	04/16/04	AM
Naphthalene	ND	100	500.0	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	100	500.0	ug/L	04/16/04	AM
Pentachloroethane	ND	100	500.0	ug/L	04/16/04	AM
Propionitrile	ND	100	10000.0	ug/L	04/16/04	AM
sec-Butylbenzene	ND	100	500.0	ug/L	04/16/04	AM
Styrene	ND	100	500.0	ug/L	04/16/04	AM
tert-Butylbenzene	ND	100	500.0	ug/L	04/16/04	AM
Tetrachloroethene	ND	100	500.0	ug/L	04/16/04	AM
Toluene	734	100	500.0	ug/L	04/16/04	AM
trans-1,2-Dichloroethene	ND	100	500.0	ug/L	04/16/04	AM
trans-1,3-Dichloropropene	ND	100	500.0	ug/L	04/16/04	AM
trans-1,4-Dichloro-2-butene	ND	100	2000.0	ug/L	04/16/04	AM
Trichloroethene	ND	100	500.0	ug/L	04/16/04	AM
Trichlorofluoromethane	ND	100	500.0	ug/L	04/16/04	AM
Vinyl acetate	ND	100	5000.0	ug/L	04/16/04	AM
Vinyl chloride	ND	100	500.0	ug/L	04/16/04	AM
Xylenes, total	1870	100	500.0	ug/L	04/16/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	93	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	96	%	70 - 135
Surr3 - Toluene-d8	104	%	70 - 135
Surr4 - p-Bromofluorobenzene	101	%	70 - 135

9060 Total Organic Carbon (TOC)

Total Organic Carbon	27	2		mg/L	04/15/04	QP

RSK-175 Hydrocarbons

Ethane	0.013	1	0.005	mg/L	04/15/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 513062 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW03
Date Sampled: 04/14/2004
me Sampled: 09:50
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
RSK-175 Hydrocarbons						
Ethene	0.005	1	0.005	mg/L	04/15/04	LT
Methane	ND	1	0.005	mg/L	04/15/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 513063 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/17/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/17/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/17/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/17/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/17/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/17/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/17/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/17/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/17/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/17/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/17/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/17/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/17/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/17/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/17/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/17/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/17/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/17/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/17/04	AM
1,3-Dichloropropane	ND	1	5	ug/L	04/17/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/17/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/17/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/17/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/17/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/17/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/17/04	AM
2-Hexanone	ND	1	20	ug/L	04/17/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/17/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/17/04	AM
Acetone	ND	1	100	ug/L	04/17/04	AM
Acetonitrile	ND	1	50	ug/L	04/17/04	AM
Acrolein	ND	1	200	ug/L	04/17/04	AM
Acrylonitrile	ND	1	10	ug/L	04/17/04	AM
Allyl chloride	ND	1	5	ug/L	04/17/04	AM
Benzene	ND	1	1	ug/L	04/17/04	AM
Benzyl chloride	ND	1	5	ug/L	04/17/04	AM
Bromobenzene	ND	1	5	ug/L	04/17/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 513063 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Bromochloromethane	ND	1	5	ug/L	04/17/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/17/04	AM
Bromoform	ND	1	5	ug/L	04/17/04	AM
Bromomethane	ND	1	5	ug/L	04/17/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/17/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/17/04	AM
Chlorobenzene	ND	1	5	ug/L	04/17/04	AM
Chloroethane	ND	1	5	ug/L	04/17/04	AM
Chloroform	ND	1	5	ug/L	04/17/04	AM
Chloromethane	ND	1	5	ug/L	04/17/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/17/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/17/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/17/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/17/04	AM
Dibromomethane	ND	1	5	ug/L	04/17/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/17/04	AM
Ethyl benzene	ND	1	5	ug/L	04/17/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/17/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/17/04	AM
Iodomethane	ND	1	5	ug/L	04/17/04	AM
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/17/04	AM
m and p-Xylene	ND	1	5	ug/L	04/17/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/17/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/17/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/17/04	AM
Methylene chloride	ND	1	5	ug/L	04/17/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/17/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/17/04	AM
Naphthalene	ND	1	5	ug/L	04/17/04	AM
o-Xylene	ND	1	5	ug/L	04/17/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/17/04	AM
Pentachloroethane	ND	1	5	ug/L	04/17/04	AM
Propionitrile	ND	1	100	ug/L	04/17/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/17/04	AM
Styrene	ND	1	5	ug/L	04/17/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/17/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/17/04	AM
Toluene	ND	1	5	ug/L	04/17/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 513063 **Client:** BHATE

Matrix: WATER **Client Sample ID:** Trip Blank

Date Sampled:

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/17/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/17/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/17/04	AM
Trichloroethene	ND	1	5	ug/L	04/17/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/17/04	AM
Vinyl acetate	ND	1	50	ug/L	04/17/04	AM
Vinyl chloride	ND	1	5	ug/L	04/17/04	AM
Xylenes, total	ND	1	5	ug/L	04/17/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	88	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	116	%	70 - 135
Surr3 - Toluene-d8	106	%	70 - 135
Surr4 - p-Bromofluorobenzene	102	%	70 - 135

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 513064 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
160.1 Filterable Residue (TDS)						
Filterable Residue (TDS)	ND	1	6.0	mg/L	04/15/04	LN
300.0 Chloride by Ion Chromatography						
Chloride	ND	1	1.0	mg/L	04/15/04	BGS
Nitrate (as NO3)	ND	1	0.44	mg/L	04/15/04	BGS
Nitrite (as NO2)	ND	1	0.33	mg/L	04/15/04	BGS
Sulfate	ND	1	1.0	mg/L	04/15/04	BGS
310.1 Alkalinity						
Alkalinity as Calcium Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Bicarbonate	ND	1	5.0	mg/L	04/15/04	DK
Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Hydroxide	ND	1	5.0	mg/L	04/15/04	DK
[illegible]0B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 513064 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
ıe Sampled:
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,3-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/16/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
2-Hexanone	ND	1	20	ug/L	04/16/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/16/04	AM
Acetone	ND	1	100	ug/L	04/16/04	AM
Acetonitrile	ND	1	50	ug/L	04/16/04	AM
Acrolein	ND	1	200	ug/L	04/16/04	AM
Acrylonitrile	ND	1	10	ug/L	04/16/04	AM
Allyl chloride	ND	1	5	ug/L	04/16/04	AM
Benzene	ND	1	1	ug/L	04/16/04	AM
Benzyl chloride	ND	1	5	ug/L	04/16/04	AM
Bromobenzene	ND	1	5	ug/L	04/16/04	AM
Bromochloromethane	ND	1	5	ug/L	04/16/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/16/04	AM
Bromoform	ND	1	5	ug/L	04/16/04	AM
Bromomethane	ND	1	5	ug/L	04/16/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/16/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/16/04	AM
Chlorobenzene	ND	1	5	ug/L	04/16/04	AM
Chloroethane	ND	1	5	ug/L	04/16/04	AM
Chloroform	ND	1	5	ug/L	04/16/04	AM
Chloromethane	ND	1	5	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/16/04	AM
Dibromomethane	ND	1	5	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/16/04	AM
Ethyl benzene	ND	1	5	ug/L	04/16/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/16/04	AM
Iodomethane	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 513064 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/16/04	AM
m and p-Xylene	ND	1	5	ug/L	04/16/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/16/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/16/04	AM
Methylene chloride	ND	1	5	ug/L	04/16/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/16/04	AM
Naphthalene	ND	1	5	ug/L	04/16/04	AM
o-Xylene	ND	1	5	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/16/04	AM
Pentachloroethane	ND	1	5	ug/L	04/16/04	AM
Propionitrile	ND	1	100	ug/L	04/16/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Styrene	ND	1	5	ug/L	04/16/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/16/04	AM
Toluene	ND	1	5	ug/L	04/16/04	AM
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Trichloroethene	ND	1	5	ug/L	04/16/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/16/04	AM
Vinyl acetate	ND	1	50	ug/L	04/16/04	AM
Vinyl chloride	ND	1	5	ug/L	04/16/04	AM
Xylenes, total	ND	1	5	ug/L	04/16/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	89	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	111	%	70 - 135
Surr3 - Toluene-d8	109	%	70 - 135
Surr4 - p-Bromofluorobenzene	104	%	70 - 135

9060 Total Organic Carbon (TOC)

Total Organic Carbon	ND	1		mg/L	04/15/04	QP

RSK-175 Hydrocarbons

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 513064 **Client:** BHATE

Matrix: WATER **Client Sample ID:** Laboratory Method Blank

Date Sampled:

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
RSK-175 Hydrocarbons						
Ethane	ND	1	0.005	mg/L	04/15/04	LT
Ethene	ND	1	0.005	mg/L	04/15/04	LT
Methane	ND	1	0.005	mg/L	04/15/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127734

Matrix: WATER

Prep. Date: 04/15/04

Analysis Date: 04/15/04

ID#'s in Batch: LR 127734, 127682, 127791

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	1,884	1,882	0.1

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	304	293	104	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 127645-512420

Matrix: WATER

Prep.Date: 04/15/04

Analysis Date: 04/15/04

Lab ID#'s in Batch: LR 127645, 127675, 127791, 127674, 127736, 127721, 127722, 127723,

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	4	200	194	195	95	96	1
SO4	300.0	29	200	234	231	103	101	1
NO3	300.0	3.4	100	105	104	102	101	1
NO2	300.0	ND	100	114.0	111.0	114	111	3

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	49	50	97	90%	110%
SO4	300.0	ND	51	50	102	90%	110%
NO3	300.0	ND	24.3	25	97	90%	110%
NO2	300.0	ND	5.1	5	102	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127675/512564

Matrix: WATER

Method : 310.1

Prep. Date: 04/15/04

Analysis Date: 04/15/04

ID#'s in Batch: LR 127791, 127602, 127603, 127675

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Sample Result	Sample Duplicate	RPD
Bicarbonate	122	122	0.0
Carbonate	ND	ND	0.0
Hydroxide	ND	ND	0.0
Total Alkalinity as CaCO3	100	100	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate
ND = "U" - Not Detected

RPD LIMITS = 20

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 127676-559

Analysis Date: 04/17/04 9:36 AM

Applies to: LR 127602, 127603, 127675, 127791, 127520, 127582, 127676, 127640, 127677

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	25	28.95	26.34	116	105	9	22	59-172
MTBE	ND	25	22.21	20.67	89	83	7	24	62-137
Benzene	ND	25	25.90	25.64	104	103	1	24	62-137
Trichloroethene	ND	25	33.57	34.15	134	137	2	21	66-142
Toluene	ND	25	26.14	26.48	105	106	1	21	59-139
Chlorobenzene	ND	25	25.86	25.85	103	103	0	21	60-133

QC Sample: LCS
Analysis Date: 04/16/04 2:56 PM

LCS RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	68.21	136	59-172
MTBE	ND	50	48.79	98	62-137
Benzene	ND	50	52.44	105	62-137
Trichloroethene	ND	50	53.62	107	66-142
Toluene	ND	50	53.75	108	59-139
Chlorobenzene	ND	50	53.11	106	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS
DBFM	89	92	94	94	99
1,2-DCA	111	113	93	87	101
Tol-d8	109	103	103	104	103
p-BFB	104	100	98	96	99

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127602

Matrix: WATER

Prep. Date: 04/15/04

Analysis Date: 04/15/04

ID#'s in Batch: LR 127602, 127791, 127603, 127675

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1	4.6	10	14.4	14.8	98	102	3

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	10	10	100	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127791-62 D

Matrix: WATER

Prep. Date: 04/15/04

Analysis Date: 04/15/04

ID#'s in Batch: LR 127791

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
CH4	RSK-175	ND	ND	0.0
C2H4	RSK-175	0.005	0.005	0.0
C2H6	RSK-175	0.013	0.013	0.0

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

BHATE

Environmental Engineers and Scientists

127791

Chain of Custody and Analytical Request

Facility/Base I.D.: Holman

Project Name / Site Name: SS61

Client Name: USACE

Collected by: Germann, Kevin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	Sulfate 9038	Nitrate/Nitrite 2900	VOC 8260	TDS 160.1	Chloride 300	TOC 9060	Alkalinity 310.1	Methane/Ethane/Ethene RSK 175	Ambient E Control I
SS61-MW03	SS61-MW03	14042004	0950	24'-24'	N	1	WG	11	/	/	/	/	/	/	/	/	
Trip Blank				-	TB			2			/						
				-													
				-													
				-													
				-													
				-													
				-													
				-													
				-													
				-													

Sample Analysis Requested (5)

COMMENTS: Please FAX Results TO 505-679-2148
FedEx # 845705836284
Email PDF To Holloman

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	KDG	4-14-04	1600	[illegible]	4/15	10[illegible]
2.						
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: ✓ Shipped N

Method of Shipment: Fed EX Airbill Nu

Analytical Lab: Associated Delivery L

Lab Recipient: Delivery D

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 FAX 714/538-1209

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 127602

REPORTED 04/21/2004

RECEIVED [redacted]

PROJECT Holmn, SS61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
512231	SS61-MW04
512232	Trip Blank
512233	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 512231 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW04
Date Sampled: 04/12/2004
Time Sampled: 10:45
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
160.1 Filterable Residue (TDS)						
Filterable Residue (TDS)	9670	1	6.0	mg/L	04/13/04	LN
300.0 Chloride by Ion Chromatography						
Chloride	1460	100	100.0	mg/L	04/13/04	BGS
Nitrate (as NO3)	137	5	2.2	mg/L	04/13/04	BGS
Nitrite (as NO2)	ND	5	1.65	mg/L	04/13/04	BGS
Sulfate	4430	100	100.0	mg/L	04/13/04	BGS
310.1 Alkalinity						
Alkalinity as Calcium Carbonate	160	1	5.0	mg/L	04/15/04	DK
Bicarbonate	195	1	5.0	mg/L	04/15/04	DK
Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Hydroxide	ND	1	5.0	mg/L	04/15/04	DK
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloroethane	1.1 J	1	5	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512231 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW04
Date Sampled: 04/12/2004
Time Sampled: 10:45
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,3-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/16/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
2-Hexanone	ND	1	20	ug/L	04/16/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/16/04	AM
Acetone	ND	1	100	ug/L	04/16/04	AM
Acetonitrile	ND	1	50	ug/L	04/16/04	AM
Acrolein	ND	1	200	ug/L	04/16/04	AM
Acrylonitrile	ND	1	10	ug/L	04/16/04	AM
Allyl chloride	ND	1	5	ug/L	04/16/04	AM
Benzene	ND	1	1	ug/L	04/16/04	AM
Benzyl chloride	ND	1	5	ug/L	04/16/04	AM
Bromobenzene	ND	1	5	ug/L	04/16/04	AM
Bromochloromethane	ND	1	5	ug/L	04/16/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/16/04	AM
Bromoform	ND	1	5	ug/L	04/16/04	AM
Bromomethane	ND	1	5	ug/L	04/16/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/16/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/16/04	AM
Chlorobenzene	ND	1	5	ug/L	04/16/04	AM
Chloroethane	ND	1	5	ug/L	04/16/04	AM
Chloroform	ND	1	5	ug/L	04/16/04	AM
Chloromethane	ND	1	5	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/16/04	AM
Dibromomethane	ND	1	5	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/16/04	AM
Ethyl benzene	ND	1	5	ug/L	04/16/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/16/04	AM
Iodomethane	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512231 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW04
Date Sampled: 04/12/2004
Time Sampled: 10:45
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/16/04	AM
m and p-Xylene	ND	1	5	ug/L	04/16/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/16/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/16/04	AM
Methylene chloride	ND	1	5	ug/L	04/16/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/16/04	AM
Naphthalene	ND	1	5	ug/L	04/16/04	AM
o-Xylene	ND	1	5	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/16/04	AM
Pentachloroethane	ND	1	5	ug/L	04/16/04	AM
Propionitrile	ND	1	100	ug/L	04/16/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Styrene	ND	1	5	ug/L	04/16/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/16/04	AM
Toluene	ND	1	5	ug/L	04/16/04	AM
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Trichloroethene	ND	1	5	ug/L	04/16/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/16/04	AM
Vinyl acetate	ND	1	50	ug/L	04/16/04	AM
Vinyl chloride	ND	1	5	ug/L	04/16/04	AM
Xylenes, total	ND	1	5	ug/L	04/16/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	92	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	114	%	70 - 135
Surr3 - Toluene-d8	106	%	70 - 135
Surr4 - p-Bromofluorobenzene	101	%	70 - 135

9060 Total Organic Carbon (TOC)

Total Organic Carbon	4.3	2	1.0	mg/L	04/15/04	QP

RSK-175 Hydrocarbons

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512231 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW04
Date Sampled: 04/12/2004
Time Sampled: 10:45
npled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
RSK-175 Hydrocarbons						
Ethane	ND	1	0.005	mg/L	04/14/04	LT
Ethene	ND	1	0.005	mg/L	04/14/04	LT
Methane	ND	1	0.005	mg/L	04/14/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512232 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/16/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
2-Hexanone	ND	1	20	ug/L	04/16/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/16/04	AM
Acetone	ND	1	100	ug/L	04/16/04	AM
Acetonitrile	ND	1	50	ug/L	04/16/04	AM
Acrolein	ND	1	200	ug/L	04/16/04	AM
Acrylonitrile	ND	1	10	ug/L	04/16/04	AM
Allyl chloride	ND	1	5	ug/L	04/16/04	AM
Benzene	ND	1	1	ug/L	04/16/04	AM
Benzyl chloride	ND	1	5	ug/L	04/16/04	AM
Bromobenzene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512232 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Bromochloromethane	ND	1	5	ug/L	04/16/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/16/04	AM
Bromoform	ND	1	5	ug/L	04/16/04	AM
Bromomethane	ND	1	5	ug/L	04/16/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/16/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/16/04	AM
Chlorobenzene	ND	1	5	ug/L	04/16/04	AM
Chloroethane	ND	1	5	ug/L	04/16/04	AM
Chloroform	ND	1	5	ug/L	04/16/04	AM
Chloromethane	ND	1	5	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/16/04	AM
Dibromomethane	ND	1	5	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/16/04	AM
Ethyl benzene	ND	1	5	ug/L	04/16/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/16/04	AM
Iodomethane	ND	1	5	ug/L	04/16/04	AM
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/16/04	AM
m and p-Xylene	ND	1	5	ug/L	04/16/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/16/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/16/04	AM
Methylene chloride	ND	1	5	ug/L	04/16/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/16/04	AM
Naphthalene	ND	1	5	ug/L	04/16/04	AM
o-Xylene	ND	1	5	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/16/04	AM
Pentachloroethane	ND	1	5	ug/L	04/16/04	AM
Propionitrile	ND	1	100	ug/L	04/16/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Styrene	ND	1	5	ug/L	04/16/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/16/04	AM
Toluene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512232 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled:
me Sampled:
npled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Trichloroethene	ND	1	5	ug/L	04/16/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/16/04	AM
Vinyl acetate	ND	1	50	ug/L	04/16/04	AM
Vinyl chloride	ND	1	5	ug/L	04/16/04	AM
Xylenes, total	ND	1	5	ug/L	04/16/04	AM
Surrogates				**Units**	**Control Limits**	
Surr1 - Dibromofluoromethane	95			%	70 - 135	
Surr2 - 1,2-Dichloroethane-d4	118			%	70 - 135	
Surr3 - Toluene-d8	108			%	70 - 135	
Surr4 - p-Bromofluorobenzene	99			%	70 - 135	

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512233 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
160.1 Filterable Residue (TDS)						
Filterable Residue (TDS)	ND	1	6.0	mg/L	04/13/04	LN
300.0 Chloride by Ion Chromatography						
Chloride	ND	1	1.0	mg/L	04/13/04	BGS
Nitrate (as NO3)	ND	1	0.44	mg/L	04/13/04	BGS
Nitrite (as NO2)	ND	1	0.33	mg/L	04/13/04	BGS
Sulfate	ND	1	1.0	mg/L	04/13/04	BGS
310.1 Alkalinity						
Alkalinity as Calcium Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Bicarbonate	ND	1	5.0	mg/L	04/15/04	DK
Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Hydroxide	ND	1	5.0	mg/L	04/15/04	DK
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512233 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
me Sampled:
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,3-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/16/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
2-Hexanone	ND	1	20	ug/L	04/16/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/16/04	AM
Acetone	ND	1	100	ug/L	04/16/04	AM
Acetonitrile	ND	1	50	ug/L	04/16/04	AM
Acrolein	ND	1	200	ug/L	04/16/04	AM
Acrylonitrile	ND	1	10	ug/L	04/16/04	AM
Allyl chloride	ND	1	5	ug/L	04/16/04	AM
Benzene	ND	1	1	ug/L	04/16/04	AM
Benzyl chloride	ND	1	5	ug/L	04/16/04	AM
Bromobenzene	ND	1	5	ug/L	04/16/04	AM
Bromochloromethane	ND	1	5	ug/L	04/16/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/16/04	AM
Bromoform	ND	1	5	ug/L	04/16/04	AM
Bromomethane	ND	1	5	ug/L	04/16/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/16/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/16/04	AM
Chlorobenzene	ND	1	5	ug/L	04/16/04	AM
Chloroethane	ND	1	5	ug/L	04/16/04	AM
Chloroform	ND	1	5	ug/L	04/16/04	AM
Chloromethane	ND	1	5	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/16/04	AM
Dibromomethane	ND	1	5	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/16/04	AM
Ethyl benzene	ND	1	5	ug/L	04/16/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/16/04	AM
Iodomethane	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512233 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/16/04	AM
m and p-Xylene	ND	1	5	ug/L	04/16/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/16/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/16/04	AM
Methylene chloride	ND	1	5	ug/L	04/16/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/16/04	AM
Naphthalene	ND	1	5	ug/L	04/16/04	AM
o-Xylene	ND	1	5	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/16/04	AM
Pentachloroethane	ND	1	5	ug/L	04/16/04	AM
Propionitrile	ND	1	100	ug/L	04/16/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Styrene	ND	1	5	ug/L	04/16/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/16/04	AM
Toluene	ND	1	5	ug/L	04/16/04	AM
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Trichloroethene	ND	1	5	ug/L	04/16/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/16/04	AM
Vinyl acetate	ND	1	50	ug/L	04/16/04	AM
Vinyl chloride	ND	1	5	ug/L	04/16/04	AM
Xylenes, total	ND	1	5	ug/L	04/16/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	89	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	111	%	70 - 135
Surr3 - Toluene-d8	109	%	70 - 135
Surr4 - p-Bromofluorobenzene	104	%	70 - 135

9060 Total Organic Carbon (TOC)

Total Organic Carbon	ND	1	0.5	mg/L	04/15/04	QP

RSK-175 Hydrocarbons

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512233 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
RSK-175 Hydrocarbons						
Ethane	ND	1	0.005	mg/L	04/14/04	LT
Ethene	ND	1	0.005	mg/L	04/14/04	LT
Methane	ND	1	0.005	mg/L	04/14/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127603

Matrix: WATER

Prep. Date: 04/13/04

Analysis Date: 04/13/04

ID#'s in Batch: LR 127603, 127602

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	3,094	3,090	0.1

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	290	293	99	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 127581-512136

Matrix: WATER

Prep.Date: 04/13/04

Analysis Date: 04/13/04

Lab ID#'s in Batch: LR 127581, 127602, 127603, 127583, 127585, 127594, 127595, 127586

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	20	200	200	201	90	90	0
SO4	300.0	18	200	209	209	96	96	0
NO3	300.0	1.3	100	101	101	100	100	0
NO2	300.0	ND	100	111.0	110.0	111	110	1

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

		PREP BLK	LCS				
Test	Method	Value	Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	47	50	95	90%	110%
SO4	300.0	ND	51	50	101	90%	110%
NO3	300.0	ND	24.2	25	97	90%	110%
NO2	300.0	ND	5.0	5	99	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 127603-512234

Matrix: WATER

Prep.Date: 04/13/04

Analysis Date: 04/13/04

Lab ID#'s in Batch: LR 127602, 127603

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	71	200	264	261	97	95	1
NO3	300.0	14.6	100	112	115	97	100	3
NO2	300.0	ND	100	91.3	95.3	91	95	4

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

		PREP BLK	LCS				
Test	Method	Value	Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	48	50	95	90%	110%
SO4	300.0	ND	50	50	100	90%	110%
NO3	300.0	ND	27.2	25	109	90%	110%
NO2	300.0	ND	4.9	5	98	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127602

Matrix: WATER

Prep. Date: 04/15/04

Analysis Date: 04/15/04

ID#'s in Batch: LR 127602, 127791, 127603, 127675

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1	4.6	10	14.4	14.8	98	102	3

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	10	10	100	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 127676-559

Analysis Date: 04/17/04 9:36 AM

Applies to: LR 127602, 127603, 127675, 127791, 127520, 127582, 127676, 127640, 127677

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	25	28.95	26.34	116	105	9	22	59-172
MTBE	ND	25	22.21	20.67	89	83	7	24	62-137
Benzene	ND	25	25.90	25.64	104	103	1	24	62-137
Trichloroethene	ND	25	33.57	34.15	134	137	2	21	66-142
Toluene	ND	25	26.14	26.48	105	106	1	21	59-139
Chlorobenzene	ND	25	25.86	25.85	103	103	0	21	60-133

QC Sample: LCS
Analysis Date: 04/16/04 2:56 PM

LCS RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	68.21	136	59-172
MTBE	ND	50	48.79	98	62-137
Benzene	ND	50	52.44	105	62-137
Trichloroethene	ND	50	53.62	107	66-142
Toluene	ND	50	53.75	108	59-139
Chlorobenzene	ND	50	53.11	106	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS
DBFM	89	92	94	94	99
1,2-DCA	111	113	93	87	101
Tol-d8	109	103	103	104	103
p-BFB	104	100	98	96	99

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127675/512564

Matrix: WATER

Method : 310.1

Prep. Date: 04/15/04

Analysis Date: 04/15/04

ID#'s in Batch: LR 127791, 127602, 127603, 127675

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Sample Result	Sample Duplicate	RPD
Bicarbonate	122	122	0.0
Carbonate	ND	ND	0.0
Hydroxide	ND	ND	0.0
Total Alkalinity as CaCO3	100	100	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate
ND = "U" - Not Detected

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127602-231 D

Matrix: WATER

Prep. Date: 04/14/04

Analysis Date: 04/14/04

ID#'s in Batch: LR 127602, 127603

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
CH4	RSK-175	ND	ND	0.0
C2H4	RSK-175	ND	ND	0.0

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES

NARRATIVE

Date: April 14, 2004

Narrative for Lab Request LR: 127336, 127602, 127603, 127675

Client Project Identification:
Project: Holmn, SS61
This narrative includes all samples as shown on the attached Lab Request final report.

Analyses Requested:

- EPA 160.1 – Filterable Residue (TDS).
- EPA 300.0 – Anions by IC.
- EPA 310.0 – Alkalinity.
- EPA 415.1 – Total Organic Carbon.
- RSK-175 – Hydrocarbons.
- EPA 8260B – Volatile Organic Compounds.

Data Validation:

Holding Times
All EPA designated holding times were met.

Calibration
Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

Quality Control Samples
All QC results were within control for all methods analyzed.

Other Anomalies or Comments
The reporting limit (DLR) is adjusted if dilution of the sample is necessary.

Associated Laboratories
806 N. Batavia
Orange, CA 92868

Phone: 714-771-6900
Fax: 714-538-1209

LAB REQUEST: **127602, 127603, 127675**

CLIENT: **BHATE**

TABLE OF CONTENTS
(In chronological order)

EPA 160.1 - Filterable Residue (TDS)

EPA 300.0 - Anions by IC

EPA 310.1 - Alkalinity

EPA 415.1 - Total Organic Carbon (TOC)

RSK-175 - Hydrocarbons

EPA 8260B - Volatile Organic Compounds

BHATE
Environmental Associates, Inc.
1608 13th Avenue South, Suite 300
Birmingham, Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

127602

Page 1 / 1

Project Number: 9030024

Chain of Custody Number [1]: 04122004.2

LIMS Number:

Facility/Base I.D.: Holmn

Project Name / Site Name: SS61

Client Name: USACE

Collected by: Germann, Kevin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of containers	Sulfate 9038	Nitrate/Nitrite 2920	VOC 8260	TDS 160.1	Chloride 300	TOC 9060	Alkalinity 310.1	Methane/Ethane/Ethene RSK175	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
SS61-MW04	SS61-MW04	12042004	1045	19'-19'	N	1	WG	11	/	/	/	/	/	/	/	/				2
Trip Blank				-				2			/									2
				-																
				-																
				-																
				-																
				-																
				-																
				-																
				-																
				-																

COMMENTS: Please Fax Results to 505-679-2148
Fed Ex # 8457 0583 6251
Email PDF to Holloman

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. KDF	4/12/04	1600	1. [signature]	4/13	11 45
2.			2.		
3.	4-13-04.	1:00	3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab:
Shipped No.:
Method of Shipment: Fed Ex
Airbill Number:
Analytical Lab: Associated
Delivery Location: Orange, CA
Lab Recipient:
Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)
2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)
3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)
4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc.), SQ = Soil Blanks
5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.
6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control)

DISTRIBUTION: WHITE COPY - Project File YELLOW COPY - Lab Copy PINK COPY - Working File

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 127336

REPORTED 04/13/2004

RECEIVED [redacted]

PROJECT Holmn, SS61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
510954	SS61-MW06
510955	Trip Blank
510956	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 510954 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW06
Date Sampled: 04/06/2004
Time Sampled: 11:20
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
160.1 Filterable Residue (TDS)						
Filterable Residue (TDS)	17200	1	6.0	mg/L	04/07/04	LN
300.0 Chloride by Ion Chromatography						
Chloride	4320	100	100.0	mg/L	04/07/04	BGS
Nitrate/Nitrite - N	ND	1	0.1	mg/L	04/07/04	BGS
Sulfate	6270	100	100.0	mg/L	04/07/04	BGS
310.1 Alkalinity						
Alkalinity as Calcium Carbonate	1140	1	5.0	mg/L	04/12/04	DK
Bicarbonate	1390	1	5.0	mg/L	04/12/04	DK
Carbonate	ND	1	5.0	mg/L	04/12/04	DK
Hydroxide	ND	1	5.0	mg/L	04/12/04	DK
415.1 Total Organic Carbon (TOC)						
Total Organic Carbon	16	2	1.0	mg/L	04/08/04	QP
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	10	50.0	ug/L	04/08/04	AM
1,1,1-Trichloroethane	ND	10	50.0	ug/L	04/08/04	AM
1,1,2,2-Tetrachloroethane	ND	10	50.0	ug/L	04/08/04	AM
1,1,2-Trichloroethane	ND	10	50.0	ug/L	04/08/04	AM
1,1,2-Trichlorotrifluoroethane	ND	10	50.0	ug/L	04/08/04	AM
1,1-Dichloroethane	ND	10	50.0	ug/L	04/08/04	AM
1,1-Dichloroethene	ND	10	50.0	ug/L	04/08/04	AM
1,1-Dichloropropene	ND	10	50.0	ug/L	04/08/04	AM
1,2,3-Trichlorobenzene	ND	10	50.0	ug/L	04/08/04	AM
1,2,3-Trichloropropane	ND	10	50.0	ug/L	04/08/04	AM
1,2,4-Trichlorobenzene	ND	10	50.0	ug/L	04/08/04	AM
1,2,4-Trimethylbenzene	ND	10	50.0	ug/L	04/08/04	AM
1,2-Dibromo-3-chloropropane	ND	10	50.0	ug/L	04/08/04	AM
1,2-Dibromoethane	ND	10	50.0	ug/L	04/08/04	AM
1,2-Dichlorobenzene	ND	10	50.0	ug/L	04/08/04	AM
1,2-Dichloroethane	ND	10	50.0	ug/L	04/08/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 510954 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW06
Date Sampled: 04/06/2004
me Sampled: 11:20
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,2-Dichloropropane	ND	10	50.0	ug/L	04/08/04	AM
1,3,5-Trimethylbenzene	ND	10	50.0	ug/L	04/08/04	AM
1,3-Dichlorobenzene	ND	10	50.0	ug/L	04/08/04	AM
1,3-Dichloropropane	ND	10	50.0	ug/L	04/08/04	AM
1,4-Dichlorobenzene	ND	10	50.0	ug/L	04/08/04	AM
1-Chlorohexane	ND	10	50.0	ug/L	04/08/04	AM
2,2-Dichloropropane	ND	10	50.0	ug/L	04/08/04	AM
2-Butanone (MEK)	ND	10	1000.0	ug/L	04/08/04	AM
2-Chloroethyl vinyl ether	ND	10	50.0	ug/L	04/08/04	AM
2-Chlorotoluene	ND	10	50.0	ug/L	04/08/04	AM
2-Hexanone	ND	10	200.0	ug/L	04/08/04	AM
4-Chlorotoluene	ND	10	50.0	ug/L	04/08/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	10	100.0	ug/L	04/08/04	AM
Acetone	ND	10	1000.0	ug/L	04/08/04	AM
Acetonitrile	ND	10	500.0	ug/L	04/08/04	AM
Acrolein	ND	10	2000.0	ug/L	04/08/04	AM
Acrylonitrile	ND	10	100.0	ug/L	04/08/04	AM
Allyl chloride	ND	10	50.0	ug/L	04/08/04	AM
Benzene	5980	100	100.0	ug/L	04/12/04	AM
Benzyl chloride	ND	10	50.0	ug/L	04/08/04	AM
Bromobenzene	ND	10	50.0	ug/L	04/08/04	AM
Bromochloromethane	ND	10	50.0	ug/L	04/08/04	AM
Bromodichloromethane	ND	10	50.0	ug/L	04/08/04	AM
Bromoform	ND	10	50.0	ug/L	04/08/04	AM
Bromomethane	ND	10	50.0	ug/L	04/08/04	AM
Carbon Disulfide	ND	10	50.0	ug/L	04/08/04	AM
Carbon tetrachloride	ND	10	50.0	ug/L	04/08/04	AM
Chlorobenzene	ND	10	50.0	ug/L	04/08/04	AM
Chloroethane	ND	10	50.0	ug/L	04/08/04	AM
Chloroform	ND	10	50.0	ug/L	04/08/04	AM
Chloromethane	ND	10	50.0	ug/L	04/08/04	AM
cis-1,2-Dichloroethene	ND	10	50.0	ug/L	04/08/04	AM
cis-1,3-Dichloropropene	ND	10	50.0	ug/L	04/08/04	AM
cis-1,4-Dichloro-2-butene	ND	10	200.0	ug/L	04/08/04	AM
Dibromochloromethane	ND	10	50.0	ug/L	04/08/04	AM
Dibromomethane	ND	10	50.0	ug/L	04/08/04	AM
Dichlorodifluoromethane	ND	10	50.0	ug/L	04/08/04	AM
Ethyl benzene	347	10	50.0	ug/L	04/08/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 510954 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW06
Date Sampled: 04/06/2004
ne Sampled: 11:20
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Ethyl methacrylate	ND	10	500.0	ug/L	04/08/04	AM
Hexachlorobutadiene	ND	10	50.0	ug/L	04/08/04	AM
Iodomethane	ND	10	50.0	ug/L	04/08/04	AM
Isopropylbenzene (Cumene)	1260	10	50.0	ug/L	04/08/04	AM
Methacrylonitrile	ND	10	350.0	ug/L	04/08/04	AM
Methyl methacrylate	ND	10	50.0	ug/L	04/08/04	AM
Methyl-tert-butylether (MTBE)	ND	10	10.0	ug/L	04/08/04	AM
Methylene chloride	ND	10	50.0	ug/L	04/08/04	AM
n-Butylbenzene	ND	10	50.0	ug/L	04/08/04	AM
n-Propylbenzene	ND	10	50.0	ug/L	04/08/04	AM
Naphthalene	ND	10	50.0	ug/L	04/08/04	AM
p-Isopropyltoluene	ND	10	50.0	ug/L	04/08/04	AM
Pentachloroethane	ND	10	50.0	ug/L	04/08/04	AM
Propionitrile	ND	10	1000.0	ug/L	04/08/04	AM
sec-Butylbenzene	ND	10	50.0	ug/L	04/08/04	AM
Styrene	ND	10	50.0	ug/L	04/08/04	AM
tert-Butylbenzene	ND	10	50.0	ug/L	04/08/04	AM
Tetrachloroethene	ND	10	50.0	ug/L	04/08/04	AM
Toluene	ND	10	50.0	ug/L	04/08/04	AM
trans-1,2-Dichloroethene	ND	10	50.0	ug/L	04/08/04	AM
trans-1,3-Dichloropropene	ND	10	50.0	ug/L	04/08/04	AM
trans-1,4-Dichloro-2-butene	ND	10	200.0	ug/L	04/08/04	AM
Trichloroethene	ND	10	50.0	ug/L	04/08/04	AM
Trichlorofluoromethane	ND	10	50.0	ug/L	04/08/04	AM
Vinyl acetate	ND	10	500.0	ug/L	04/08/04	AM
Vinyl chloride	ND	10	50.0	ug/L	04/08/04	AM
Xylenes, total	28 J	10	50.0	ug/L	04/08/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	95	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	76	%	70 - 135
Surr3 - Toluene-d8	102	%	70 - 135
Surr4 - p-Bromofluorobenzene	97	%	70 - 135

RSK-175 Hydrocarbons

Ethane	0.022	1	0.005	mg/L	04/07/04	LT
Ethene	ND	1	0.005	mg/L	04/07/04	LT
Methane	0.042	1	0.005	mg/L	04/07/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 510954
Matrix: WATER
Date Sampled: 04/06/2004
Time Sampled: 11:20
Sampled By:

Client: BHATE
Client Sample ID: SS61-MW06

Analyte	Result	DF	DLR	Units	Date/Analyst

RSK-175 Hydrocarbons

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 510955 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled:
ne Sampled:
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/08/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/08/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/08/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/08/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/08/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/08/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/08/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/08/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/08/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/08/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/08/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/08/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/08/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/08/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/08/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/08/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/08/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/08/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/08/04	AM
1,3-Dichloropropane	ND	1	5	ug/L	04/08/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/08/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/08/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/08/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/08/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/08/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/08/04	AM
2-Hexanone	ND	1	20	ug/L	04/08/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/08/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/08/04	AM
Acetone	ND	1	100	ug/L	04/08/04	AM
Acetonitrile	ND	1	50	ug/L	04/08/04	AM
Acrolein	ND	1	200	ug/L	04/08/04	AM
Acrylonitrile	ND	1	10	ug/L	04/08/04	AM
Allyl chloride	ND	1	5	ug/L	04/08/04	AM
Benzene	ND	1	1	ug/L	04/08/04	AM
Benzyl chloride	ND	1	5	ug/L	04/08/04	AM
Bromobenzene	ND	1	5	ug/L	04/08/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 510955 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Bromochloromethane	ND	1	5	ug/L	04/08/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/08/04	AM
Bromoform	ND	1	5	ug/L	04/08/04	AM
Bromomethane	ND	1	5	ug/L	04/08/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/08/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/08/04	AM
Chlorobenzene	ND	1	5	ug/L	04/08/04	AM
Chloroethane	ND	1	5	ug/L	04/08/04	AM
Chloroform	ND	1	5	ug/L	04/08/04	AM
Chloromethane	ND	1	5	ug/L	04/08/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/08/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/08/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/08/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/08/04	AM
Dibromomethane	ND	1	5	ug/L	04/08/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/08/04	AM
Ethyl benzene	ND	1	5	ug/L	04/08/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/08/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/08/04	AM
Iodomethane	ND	1	5	ug/L	04/08/04	AM
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/08/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/08/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/08/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/08/04	AM
Methylene chloride	ND	1	5	ug/L	04/08/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/08/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/08/04	AM
Naphthalene	ND	1	5	ug/L	04/08/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/08/04	AM
Pentachloroethane	ND	1	5	ug/L	04/08/04	AM
Propionitrile	ND	1	100	ug/L	04/08/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/08/04	AM
Styrene	ND	1	5	ug/L	04/08/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/08/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/08/04	AM
Toluene	ND	1	5	ug/L	04/08/04	AM
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/08/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/08/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 510955 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/08/04	AM
Trichloroethene	ND	1	5	ug/L	04/08/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/08/04	AM
Vinyl acetate	ND	1	50	ug/L	04/08/04	AM
Vinyl chloride	ND	1	5	ug/L	04/08/04	AM
Xylenes, total	ND	1	5	ug/L	04/08/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	89	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	114	%	70 - 135
Surr3 - Toluene-d8	103	%	70 - 135
Surr4 - p-Bromofluorobenzene	99	%	70 - 135

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 510956 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
160.1 Filterable Residue (TDS)						
Filterable Residue (TDS)	ND	1	6.0	mg/L	04/07/04	LN
300.0 Chloride by Ion Chromatography						
Chloride	ND	1	1.0	mg/L	04/07/04	BGS
Nitrate/Nitrite - N	ND	1	0.1	mg/L	04/07/04	BGS
Sulfate	ND	1	1.0	mg/L	04/07/04	BGS
310.1 Alkalinity						
Alkalinity as Calcium Carbonate	ND	1	5.0	mg/L	04/12/04	DK
Bicarbonate	ND	1	5.0	mg/L	04/12/04	DK
Carbonate	ND	1	5.0	mg/L	04/12/04	DK
Hydroxide	ND	1	5.0	mg/L	04/12/04	DK
415.1 Total Organic Carbon (TOC)						
Total Organic Carbon	ND	1	0.5	mg/L	04/08/04	QP
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/08/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/08/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/08/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/08/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/08/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/08/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/08/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/08/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/08/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/08/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/08/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/08/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/08/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/08/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/08/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/08/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 510956 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
me Sampled:
mpled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,2-Dichloropropane	ND	1	5	ug/L	04/08/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/08/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/08/04	AM
1,3-Dichloropropane	ND	1	5	ug/L	04/08/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/08/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/08/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/08/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/08/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/08/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/08/04	AM
2-Hexanone	ND	1	20	ug/L	04/08/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/08/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/08/04	AM
Acetone	ND	1	100	ug/L	04/08/04	AM
Acetonitrile	ND	1	50	ug/L	04/08/04	AM
Acrolein	ND	1	200	ug/L	04/08/04	AM
Acrylonitrile	ND	1	10	ug/L	04/08/04	AM
Allyl chloride	ND	1	5	ug/L	04/08/04	AM
Benzene	ND	1	1	ug/L	04/08/04	AM
Benzyl chloride	ND	1	5	ug/L	04/08/04	AM
Bromobenzene	ND	1	5	ug/L	04/08/04	AM
Bromochloromethane	ND	1	5	ug/L	04/08/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/08/04	AM
Bromoform	ND	1	5	ug/L	04/08/04	AM
Bromomethane	ND	1	5	ug/L	04/08/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/08/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/08/04	AM
Chlorobenzene	ND	1	5	ug/L	04/08/04	AM
Chloroethane	ND	1	5	ug/L	04/08/04	AM
Chloroform	ND	1	5	ug/L	04/08/04	AM
Chloromethane	ND	1	5	ug/L	04/08/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/08/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/08/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/08/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/08/04	AM
Dibromomethane	ND	1	5	ug/L	04/08/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/08/04	AM
Ethyl benzene	ND	1	5	ug/L	04/08/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 510956 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
me Sampled:
ampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Ethyl methacrylate	ND	1	50	ug/L	04/08/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/08/04	AM
Iodomethane	ND	1	5	ug/L	04/08/04	AM
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/08/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/08/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/08/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/08/04	AM
Methylene chloride	ND	1	5	ug/L	04/08/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/08/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/08/04	AM
Naphthalene	ND	1	5	ug/L	04/08/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/08/04	AM
Pentachloroethane	ND	1	5	ug/L	04/08/04	AM
Propionitrile	ND	1	100	ug/L	04/08/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/08/04	AM
Styrene	ND	1	5	ug/L	04/08/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/08/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/08/04	AM
Toluene	ND	1	5	ug/L	04/08/04	AM
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/08/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/08/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/08/04	AM
Trichloroethene	ND	1	5	ug/L	04/08/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/08/04	AM
Vinyl acetate	ND	1	50	ug/L	04/08/04	AM
Vinyl chloride	ND	1	5	ug/L	04/08/04	AM
Xylenes, total	ND	1	5	ug/L	04/08/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	88	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	107	%	70 - 135
Surr3 - Toluene-d8	102	%	70 - 135
Surr4 - p-Bromofluorobenzene	97	%	70 - 135

RSK-175 Hydrocarbons

Ethane	ND	1	0.005	mg/L	04/07/04	LT
Ethene	ND	1	0.005	mg/L	04/07/04	LT
Methane	ND	1	0.005	mg/L	04/07/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 510956 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst

RSK-175 Hydrocarbons

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

127736

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

Facility/Base I.D.: Holmn

Project Name / Site Name: SS61

Client Name: USACE

Collected by: Germann, Kevin

Field Sample ID (30 Characters Max)	ERFIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	Sample Analysis Requested (5): Sulfate 9038	Nitrate/Nitrite 300 KDC 2900	VOC 8260 KDC	TDS 160.1	Chloride 300	TOC 9060	Alkalinity 310.1	Methane/Ethane/Ethene RSK 175	Ambient Blank Lot Control Number
SS61-MW06	SS61-MW06	06042004	1120	21' - 21'	N	1	WG	11	/	/	/	/	/	/	/	/	
Trip Blank				-				2			/						
				-													
				-													
				-													
				-													
				-													
				-													
				-													
				-													
				-													

COMMENTS: Please fax results to 505 679 2148
Fed Ex # 845705836229
Please email PDF to Hollaman

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	Kevin Germann	4-6-04	1600	[illegible]	4/7	11:10
2.						
3.				2	4-7-04	1:3

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.:

Method of Shipment: FEDEX Airbill Number:

Analytical Lab: ASSOCIATED Delivery Location:

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 127603

REPORTED 04/21/2004

RECEIVED [redacted]

PROJECT Holmn, SS61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
512234	SS61-MW08
512235	Trip Blank
512236	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 512234 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW08
Date Sampled: 04/12/2004
Time Sampled: 09:20
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
160.1 Filterable Residue (TDS)						
Filterable Residue (TDS)	3090	1	6.0	mg/L	04/13/04	LN
300.0 Chloride by Ion Chromatography						
Chloride	70.5	1	1.0	mg/L	04/13/04	BGS
Nitrate (as NO3)	14.6	1	0.44	mg/L	04/13/04	BGS
Nitrite (as NO2)	ND	1	0.33	mg/L	04/13/04	BGS
Sulfate	1720	50	50.0	mg/L	04/13/04	BGS
310.1 Alkalinity						
Alkalinity as Calcium Carbonate	98	1	5.0	mg/L	04/15/04	DK
Bicarbonate	119	1	5.0	mg/L	04/15/04	DK
Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Hydroxide	ND	1	5.0	mg/L	04/15/04	DK
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512234 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW08
Date Sampled: 04/12/2004
me Sampled: 09:20
ampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,3-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/16/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
2-Hexanone	ND	1	20	ug/L	04/16/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/16/04	AM
Acetone	ND	1	100	ug/L	04/16/04	AM
Acetonitrile	ND	1	50	ug/L	04/16/04	AM
Acrolein	ND	1	200	ug/L	04/16/04	AM
Acrylonitrile	ND	1	10	ug/L	04/16/04	AM
Allyl chloride	ND	1	5	ug/L	04/16/04	AM
Benzene	ND	1	1	ug/L	04/16/04	AM
Benzyl chloride	ND	1	5	ug/L	04/16/04	AM
Bromobenzene	ND	1	5	ug/L	04/16/04	AM
Bromochloromethane	ND	1	5	ug/L	04/16/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/16/04	AM
Bromoform	ND	1	5	ug/L	04/16/04	AM
Bromomethane	ND	1	5	ug/L	04/16/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/16/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/16/04	AM
Chlorobenzene	ND	1	5	ug/L	04/16/04	AM
Chloroethane	ND	1	5	ug/L	04/16/04	AM
Chloroform	ND	1	5	ug/L	04/16/04	AM
Chloromethane	ND	1	5	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/16/04	AM
Dibromomethane	ND	1	5	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/16/04	AM
Ethyl benzene	ND	1	5	ug/L	04/16/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/16/04	AM
Iodomethane	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512234 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW08
Date Sampled: 04/12/2004
me Sampled: 09:20
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/16/04	AM
m and p-Xylene	ND	1	5	ug/L	04/16/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/16/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/16/04	AM
Methylene chloride	ND	1	5	ug/L	04/16/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/16/04	AM
Naphthalene	ND	1	5	ug/L	04/16/04	AM
o-Xylene	ND	1	5	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/16/04	AM
Pentachloroethane	ND	1	5	ug/L	04/16/04	AM
Propionitrile	ND	1	100	ug/L	04/16/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Styrene	ND	1	5	ug/L	04/16/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/16/04	AM
Toluene	ND	1	5	ug/L	04/16/04	AM
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Trichloroethene	ND	1	5	ug/L	04/16/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/16/04	AM
Vinyl acetate	ND	1	50	ug/L	04/16/04	AM
Vinyl chloride	ND	1	5	ug/L	04/16/04	AM
Xylenes, total	ND	1	5	ug/L	04/16/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	94	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	115	%	70 - 135
Surr3 - Toluene-d8	106	%	70 - 135
Surr4 - p-Bromofluorobenzene	102	%	70 - 135

9060 Total Organic Carbon (TOC)

Total Organic Carbon	1.6	2	1.0	mg/L	04/15/04	QP

RSK-175 Hydrocarbons

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512234 **Client:** BHATE
Matrix: WATER **Client Sample ID:** SS61-MW08
Date Sampled: 04/12/2004
me Sampled: 09:20
ampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
RSK-175 Hydrocarbons						
Ethane	ND	1	0.005	mg/L	04/14/04	LT
Ethene	ND	1	0.005	mg/L	04/14/04	LT
Methane	ND	1	0.005	mg/L	04/14/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512235 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/16/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
2-Hexanone	ND	1	20	ug/L	04/16/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/16/04	AM
Acetone	ND	1	100	ug/L	04/16/04	AM
Acetonitrile	ND	1	50	ug/L	04/16/04	AM
Acrolein	ND	1	200	ug/L	04/16/04	AM
Acrylonitrile	ND	1	10	ug/L	04/16/04	AM
Allyl chloride	ND	1	5	ug/L	04/16/04	AM
Benzene	ND	1	1	ug/L	04/16/04	AM
Benzyl chloride	ND	1	5	ug/L	04/16/04	AM
Bromobenzene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512235 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Bromochloromethane	ND	1	5	ug/L	04/16/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/16/04	AM
Bromoform	ND	1	5	ug/L	04/16/04	AM
Bromomethane	ND	1	5	ug/L	04/16/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/16/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/16/04	AM
Chlorobenzene	ND	1	5	ug/L	04/16/04	AM
Chloroethane	ND	1	5	ug/L	04/16/04	AM
Chloroform	ND	1	5	ug/L	04/16/04	AM
Chloromethane	ND	1	5	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/16/04	AM
Dibromomethane	ND	1	5	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/16/04	AM
Ethyl benzene	ND	1	5	ug/L	04/16/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/16/04	AM
Iodomethane	ND	1	5	ug/L	04/16/04	AM
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/16/04	AM
m and p-Xylene	ND	1	5	ug/L	04/16/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/16/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/16/04	AM
Methylene chloride	ND	1	5	ug/L	04/16/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/16/04	AM
Naphthalene	ND	1	5	ug/L	04/16/04	AM
o-Xylene	ND	1	5	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/16/04	AM
Pentachloroethane	ND	1	5	ug/L	04/16/04	AM
Propionitrile	ND	1	100	ug/L	04/16/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Styrene	ND	1	5	ug/L	04/16/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/16/04	AM
Toluene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512235 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Trip Blank
Date Sampled:
me Sampled:
ampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Trichloroethene	ND	1	5	ug/L	04/16/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/16/04	AM
Vinyl acetate	ND	1	50	ug/L	04/16/04	AM
Vinyl chloride	ND	1	5	ug/L	04/16/04	AM
Xylenes, total	ND	1	5	ug/L	04/16/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	94	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	119	%	70 - 135
Surr3 - Toluene-d8	105	%	70 - 135
Surr4 - p-Bromofluorobenzene	98	%	70 - 135

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512236 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
160.1 Filterable Residue (TDS)						
Filterable Residue (TDS)	ND	1	6.0	mg/L	04/13/04	LN
300.0 Chloride by Ion Chromatography						
Chloride	ND	1	1.0	mg/L	04/13/04	BGS
Nitrate (as NO3)	ND	1	0.44	mg/L	04/13/04	BGS
Nitrite (as NO2)	ND	1	0.33	mg/L	04/13/04	BGS
Sulfate	ND	1	1.0	mg/L	04/13/04	BGS
310.1 Alkalinity						
Alkalinity as Calcium Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Bicarbonate	ND	1	5.0	mg/L	04/15/04	DK
Carbonate	ND	1	5.0	mg/L	04/15/04	DK
Hydroxide	ND	1	5.0	mg/L	04/15/04	DK
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,1-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2,2-Tetrachloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
1,1-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,3-Trichloropropane	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2,4-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromo-3-chloropropane	ND	1	5	ug/L	04/16/04	AM
1,2-Dibromoethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloroethane	ND	1	5	ug/L	04/16/04	AM
1,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,3,5-Trimethylbenzene	ND	1	5	ug/L	04/16/04	AM
1,3-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512236 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
Time Sampled:
Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
1,3-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
1,4-Dichlorobenzene	ND	1	5	ug/L	04/16/04	AM
1-Chlorohexane	ND	1	5	ug/L	04/16/04	AM
2,2-Dichloropropane	ND	1	5	ug/L	04/16/04	AM
2-Butanone (MEK)	ND	1	100	ug/L	04/16/04	AM
2-Chloroethyl vinyl ether	ND	1	5	ug/L	04/16/04	AM
2-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
2-Hexanone	ND	1	20	ug/L	04/16/04	AM
4-Chlorotoluene	ND	1	5	ug/L	04/16/04	AM
4-Methyl -2- Pentanone (MIBK)	ND	1	10	ug/L	04/16/04	AM
Acetone	ND	1	100	ug/L	04/16/04	AM
Acetonitrile	ND	1	50	ug/L	04/16/04	AM
Acrolein	ND	1	200	ug/L	04/16/04	AM
Acrylonitrile	ND	1	10	ug/L	04/16/04	AM
Allyl chloride	ND	1	5	ug/L	04/16/04	AM
Benzene	ND	1	1	ug/L	04/16/04	AM
Benzyl chloride	ND	1	5	ug/L	04/16/04	AM
Bromobenzene	ND	1	5	ug/L	04/16/04	AM
Bromochloromethane	ND	1	5	ug/L	04/16/04	AM
Bromodichloromethane	ND	1	5	ug/L	04/16/04	AM
Bromoform	ND	1	5	ug/L	04/16/04	AM
Bromomethane	ND	1	5	ug/L	04/16/04	AM
Carbon Disulfide	ND	1	5	ug/L	04/16/04	AM
Carbon tetrachloride	ND	1	5	ug/L	04/16/04	AM
Chlorobenzene	ND	1	5	ug/L	04/16/04	AM
Chloroethane	ND	1	5	ug/L	04/16/04	AM
Chloroform	ND	1	5	ug/L	04/16/04	AM
Chloromethane	ND	1	5	ug/L	04/16/04	AM
cis-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
cis-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
cis-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Dibromochloromethane	ND	1	5	ug/L	04/16/04	AM
Dibromomethane	ND	1	5	ug/L	04/16/04	AM
Dichlorodifluoromethane	ND	1	5	ug/L	04/16/04	AM
Ethyl benzene	ND	1	5	ug/L	04/16/04	AM
Ethyl methacrylate	ND	1	50	ug/L	04/16/04	AM
Hexachlorobutadiene	ND	1	5	ug/L	04/16/04	AM
Iodomethane	ND	1	5	ug/L	04/16/04	AM

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512236 **Client:** BHATE
Matrix: WATER **Client Sample ID:** Laboratory Method Blank
Date Sampled:
me Sampled:
ampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Isopropylbenzene (Cumene)	ND	1	5	ug/L	04/16/04	AM
m and p-Xylene	ND	1	5	ug/L	04/16/04	AM
Methacrylonitrile	ND	1	35	ug/L	04/16/04	AM
Methyl methacrylate	ND	1	5	ug/L	04/16/04	AM
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	04/16/04	AM
Methylene chloride	ND	1	5	ug/L	04/16/04	AM
n-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
n-Propylbenzene	ND	1	5	ug/L	04/16/04	AM
Naphthalene	ND	1	5	ug/L	04/16/04	AM
o-Xylene	ND	1	5	ug/L	04/16/04	AM
p-Isopropyltoluene	ND	1	5	ug/L	04/16/04	AM
Pentachloroethane	ND	1	5	ug/L	04/16/04	AM
Propionitrile	ND	1	100	ug/L	04/16/04	AM
sec-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Styrene	ND	1	5	ug/L	04/16/04	AM
tert-Butylbenzene	ND	1	5	ug/L	04/16/04	AM
Tetrachloroethene	ND	1	5	ug/L	04/16/04	AM
Toluene	ND	1	5	ug/L	04/16/04	AM
trans-1,2-Dichloroethene	ND	1	5	ug/L	04/16/04	AM
trans-1,3-Dichloropropene	ND	1	5	ug/L	04/16/04	AM
trans-1,4-Dichloro-2-butene	ND	1	20	ug/L	04/16/04	AM
Trichloroethene	ND	1	5	ug/L	04/16/04	AM
Trichlorofluoromethane	ND	1	5	ug/L	04/16/04	AM
Vinyl acetate	ND	1	50	ug/L	04/16/04	AM
Vinyl chloride	ND	1	5	ug/L	04/16/04	AM
Xylenes, total	ND	1	5	ug/L	04/16/04	AM

Surrogates		Units	Control Limits
Surr1 - Dibromofluoromethane	89	%	70 - 135
Surr2 - 1,2-Dichloroethane-d4	111	%	70 - 135
Surr3 - Toluene-d8	109	%	70 - 135
Surr4 - p-Bromofluorobenzene	104	%	70 - 135

9060 Total Organic Carbon (TOC)

Total Organic Carbon	ND	1	0.5	mg/L	04/15/04	QP

RSK-175 Hydrocarbons

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 512236 **Client:** BHATE

Matrix: WATER **Client Sample ID:** Laboratory Method Blank

Date Sampled:

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
RSK-175 Hydrocarbons						
Ethane	ND	1	0.005	mg/L	04/14/04	LT
Ethene	ND	1	0.005	mg/L	04/14/04	LT
Methane	ND	1	0.005	mg/L	04/14/04	LT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127603

Matrix: WATER

Prep. Date: 04/13/04

Analysis Date: 04/13/04

ID#'s in Batch: LR 127603, 127602

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	3,094	3,090	0.1

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	290	293	99	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 127581-512136

Matrix: WATER

Prep.Date: 04/13/04

Analysis Date: 04/13/04

Lab ID#'s in Batch: LR 127581, 127602, 127603, 127583, 127585, 127594, 127595, 127586

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	20	200	200	201	90	90	0
SO4	300.0	18	200	209	209	96	96	0
NO3	300.0	1.3	100	101	101	100	100	0
NO2	300.0	ND	100	111.0	110.0	111	110	1

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK	LCS				
		Value	Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	47	50	95	90%	110%
SO4	300.0	ND	51	50	101	90%	110%
NO3	300.0	ND	24.2	25	97	90%	110%
NO2	300.0	ND	5.0	5	99	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 127603-512234

Matrix: WATER

Prep.Date: 04/13/04

Analysis Date: 04/13/04

Lab ID#'s in Batch: LR 127602, 127603

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	71	200	264	261	97	95	1
NO3	300.0	14.6	100	112	115	97	100	3
NO2	300.0	ND	100	91.3	95.3	91	95	4

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	48	50	95	90%	110%
SO4	300.0	ND	50	50	100	90%	110%
NO3	300.0	ND	27.2	25	109	90%	110%
NO2	300.0	ND	4.9	5	98	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127675/512564

Matrix: WATER

Method : 310.1

Prep. Date: 04/15/04

Analysis Date: 04/15/04

ID#'s in Batch: LR 127791, 127602, 127603, 127675

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Sample Result	Sample Duplicate	RPD
Bicarbonate	122	122	0.0
Carbonate	ND	ND	0.0
Hydroxide	ND	ND	0.0
Total Alkalinity as CaCO3	100	100	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate
ND = "U" - Not Detected

RPD LIMITS = 20

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 127676-559

Analysis Date: 04/17/04 9:36 AM

Applies to: LR 127602, 127603, 127675, 127791, 127520, 127582, 127676, 127640, 127677

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	25	28.95	26.34	116	105	9	22	59-172
MTBE	ND	25	22.21	20.67	89	83	7	24	62-137
Benzene	ND	25	25.90	25.64	104	103	1	24	62-137
Trichloroethene	ND	25	33.57	34.15	134	137	2	21	66-142
Toluene	ND	25	26.14	26.48	105	106	1	21	59-139
Chlorobenzene	ND	25	25.86	25.85	103	103	0	21	60-133

QC Sample: LCS
Analysis Date: 04/16/04 2:56 PM

LCS RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	68.21	136	59-172
MTBE	ND	50	48.79	98	62-137
Benzene	ND	50	52.44	105	62-137
Trichloroethene	ND	50	53.62	107	66-142
Toluene	ND	50	53.75	108	59-139
Chlorobenzene	ND	50	53.11	106	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS
DBFM	89	92	94	94	99
1,2-DCA	111	113	93	87	101
Tol-d8	109	103	103	104	103
p-BFB	104	100	98	96	99

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127602-231 D

Matrix: WATER

Prep. Date: 04/14/04

Analysis Date: 04/14/04

ID#'s in Batch: LR 127602, 127603

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
CH4	RSK-175	ND	ND	0.0
C2H4	RSK-175	ND	ND	0.0

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 127602

Matrix: WATER

Prep. Date: 04/15/04

Analysis Date: 04/15/04

ID#'s in Batch: LR 127602, 127791, 127603, 127675

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1	4.6	10	14.4	14.8	98	102	3

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	10	10	100	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES

NARRATIVE

Date: April 14, 2004

Narrative for Lab Request LR: 127336, 127602, 127603, 127675

Client Project Identification:
Project: Holmn, SS61
This narrative includes all samples as shown on the attached Lab Request final report.

Analyses Requested:

- EPA 160.1 – Filterable Residue (TDS).
- EPA 300.0 – Anions by IC.
- EPA 310.0 – Alkalinity.
- EPA 415.1 – Total Organic Carbon.
- RSK-175 – Hydrocarbons.
- EPA 8260B – Volatile Organic Compounds.

Data Validation:

Holding Times
All EPA designated holding times were met.

Calibration
Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

Quality Control Samples
All QC results were within control for all methods analyzed.

Other Anomalies or Comments
The reporting limit (DLR) is adjusted if dilution of the sample is necessary.

Associated Laboratories
806 N. Batavia
Orange, CA 92868

Phone: 714-771-6900
Fax: 714-538-1209

LAB REQUEST: **127602, 127603, 127675**

CLIENT: **BHATE**

TABLE OF CONTENTS
(In chronological order)

EPA 160.1 - Filterable Residue (TDS)

EPA 300.0 - Anions by IC

EPA 310.1 - Alkalinity

EPA 415.1 - Total Organic Carbon (TOC)

RSK-175 - Hydrocarbons

EPA 8260B - Volatile Organic Compounds

BHATE
Environmental Associates, Inc.
1608 13th Avenue South, Suite 300
Birmingham, Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

127603

Project Number: 9030024

Chain of Custody Number [1]: 04122004.1

LIMS Number:

Facility/Base I.D.: Holmn

Project Name / Site Name: SS61

Client Name: USACE

Collected by: Germann, Kevin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of containers	SULFATE 9038	NITRATE/NITRITE 2900	VOC 8260	TDS 160.1	CHLORIDE 300	TOC 9060	ALKALINITY 310.1	METHANE/ETHANE/ETHENE RSK 175	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
SS61-MW08	SS61-MW08	12042004	0920	23' - 23'	N	1	WG	11	/	/	/	/	/	/	/	/				1
Trip Blank				-				2			/									1
				-																
				-																
				-																
				-																
				-																
				-																
				-																
				-																
				-																

Sample Analysis Requested [5]

Quality Assurance Samples [6]

COMMENTS: Please FAX Results To 505-679-2148
Fed Ex # 845705836240
Please email PDF To Holloman

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. Kevin Germann	4/12/04	1600	1.	4/13	1148
2.			2.		
3.	4-13-04	1:00	3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab:
Shipped No.:
Method of Shipment: Fed Ex
Airbill Number:
Analytical Lab: Associated
Delivery Location: Orange, CA
Lab Recipient:
Delivery Date/Time:

1.)-Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)
2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)
3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)
4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc.), SQ = Soil Blanks
5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.
6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control)

DISTRIBUTION: WHITE COPY - Project File YELLOW COPY - Lab Copy PINK COPY - Working File

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 130846
REPORTED 06/17/2004
RECEIVED 06/12/2004

PROJECT Holmn - SS61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
527852	SS61-MW04
527853	SS61-MW04-a
527854	Trip Blank
527855	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing , all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 527852 **Client Sample ID:** SS61-MW04

Matrix: WATER

ate Sampled: 06/11/2004
e Sampled: 09:30

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonat	173	1	5.0	1.8	mg/L	06/14/04 DK
310.1	Bicarbonate	210	1	5.0	2.0	mg/L	06/14/04 DK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	06/14/04 DK
300.0	Chloride	1640	50	50.0	0.10	mg/L	06/12/04 RC
160.1	Filterable Residue (TDS)	9740	1	6.0	5.0	mg/L	06/14/04 LN
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	06/14/04 DK
300.0	Nitrate (as NO3)	103	10	4.4	0.15	mg/L	06/12/04 RC
300.0	Nitrite (as NO2)	ND	1	0.33	0.13	mg/L	06/12/04 RC
300.0	Sulfate	4850	50	50.0	0.20	mg/L	06/12/04 RC
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	06/15/04 CH
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	06/15/04 CH
RSK-175	Methane	ND	1	0.005	0.005	mg/L	06/15/04 CH
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	06/16/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	06/16/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	06/16/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	06/16/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	06/16/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	06/16/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	06/16/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	06/16/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	06/16/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	06/16/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	1,2-Dichloroethane	1.4 J	1	5	0.17	ug/L	06/16/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	06/16/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527852 **Client Sample ID** SS61-MW04

Matrix: WATER

ate Sampled: 06/11/2004
ne Sampled: 09:30

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	06/16/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	06/16/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	06/16/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	06/16/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	06/16/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	06/16/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	06/16/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	06/16/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	06/16/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	06/16/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	06/16/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	06/16/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	06/16/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	06/16/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	06/16/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	06/16/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	06/16/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	06/16/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	06/16/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/16/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	06/16/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	06/16/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	06/16/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	06/16/04 AM
8260B	Isopropylbenzene (Cumene)	1.0 J	1	5	0.23	ug/L	06/16/04 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	06/16/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527852 **Client Sample ID:** SS61-MW04

Matrix: WATER

ate Sampled: 06/11/2004
ne Sampled: 09:30

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	06/16/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	06/16/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	06/16/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	06/16/04 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	06/16/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	06/16/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	06/16/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	06/16/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	06/16/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	06/16/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	06/16/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	06/16/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/16/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	06/16/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	06/16/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	06/16/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	06/16/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	96	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	117	%	70 - 135
8260B	Surr3 - Toluene-d8	99	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	101	%	70 - 135

415.1	Total Organic Carbon	4.0	2	1.0	0.3	mg/L	06/14/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527853 **Client Sample ID**: SS61-MW04-a

Matrix: WATER

ate Sampled: 06/11/2004
ne Sampled: 09:30

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonat	180	1	5.0	1.8	mg/L	06/14/04 DK
310.1	Bicarbonate	220	1	5.0	2.0	mg/L	06/14/04 DK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	06/14/04 DK
300.0	Chloride	1680	50	50.0	0.10	mg/L	06/12/04 RC
160.1	Filterable Residue (TDS)	10900	1	6.0	5.0	mg/L	06/14/04 LN
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	06/14/04 DK
300.0	Nitrate (as NO3)	106	10	4.4	0.15	mg/L	06/12/04 RC
300.0	Nitrite (as NO2)	ND	1	0.33	0.13	mg/L	06/12/04 RC
300.0	Sulfate	4930	50	50.0	0.20	mg/L	06/12/04 RC
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	06/15/04 CH
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	06/15/04 CH
RSK-175	Methane	ND	1	0.005	0.005	mg/L	06/15/04 CH
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	06/16/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	06/16/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	06/16/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	06/16/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	06/16/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	06/16/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	06/16/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	06/16/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	06/16/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	06/16/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	1,2-Dichloroethane	1.2 J	1	5	0.17	ug/L	06/16/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	06/16/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527853 **Client Sample ID:** SS61-MW04-a

Matrix: WATER

Date Sampled: 06/11/2004
Time Sampled: 09:30

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	06/16/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	06/16/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	06/16/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	06/16/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	06/16/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	06/16/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	06/16/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	06/16/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	06/16/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	06/16/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	06/16/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	06/16/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	06/16/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	06/16/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	06/16/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	06/16/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	06/16/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	06/16/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	06/16/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/16/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	06/16/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	06/16/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	06/16/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	06/16/04 AM
8260B	Isopropylbenzene (Cumene)	1.0 J	1	5	0.23	ug/L	06/16/04 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	06/16/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527853 **Client Sample ID:** SS61-MW04-a

Matrix: WATER

ate Sampled: 06/11/2004
ne Sampled: 09:30

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	06/16/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	06/16/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	06/16/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	06/16/04 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	06/16/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	06/16/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	06/16/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	06/16/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	06/16/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	06/16/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	06/16/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	06/16/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/16/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	06/16/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	06/16/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	06/16/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	06/16/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	93	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	111	%	70 - 135
8260B	Surr3 - Toluene-d8	101	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	103	%	70 - 135

415.1	Total Organic Carbon	4.2	2	1.0	0.3	mg/L	06/14/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527854 **Client Sample ID:** Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	06/16/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	06/16/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	06/16/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	06/16/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	06/16/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	06/16/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	06/16/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	06/16/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	06/16/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	06/16/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	06/16/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	06/16/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	06/16/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	06/16/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	06/16/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	06/16/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	06/16/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	06/16/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	06/16/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	06/16/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	06/16/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	06/16/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	06/16/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	06/16/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527854 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	06/16/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	06/16/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	06/16/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	06/16/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	06/16/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	06/16/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	06/16/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/16/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	06/16/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	06/16/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	06/16/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	06/16/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	06/16/04 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	06/16/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	06/16/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	06/16/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	06/16/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	06/16/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	06/16/04 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	06/16/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	06/16/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	06/16/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	06/16/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	06/16/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	06/16/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	06/16/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527854 **Client Sample ID**. Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/16/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	06/16/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	06/16/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	06/16/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	06/16/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	93	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	111	%	70 - 135
8260B	Surr3 - Toluene-d8	101	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	103	%	70 - 135

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527855 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonat	ND	1	5.0	1.8	mg/L	06/14/04 DK
310.1	Bicarbonate	ND	1	5.0	2.0	mg/L	06/14/04 DK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	06/14/04 DK
300.0	Chloride	ND	1	1.0	0.10	mg/L	06/12/04 RC
160.1	Filterable Residue (TDS)	ND	1	6.0	5.0	mg/L	06/14/04 LN
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	06/14/04 DK
300.0	Nitrate (as NO3)	ND	1	0.44	0.15	mg/L	06/12/04 RC
300.0	Nitrite (as NO2)	ND	1	0.33	0.13	mg/L	06/12/04 RC
300.0	Sulfate	ND	1	1.0	0.20	mg/L	06/12/04 RC
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	06/15/04 CH
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	06/15/04 CH
RSK-175	Methane	ND	1	0.005	0.005	mg/L	06/15/04 CH
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	06/16/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	06/16/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	06/16/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	06/16/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	06/16/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	06/16/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	06/16/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	06/16/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	06/16/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	06/16/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	06/16/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	06/16/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527855 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	06/16/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	06/16/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	06/16/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	06/16/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	06/16/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	06/16/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	06/16/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	06/16/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	06/16/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	06/16/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	06/16/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	06/16/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	06/16/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	06/16/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	06/16/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	06/16/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	06/16/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	06/16/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	06/16/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/16/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	06/16/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	06/16/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	06/16/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	06/16/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	06/16/04 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	06/16/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor

ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527855 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	06/16/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	06/16/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	06/16/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	06/16/04 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	06/16/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	06/16/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	06/16/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	06/16/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	06/16/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	06/16/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	06/16/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	06/16/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/16/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	06/16/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	06/16/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	06/16/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	06/16/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	93	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	114	%	70 - 135
8260B	Surr3 - Toluene-d8	97	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	102	%	70 - 135

415.1	Total Organic Carbon	ND	1	0.5	0.3	mg/L	06/14/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 130845-849

Matrix: WATER

Prep. Date: June 15, 2004

Analysis Date: June 15, 2004

ID#'s in Batch: LR 130845, 130846

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
CH4	RSK-175	0.0415	0.0415	0.0
C2H4	RSK-175	ND	ND	0.0
C2H6	RSK-175	0.0230	0.0230	0.0

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 130847-527857

Matrix: WATER

Prep. Date: June 14, 2004

Analysis Date: June 14, 2004

ID#'s in Batch: LR 130847, 130846, 130845

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	9,512	9,524	0.1

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	296	293	101	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 130846-527852

Matrix: WATER

Prep.Date: 06/12/04

Analysis Date: 06/12/04

Lab ID#'s in Batch: LR 130846, 130845, 130836

MATRIX SPIKE / MATRIX SPIKE DUPLICATE I

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	1640	2000	3700	3700	103	103	0
SO4	300.0	4850	2000	6960	6960	106	106	0
NO3	300.0	103.0	1000	1120	1150	102	105	3
NO2	300.0	ND	500	478.0	451.0	96	90	6

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	48	50	96	90%	110%
SO4	300.0	ND	47	50	94	90%	110%
NO3	300.0	ND	23.0	25	92	90%	110%
NO2	300.0	ND	4.6	5	92	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

C Sample: MS / MSD - Water Samples 130846-852

Analysis Date: June 16, 2004 10:30 AM

Applies to: LR 130681, 130521, 130845, 130846

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	48.98	49.41	98	99	1	22	59-172
MTBE	ND	50	48.64	48.21	97	96	1	24	62-137
Benzene	ND	50	52.83	52.94	106	106	0	24	62-137
Trichloroethene	ND	50	48.81	48.84	98	98	0	21	66-142
Toluene	ND	50	49.85	51.57	100	103	3	21	59-139
Chlorobenzene	ND	50	50.69	51.68	101	103	2	21	60-133

QC Sample: LCS 9:07 PM
Analysis Date: June 15, 2004

S RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	47.63	95	59-172
MTBE	ND	50	47.50	95	62-137
Benzene	ND	50	51.43	103	62-137
Trichloroethene	ND	50	48.18	96	66-142
Toluene	ND	50	50.19	100	59-139
Chlorobenzene	ND	50	50.80	102	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS
DBFM	89	93	95	95	92
1,2-DCA	111	114	107	106	103
Tol-d8	101	97	97	99	99
p-BFB	104	102	100	103	102

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 130847-1

Matrix: WATER

Prep. Date: June 14, 2004

Analysis Date: June 14, 2004

ID#'s in Batch: LR 130847, 130846, 130845

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1	4.1	10	14.3	15.0	102	109	5

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	9.8	10	98	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

BHATE

Environmental Engineers and Scientists

130846

0.9

Chain of Custody and Analytical Request

Page 1 of 1

Project Number: 9030024.02.02

Chain of Custody Number [1]: 06112004.3

LIMS Number:

Facility/Base I.D.: Holmn

Project Name / Site Name: SS61

Client Name: USACE

Collected by: Germann, Kevin

Field Sample ID (20 Characters Max)	ERFIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of containers	VOC 8260	SULFATE 300	NITRATE/NITRITE 300	TDS 160.1	Chloride 300	TOC 9060	ALKALINITY 310.1	METHANE/ETHANE/ETHENE RSK175	Matrix Description	Trip Blank Lot Control Number	Cooler ID
SS61-MW04	SS61	11062004	0930	22' - 22'	N	1	WG	10	/	/	/	/	/	/	/	/			3
SS61-MW04-a	SS61	11062004	0930	22' - 22'	N	1	WG	10	/	/	/	/	/	/	/	/			3
Tr BLANK				-	TB			1											3
				-															
				-															
				-															
				-															
				-															
				-															
				-															
				-															
				-															

COMMENTS: Please FAX Results TO 505-679-2148
EMAIL PDF TO Hollmann
FEDEX#

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. KDE	6/11/04	KDE 1600	1. Kristen Endler	Kristen Endler	6/12/04 10:25
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: Shipped No.:

Method of Shipment: Fed EX Airbill Number:

Analytical Lab: Associated Delivery Location: Orange, CA

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, If second sample on 10/10/99 = 02, etc.)

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 130681
REPORTED 06/16/2004
RECEIVED 06/10/2004

PROJECT Holmn - SS61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
527169	SS61-MW08
527170	SS61-MW03
527171	Trip Blank
527172	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 527169 **Client Sample ID** SS61-MW08

Matrix: WATER

Date Sampled: 06/09/2004
Time Sampled: 08:30

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	437	1	5.0	1.8	mg/L	06/11/04 HK
310.1	Bicarbonate	534	1	5.0	2.0	mg/L	06/11/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	06/11/04 HK
300.0	Chloride	447	10	10.0	0.10	mg/L	06/10/04 RC
160.1	Filterable Residue (TDS)	4830	1	6.0	5.0	mg/L	06/10/04 LN
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	06/11/04 HK
300.0	Nitrate/Nitrite - N	1.0	1	0.1	0.04	mg/L	06/11/04 RC
300.0	Sulfate	2820	50	50.0	0.20	mg/L	06/11/04 RC
RSK-175	Ethane	0.052	1	0.005	0.005	mg/L	06/10/04 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	06/10/04 LT
RSK-175	Methane	ND	1	0.005	0.005	mg/L	06/10/04 LT
8260B	1,1,1,2-Tetrachloroethane	ND	10	50.0	0.83	ug/L	06/15/04 AM
8260B	1,1,1-Trichloroethane	ND	10	50.0	0.25	ug/L	06/15/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	10	50.0	0.26	ug/L	06/15/04 AM
8260B	1,1,2-Trichloroethane	ND	10	50.0	0.15	ug/L	06/15/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	10	50.0	0.10	ug/L	06/15/04 AM
8260B	1,1-Dichloroethane	ND	10	50.0	0.31	ug/L	06/15/04 AM
8260B	1,1-Dichloroethene	ND	10	50.0	0.62	ug/L	06/15/04 AM
8260B	1,1-Dichloropropene	ND	10	50.0	0.72	ug/L	06/15/04 AM
8260B	1,2,3-Trichlorobenzene	ND	10	50.0	0.61	ug/L	06/15/04 AM
8260B	1,2,3-Trichloropropane	ND	10	50.0	0.22	ug/L	06/15/04 AM
8260B	1,2,4-Trichlorobenzene	ND	10	50.0	0.61	ug/L	06/15/04 AM
8260B	1,2,4-Trimethylbenzene	ND	10	50.0	0.49	ug/L	06/15/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	10	50.0	1.74	ug/L	06/15/04 AM
8260B	1,2-Dibromoethane	ND	10	50.0	0.26	ug/L	06/15/04 AM
8260B	1,2-Dichlorobenzene	ND	10	50.0	0.18	ug/L	06/15/04 AM
8260B	1,2-Dichloroethane	ND	10	50.0	0.17	ug/L	06/15/04 AM
8260B	1,2-Dichloropropane	ND	10	50.0	0.26	ug/L	06/15/04 AM
8260B	1,3,5-Trimethylbenzene	ND	10	50.0	0.26	ug/L	06/15/04 AM
8260B	1,3-Dichlorobenzene	ND	10	50.0	0.41	ug/L	06/15/04 AM
8260B	1,3-Dichloropropane	ND	10	50.0	0.24	ug/L	06/15/04 AM
8260B	1,4-Dichlorobenzene	ND	10	50.0	0.35	ug/L	06/15/04 AM
8260B	1-Chlorohexane	ND	10	50.0	0.32	ug/L	06/15/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527169 **Client Sample ID:** SS61-MW08

Matrix: WATER

Date Sampled: 06/09/2004
Time Sampled: 08:30

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	10	50.0	0.30	ug/L	06/15/04 AM
8260B	2-Butanone (MEK)	ND	10	1000.0	0.75	ug/L	06/15/04 AM
8260B	2-Chloroethyl vinyl ether	ND	10	50.0	0.25	ug/L	06/15/04 AM
8260B	2-Chlorotoluene	ND	10	50.0	0.18	ug/L	06/15/04 AM
8260B	2-Hexanone	ND	10	200.0	0.78	ug/L	06/15/04 AM
8260B	4-Chlorotoluene	ND	10	50.0	0.18	ug/L	06/15/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	10	100.0	0.20	ug/L	06/15/04 AM
8260B	Acetone	ND	10	1000.0	3.18	ug/L	06/15/04 AM
8260B	Acetonitrile	ND	10	500.0	0.49	ug/L	06/15/04 AM
8260B	Acrolein	ND	10	2000.0	3.3	ug/L	06/15/04 AM
8260B	Acrylonitrile	ND	10	100.0	1.6	ug/L	06/15/04 AM
8260B	Allyl chloride	ND	10	50.0	0.3	ug/L	06/15/04 AM
8260B	Benzene	282	10	10.0	0.22	ug/L	06/15/04 AM
8260B	Benzyl chloride	ND	10	50.0	0.37	ug/L	06/15/04 AM
8260B	Bromobenzene	ND	10	50.0	0.58	ug/L	06/15/04 AM
8260B	Bromochloromethane	ND	10	50.0	0.30	ug/L	06/15/04 AM
8260B	Bromodichloromethane	ND	10	50.0	0.25	ug/L	06/15/04 AM
8260B	Bromoform	ND	10	50.0	0.17	ug/L	06/15/04 AM
8260B	Bromomethane	ND	10	50.0	1.15	ug/L	06/15/04 AM
8260B	Carbon Disulfide	ND	10	50.0	2.56	ug/L	06/15/04 AM
8260B	Carbon tetrachloride	ND	10	50.0	0.49	ug/L	06/15/04 AM
8260B	Chlorobenzene	ND	10	50.0	0.18	ug/L	06/15/04 AM
8260B	Chloroethane	ND	10	50.0	0.4	ug/L	06/15/04 AM
8260B	Chloroform	ND	10	50.0	0.36	ug/L	06/15/04 AM
8260B	Chloromethane	ND	10	50.0	0.27	ug/L	06/15/04 AM
8260B	cis-1,2-Dichloroethene	ND	10	50.0	0.30	ug/L	06/15/04 AM
8260B	cis-1,3-Dichloropropene	ND	10	50.0	0.22	ug/L	06/15/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	10	200.0	0.28	ug/L	06/15/04 AM
8260B	Dibromochloromethane	ND	10	50.0	0.22	ug/L	06/15/04 AM
8260B	Dibromomethane	ND	10	50.0	0.25	ug/L	06/15/04 AM
8260B	Dichlorodifluoromethane	ND	10	50.0	0.08	ug/L	06/15/04 AM
8260B	Ethyl benzene	ND	10	50.0	0.31	ug/L	06/15/04 AM
8260B	Ethyl methacrylate	ND	10	500.0	0.2	ug/L	06/15/04 AM
8260B	Hexachlorobutadiene	ND	10	50.0	0.24	ug/L	06/15/04 AM
8260B	Iodomethane	ND	10	50.0	0.5	ug/L	06/15/04 AM
8260B	Isopropylbenzene (Cumene)	15 J	10	50.0	0.23	ug/L	06/15/04 AM
8260B	Methacrylonitrile	ND	10	350.0	0.43	ug/L	06/15/04 AM
8260B	Methyl methacrylate	ND	10	50.0	0.38	ug/L	06/15/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	10	10.0	0.18	ug/L	06/15/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527169 **Client Sample ID**: SS61-MW08

Matrix: WATER

Date Sampled: 06/09/2004
Time Sampled: 08:30

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methylene chloride	ND	10	50.0	0.64	ug/L	06/15/04 AM
8260B	n-Butylbenzene	ND	10	50.0	0.35	ug/L	06/15/04 AM
8260B	n-Propylbenzene	ND	10	50.0	0.18	ug/L	06/15/04 AM
8260B	Naphthalene	ND	10	50.0	0.88	ug/L	06/15/04 AM
8260B	p-Isopropyltoluene	ND	10	50.0	0.24	ug/L	06/15/04 AM
8260B	Pentachloroethane	ND	10	50.0	0.4	ug/L	06/15/04 AM
8260B	Propionitrile	ND	10	1000.0	1.9	ug/L	06/15/04 AM
8260B	sec-Butylbenzene	ND	10	50.0	0.28	ug/L	06/15/04 AM
8260B	Styrene	ND	10	50.0	0.20	ug/L	06/15/04 AM
8260B	tert-Butylbenzene	ND	10	50.0	0.35	ug/L	06/15/04 AM
8260B	Tetrachloroethene	ND	10	50.0	0.36	ug/L	06/15/04 AM
8260B	Toluene	ND	10	50.0	0.32	ug/L	06/15/04 AM
8260B	trans-1,2-Dichloroethene	ND	10	50.0	0.41	ug/L	06/15/04 AM
8260B	trans-1,3-Dichloropropene	ND	10	50.0	0.28	ug/L	06/15/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	10	200.0	0.28	ug/L	06/15/04 AM
8260B	Trichloroethene	ND	10	50.0	0.23	ug/L	06/15/04 AM
8260B	Trichlorofluoromethane	ND	10	50.0	0.35	ug/L	06/15/04 AM
8260B	Vinyl acetate	ND	10	500.0	0.3	ug/L	06/15/04 AM
8260B	Vinyl chloride	ND	10	50.0	0.27	ug/L	06/15/04 AM
8260B	Xylenes, total	ND	10	50.0	0.4	ug/L	06/15/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	91	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	104	%	70 - 135
8260B	Surr3 - Toluene-d8	101	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	104	%	70 - 135

415.1	Total Organic Carbon	3.7	2	1.0	0.3	mg/L	06/10/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527170 **Client Sample ID.** SS61-MW03

Matrix: WATER

ıte Sampled: 06/09/2004
ıe Sampled: 10:00

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonat	750	1	5.0	1.8	mg/L	06/11/04 HK
310.1	Bicarbonate	915	1	5.0	2.0	mg/L	06/11/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	06/11/04 HK
300.0	Chloride	9280	100	100.0	0.10	mg/L	06/10/04 RC
160.1	Filterable Residue (TDS)	25100	1	6.0	5.0	mg/L	06/10/04 LN
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	06/11/04 HK
300.0	Nitrate/Nitrite - N	ND	10	1.0	0.04	mg/L	06/10/04 RC
300.0	Sulfate	5820	100	100.0	0.20	mg/L	06/10/04 RC
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	06/10/04 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	06/10/04 LT
RSK-175	Methane	ND	1	0.005	0.005	mg/L	06/10/04 LT
8260B	1,1,1,2-Tetrachloroethane	ND	100	500.0	0.83	ug/L	06/15/04 AM
8260B	1,1,1-Trichloroethane	ND	100	500.0	0.25	ug/L	06/15/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	100	500.0	0.26	ug/L	06/15/04 AM
8260B	1,1,2-Trichloroethane	ND	100	500.0	0.15	ug/L	06/15/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	100	500.0	0.10	ug/L	06/15/04 AM
8260B	1,1-Dichloroethane	ND	100	500.0	0.31	ug/L	06/15/04 AM
8260B	1,1-Dichloroethene	ND	100	500.0	0.62	ug/L	06/15/04 AM
8260B	1,1-Dichloropropene	ND	100	500.0	0.72	ug/L	06/15/04 AM
8260B	1,2,3-Trichlorobenzene	ND	100	500.0	0.61	ug/L	06/15/04 AM
8260B	1,2,3-Trichloropropane	ND	100	500.0	0.22	ug/L	06/15/04 AM
8260B	1,2,4-Trichlorobenzene	ND	100	500.0	0.61	ug/L	06/15/04 AM
8260B	1,2,4-Trimethylbenzene	212 J	100	500.0	0.49	ug/L	06/15/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	100	500.0	1.74	ug/L	06/15/04 AM
8260B	1,2-Dibromoethane	ND	100	500.0	0.26	ug/L	06/15/04 AM
8260B	1,2-Dichlorobenzene	ND	100	500.0	0.18	ug/L	06/15/04 AM
8260B	1,2-Dichloroethane	395 J	100	500.0	0.17	ug/L	06/15/04 AM
8260B	1,2-Dichloropropane	ND	100	500.0	0.26	ug/L	06/15/04 AM
8260B	1,3,5-Trimethylbenzene	101 J	100	500.0	0.26	ug/L	06/15/04 AM
8260B	1,3-Dichlorobenzene	ND	100	500.0	0.41	ug/L	06/15/04 AM
8260B	1,3-Dichloropropane	ND	100	500.0	0.24	ug/L	06/15/04 AM
8260B	1,4-Dichlorobenzene	ND	100	500.0	0.35	ug/L	06/15/04 AM
8260B	1-Chlorohexane	ND	100	500.0	0.32	ug/L	06/15/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ϽD = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527170 **Client Sample ID:** SS61-MW03

Matrix: WATER

ate Sampled: 06/09/2004
e Sampled: 10:00

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	100	500.0	0.30	ug/L	06/15/04 AM
8260B	2-Butanone (MEK)	ND	100	10000.0	0.75	ug/L	06/15/04 AM
8260B	2-Chloroethyl vinyl ether	ND	100	500.0	0.25	ug/L	06/15/04 AM
8260B	2-Chlorotoluene	ND	100	500.0	0.18	ug/L	06/15/04 AM
8260B	2-Hexanone	ND	100	2000.0	0.78	ug/L	06/15/04 AM
8260B	4-Chlorotoluene	ND	100	500.0	0.18	ug/L	06/15/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	100	1000.0	0.20	ug/L	06/15/04 AM
8260B	Acetone	ND	100	10000.0	3.18	ug/L	06/15/04 AM
8260B	Acetonitrile	ND	100	5000.0	0.49	ug/L	06/15/04 AM
8260B	Acrolein	ND	100	20000.0	3.3	ug/L	06/15/04 AM
8260B	Acrylonitrile	ND	100	1000.0	1.6	ug/L	06/15/04 AM
8260B	Allyl chloride	ND	100	500.0	0.3	ug/L	06/15/04 AM
8260B	Benzene	10600	100	100.0	0.22	ug/L	06/15/04 AM
8260B	Benzyl chloride	ND	100	500.0	0.37	ug/L	06/15/04 AM
8260B	Bromobenzene	ND	100	500.0	0.58	ug/L	06/15/04 AM
8260B	Bromochloromethane	ND	100	500.0	0.30	ug/L	06/15/04 AM
8260B	Bromodichloromethane	ND	100	500.0	0.25	ug/L	06/15/04 AM
8260B	Bromoform	ND	100	500.0	0.17	ug/L	06/15/04 AM
8260B	Bromomethane	ND	100	500.0	1.15	ug/L	06/15/04 AM
8260B	Carbon Disulfide	ND	100	500.0	2.56	ug/L	06/15/04 AM
8260B	Carbon tetrachloride	ND	100	500.0	0.49	ug/L	06/15/04 AM
8260B	Chlorobenzene	ND	100	500.0	0.18	ug/L	06/15/04 AM
8260B	Chloroethane	ND	100	500.0	0.4	ug/L	06/15/04 AM
8260B	Chloroform	ND	100	500.0	0.36	ug/L	06/15/04 AM
8260B	Chloromethane	ND	100	500.0	0.27	ug/L	06/15/04 AM
8260B	cis-1,2-Dichloroethene	ND	100	500.0	0.30	ug/L	06/15/04 AM
8260B	cis-1,3-Dichloropropene	ND	100	500.0	0.22	ug/L	06/15/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	100	2000.0	0.28	ug/L	06/15/04 AM
8260B	Dibromochloromethane	ND	100	500.0	0.22	ug/L	06/15/04 AM
8260B	Dibromomethane	ND	100	500.0	0.25	ug/L	06/15/04 AM
8260B	Dichlorodifluoromethane	ND	100	500.0	0.08	ug/L	06/15/04 AM
8260B	Ethyl benzene	231 J	100	500.0	0.31	ug/L	06/15/04 AM
8260B	Ethyl methacrylate	ND	100	5000.0	0.2	ug/L	06/15/04 AM
8260B	Hexachlorobutadiene	ND	100	500.0	0.24	ug/L	06/15/04 AM
8260B	Iodomethane	ND	100	500.0	0.5	ug/L	06/15/04 AM
8260B	Isopropylbenzene (Cumene)	354 J	100	500.0	0.23	ug/L	06/15/04 AM
8260B	Methacrylonitrile	ND	100	3500.0	0.43	ug/L	06/15/04 AM
8260B	Methyl methacrylate	ND	100	500.0	0.38	ug/L	06/15/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	100	100.0	0.18	ug/L	06/15/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527170 **Client Sample ID:** SS61-MW03

Matrix: WATER

ate Sampled: 06/09/2004
e Sampled: 10:00

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methylene chloride	ND	100	500.0	0.64	ug/L	06/15/04 AM
8260B	n-Butylbenzene	ND	100	500.0	0.35	ug/L	06/15/04 AM
8260B	n-Propylbenzene	ND	100	500.0	0.18	ug/L	06/15/04 AM
8260B	Naphthalene	ND	100	500.0	0.88	ug/L	06/15/04 AM
8260B	p-Isopropyltoluene	ND	100	500.0	0.24	ug/L	06/15/04 AM
8260B	Pentachloroethane	ND	100	500.0	0.4	ug/L	06/15/04 AM
8260B	Propionitrile	ND	100	10000.0	1.9	ug/L	06/15/04 AM
8260B	sec-Butylbenzene	ND	100	500.0	0.28	ug/L	06/15/04 AM
8260B	Styrene	ND	100	500.0	0.20	ug/L	06/15/04 AM
8260B	tert-Butylbenzene	ND	100	500.0	0.35	ug/L	06/15/04 AM
8260B	Tetrachloroethene	ND	100	500.0	0.36	ug/L	06/15/04 AM
8260B	Toluene	1950	100	500.0	0.32	ug/L	06/15/04 AM
8260B	trans-1,2-Dichloroethene	ND	100	500.0	0.41	ug/L	06/15/04 AM
8260B	trans-1,3-Dichloropropene	ND	100	500.0	0.28	ug/L	06/15/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	100	2000.0	0.28	ug/L	06/15/04 AM
8260B	Trichloroethene	ND	100	500.0	0.23	ug/L	06/15/04 AM
8260B	Trichlorofluoromethane	ND	100	500.0	0.35	ug/L	06/15/04 AM
8260B	Vinyl acetate	ND	100	5000.0	0.3	ug/L	06/15/04 AM
8260B	Vinyl chloride	ND	100	500.0	0.27	ug/L	06/15/04 AM
8260B	Xylenes, total	3050	100	500.0	0.4	ug/L	06/15/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	96	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	102	%	70 - 135
8260B	Surr3 - Toluene-d8	100	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	99	%	70 - 135

415.1	Total Organic Carbon	27	2	1.0	0.3	mg/L	06/10/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527171 **Client Sample ID:** Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	06/16/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	06/16/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	06/16/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	06/16/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	06/16/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	06/16/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	06/16/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	06/16/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	06/16/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	06/16/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	06/16/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	06/16/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	06/16/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	06/16/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	06/16/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	06/16/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	06/16/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	06/16/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	06/16/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	06/16/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	06/16/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	06/16/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	06/16/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	06/16/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor

ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527171 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	06/16/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	06/16/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	06/16/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	06/16/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	06/16/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	06/16/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	06/16/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/16/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	06/16/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	06/16/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	06/16/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	06/16/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	06/16/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	06/16/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	06/16/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	06/16/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	06/16/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	06/16/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	06/16/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	06/16/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	06/16/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	06/16/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	06/16/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	06/16/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	06/16/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	06/16/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/16/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
) = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527171 **Client Sample ID:** Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	06/16/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	06/16/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	06/16/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	91	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	112	%	70 - 135
8260B	Surr3 - Toluene-d8	98	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	104	%	70 - 135

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527172 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	ND	1	5.0	1.8	mg/L	06/11/04 HK
310.1	Bicarbonate	ND	1	5.0	2.0	mg/L	06/11/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	06/11/04 HK
300.0	Chloride	ND	1	1.0	0.10	mg/L	06/10/04 RC
160.1	Filterable Residue (TDS)	ND	1	6.0	5.0	mg/L	06/10/04 LN
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	06/11/04 HK
300.0	Nitrate/Nitrite - N	ND	1	0.1	0.04	mg/L	06/10/04 RC
300.0	Sulfate	ND	1	1.0	0.20	mg/L	06/10/04 RC
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	06/10/04 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	06/10/04 LT
RSK-175	Methane	ND	1	0.005	0.005	mg/L	06/10/04 LT
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	06/15/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	06/15/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	06/15/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	06/15/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	06/15/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	06/15/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	06/15/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	06/15/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	06/15/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	06/15/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	06/15/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	06/15/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	06/15/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	06/15/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	06/15/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	06/15/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	06/15/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	06/15/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	06/15/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	06/15/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	06/15/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	06/15/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527172 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	06/15/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	06/15/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	06/15/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	06/15/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	06/15/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	06/15/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	06/15/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	06/15/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	06/15/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	06/15/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	06/15/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	06/15/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	06/15/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	06/15/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	06/15/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	06/15/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	06/15/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	06/15/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	06/15/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	06/15/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	06/15/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	06/15/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	06/15/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	06/15/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	06/15/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	06/15/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	06/15/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/15/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	06/15/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	06/15/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	06/15/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	06/15/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	06/15/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	06/15/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	06/15/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	06/15/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	06/15/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	06/15/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	06/15/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor

D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527172 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methylene chloride	ND	1	5	0.64	ug/L	06/15/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	06/15/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	06/15/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	06/15/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	06/15/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	06/15/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	06/15/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	06/15/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	06/15/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	06/15/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	06/15/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	06/15/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	06/15/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	06/15/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/15/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	06/15/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	06/15/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	06/15/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	06/15/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	06/15/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	89	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	111	%	70 - 135
8260B	Surr3 - Toluene-d8	101	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	104	%	70 - 135

415.1	Total Organic Carbon	ND	1	0.5	0.3	mg/L	06/10/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 130681-527169

Matrix: WATER

Prep. Date: June 10, 2004

Analysis Date: June 10, 2004

ID#'s in Batch: LR 130681

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	25,056	25,064	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	288	293	98	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 130720-527340

Matrix: WATER

Prep.Date: 06/10/04

Analysis Date: 06/10/04

Lab ID#'s in Batch: LR 130720, 130687, 130688, 130681, 130528, 130633, 130634,

MATRIX SPIKE / MATRIX SPIKE DUPLICATE I

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	38	200	243	242	103	102	0
SO4	300.0	86	200	295	297	105	106	1
NO3	300.0	0.7	100	109	107	108	106	2
NO2	300.0	ND	100	99.3	98.5	99	99	1

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	51	50	102	90%	110%
SO4	300.0	ND	51	50	102	90%	110%
NO3	300.0	ND	25.0	25	100	90%	110%
NO2	300.0	ND	4.8	5	96	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 130733-527416

Matrix: WATER

Prep.Date: 06/11/04

Analysis Date: 06/11/04

Lab ID#'s in Batch: LR 130733, 130706, 130733, 130736, 130681, 130755, 130796, 130798, 130821
LR 130827, 130828, + TRABUCO

MATRIX SPIKE / MATRIX SPIKE DUPLICATE 1

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	89	200	294	293	103	102	0
SO4	300.0	180	200	387	386	104	103	0
NO3	300.0	1.3	100	108	105	107	104	3
NO2	300.0	ND	100	102.0	99.8	102	100	2

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	52	50	104	90%	110%
SO4	300.0	ND	51	50	102	90%	110%
NO3	300.0	ND	25.0	25	100	90%	110%
NO2	300.0	ND	4.8	5	96	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 130681-169

Matrix: WATER

Prep. Date: June 10, 2004

Analysis Date: June 10, 2004

ID#'s in Batch: LR 130681, 130607

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
CH4	RSK-175	0.0520	0.0570	9.17

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 130681

Matrix: WATER

Prep. Date: June 10, 2004

Analysis Date: June 10, 2004

ID#'s in Batch: LR 130681, 130638

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1	3.3	10	13.0	13.2	97	99	2

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	9.7	10	97	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 130757

Matrix: WATER

Method : 310.1

Prep. Date: June 10, 2004

Analysis Date: June 10, 2004

ID#'s in Batch: LR 130757, 130681, 130638

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Sample Result	Sample Duplicate	RPD
Bicarbonate	165	165	0.0
Carbonate	ND	ND	0.0
Hydroxide	ND	ND	0.0
Total Alkalinity as CaCO3	135	135	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate
ND = "U" - Not Detected

RPD LIMITS = 20

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 130846-852

Analysis Date: June 16, 2004 10:30 AM

Applies to: LR 130681, 130521, 130845, 130846

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	48.98	49.41	98	99	1	22	59-172
MTBE	ND	50	48.64	48.21	97	96	1	24	62-137
Benzene	ND	50	52.83	52.94	106	106	0	24	62-137
Trichloroethene	1.93	50	48.81	48.84	94	94	0	21	66-142
Toluene	ND	50	49.85	51.57	100	103	3	21	59-139
Chlorobenzene	ND	50	50.69	51.68	101	103	2	21	60-133

QC Sample: LCS 9:07 PM
Analysis Date: June 15, 2004

LCS RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	47.63	95	59-172
MTBE	ND	50	47.50	95	62-137
Benzene	ND	50	51.43	103	62-137
Trichloroethene	ND	50	48.18	96	66-142
Toluene	ND	50	50.19	100	59-139
Chlorobenzene	ND	50	50.80	102	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS
DBFM	89	93	95	95	92
1,2-DCA	111	114	107	106	103
Tol-d8	101	97	97	99	99
p-BFB	104	102	100	103	102

BHATE

Environmental Engineers and Scientists

130681

Chain of Custody and Analytical Request

Page 1 of 1

Project Number: 9030024.0202

Chain of Custody Number [1]: 06092004.1

LIMS Number: _____

Facility/Base I.D.: Holmn

Project Name / Site Name: SS61

Client Name: USACE

Collected by: Germann, Kevin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of Containers	Sulfate, 300.0	Nitrate/Nitrite, 300.0	VOC, 8260	TDS, 160.1	Chloride, 300.0	TOC, 415.1	Alkalinity, 310.1	Methane/Ethane/Ethene RSK 175	Matrix Description	Trip Blank Lot Control Number	Cooler ID
SS61 - MW08	SS61-MW08	09062004	0830	26'-26'	N	1	WG	10	X	X	X	X	X	X	X	X			1
SS61 - MW03	SS61-MW03	09062004	1000	26'-26'	N	1	WG	10	X	X	X	X	X	X	X	X			1
Trip Blank	SS61-MW08 SS61-MW03			-	TB			1											
				-															
				-															
				-															
				-															
				-															
				-															
				-															
				-															

Sample Analysis Requested [5]

Quality Assurance Samples [6]

COMMENTS: Please fax results to (505) 679-2148
Fed ex # 9457 0583 1764
Email PDF to Hallaman

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. K.G.	6-9-04	1130	1. Duong Vu	6/10	10.45
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____

Method of Shipment: Fed ex Airbill Number: _____

Analytical Lab: Associated Delivery Location: Orange, CA

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-e) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique numb[illegible] number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 130607

REPORTED 06/16/2004

RECEIVED 06/09/2004

PROJECT Holmn - SS61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
526825	SS61-MW01
526826	Trip Blank
526827	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing , all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 526825 **Client Sample ID**: SS61-MW01

Matrix: WATER

Date Sampled: 06/08/2004
Time Sampled: 10:45

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	103	1	5.0	1.8	mg/L	06/10/04 HK
310.1	Bicarbonate	125	1	5.0	2.0	mg/L	06/10/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	06/10/04 HK
300.0	Chloride	7770	100	100.0	0.10	mg/L	06/10/04 BGS
160.1	Filterable Residue (TDS)	17500	1	6.0	5.0	mg/L	06/09/04 LN
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	06/10/04 HK
300.0	Nitrate (as NO3)	80.8	10	4.4	0.15	mg/L	06/10/04 BGS
300.0	Nitrite (as NO2)	ND	10	3.3	0.13	mg/L	06/10/04 BGS
300.0	Sulfate	2640	100	100.0	0.20	mg/L	06/10/04 BGS
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	06/10/04 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	06/10/04 LT
RSK-175	Methane	ND	1	0.005	0.005	mg/L	06/10/04 LT
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	06/12/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	06/12/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	06/12/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	06/12/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	06/12/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	06/12/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	06/12/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	06/12/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	06/12/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	06/12/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	06/12/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	06/12/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	06/12/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	06/12/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	06/12/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	06/12/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	06/12/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	06/12/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	06/12/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	06/12/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	06/12/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 526825 **Client Sample ID:** SS61-MW01

Matrix: WATER

ate Sampled: 06/08/2004
ne Sampled: 10:45

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	06/12/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	06/12/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	06/12/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	06/12/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	06/12/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	06/12/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	06/12/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	06/12/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	06/12/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	06/12/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	06/12/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	06/12/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	06/12/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	06/12/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	06/12/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	06/12/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	06/12/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	06/12/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	06/12/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	06/12/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	06/12/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	06/12/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	06/12/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	06/12/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	06/12/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	06/12/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	06/12/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	06/12/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/12/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	06/12/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	06/12/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	06/12/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	06/12/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	06/12/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	06/12/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	06/12/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	06/12/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	06/12/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	06/12/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 526825 **Client Sample ID:** SS61-MW01

Matrix: WATER

ıte Sampled: 06/08/2004
'me Sampled: 10:45

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	06/12/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	06/12/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	06/12/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	06/12/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	06/12/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	06/12/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	06/12/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	06/12/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	06/12/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	06/12/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	06/12/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	06/12/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	06/12/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	06/12/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	06/12/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/12/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	06/12/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	06/12/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	06/12/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	06/12/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	06/12/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	95	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	112	%	70 - 135
8260B	Surr3 - Toluene-d8	100	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	102	%	70 - 135

415.1	Total Organic Carbon	1.1	1	0.5	0.3	mg/L	06/10/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
) = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 526826 **Client Sample ID**: Trip Blank

Matrix: WATER

ıte Sampled: 06/08/2004

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	06/12/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	06/12/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	06/12/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	06/12/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	06/12/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	06/12/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	06/12/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	06/12/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	06/12/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	06/12/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	06/12/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	06/12/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	06/12/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	06/12/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	06/12/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	06/12/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	06/12/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	06/12/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	06/12/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	06/12/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	06/12/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	06/12/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	06/12/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	06/12/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	06/12/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	06/12/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	06/12/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	06/12/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	06/12/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	06/12/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	06/12/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	06/12/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	06/12/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	06/12/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	06/12/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	06/12/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	06/12/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	06/12/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 526826 **Client Sample ID:** Trip Blank

Matrix: WATER

ıte Sampled: 06/08/2004

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	06/12/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	06/12/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	06/12/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	06/12/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	06/12/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	06/12/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	06/12/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	06/12/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	06/12/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	06/12/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	06/12/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/12/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	06/12/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	06/12/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	06/12/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	06/12/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	06/12/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	06/12/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	06/12/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	06/12/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	06/12/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	06/12/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	06/12/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	06/12/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	06/12/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	06/12/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	06/12/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	06/12/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	06/12/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	06/12/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	06/12/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	06/12/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	06/12/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	06/12/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	06/12/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	06/12/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	06/12/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/12/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	06/12/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor

ᐣ = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 526826 **Client Sample ID:** Trip Blank

Matrix: WATER

ate Sampled: 06/08/2004

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	06/12/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	06/12/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	06/12/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	06/12/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	92	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	107	%	70 - 135
8260B	Surr3 - Toluene-d8	99	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	104	%	70 - 135

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
'D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 526827 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonat	ND	1	5.0	1.8	mg/L	06/10/04 HK
310.1	Bicarbonate	ND	1	5.0	2.0	mg/L	06/10/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	06/10/04 HK
300.0	Chloride	ND	1	1.0	0.10	mg/L	06/10/04 BGS
160.1	Filterable Residue (TDS)	ND	1	6.0	5.0	mg/L	06/09/04 LN
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	06/10/04 HK
300.0	Nitrate (as NO3)	ND	1	0.44	0.15	mg/L	06/10/04 BGS
300.0	Nitrite (as NO2)	ND	1	0.33	0.13	mg/L	06/10/04 BGS
300.0	Sulfate	ND	1	1.0	0.20	mg/L	06/10/04 BGS
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	06/10/04 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	06/10/04 LT
RSK-175	Methane	ND	1	0.005	0.005	mg/L	06/10/04 LT
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	06/11/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	06/11/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	06/11/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	06/11/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	06/11/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	06/11/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	06/11/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	06/11/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	06/11/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	06/11/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	06/11/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	06/11/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	06/11/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	06/11/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	06/11/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	06/11/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	06/11/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	06/11/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	06/11/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	06/11/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	06/11/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor

ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 526827 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	06/11/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	06/11/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	06/11/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	06/11/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	06/11/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	06/11/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	06/11/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	06/11/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	06/11/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	06/11/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	06/11/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	06/11/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	06/11/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	06/11/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	06/11/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	06/11/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	06/11/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	06/11/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	06/11/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	06/11/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	06/11/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	06/11/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	06/11/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	06/11/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	06/11/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	06/11/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	06/11/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	06/11/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/11/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	06/11/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	06/11/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	06/11/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	06/11/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	06/11/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	06/11/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	06/11/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	06/11/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	06/11/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	06/11/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 526827 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	06/11/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	06/11/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	06/11/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	06/11/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	06/11/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	06/11/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	06/11/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	06/11/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	06/11/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	06/11/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	06/11/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	06/11/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	06/11/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	06/11/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	06/11/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/11/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	06/11/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	06/11/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	06/11/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	06/11/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	06/11/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	92	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	108	%	70 - 135
8260B	Surr3 - Toluene-d8	99	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	100	%	70 - 135

415.1	Total Organic Carbon	ND	1	0.5	0.3	mg/L	06/10/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 130607

Matrix: WATER

Prep. Date: June 9, 2004

Analysis Date: June 9, 2004

ID#'s in Batch: LR 130607, 130534, 130609

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	17,496	17,488	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	294	293	100	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 130638-526973

Matrix: WATER

Prep.Date: 06/09/04

Analysis Date: 06/09/04

Lab ID#'s in Batch: LR 130368, 130607, 130653

MATRIX SPIKE / MATRIX SPIKE DUPLICATE 1

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	1500	1000	2536	2549	104	105	1
SO4	300.0	167	200	374	371	104	102	1
NO3	300.0	ND	100	103	106	103	106	3
NO2	300.0	ND	100	115.0	113.0	115	113	2

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	53	50	105	90%	110%
SO4	300.0	ND	52	50	104	90%	110%
NO3	300.0	ND	52.2	25	209	90%	110%
NO2	300.0	ND	4.8	5	96	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 130607

Matrix: WATER

Prep. Date: June 10, 2004

Analysis Date: June 10, 2004

ID#'s in Batch: LR 130607, 130723

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1	1.0	10	10.4	10.8	94	98	4

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	9.7	10	97	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 130681-169

Matrix: WATER

Prep. Date: June 10, 2004

Analysis Date: June 10, 2004

ID#'s in Batch: LR 130681, 130607

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
CH4	RSK-175	0.0520	0.0570	9.17

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 130607-825

Analysis Date: June 12, 2004 6:28 AM

Applies to: LR 130569, 130607, 130681

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	57.89	46.99	47.27	81	82	1	22	59-172
MTBE	ND	47.23	45.86	48.61	97	103	6	24	62-137
Benzene	ND	48.73	50.88	52.46	104	108	3	24	62-137
Trichloroethene	ND	49.26	46.64	48.65	95	99	4	21	66-142
Toluene	ND	49.37	48.64	51.47	99	104	6	21	59-139
Chlorobenzene	ND	49.64	48.65	50.83	98	102	4	21	60-133

QC Sample: LCS 12:27 PM
Analysis Date: June 12, 2004

LCS RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	49.47	99	59-172
MTBE	ND	50	49.55	99	62-137
Benzene	ND	50	53.49	107	62-137
Trichloroethene	ND	50	51.33	103	66-142
Toluene	ND	50	51.77	104	59-139
Chlorobenzene	ND	50	53.42	107	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS
DBFM	90	92	95	95	94
1,2-DCA	106	108	103	102	101
Tol-d8	103	99	99	101	100
p-BFB	106	100	103	107	103

130607

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

Page 1 of 1

Project Number: 9030024.02.02

Chain of Custody Number [1]: 060820041

LIMS Number:

Facility/Base I.D.: Holman

Project Name / Site Name: 5561

Client Name: USACE

Collected by: GerMann, Kevin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of containers	Sulfate 9038	Nitrate/Nitrite 8000	VOC 8260	TDS 160.1	Chloride 300	TOC 9060	Alkalinity 310.1	Methane/Ethane/Ethene RSK 175	Matrix Description	Trip Blank Lot Control Number	Cooler ID
5561-MW01	5561-MW01	08 06 2004	1045	34'-34'	N	1	WG	11	X	X	X	X	X	X	X	X			
Trip Blank	5561-MW01			-	TB			1											

Sample Analysis Requested [5]

Quality Assurance Samples [6]

COMMENTS: Please fax results to (505) 679-2148
Fed Ex # 8457 0583 1753
EMail PDF To Holloman

TALKED TO CLIENT, SULFATE, NITRITE/NITRATE DONE BY 300.0 TOC - 415.1
KD 6/9

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	KDG	6/8/04	1200	[illegible]	6/9	10
2.						
3.				[illegible]	6-9-04	11:40

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: Shipped No.:

Method of Shipment: Fed ex Airbill Number:

Analytical Lab: Associated Delivery Location: Orange, Ca

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 FAX 714/538-1209

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 130845
REPORTED 06/17/2004
RECEIVED 06/12/2004

PROJECT Holmn - SS61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
527849	SS61-MW06
527850	Trip Blank
527851	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 527849 **Client Sample ID:** SS61-MW06

Matrix: WATER

Date Sampled: 06/11/2004
Time Sampled: 07:15

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	883	1	5.0	1.8	mg/L	06/14/04 DK
310.1	Bicarbonate	1080	1	5.0	2.0	mg/L	06/14/04 DK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	06/14/04 DK
300.0	Chloride	4370	100	100.0	0.10	mg/L	06/15/04 RC
160.1	Filterable Residue (TDS)	16700	1	6.0	5.0	mg/L	06/14/04 LN
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	06/14/04 DK
300.0	Nitrate (as NO3)	16	1	0.44	0.15	mg/L	06/12/04 RC
300.0	Nitrite (as NO2)	ND	1	0.33	0.13	mg/L	06/12/04 RC
300.0	Sulfate	6490	100	100.0	0.20	mg/L	06/15/04 RC
RSK-175	Ethane	0.041	1	0.005	0.005	mg/L	06/15/04 CH
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	06/15/04 CH
RSK-175	Methane	0.023	1	0.005	0.005	mg/L	06/15/04 CH
8260B	1,1,1,2-Tetrachloroethane	ND	10	50.0	0.83	ug/L	06/16/04 AM
8260B	1,1,1-Trichloroethane	ND	10	50.0	0.25	ug/L	06/16/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	10	50.0	0.26	ug/L	06/16/04 AM
8260B	1,1,2-Trichloroethane	ND	10	50.0	0.15	ug/L	06/16/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	10	50.0	0.10	ug/L	06/16/04 AM
8260B	1,1-Dichloroethane	ND	10	50.0	0.31	ug/L	06/16/04 AM
8260B	1,1-Dichloroethene	ND	10	50.0	0.62	ug/L	06/16/04 AM
8260B	1,1-Dichloropropene	ND	10	50.0	0.72	ug/L	06/16/04 AM
8260B	1,2,3-Trichlorobenzene	ND	10	50.0	0.61	ug/L	06/16/04 AM
8260B	1,2,3-Trichloropropane	ND	10	50.0	0.22	ug/L	06/16/04 AM
8260B	1,2,4-Trichlorobenzene	ND	10	50.0	0.61	ug/L	06/16/04 AM
8260B	1,2,4-Trimethylbenzene	76	10	50.0	0.49	ug/L	06/16/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	10	50.0	1.74	ug/L	06/16/04 AM
8260B	1,2-Dibromoethane	ND	10	50.0	0.26	ug/L	06/16/04 AM
8260B	1,2-Dichlorobenzene	ND	10	50.0	0.18	ug/L	06/16/04 AM
8260B	1,2-Dichloroethane	61	10	50.0	0.17	ug/L	06/16/04 AM
8260B	1,2-Dichloropropane	ND	10	50.0	0.26	ug/L	06/16/04 AM
8260B	1,3,5-Trimethylbenzene	ND	10	50.0	0.26	ug/L	06/16/04 AM
8260B	1,3-Dichlorobenzene	ND	10	50.0	0.41	ug/L	06/16/04 AM
8260B	1,3-Dichloropropane	ND	10	50.0	0.24	ug/L	06/16/04 AM
8260B	1,4-Dichlorobenzene	ND	10	50.0	0.35	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527849 **Client Sample ID:** SS61-MW06

Matrix: WATER

Date Sampled: 06/11/2004
Time Sampled: 07:15

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1-Chlorohexane	ND	10	50.0	0.32	ug/L	06/16/04 AM
8260B	2,2-Dichloropropane	ND	10	50.0	0.30	ug/L	06/16/04 AM
8260B	2-Butanone (MEK)	ND	10	1000.0	0.75	ug/L	06/16/04 AM
8260B	2-Chloroethyl vinyl ether	ND	10	50.0	0.25	ug/L	06/16/04 AM
8260B	2-Chlorotoluene	ND	10	50.0	0.18	ug/L	06/16/04 AM
8260B	2-Hexanone	ND	10	200.0	0.78	ug/L	06/16/04 AM
8260B	4-Chlorotoluene	ND	10	50.0	0.18	ug/L	06/16/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	10	100.0	0.20	ug/L	06/16/04 AM
8260B	Acetone	ND	10	1000.0	3.18	ug/L	06/16/04 AM
8260B	Acetonitrile	ND	10	500.0	0.49	ug/L	06/16/04 AM
8260B	Acrolein	ND	10	2000.0	3.3	ug/L	06/16/04 AM
8260B	Acrylonitrile	ND	10	100.0	1.6	ug/L	06/16/04 AM
8260B	Allyl chloride	ND	10	50.0	0.3	ug/L	06/16/04 AM
8260B	Benzene	4640	100	100.0	0.22	ug/L	06/16/04 AM
8260B	Benzyl chloride	ND	10	50.0	0.37	ug/L	06/16/04 AM
8260B	Bromobenzene	ND	10	50.0	0.58	ug/L	06/16/04 AM
8260B	Bromochloromethane	ND	10	50.0	0.30	ug/L	06/16/04 AM
8260B	Bromodichloromethane	ND	10	50.0	0.25	ug/L	06/16/04 AM
8260B	Bromoform	ND	10	50.0	0.17	ug/L	06/16/04 AM
8260B	Bromomethane	ND	10	50.0	1.15	ug/L	06/16/04 AM
8260B	Carbon Disulfide	ND	10	50.0	2.56	ug/L	06/16/04 AM
8260B	Carbon tetrachloride	ND	10	50.0	0.49	ug/L	06/16/04 AM
8260B	Chlorobenzene	ND	10	50.0	0.18	ug/L	06/16/04 AM
8260B	Chloroethane	ND	10	50.0	0.4	ug/L	06/16/04 AM
8260B	Chloroform	ND	10	50.0	0.36	ug/L	06/16/04 AM
8260B	Chloromethane	ND	10	50.0	0.27	ug/L	06/16/04 AM
8260B	cis-1,2-Dichloroethene	ND	10	50.0	0.30	ug/L	06/16/04 AM
8260B	cis-1,3-Dichloropropene	ND	10	50.0	0.22	ug/L	06/16/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	10	200.0	0.28	ug/L	06/16/04 AM
8260B	Dibromochloromethane	ND	10	50.0	0.22	ug/L	06/16/04 AM
8260B	Dibromomethane	ND	10	50.0	0.25	ug/L	06/16/04 AM
8260B	Dichlorodifluoromethane	ND	10	50.0	0.08	ug/L	06/16/04 AM
8260B	Ethyl benzene	210	10	50.0	0.31	ug/L	06/16/04 AM
8260B	Ethyl methacrylate	ND	10	500.0	0.2	ug/L	06/16/04 AM
8260B	Hexachlorobutadiene	ND	10	50.0	0.24	ug/L	06/16/04 AM
8260B	Iodomethane	ND	10	50.0	0.5	ug/L	06/16/04 AM
8260B	Isopropylbenzene (Cumene)	1330	10	50.0	0.23	ug/L	06/16/04 AM
8260B	Methacrylonitrile	ND	10	350.0	0.43	ug/L	06/16/04 AM
8260B	Methyl methacrylate	ND	10	50.0	0.38	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527849 **Client Sample ID:** SS61-MW06

Matrix: WATER

te Sampled: 06/11/2004
e Sampled: 07:15

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	10	10.0	0.18	ug/L	06/16/04 AM
8260B	Methylene chloride	ND	10	50.0	0.64	ug/L	06/16/04 AM
8260B	n-Butylbenzene	ND	10	50.0	0.35	ug/L	06/16/04 AM
8260B	n-Propylbenzene	11 J	10	50.0	0.18	ug/L	06/16/04 AM
8260B	Naphthalene	ND	10	50.0	0.88	ug/L	06/16/04 AM
8260B	p-Isopropyltoluene	ND	10	50.0	0.24	ug/L	06/16/04 AM
8260B	Pentachloroethane	ND	10	50.0	0.4	ug/L	06/16/04 AM
8260B	Propionitrile	ND	10	1000.0	1.9	ug/L	06/16/04 AM
8260B	sec-Butylbenzene	ND	10	50.0	0.28	ug/L	06/16/04 AM
8260B	Styrene	ND	10	50.0	0.20	ug/L	06/16/04 AM
8260B	tert-Butylbenzene	ND	10	50.0	0.35	ug/L	06/16/04 AM
8260B	Tetrachloroethene	ND	10	50.0	0.36	ug/L	06/16/04 AM
8260B	Toluene	22 J	10	50.0	0.32	ug/L	06/16/04 AM
8260B	trans-1,2-Dichloroethene	ND	10	50.0	0.41	ug/L	06/16/04 AM
8260B	trans-1,3-Dichloropropene	ND	10	50.0	0.28	ug/L	06/16/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	10	200.0	0.28	ug/L	06/16/04 AM
8260B	Trichloroethene	ND	10	50.0	0.23	ug/L	06/16/04 AM
8260B	Trichlorofluoromethane	ND	10	50.0	0.35	ug/L	06/16/04 AM
8260B	Vinyl acetate	ND	10	500.0	0.3	ug/L	06/16/04 AM
8260B	Vinyl chloride	ND	10	50.0	0.27	ug/L	06/16/04 AM
8260B	Xylenes, total	188	10	50.0	0.4	ug/L	06/16/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	99	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	83	%	70 - 135
8260B	Surr3 - Toluene-d8	98	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	98	%	70 - 135

415.1	Total Organic Carbon	16	2	1.0	0.3	mg/L	06/14/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527850 **Client Sample ID:** Trip Blank

Matrix: WATER

Date Sampled: 06/11/2004

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	06/16/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	06/16/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	06/16/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	06/16/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	06/16/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	06/16/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	06/16/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	06/16/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	06/16/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	06/16/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	06/16/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	06/16/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	06/16/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	06/16/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	06/16/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	06/16/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	06/16/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	06/16/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	06/16/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	06/16/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	06/16/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	06/16/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	06/16/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	06/16/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	06/16/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor

ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527850 **Client Sample ID:** Trip Blank

Matrix: WATER

ıte Sampled: 06/11/2004

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	06/16/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	06/16/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	06/16/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	06/16/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	06/16/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	06/16/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	06/16/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	06/16/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/16/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	06/16/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	06/16/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	06/16/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	06/16/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	06/16/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	06/16/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	06/16/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	06/16/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	06/16/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	06/16/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	06/16/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	06/16/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	06/16/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	06/16/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	06/16/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	06/16/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	06/16/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	06/16/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	06/16/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	06/16/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	06/16/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	06/16/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/16/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	06/16/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor

) = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527850 **Client Sample ID**: Trip Blank

Matrix: WATER

te Sampled: 06/11/2004

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	06/16/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	06/16/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	06/16/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	06/16/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	95	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	113	%	70 - 135
8260B	Surr3 - Toluene-d8	101	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	105	%	70 - 135

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527851 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonat	ND	1	5.0	1.8	mg/L	06/14/04 DK
310.1	Bicarbonate	ND	1	5.0	2.0	mg/L	06/14/04 DK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	06/14/04 DK
300.0	Chloride	ND	1	1.0	0.10	mg/L	06/12/04 RC
160.1	Filterable Residue (TDS)	ND	1	6.0	5.0	mg/L	06/14/04 LN
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	06/14/04 DK
300.0	Nitrate (as NO3)	ND	1	0.44	0.15	mg/L	06/12/04 RC
300.0	Nitrite (as NO2)	ND	1	0.33	0.13	mg/L	06/12/04 RC
300.0	Sulfate	ND	1	1.0	0.20	mg/L	06/12/04 RC
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	06/15/04 CH
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	06/15/04 CH
RSK-175	Methane	ND	1	0.005	0.005	mg/L	06/15/04 CH
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	06/15/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	06/15/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	06/15/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	06/15/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	06/15/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	06/15/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	06/15/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	06/15/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	06/15/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	06/15/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	06/15/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	06/15/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	06/15/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	06/15/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	06/15/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	06/15/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	06/15/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	06/15/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	06/15/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	06/15/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	06/15/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527851 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	06/15/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	06/15/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	06/15/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	06/15/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	06/15/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	06/15/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	06/15/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	06/15/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	06/15/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	06/15/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	06/15/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	06/15/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	06/15/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	06/15/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	06/15/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	06/15/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	06/15/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	06/15/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	06/15/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	06/15/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	06/15/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	06/15/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	06/15/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	06/15/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	06/15/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	06/15/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	06/15/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	06/15/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/15/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	06/15/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	06/15/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	06/15/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	06/15/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	06/15/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	06/15/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	06/15/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	06/15/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	06/15/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	06/15/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor

D = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 527851 **Client Sample ID.** Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	06/15/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	06/15/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	06/15/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	06/15/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	06/15/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	06/15/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	06/15/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	06/15/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	06/15/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	06/15/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	06/15/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	06/15/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	06/15/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	06/15/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	06/15/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	06/15/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	06/15/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	06/15/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	06/15/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	06/15/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	06/15/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	89	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	111	%	70 - 135
8260B	Surr3 - Toluene-d8	101	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	104	%	70 - 135

415.1	Total Organic Carbon	ND	1	0.5	0.3	mg/L	06/14/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 130845-849

Matrix: WATER

Prep. Date: June 15, 2004

Analysis Date: June 15, 2004

ID#'s in Batch: LR 130845, 130846

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
CH4	RSK-175	0.0415	0.0415	0.0
C2H4	RSK-175	ND	ND	0.0
C2H6	RSK-175	0.0230	0.0230	0.0

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 130847-527857

Matrix: WATER

Prep. Date: June 14, 2004

Analysis Date: June 14, 2004

ID#'s in Batch: LR 130847, 130846, 130845

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	9,512	9,524	0.1

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	296	293	101	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 130847-1

Matrix: WATER

Prep. Date: June 14, 2004

Analysis Date: June 14, 2004

ID#'s in Batch: LR 130847, 130846, 130845

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1	4.1	10	14.3	15.0	102	109	5

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	9.8	10	98	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 130846-527852

Matrix: WATER

Prep.Date: 06/12/04

Analysis Date: 06/12/04

Lab ID#'s in Batch: LR 130846, 130845, 130836

MATRIX SPIKE / MATRIX SPIKE DUPLICATE 1

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	1640	2000	3700	3700	103	103	0
SO4	300.0	4850	2000	6960	6960	106	106	0
NO3	300.0	103.0	1000	1120	1150	102	105	3
NO2	300.0	ND	500	478.0	451.0	96	90	6

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	48	50	96	90%	110%
SO4	300.0	ND	47	50	94	90%	110%
NO3	300.0	ND	23.0	25	92	90%	110%
NO2	300.0	ND	4.6	5	92	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 130845-527849

Matrix: WATER

Prep.Date: 06/15/04

Analysis Date: 06/15/04

Lab ID#'s in Batch: LR 130845, 130909

MATRIX SPIKE / MATRIX SPIKE DUPLICATE 1

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	4370	4000	8056	8065	92	92	0
SO4	300.0	6490	4000	9918	9919	86	86	0
NO3	300.0	16.2	2000	1935	1931	96	96	0
NO2	300.0	ND	2000	1902.0	1949.0	95	97	2

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	52	50	104	90%	110%
SO4	300.0	ND	51	50	101	90%	110%
NO3	300.0	ND	25.6	25	102	90%	110%
NO2	300.0	ND	10.2	10	102	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 130846-852

Analysis Date: June 16, 2004 10:30 AM

Applies to: LR 130681, 130521, 130845, 130846

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	48.98	49.41	98	99	1	22	59-172
MTBE	ND	50	48.64	48.21	97	96	1	24	62-137
Benzene	ND	50	52.83	52.94	106	106	0	24	62-137
Trichloroethene	ND	50	48.81	48.84	98	98	0	21	66-142
Toluene	ND	50	49.85	51.57	100	103	3	21	59-139
Chlorobenzene	ND	50	50.69	51.68	101	103	2	21	60-133

QC Sample: LCS 9:07 PM
Analysis Date: June 15, 2004

LCS RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	47.63	95	59-172
MTBE	ND	50	47.50	95	62-137
Benzene	ND	50	51.43	103	62-137
Trichloroethene	ND	50	48.18	96	66-142
Toluene	ND	50	50.19	100	59-139
Chlorobenzene	ND	50	50.80	102	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS
DBFM	89	93	95	95	92
1,2-DCA	111	114	107	106	103
Tol-d8	101	97	97	99	99
p-BFB	104	102	100	103	102

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

C Sample: MS / MSD - Water Samples 130950-592

lysis Date: June 16, 2004 11:41 PM

Applies to: LR 130760, 130845, 130950, 130744, 130745

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	46.00	47.48	92	95	3	22	59-172
MTBE	ND	50	47.70	48.22	95	96	1	24	62-137
Benzene	ND	50	49.96	50.51	100	101	1	24	62-137
Trichloroethene	ND	50	47.22	47.94	94	96	2	21	66-142
Toluene	ND	50	49.23	51.10	98	102	4	21	59-139
Chlorobenzene	ND	50	48.71	50.57	97	101	4	21	60-133

QC Sample: LCS 3:04 PM
Analysis Date: June 16, 2004

CS RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	47.60	95	59-172
MTBE	ND	50	46.39	93	62-137
Benzene	ND	50	50.20	100	62-137
Trichloroethene	ND	50	48.96	98	66-142
Toluene	ND	50	51.00	102	59-139
Chlorobenzene	ND	50	51.71	103	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS
DBFM	92	91	91	93	91
1,2-DCA	113	104	104	103	100
Tol-d8	100	100	100	96	98
p-BFB	101	102	102	100	98

BHATE

Environmental Engineers and Scientists

130845

Chain of Custody and Analytical Request

0.9

Page 1 of 1

Project Number: 9030024.02.02

Chain of Custody Number [1]: 06112004.1

LIMS Number:

Facility/Base I.D.: Holman

Project Name / Site Name: SS61

Client Name: USACE

Collected by: Germann, Kevin

Field Sample ID (10 Characters Max)	ERPIMS LOCID (12 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [2]	Sample Matrix [2]	Number of containers	VOC 8260	Sulfate 300	Nitrate/Nitrite 300	TDS 160.1	Chloride 300	TOC 9060	Alkalinity 310.1	Methane/Ethane/Ethene RSK175	Matrix Description	Trip Blank Lot Control Number	Cooler ID
SS61-MW06	SS61	11062004	0715	23'-23'	N	1	WG	11	/	/	/	/	/	/	/	/			1
Trip Blank				-	TB														1
				-															
				-															
				-															
				-															
				-															
				-															
				-															
				-															
				-															

Sample Analysis Requested [3]

Quality Assurance Samples [4]

COMMENTS: Please FAX Results to 505-679-2148
Email PDF to Holman
FedEx # 845705891775

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. KDF	6/11/04	1600	1. Kristen Endler	6/11/04	1010
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____

Method of Shipment: Fed EX Airbill Number: _____

Analytical Lab: Associated Delivery Location: Orange, CA

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 135777
REPORTED 09/10/2004
RECEIVED 09/03/2004

PROJECT Holmn - Spill Site 61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
552047	SS61-MW01
552048	SS61-MW04
552049	Trip Blank
552050	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 552047 **Client Sample ID:** SS61-MW01

Matrix: WATER **Sample Description:** SS61

Date Sampled: 09/02/2004
Time Sampled: 07:42

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	105	1	5.0	1.8	mg/L	09/07/04 HK
310.1	Bicarbonate	128	1	5.0	2.0	mg/L	09/07/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	09/07/04 HK
300.0	Chloride	7520	100	100.0	0.10	mg/L	09/03/04 RC
160.1	Filterable Residue (TDS)	17300	1	6.0	5.0	mg/L	09/03/04 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	09/07/04 HK
300.0	Nitrate/Nitrite - N	16.3	5	0.5	0.04	mg/L	09/03/04 RC
300.0	Sulfate	2470	100	100.0	0.20	mg/L	09/03/04 RC
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	09/03/04 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	09/03/04 LT
RSK-175	Methane	ND	1	0.005	0.005	mg/L	09/03/04 LT
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	09/09/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	09/09/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	09/09/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	09/09/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	09/09/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	09/09/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	09/09/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	09/09/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	09/09/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	09/09/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	09/09/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	09/09/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	09/09/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	09/09/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	09/09/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	09/09/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	09/09/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	09/09/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	09/09/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	09/09/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	09/09/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	09/09/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552047 **Client Sample ID:** SS61-MW01

Matrix: WATER **Sample Description:** SS61

Date Sampled: 09/02/2004
Time Sampled: 07:42

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	09/09/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	09/09/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	09/09/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	09/09/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	09/09/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	09/09/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	09/09/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	09/09/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	09/09/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	09/09/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	09/09/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	09/09/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	09/09/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	09/09/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	09/09/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	09/09/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	09/09/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	09/09/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	09/09/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	09/09/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	09/09/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	09/09/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	09/09/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	09/09/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	09/09/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	09/09/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	09/09/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/09/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	09/09/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	09/09/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	09/09/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	09/09/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	09/09/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	09/09/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	09/09/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	09/09/04 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	09/09/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	09/09/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	09/09/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552047 **Client Sample ID:** SS61-MW01

Matrix: WATER **Sample Description:** SS61

Date Sampled: 09/02/2004
Time Sampled: 07:42

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	09/09/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	09/09/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	09/09/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	09/09/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	09/09/04 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	09/09/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	09/09/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	09/09/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	09/09/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	09/09/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	09/09/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	09/09/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	09/09/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	09/09/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	09/09/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	09/09/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/09/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	09/09/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	09/09/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	09/09/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	09/09/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	09/09/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	92	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	106	%	70 - 135
8260B	Surr3 - Toluene-d8	94	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	93	%	70 - 135

415.1	Total Organic Carbon	1.0	1	0.5	0.3	mg/L	09/07/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552048 **Client Sample ID:** SS61-MW04

Matrix: WATER **Sample Description:** SS61

Date Sampled: 09/02/2004
Time Sampled: 09:28

Method	Analyte	Result		DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	167		1	5.0	1.8	mg/L	09/07/04 HK
310.1	Bicarbonate	204		1	5.0	2.0	mg/L	09/07/04 HK
310.1	Carbonate	ND		1	5.0	1.1	mg/L	09/07/04 HK
300.0	Chloride	1280		100	100.0	0.10	mg/L	09/03/04 RC
160.1	Filterable Residue (TDS)	9520		1	6.0	5.0	mg/L	09/03/04 MS
310.1	Hydroxide	ND		1	5.0	0.4	mg/L	09/07/04 HK
300.0	Nitrate/Nitrite - N	20.2		1	0.1	0.04	mg/L	09/03/04 RC
300.0	Sulfate	4380		100	100.0	0.20	mg/L	09/03/04 RC
RSK-175	Ethane	ND		1	0.005	0.005	mg/L	09/03/04 LT
RSK-175	Ethene	ND		1	0.005	0.005	mg/L	09/03/04 LT
RSK-175	Methane	ND		1	0.005	0.005	mg/L	09/03/04 LT
8260B	1,1,1,2-Tetrachloroethane	ND		1	5	0.83	ug/L	09/07/04 AM
8260B	1,1,1-Trichloroethane	ND		1	5	0.25	ug/L	09/07/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND		1	5	0.26	ug/L	09/07/04 AM
8260B	1,1,2-Trichloroethane	ND		1	5	0.15	ug/L	09/07/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND		1	5	0.10	ug/L	09/07/04 AM
8260B	1,1-Dichloroethane	ND		1	5	0.31	ug/L	09/07/04 AM
8260B	1,1-Dichloroethene	ND		1	5	0.62	ug/L	09/07/04 AM
8260B	1,1-Dichloropropene	ND		1	5	0.72	ug/L	09/07/04 AM
8260B	1,2,3-Trichlorobenzene	ND		1	5	0.61	ug/L	09/07/04 AM
8260B	1,2,3-Trichloropropane	ND		1	5	0.22	ug/L	09/07/04 AM
8260B	1,2,4-Trichlorobenzene	ND		1	5	0.61	ug/L	09/07/04 AM
8260B	1,2,4-Trimethylbenzene	ND		1	5	0.49	ug/L	09/07/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND		1	5	1.74	ug/L	09/07/04 AM
8260B	1,2-Dibromoethane	ND		1	5	0.26	ug/L	09/07/04 AM
8260B	1,2-Dichlorobenzene	ND		1	5	0.18	ug/L	09/07/04 AM
8260B	1,2-Dichloroethane	1.1	J	1	5	0.17	ug/L	09/07/04 AM
8260B	1,2-Dichloropropane	ND		1	5	0.26	ug/L	09/07/04 AM
8260B	1,3,5-Trimethylbenzene	ND		1	5	0.26	ug/L	09/07/04 AM
8260B	1,3-Dichlorobenzene	ND		1	5	0.41	ug/L	09/07/04 AM
8260B	1,3-Dichloropropane	ND		1	5	0.24	ug/L	09/07/04 AM
8260B	1,4-Dichlorobenzene	ND		1	5	0.35	ug/L	09/07/04 AM
8260B	1-Chlorohexane	ND		1	5	0.32	ug/L	09/07/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552048 **Client Sample ID:** SS61-MW04

Matrix: WATER **Sample Description:** SS61

Date Sampled: 09/02/2004
Time Sampled: 09:28

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	09/07/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	09/07/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	09/07/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	09/07/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	09/07/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	09/07/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	09/07/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	09/07/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	09/07/04 AM
8260B	Benzene	1.5	1	1	0.22	ug/L	09/07/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	09/07/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	09/07/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	09/07/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	09/07/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	09/07/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	09/07/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	09/07/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	09/07/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	09/07/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	09/07/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	09/07/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/07/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	09/07/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	09/07/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	09/07/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	09/07/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	09/07/04 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	09/07/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	09/07/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	09/07/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552048 **Client Sample ID:** SS61-MW04

Matrix: WATER **Sample Description:** SS61

Date Sampled: 09/02/2004
Time Sampled: 09:28

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	09/07/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	09/07/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	09/07/04 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	09/07/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	09/07/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	09/07/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	09/07/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	09/07/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	09/07/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	09/07/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	09/07/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/07/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	09/07/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	09/07/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	09/07/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	09/07/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	92	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	100	%	70 - 135
8260B	Surr3 - Toluene-d8	101	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	93	%	70 - 135

415.1	Total Organic Carbon	3.4	1	0.5	0.3	mg/L	09/07/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552049 **Client Sample ID:** Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	09/07/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	09/07/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	09/07/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	09/07/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	09/07/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	09/07/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	09/07/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	09/07/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	09/07/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	09/07/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	09/07/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	09/07/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	09/07/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	09/07/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	09/07/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	09/07/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	09/07/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	09/07/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	09/07/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	09/07/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	09/07/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	09/07/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	09/07/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	09/07/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	09/07/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	09/07/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552049 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	09/07/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	09/07/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	09/07/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	09/07/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	09/07/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	09/07/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	09/07/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	09/07/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/07/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	09/07/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	09/07/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	09/07/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	09/07/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	09/07/04 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	09/07/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	09/07/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	09/07/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	09/07/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	09/07/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	09/07/04 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	09/07/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	09/07/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	09/07/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	09/07/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	09/07/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	09/07/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	09/07/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	09/07/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor

ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552049 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/07/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	09/07/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	09/07/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	09/07/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	09/07/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	90	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	99	%	70 - 135
8260B	Surr3 - Toluene-d8	94	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	96	%	70 - 135

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552050 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonat	ND	1	5.0	1.8	mg/L	09/07/04 HK
310.1	Bicarbonate	ND	1	5.0	2.0	mg/L	09/07/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	09/07/04 HK
300.0	Chloride	ND	1	1.0	0.10	mg/L	09/03/04 RC
160.1	Filterable Residue (TDS)	ND	1	6.0	5.0	mg/L	09/03/04 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	09/07/04 HK
300.0	Nitrate/Nitrite - N	ND	1	0.1	0.04	mg/L	09/03/04 RC
300.0	Sulfate	ND	1	1.0	0.20	mg/L	09/03/04 RC
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	09/03/04 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	09/03/04 LT
RSK-175	Methane	ND	1	0.005	0.005	mg/L	09/03/04 LT
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	09/07/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	09/07/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	09/07/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	09/07/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	09/07/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	09/07/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	09/07/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	09/07/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	09/07/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	09/07/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	09/07/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	09/07/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	09/07/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552050 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	09/07/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	09/07/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	09/07/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	09/07/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	09/07/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	09/07/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	09/07/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	09/07/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	09/07/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	09/07/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	09/07/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	09/07/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	09/07/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	09/07/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	09/07/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	09/07/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	09/07/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	09/07/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	09/07/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	09/07/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	09/07/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/07/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	09/07/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	09/07/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	09/07/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	09/07/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	09/07/04 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	09/07/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	09/07/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	09/07/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552050 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	09/07/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	09/07/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	09/07/04 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	09/07/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	09/07/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	09/07/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	09/07/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	09/07/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	09/07/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	09/07/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	09/07/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/07/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	09/07/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	09/07/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	09/07/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	09/07/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	93	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	100	%	70 - 135
8260B	Surr3 - Toluene-d8	101	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	98	%	70 - 135

415.1	Total Organic Carbon	ND	1	0.5	0.3	mg/L	09/07/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 135737

Matrix: WATER

Prep. Date: Sep 03-04

Analysis Date: Sep 03-04

ID#'s in Batch: LR 135737, 135736, 135672, 135777, 135728

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	546	542	0.7

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	288	293	98	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 135777-552047

Matrix: WATER

Prep. Date: 09/03/04

Analysis Date: 09/03/04

Lab ID#'s in Batch: LR 135777, 135783, 135830, 135579, 135580, 135670

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	7520	4000	11500	11400	100	97	1
SO4	300.0	2470	4000	6300	6300	96	96	0
NO3	300.0	72.4	2000	1940.0	1930	93	93	1
NO2	300.0	ND	2000	1940	1920	97	96	1

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	52	50	104	90%	110%
SO4	300.0	ND	52	50	104	90%	110%
NO3	300.0	ND	25.4	25	102	90%	110%
NO2	300.0	ND	5.2	5	104	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 135777-048

Matrix: WATER

Prep. Date: Sep 03-04

Analysis Date: Sep 03-04

ID#'s in Batch: LR 135777

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
CH4	RSK-175	ND	ND	0.00
C2H4	RSK-175	ND	ND	0.00
C2H6	RSK-175	ND	ND	0.00

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 135777-1

Matrix: WATER

Prep. Date: Sep 07-04

Analysis Date: Sep 07-04

ID#'s in Batch: LR 135777, 135774

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1	0.9	10	10.1	10.1	92	92	0

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	9.9	10	99	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 135777-048

Analysis Date: Sep 08-04 12:42 AM

Applies to: LR 135841, 135694, 135777, 135495, 135287, 135294, 135444

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	43.36	42.95	87	86	1	22	59-172
MTBE	ND	50	45.84	45.76	92	92	0	24	62-137
Benzene	1.54	50	50.54	52.12	98	101	3	24	62-137
Trichloroethene	ND	50	48.76	48.87	98	98	0	21	66-142
Toluene	ND	50	50.94	47.83	102	96	6	21	59-139
Chlorobenzene	ND	50	49.66	49.70	99	99	0	21	60-133

QC Sample: LCS/LCSD
Analysis Date: Sep 07-04 1:41 PM

Lab Controlled Spike / Lab Controlled Spike Duplicate

Test	Sample Result	Spike Added	LCS Spike	LCS Spk. Dup	%Rec LCS	%Rec LCS D	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	48.90	43.16	98	86	12	22	59-172
MTBE	ND	50	52.95	49.87	106	100	6	24	62-137
Benzene	ND	50	56.67	53.75	113	108	5	24	62-137
Trichloroethene	ND	50	56.25	52.78	113	106	6	21	66-142
Toluene	ND	50	56.66	54.47	113	109	4	21	59-139
Chlorobenzene	ND	50	58.85	55.02	118	110	7	21	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS	LCSD
DBFM	93	92	91	95	91	90
1,2-DCA	100	101	93	93	92	89
Tol-d8	101	100	100	94	97	97
p-BFB	98	97	98	95	95	99

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 135777-047

Analysis Date: Sep 09-04 5:20 PM

Applies to: LR 135777, 135775, 135716

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	42.80	43.62	86	87	2	22	59-172
MTBE	ND	50	45.82	44.74	92	89	2	24	62-137
Benzene	ND	50	50.65	47.65	101	95	6	24	62-137
Trichloroethene	ND	50	49.98	49.95	100	100	0	21	66-142
Toluene	ND	50	49.83	49.98	100	100	0	21	59-139
Chlorobenzene	ND	50	50.00	50.39	100	101	1	21	60-133

QC Sample: LCS 2:10 PM
Analysis Date: Sep 09-04

LCS RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	43.49	87	59-172
MTBE	ND	50	48.23	96	62-137
Benzene	ND	50	52.31	105	62-137
Trichloroethene	ND	50	52.87	106	66-142
Toluene	ND	50	53.44	107	59-139
Chlorobenzene	ND	50	55.93	112	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MS	MSD	LCS
DBFM	92	95	94	89
1,2-DCA	96	96	92	90
Tol-d8	98	99	98	100
p-BFB	94	95	91	94

ASSOCIATED LABORATORIES

NARRATIVE

Date: September 13, 2004

Narrative for Lab Request LR: 135777

Client Project Identification:
Client Name: BHATE
Project: Holmn – Spill Site 61
This narrative includes all samples as shown on the attached Lab Request final report.

Analyses Requested:

- EPA 160.1 – Filterable Residue (TDS)
- EPA 300.0 – Anions by IC.
- EPA 310.1 – Alkalinity.
- EPA 415.1 – Total Organic Carbon.
- EPA 8260B – Volatile Organic Compounds.
- RSK 175 – Ethane/Ethene/Methane.

Data Validation:

Holding Times
All EPA designated holding times were met.

Calibration
Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

Quality Control Samples
All QC results were within control.

Other Anomalies or Comments
The reporting limit (DLR) is adjusted if dilution of the sample is necessary.

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

135777

Page 1 of 1

Project Number: 9030024.02.02

P.O. _____

Chain of Custody Number [1]: 09022004-3

LIMS Number: _____

Facility/Base I.D.: HOLMN

Project Name / Site Name: Spill Site 61

Client Name: USACE

Collected by: Germann, Kevin and Tucker, Justin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military)	Sample Depth (beginning -	SA Code [2]	Sample Numb	Sample Matri	Number of containers	See Attachment								Matrix Description	Trip Blank Lot Control Number	Cooler ID
								Sample Analysis Requested [5]									Quality Assurance Samples [6]		
SS61-MW01	SS61	02092004	0742		N	1	AQ	10	☒								SS61 Quarterly Wells		3
SS61-MW04	SS61	02092004	0928		N	1	AQ	10	☒								SS61 Quarterly Wells		3
Trip Blank					TB			2										9022004	3

COMMENTS: Please fax results to 505-679-2148
Email PDF to rrenvironmental@zianet.com, keving@zianet.com, dmader@bhate.com
FEDEX #845705833219 ATTN: Danielle @ Associated Laboratories 806 N. Batavia, Orange CA 92868

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	KDG	9/02/04	1600	[signature]	9-3	10 40
2.						
3.				[signature]	9-3-04	1:50

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____

Method of Shipment: FEDEX Airbill Number: _____

Analytical Lab: Associated Delivery Location: Orange, CA

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

ATTACHMENT TO SS61-~~MW03~~ KF COC

PLEASE ANALYZE FOR THE FOLLOWING:

Sulfate	300.0
Nitrate/Nitrite	300.0
VOC	8260
Total Dissolved Solids	160.1
Chloride	300.0
Total Organic Carbon	9060
Alkalinity	310.1
Methane/Ethane/Ethene	RSK 175

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868-1225 - 714/771-6900 FAX 714/538-1209

Cooler Receipt Form

Client: Bhat Project: ✓

Date Cooler Received: 9-3 Date Cooler Opened: 9-3

Was cooler scanned for presence of radioactivity ? Yes/No
If yes was radioactivity results above 25 cpm ? Yes/No

Was a shipper's packing slip attached to the cooler ? Yes/No

If the cooler had custody seal(s), were thy signed and intact ? Yes/No/Na

Was the cooler packed with: Ice ✓ Ice Packs ____ Bubble wrap ____
Styrofoam ____ Paper ____ None ____ Other ____

Cooler Temperature: 4.6°C *
*cooler needs to be received @ 4°C with an acceptable range of 2°- 6 °C

If samples were hand delivered do they meet the temp. criteria, which should be @ 4°C with an acceptable range of 2°- 6 °C ? Yes/No

If no explain: ____

Were all samples sealed in plastic bags ? Yes/No

Did all samples arrive intact ? If no, indicate below. Yes/No

Were all samples labeled correctly ? (ID's Dates, Times) If no, indicate below. Yes/No

Can the tests required be ran with the provided containers, If no indicate below. Yes/No

Was sufficient sample volume sent for all containers ? Yes/No

Were any VOA vials received with head space ? Yes/No/Na

Was the correct preservatives used ? Yes/No/Na
If no, see the pH log for a list of samples containers regarding pH

Any other important information: ____

Receiving Department: M Date: 9-3

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 FAX 714/538-1209

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 135694
REPORTED 09/10/2004
RECEIVED 09/02/2004

PROJECT Holmn - Spill Site 61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
551722	SS61-MW03
551723	Trip Blank
551724	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 551722 **Client Sample ID:** SS61-MW03

Matrix: WATER **Sample Description:** FT-31

Date Sampled: 09/01/2004

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	777	1	5.0	1.8	mg/L	09/07/04 HK
310.1	Bicarbonate	949	1	5.0	2.0	mg/L	09/07/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	09/07/04 HK
300.0	Chloride	9510	100	100.0	0.10	mg/L	09/03/04 RC
160.1	Filterable Residue (TDS)	28100	1	6.0	5.0	mg/L	09/02/04 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	09/07/04 HK
300.0	Nitrate/Nitrite - N	ND	1	0.1	0.04	mg/L	09/03/04 RC
300.0	Sulfate	6060	100	100.0	0.20	mg/L	09/03/04 RC
RSK-175	Ethane	0.014	1	0.005	0.005	mg/L	09/02/04 CH
RSK-175	Ethene	0.006	1	0.005	0.005	mg/L	09/02/04 CH
RSK-175	Methane	ND	1	0.005	0.005	mg/L	09/02/04 CH
8260B	1,1,1,2-Tetrachloroethane	ND	50	250.0	0.83	ug/L	09/07/04 AM
8260B	1,1,1-Trichloroethane	ND	50	250.0	0.25	ug/L	09/07/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	50	250.0	0.26	ug/L	09/07/04 AM
8260B	1,1,2-Trichloroethane	ND	50	250.0	0.15	ug/L	09/07/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	50	250.0	0.10	ug/L	09/07/04 AM
8260B	1,1-Dichloroethane	ND	50	250.0	0.31	ug/L	09/07/04 AM
8260B	1,1-Dichloroethene	ND	50	250.0	0.62	ug/L	09/07/04 AM
8260B	1,1-Dichloropropene	ND	50	250.0	0.72	ug/L	09/07/04 AM
8260B	1,2,3-Trichlorobenzene	ND	50	250.0	0.61	ug/L	09/07/04 AM
8260B	1,2,3-Trichloropropane	ND	50	250.0	0.22	ug/L	09/07/04 AM
8260B	1,2,4-Trichlorobenzene	ND	50	250.0	0.61	ug/L	09/07/04 AM
8260B	1,2,4-Trimethylbenzene	267	50	250.0	0.49	ug/L	09/07/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	50	250.0	1.74	ug/L	09/07/04 AM
8260B	1,2-Dibromoethane	ND	50	250.0	0.26	ug/L	09/07/04 AM
8260B	1,2-Dichlorobenzene	ND	50	250.0	0.18	ug/L	09/07/04 AM
8260B	1,2-Dichloroethane	477	50	250.0	0.17	ug/L	09/07/04 AM
8260B	1,2-Dichloropropane	ND	50	250.0	0.26	ug/L	09/07/04 AM
8260B	1,3,5-Trimethylbenzene	150 J	50	250.0	0.26	ug/L	09/07/04 AM
8260B	1,3-Dichlorobenzene	ND	50	250.0	0.41	ug/L	09/07/04 AM
8260B	1,3-Dichloropropane	ND	50	250.0	0.24	ug/L	09/07/04 AM
8260B	1,4-Dichlorobenzene	ND	50	250.0	0.35	ug/L	09/07/04 AM
8260B	1-Chlorohexane	ND	50	250.0	0.32	ug/L	09/07/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 551722 **Client Sample ID:** SS61-MW03

Matrix: WATER **Sample Description:** FT-31

Date Sampled: 09/01/2004

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	50	250.0	0.30	ug/L	09/07/04 AM
8260B	2-Butanone (MEK)	ND	50	5000.0	0.75	ug/L	09/07/04 AM
8260B	2-Chloroethyl vinyl ether	ND	50	250.0	0.25	ug/L	09/07/04 AM
8260B	2-Chlorotoluene	ND	50	250.0	0.18	ug/L	09/07/04 AM
8260B	2-Hexanone	ND	50	1000.0	0.78	ug/L	09/07/04 AM
8260B	4-Chlorotoluene	ND	50	250.0	0.18	ug/L	09/07/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	50	500.0	0.20	ug/L	09/07/04 AM
8260B	Acetone	ND	50	5000.0	3.18	ug/L	09/07/04 AM
8260B	Acetonitrile	ND	50	2500.0	0.49	ug/L	09/07/04 AM
8260B	Acrolein	ND	50	10000.0	3.3	ug/L	09/07/04 AM
8260B	Acrylonitrile	ND	50	500.0	1.6	ug/L	09/07/04 AM
8260B	Allyl chloride	ND	50	250.0	0.3	ug/L	09/07/04 AM
8260B	Benzene	12600	50	50.0	0.22	ug/L	09/07/04 AM
8260B	Benzyl chloride	ND	50	250.0	0.37	ug/L	09/07/04 AM
8260B	Bromobenzene	ND	50	250.0	0.58	ug/L	09/07/04 AM
8260B	Bromochloromethane	ND	50	250.0	0.30	ug/L	09/07/04 AM
8260B	Bromodichloromethane	ND	50	250.0	0.25	ug/L	09/07/04 AM
8260B	Bromoform	ND	50	250.0	0.17	ug/L	09/07/04 AM
8260B	Bromomethane	ND	50	250.0	1.15	ug/L	09/07/04 AM
8260B	Carbon Disulfide	ND	50	250.0	2.56	ug/L	09/07/04 AM
8260B	Carbon tetrachloride	ND	50	250.0	0.49	ug/L	09/07/04 AM
8260B	Chlorobenzene	ND	50	250.0	0.18	ug/L	09/07/04 AM
8260B	Chloroethane	ND	50	250.0	0.4	ug/L	09/07/04 AM
8260B	Chloroform	ND	50	250.0	0.36	ug/L	09/07/04 AM
8260B	Chloromethane	ND	50	250.0	0.27	ug/L	09/07/04 AM
8260B	cis-1,2-Dichloroethene	ND	50	250.0	0.30	ug/L	09/07/04 AM
8260B	cis-1,3-Dichloropropene	ND	50	250.0	0.22	ug/L	09/07/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	50	1000.0	0.28	ug/L	09/07/04 AM
8260B	Dibromochloromethane	ND	50	250.0	0.22	ug/L	09/07/04 AM
8260B	Dibromomethane	ND	50	250.0	0.25	ug/L	09/07/04 AM
8260B	Dichlorodifluoromethane	ND	50	250.0	0.08	ug/L	09/07/04 AM
8260B	Ethyl benzene	295	50	250.0	0.31	ug/L	09/07/04 AM
8260B	Ethyl methacrylate	ND	50	2500.0	0.2	ug/L	09/07/04 AM
8260B	Hexachlorobutadiene	ND	50	250.0	0.24	ug/L	09/07/04 AM
8260B	Iodomethane	ND	50	250.0	0.5	ug/L	09/07/04 AM
8260B	Isopropylbenzene (Cumene)	393	50	250.0	0.23	ug/L	09/07/04 AM
8260B	Methacrylonitrile	ND	50	1750.0	0.43	ug/L	09/07/04 AM
8260B	Methyl methacrylate	ND	50	250.0	0.38	ug/L	09/07/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	50	50.0	0.18	ug/L	09/07/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 551722 **Client Sample ID:** SS61-MW03

Matrix: WATER **Sample Description:** FT-31

Date Sampled: 09/01/2004

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methylene chloride	ND	50	250.0	0.64	ug/L	09/07/04 AM
8260B	n-Butylbenzene	ND	50	250.0	0.35	ug/L	09/07/04 AM
8260B	n-Propylbenzene	ND	50	250.0	0.18	ug/L	09/07/04 AM
8260B	Naphthalene	ND	50	250.0	0.88	ug/L	09/07/04 AM
8260B	p-Isopropyltoluene	ND	50	250.0	0.24	ug/L	09/07/04 AM
8260B	Pentachloroethane	ND	50	250.0	0.4	ug/L	09/07/04 AM
8260B	Propionitrile	ND	50	5000.0	1.9	ug/L	09/07/04 AM
8260B	sec-Butylbenzene	ND	50	250.0	0.28	ug/L	09/07/04 AM
8260B	Styrene	ND	50	250.0	0.20	ug/L	09/07/04 AM
8260B	tert-Butylbenzene	ND	50	250.0	0.35	ug/L	09/07/04 AM
8260B	Tetrachloroethene	ND	50	250.0	0.36	ug/L	09/07/04 AM
8260B	Toluene	3460	50	250.0	0.32	ug/L	09/07/04 AM
8260B	trans-1,2-Dichloroethene	ND	50	250.0	0.41	ug/L	09/07/04 AM
8260B	trans-1,3-Dichloropropene	ND	50	250.0	0.28	ug/L	09/07/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	50	1000.0	0.28	ug/L	09/07/04 AM
8260B	Trichloroethene	ND	50	250.0	0.23	ug/L	09/07/04 AM
8260B	Trichlorofluoromethane	ND	50	250.0	0.35	ug/L	09/07/04 AM
8260B	Vinyl acetate	ND	50	2500.0	0.3	ug/L	09/07/04 AM
8260B	Vinyl chloride	ND	50	250.0	0.27	ug/L	09/07/04 AM
8260B	Xylenes, total	4150	50	250.0	0.4	ug/L	09/07/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	93	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	76	%	70 - 135
8260B	Surr3 - Toluene-d8	100	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	98	%	70 - 135

9060	Total Organic Carbon	23	2	1.0		mg/L	09/07/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 551723 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	09/07/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	09/07/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	09/07/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	09/07/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	09/07/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	09/07/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	09/07/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	09/07/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	09/07/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	09/07/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	09/07/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	09/07/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	09/07/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	09/07/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	09/07/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	09/07/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	09/07/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	09/07/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	09/07/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	09/07/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	09/07/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	09/07/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	09/07/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	09/07/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	09/07/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	09/07/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 551723 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	09/07/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	09/07/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	09/07/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	09/07/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	09/07/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	09/07/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	09/07/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	09/07/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/07/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	09/07/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	09/07/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	09/07/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	09/07/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	09/07/04 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	09/07/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	09/07/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	09/07/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	09/07/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	09/07/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	09/07/04 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	09/07/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	09/07/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	09/07/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	09/07/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	09/07/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	09/07/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	09/07/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	09/07/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 551723 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/07/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	09/07/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	09/07/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	09/07/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	09/07/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	92	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	99	%	70 - 135
8260B	Surr3 - Toluene-d8	101	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	91	%	70 - 135

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 551724 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonat	ND	1	5.0	1.8	mg/L	09/07/04 HK
310.1	Bicarbonate	ND	1	5.0	2.0	mg/L	09/07/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	09/07/04 HK
300.0	Chloride	ND	1	1.0	0.10	mg/L	09/03/04 RC
160.1	Filterable Residue (TDS)	ND	1	6.0	5.0	mg/L	09/02/04 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	09/07/04 HK
300.0	Nitrate/Nitrite - N	ND	1	0.1	0.04	mg/L	09/03/04 RC
300.0	Sulfate	ND	1	1.0	0.20	mg/L	09/03/04 RC
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	09/02/04 CH
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	09/02/04 CH
RSK-175	Methane	ND	1	0.005	0.005	mg/L	09/02/04 CH
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	09/07/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	09/07/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	09/07/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	09/07/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	09/07/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	09/07/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	09/07/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	09/07/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	09/07/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	09/07/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	09/07/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	09/07/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	09/07/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	09/07/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 551724 **Client Sample ID:** Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	09/07/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	09/07/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	09/07/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	09/07/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	09/07/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	09/07/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	09/07/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	09/07/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	09/07/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	09/07/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	09/07/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	09/07/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	09/07/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	09/07/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	09/07/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	09/07/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	09/07/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	09/07/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	09/07/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	09/07/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	09/07/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/07/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	09/07/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	09/07/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	09/07/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	09/07/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	09/07/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	09/07/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	09/07/04 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	09/07/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	09/07/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	09/07/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 551724 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	09/07/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	09/07/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	09/07/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	09/07/04 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	09/07/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	09/07/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	09/07/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	09/07/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	09/07/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	09/07/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	09/07/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	09/07/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	09/07/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/07/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	09/07/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	09/07/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	09/07/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	09/07/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	09/07/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	93	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	100	%	70 - 135
8260B	Surr3 - Toluene-d8	101	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	98	%	70 - 135

9060	Total Organic Carbon	ND	1	0.5		mg/L	09/07/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 135702-551747

Matrix: WATER

Prep. Date: Sep 02-04

Analysis Date: Sep 02-04

ID#'s in Batch: LR 135702, 135701, 135694

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	334	330	1.2

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	294	293	100	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 135694-551722

Matrix: WATER

Prep. Date: 09/02/04

Analysis Date: 09/02/04

Lab ID#'s in Batch: LR 135694, 135701, 135702, 135670, 135579, 135580, 135742, 135743, 135744
LR 135745, 135746, 135747

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	9510	4000	14000	14000	112	112	0
SO4	300.0	6060	4000	10400	10400	109	109	0
NO3	300.0	ND	2000	2090.0	2120	105	106	1
NO2	300.0	ND	2000	2110	2100	106	105	0

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	54	50	108	90%	110%
SO4	300.0	ND	52	50	104	90%	110%
NO3	300.0	ND	27.1	25	108	90%	110%
NO2	300.0	ND	5.1	5	102	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 135777-552048

Matrix: WATER

Method : 310.1

Prep. Date: 09/07/04

Analysis Date: 09/07/04

ID#'s in Batch: LR 135694, 135777, 135718, 135720, 135738

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Sample Result	Sample Duplicate	RPD
Bicarbonate	204	204	0.0
Carbonate	ND	ND	0.0
Hydroxide	ND	ND	0.0
Total Alkalinity as CaCO3	167	167	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate
ND = "U" - Not Detected

RPD LIMITS = 20

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 135777-048

Analysis Date: Sep 08-04 12:42 AM

Applies to: LR 135841, 135694, 135777, 135495, 135287, 135294, 135444

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	43.36	42.95	87	86	1	22	59-172
MTBE	ND	50	45.84	45.76	92	92	0	24	62-137
Benzene	1.54	50	50.54	52.12	98	101	3	24	62-137
Trichloroethene	ND	50	48.76	48.87	98	98	0	21	66-142
Toluene	ND	50	50.94	47.83	102	96	6	21	59-139
Chlorobenzene	ND	50	49.66	49.70	99	99	0	21	60-133

QC Sample: LCS/LCSD
Analysis Date: Sep 07-04 1:41 PM

Lab Controlled Spike / Lab Controlled Spike Duplicate

Test	Sample Result	Spike Added	LCS Spike	LCS Spk. Dup	%Rec LCS	%Rec LCS D	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	48.90	43.16	98	86	12	22	59-172
MTBE	ND	50	52.95	49.87	106	100	6	24	62-137
Benzene	ND	50	56.67	53.75	113	108	5	24	62-137
Trichloroethene	ND	50	56.25	52.78	113	106	6	21	66-142
Toluene	ND	50	56.66	54.47	113	109	4	21	59-139
Chlorobenzene	ND	50	58.85	55.02	118	110	7	21	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS	LCSD
DBFM	93	92	91	95	91	90
1,2-DCA	100	101	93	93	92	89
Tol-d8	101	100	100	94	97	97
p-BFB	98	97	98	95	95	99

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 135694

Matrix: WATER

Prep. Date: Sep 02-04

Analysis Date: Sep 02-04

ID#'s in Batch: LR 135694

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
CH4	RSK-175	ND	ND	0.00
C2H4	RSK-175	0.006	0.005	18.18
C2H6	RSK-175	0.014	0.014	0.00

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 135694

Matrix: WATER

Prep. Date: Sep 07-04

Analysis Date: Sep 07-04

ID#'s in Batch: LR 135694, 135835

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1	22.9	10	33.0	33.1	101	102	0.3

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	9.9	10	99	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES

NARRATIVE

Date: September 10, 2004

Narrative for Lab Request LR: 135694

Client Project Identification:
Client Name: BHATE
Project: Holmn – Spill Site 61
This narrative includes all samples as shown on the attached Lab Request final report.

Analyses Requested:

- EPA 160.1 – Filterable Residue (TDS)
- EPA 300.0 – Anions by IC.
- EPA 310.1 – Alkalinity.
- EPA 8260B – Volatile Organic Compounds.
- RSK 175 – Ethane/Ethene/Methane.
- Method 9060 – Total Organic Carbon.

Data Validation:

Holding Times
All EPA designated holding times were met.

Calibration
Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

Quality Control Samples
All QC results were within control.

Other Anomalies or Comments
The reporting limit (DLR) is adjusted if dilution of the sample is necessary.

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

135694

Page 1 of 1

Project Number: 9030024.02.02

P.O. _____

Chain of Custody Number [1]: 090120041

LIMS Number: _____

Facility/Base I.D.: HOLMN

Project Name / Site Name: Spill Site 61

Client Name: USACE

Collected by: Germann, Kevin and Tucker, Justin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military)	Sample Depth (beginning -	SA Code (2)	Sample Numb	Sample Matri	Number of containers	See Attachment								Matrix Description	Trip Blank Lot Control Number	Cooler ID
								Sample Analysis Requested [3]									Quality Assurance Samples [4]		
SS61-MW03	FT-31	01092004	0945	25' 25'	N	1	AQ	10	[illegible]								SS61 Quarterly Wells		1
Trip Blank					TB			2										09012004	1
				-															
				-															
				-															
				-															
				-															

COMMENTS: Please fax results to 505-679-2148
Email PDF to rrenvironmental@zianet.com, keving@zianet.com, dmeder@bhate.com
FEDEX #845705833208 ATTN: Danielle @ Associated Laboratories 806 N. Batavia, Orange CA 92868

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	KDG	9/01/04	1600	[illegible]	9-2-04	10:30
2.				[illegible]		
3.				[illegible]	9-2-04	11:55

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____
Method of Shipment: FEDEX Airbill Number: _____
Analytical Lab: Associated Delivery Location: Orange, CA
Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)
2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-d) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)
3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)
4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks
5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each

ATTACHMENT TO SS61-MW03 COC

PLEASE ANALYZE FOR THE FOLLOWING:

Sulfate	300.0
Nitrate/Nitrite	300.0
VOC	8260
Total Dissolved Solids	160.1
Chloride	300.0
Total Organic Carbon	KDG ~~415.1~~ 9060
Alkalinity	310.1
Methane/Ethane/Ethene	RSK 175

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868-1225 - 714/771-6900 FAX 714/538-1209

Cooler Receipt Form

Client: Bhate Project: Site 61

Date Cooler Received: 9-2 Date Cooler Opened: 9-2

Was cooler scanned for presence of radioactivity ? Yes/No
If yes was radioactivity results above 25 cpm ? Yes/No

Was a shipper's packing slip attached to the cooler ? Yes/No

If the cooler had custody seal(s), were thy signed and intact ? Yes/No/Na

Was the cooler packed with: Ice ✓ Ice Packs ____ Bubble wrap ____
Styrofoam ____ Paper ____ None ____ Other ____

Cooler Temperature: 2.8°C *
*cooler needs to be received @ 4°C with an acceptable range of 2°- 6 °C

If samples were hand delivered do they meet the temp. criteria, which should be @ 4°C with an acceptable range of 2°- 6 °C ? Yes/No

If no explain: ____

Were all samples sealed in plastic bags ? Yes/No

Did all samples arrive intact ? If no, indicate below. Yes/No

Were all samples labeled correctly ? (ID's Dates, Times) If no, indicate below. Yes/No

Can the tests required be ran with the provided containers, If no indicate below. Yes/No

Was sufficient sample volume sent for all containers ? Yes/No

Were any VOA vials received with head space ? Yes/No/Na

Was the correct preservatives used ? Yes/No/Na
If no, see the pH log for a list of samples containers regarding pH

Any other important information: ____

Receiving Department: M Date: 9-2

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 FAX 714/538-1209

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 135835
REPORTED 09/28/2004
RECEIVED 09/07/2004

PROJECT Holmn - Spill Site 61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
552283	SS61-MW08
552284	SS61-MW06
552285	Trip Blank
552286	SS61-MW08-a
552287	Trip Blank
552288	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 552283 **Client Sample ID:** SS61-MW08

Matrix: WATER **Sample Description:** SS61

Date Sampled: 09/03/2004
ime Sampled: 07:15

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	303	1	5.0	1.8	mg/L	09/07/04 HK
310.1	Bicarbonate	369	1	5.0	2.0	mg/L	09/07/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	09/07/04 HK
300.0	Chloride	304	40	40.0	0.10	mg/L	09/15/04 BGS
160.1	Filterable Residue (TDS)	4400	1	6.0	5.0	mg/L	09/07/04 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	09/07/04 HK
300.0	Nitrate/Nitrite - N	2.6	1	0.1	0.04	mg/L	09/25/04 RC
300.0	Sulfate	2400	40	40.0	0.20	mg/L	09/15/04 BGS
RSK-175	Ethane	0.006	1	0.005	0.005	mg/L	09/07/04 LT
RSK-175	Ethene	0.008	1	0.005	0.005	mg/L	09/07/04 LT
RSK-175	Methane	0.020	1	0.005	0.005	mg/L	09/07/04 LT
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	09/08/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	09/08/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	09/08/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	09/08/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	09/08/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	09/08/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	09/08/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	09/08/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	09/08/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	09/08/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	09/08/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	09/08/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	09/08/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552283 **Client Sample ID:** SS61-MW08

Matrix: WATER **Sample Description:** SS61

Date Sampled: 09/03/2004
Time Sampled: 07:15

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	09/08/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	09/08/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	09/08/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	09/08/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	09/08/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	09/08/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	09/08/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	09/08/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	09/08/04 AM
8260B	Benzene	100	1	1	0.22	ug/L	09/08/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	09/08/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	09/08/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	09/08/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	09/08/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	09/08/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	09/08/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	09/08/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	09/08/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	09/08/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	09/08/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	09/08/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/08/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	09/08/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	09/08/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	09/08/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	09/08/04 AM
8260B	Isopropylbenzene (Cumene)	5.2	1	5	0.23	ug/L	09/08/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	09/08/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	09/08/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	09/08/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552283 **Client Sample ID:** SS61-MW08

Matrix: WATER **Sample Description:** SS61

Date Sampled: 09/03/2004
me Sampled: 07:15

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methylene chloride	ND	1	5	0.64	ug/L	09/08/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	09/08/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	09/08/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	09/08/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	09/08/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	09/08/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	09/08/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	09/08/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	09/08/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	09/08/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/08/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	09/08/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	09/08/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	09/08/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	09/08/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	96	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	88	%	70 - 135
8260B	Surr3 - Toluene-d8	103	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	95	%	70 - 135

9060	Total Organic Carbon	2.7	2	1.0		mg/L	09/07/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552284 **Client Sample ID:** SS61-MW06

Matrix: WATER

Date Sampled: 09/03/2004
ime Sampled: 09:40

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonat	1300	1	5.0	1.8	mg/L	09/07/04 HK
310.1	Bicarbonate	1590	1	5.0	2.0	mg/L	09/07/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	09/07/04 HK
300.0	Chloride	4470	100	100.0	0.10	mg/L	09/15/04 BGS
160.1	Filterable Residue (TDS)	18100	1	6.0	5.0	mg/L	09/07/04 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	09/07/04 HK
300.0	Nitrate/Nitrite - N	ND	1	0.1	0.04	mg/L	09/09/04 RC
300.0	Sulfate	6300	100	100.0	0.20	mg/L	09/15/04 BGS
RSK-175	Ethane	0.030	1	0.005	0.005	mg/L	09/07/04 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	09/07/04 LT
RSK-175	Methane	0.062	1	0.005	0.005	mg/L	09/07/04 LT
8260B	1,1,1,2-Tetrachloroethane	ND	50	250.0	0.83	ug/L	09/08/04 AM
8260B	1,1,1-Trichloroethane	ND	50	250.0	0.25	ug/L	09/08/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	50	250.0	0.26	ug/L	09/08/04 AM
8260B	1,1,2-Trichloroethane	ND	50	250.0	0.15	ug/L	09/08/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	50	250.0	0.10	ug/L	09/08/04 AM
8260B	1,1-Dichloroethane	ND	50	250.0	0.31	ug/L	09/08/04 AM
8260B	1,1-Dichloroethene	ND	50	250.0	0.62	ug/L	09/08/04 AM
8260B	1,1-Dichloropropene	ND	50	250.0	0.72	ug/L	09/08/04 AM
8260B	1,2,3-Trichlorobenzene	ND	50	250.0	0.61	ug/L	09/08/04 AM
8260B	1,2,3-Trichloropropane	ND	50	250.0	0.22	ug/L	09/08/04 AM
8260B	1,2,4-Trichlorobenzene	ND	50	250.0	0.61	ug/L	09/08/04 AM
8260B	1,2,4-Trimethylbenzene	ND	50	250.0	0.49	ug/L	09/08/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	50	250.0	1.74	ug/L	09/08/04 AM
8260B	1,2-Dibromoethane	ND	50	250.0	0.26	ug/L	09/08/04 AM
8260B	1,2-Dichlorobenzene	ND	50	250.0	0.18	ug/L	09/08/04 AM
8260B	1,2-Dichloroethane	ND	50	250.0	0.17	ug/L	09/08/04 AM
8260B	1,2-Dichloropropane	ND	50	250.0	0.26	ug/L	09/08/04 AM
8260B	1,3,5-Trimethylbenzene	ND	50	250.0	0.26	ug/L	09/08/04 AM
8260B	1,3-Dichlorobenzene	ND	50	250.0	0.41	ug/L	09/08/04 AM
8260B	1,3-Dichloropropane	ND	50	250.0	0.24	ug/L	09/08/04 AM
8260B	1,4-Dichlorobenzene	ND	50	250.0	0.35	ug/L	09/08/04 AM
8260B	1-Chlorohexane	ND	50	250.0	0.32	ug/L	09/08/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552284 **Client Sample ID:** SS61-MW06

Matrix: WATER

Date Sampled: 09/03/2004
Time Sampled: 09:40

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	50	250.0	0.30	ug/L	09/08/04 AM
8260B	2-Butanone (MEK)	ND	50	5000.0	0.75	ug/L	09/08/04 AM
8260B	2-Chloroethyl vinyl ether	ND	50	250.0	0.25	ug/L	09/08/04 AM
8260B	2-Chlorotoluene	ND	50	250.0	0.18	ug/L	09/08/04 AM
8260B	2-Hexanone	ND	50	1000.0	0.78	ug/L	09/08/04 AM
8260B	4-Chlorotoluene	ND	50	250.0	0.18	ug/L	09/08/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	50	500.0	0.20	ug/L	09/08/04 AM
8260B	Acetone	ND	50	5000.0	3.18	ug/L	09/08/04 AM
8260B	Acetonitrile	ND	50	2500.0	0.49	ug/L	09/08/04 AM
8260B	Acrolein	ND	50	10000.0	3.3	ug/L	09/08/04 AM
8260B	Acrylonitrile	ND	50	500.0	1.6	ug/L	09/08/04 AM
8260B	Allyl chloride	ND	50	250.0	0.3	ug/L	09/08/04 AM
8260B	Benzene	11200	50	50.0	0.22	ug/L	09/08/04 AM
8260B	Benzyl chloride	ND	50	250.0	0.37	ug/L	09/08/04 AM
8260B	Bromobenzene	ND	50	250.0	0.58	ug/L	09/08/04 AM
8260B	Bromochloromethane	ND	50	250.0	0.30	ug/L	09/08/04 AM
8260B	Bromodichloromethane	ND	50	250.0	0.25	ug/L	09/08/04 AM
8260B	Bromoform	ND	50	250.0	0.17	ug/L	09/08/04 AM
8260B	Bromomethane	ND	50	250.0	1.15	ug/L	09/08/04 AM
8260B	Carbon Disulfide	ND	50	250.0	2.56	ug/L	09/08/04 AM
8260B	Carbon tetrachloride	ND	50	250.0	0.49	ug/L	09/08/04 AM
8260B	Chlorobenzene	ND	50	250.0	0.18	ug/L	09/08/04 AM
8260B	Chloroethane	ND	50	250.0	0.4	ug/L	09/08/04 AM
8260B	Chloroform	ND	50	250.0	0.36	ug/L	09/08/04 AM
8260B	Chloromethane	ND	50	250.0	0.27	ug/L	09/08/04 AM
8260B	cis-1,2-Dichloroethene	ND	50	250.0	0.30	ug/L	09/08/04 AM
8260B	cis-1,3-Dichloropropene	ND	50	250.0	0.22	ug/L	09/08/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	50	1000.0	0.28	ug/L	09/08/04 AM
8260B	Dibromochloromethane	ND	50	250.0	0.22	ug/L	09/08/04 AM
8260B	Dibromomethane	ND	50	250.0	0.25	ug/L	09/08/04 AM
8260B	Dichlorodifluoromethane	ND	50	250.0	0.08	ug/L	09/08/04 AM
8260B	Ethyl benzene	464	50	250.0	0.31	ug/L	09/08/04 AM
8260B	Ethyl methacrylate	ND	50	2500.0	0.2	ug/L	09/08/04 AM
8260B	Hexachlorobutadiene	ND	50	250.0	0.24	ug/L	09/08/04 AM
8260B	Iodomethane	ND	50	250.0	0.5	ug/L	09/08/04 AM
8260B	Isopropylbenzene (Cumene)	1670	50	250.0	0.23	ug/L	09/08/04 AM
8260B	Methacrylonitrile	ND	50	1750.0	0.43	ug/L	09/08/04 AM
8260B	Methyl methacrylate	ND	50	250.0	0.38	ug/L	09/08/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	50	50.0	0.18	ug/L	09/08/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552284 **Client Sample ID:** SS61-MW06

Matrix: WATER

Date Sampled: 09/03/2004
Time Sampled: 09:40

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methylene chloride	ND	50	250.0	0.64	ug/L	09/08/04 AM
8260B	n-Butylbenzene	ND	50	250.0	0.35	ug/L	09/08/04 AM
8260B	n-Propylbenzene	ND	50	250.0	0.18	ug/L	09/08/04 AM
8260B	Naphthalene	ND	50	250.0	0.88	ug/L	09/08/04 AM
8260B	p-Isopropyltoluene	ND	50	250.0	0.24	ug/L	09/08/04 AM
8260B	Pentachloroethane	ND	50	250.0	0.4	ug/L	09/08/04 AM
8260B	Propionitrile	ND	50	5000.0	1.9	ug/L	09/08/04 AM
8260B	sec-Butylbenzene	ND	50	250.0	0.28	ug/L	09/08/04 AM
8260B	Styrene	ND	50	250.0	0.20	ug/L	09/08/04 AM
8260B	tert-Butylbenzene	ND	50	250.0	0.35	ug/L	09/08/04 AM
8260B	Tetrachloroethene	ND	50	250.0	0.36	ug/L	09/08/04 AM
8260B	Toluene	ND	50	250.0	0.32	ug/L	09/08/04 AM
8260B	trans-1,2-Dichloroethene	ND	50	250.0	0.41	ug/L	09/08/04 AM
8260B	trans-1,3-Dichloropropene	ND	50	250.0	0.28	ug/L	09/08/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	50	1000.0	0.28	ug/L	09/08/04 AM
8260B	Trichloroethene	ND	50	250.0	0.23	ug/L	09/08/04 AM
8260B	Trichlorofluoromethane	ND	50	250.0	0.35	ug/L	09/08/04 AM
8260B	Vinyl acetate	ND	50	2500.0	0.3	ug/L	09/08/04 AM
8260B	Vinyl chloride	ND	50	250.0	0.27	ug/L	09/08/04 AM
8260B	Xylenes, total	180 J	50	250.0	0.4	ug/L	09/08/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	96	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	74	%	70 - 135
8260B	Surr3 - Toluene-d8	94	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	93	%	70 - 135

9060	Total Organic Carbon	19	2	1.0		mg/L	09/07/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552285 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	09/08/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	09/08/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	09/08/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	09/08/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	09/08/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	09/08/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	09/08/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	09/08/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	09/08/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	09/08/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	09/08/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	09/08/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	09/08/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	09/08/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	09/08/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	09/08/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	09/08/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	09/08/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	09/08/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	09/08/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	09/08/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	09/08/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	09/08/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	09/08/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	09/08/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	09/08/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552285 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	09/08/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	09/08/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	09/08/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	09/08/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	09/08/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	09/08/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	09/08/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	09/08/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/08/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	09/08/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	09/08/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	09/08/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	09/08/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	09/08/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	09/08/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	09/08/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	09/08/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	09/08/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	09/08/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	09/08/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	09/08/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	09/08/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	09/08/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	09/08/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	09/08/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	09/08/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	09/08/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/08/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	09/08/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552285 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	09/08/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	09/08/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	09/08/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	90	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	100	%	70 - 135
8260B	Surr3 - Toluene-d8	101	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	99	%	70 - 135

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552286 **Client Sample ID:** SS61-MW08-a

Matrix: WATER

Date Sampled: 09/03/2004
Time Sampled: 07:15

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	285	1	5.0	1.8	mg/L	09/07/04 HK
310.1	Bicarbonate	348	1	5.0	2.0	mg/L	09/07/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	09/07/04 HK
300.0	Chloride	287	40	40.0	0.10	mg/L	09/15/04 BGS
160.1	Filterable Residue (TDS)	4390	1	6.0	5.0	mg/L	09/07/04 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	09/07/04 HK
300.0	Nitrate/Nitrite - N	2.4	1	0.1	0.04	mg/L	09/25/04 BGS
300.0	Sulfate	2390	40	40.0	0.20	mg/L	09/15/04 BGS
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	09/07/04 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	09/07/04 LT
RSK-175	Methane	0.016	1	0.005	0.005	mg/L	09/07/04 LT
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	09/08/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	09/08/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	09/08/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	09/08/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	09/08/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	09/08/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	09/08/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	09/08/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	09/08/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	09/08/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	09/08/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	09/08/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	09/08/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552286 **Client Sample ID**: SS61-MW08-a

Matrix: WATER

Date Sampled: 09/03/2004
me Sampled: 07:15

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	09/08/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	09/08/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	09/08/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	09/08/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	09/08/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	09/08/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	09/08/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	09/08/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	09/08/04 AM
8260B	Benzene	105	1	1	0.22	ug/L	09/08/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	09/08/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	09/08/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	09/08/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	09/08/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	09/08/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	09/08/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	09/08/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	09/08/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	09/08/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	09/08/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	09/08/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/08/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	09/08/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	09/08/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	09/08/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	09/08/04 AM
8260B	Isopropylbenzene (Cumene)	5.9	1	5	0.23	ug/L	09/08/04 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	09/08/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	09/08/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	09/08/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552286 **Client Sample ID:** SS61-MW08-a

Matrix: WATER

Date Sampled: 09/03/2004
Time Sampled: 07:15

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	09/08/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	09/08/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	09/08/04 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	09/08/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	09/08/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	09/08/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	09/08/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	09/08/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	09/08/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	09/08/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	09/08/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/08/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	09/08/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	09/08/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	09/08/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	09/08/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	94	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	89	%	70 - 135
8260B	Surr3 - Toluene-d8	96	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	99	%	70 - 135

9060	Total Organic Carbon	2.7	2	1.0		mg/L	09/07/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552287 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	09/08/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	09/08/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	09/08/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	09/08/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	09/08/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	09/08/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	09/08/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	09/08/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	09/08/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	09/08/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	09/08/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	09/08/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	09/08/04 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	09/08/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	09/08/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	09/08/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	09/08/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	09/08/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	09/08/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	09/08/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	09/08/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	09/08/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	09/08/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	09/08/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	09/08/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	09/08/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552287 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	09/08/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	09/08/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	09/08/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	09/08/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	09/08/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	09/08/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	09/08/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	09/08/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/08/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	09/08/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	09/08/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	09/08/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	09/08/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	09/08/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	09/08/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	09/08/04 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	09/08/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	09/08/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	09/08/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	09/08/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	09/08/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	09/08/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	09/08/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	09/08/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	09/08/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	09/08/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	09/08/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/08/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	09/08/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552287 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	09/08/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	09/08/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	09/08/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	91	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	98	%	70 - 135
8260B	Surr3 - Toluene-d8	95	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	95	%	70 - 135

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552288 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonat	ND	1	5.0	1.8	mg/L	09/07/04 HK
310.1	Bicarbonate	ND	1	5.0	2.0	mg/L	09/07/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	09/07/04 HK
300.0	Chloride	ND	1	1.0	0.10	mg/L	09/15/04 BGS
160.1	Filterable Residue (TDS)	ND	1	6.0	5.0	mg/L	09/07/04 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	09/07/04 HK
300.0	Nitrate/Nitrite - N	ND	1	0.1	0.04	mg/L	09/09/04 RC
300.0	Sulfate	ND	1	1.0	0.20	mg/L	09/15/04 BGS
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	09/07/04 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	09/07/04 LT
RSK-175	Methane	ND	1	0.005	0.005	mg/L	09/07/04 LT
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	09/08/04 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	09/08/04 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	09/08/04 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	09/08/04 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	09/08/04 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	09/08/04 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	09/08/04 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	09/08/04 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	09/08/04 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	09/08/04 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	09/08/04 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	09/08/04 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	09/08/04 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	09/08/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552288 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	09/08/04 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	09/08/04 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	09/08/04 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	09/08/04 AM
8260B	Acetone	ND	1	100	3.18	ug/L	09/08/04 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	09/08/04 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	09/08/04 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	09/08/04 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	09/08/04 AM
8260B	Benzene	ND	1	1	0.22	ug/L	09/08/04 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	09/08/04 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	09/08/04 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	09/08/04 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	09/08/04 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	09/08/04 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	09/08/04 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	09/08/04 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	09/08/04 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	09/08/04 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	09/08/04 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	09/08/04 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/08/04 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	09/08/04 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	09/08/04 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	09/08/04 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	09/08/04 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	09/08/04 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	09/08/04 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	09/08/04 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	09/08/04 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	09/08/04 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	09/08/04 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 552288 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	09/08/04 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	09/08/04 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	09/08/04 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	09/08/04 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	09/08/04 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	09/08/04 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	09/08/04 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	09/08/04 AM
8260B	Styrene	ND	1	5	0.20	ug/L	09/08/04 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	09/08/04 AM
8260B	Toluene	ND	1	5	0.32	ug/L	09/08/04 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	09/08/04 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	09/08/04 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	09/08/04 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	09/08/04 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	09/08/04 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	09/08/04 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	09/08/04 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	09/08/04 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	94	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	100	%	70 - 135
8260B	Surr3 - Toluene-d8	96	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	96	%	70 - 135

9060	Total Organic Carbon	ND	1	0.5		mg/L	09/07/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 135835-552283

Matrix: WATER

Prep. Date: Sep 07-04

Analysis Date: Sep 07-04

ID#'s in Batch: LR 135835, 135809, 135810, 135822, 135823, 135824

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	4,400	4,364	0.8

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	292	293	100	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 135835-552283

Matrix: WATER

Prep. Date: 09/15/2004

Analysis Date: 09/15/2004

Lab ID#'s in Batch: LR 135835

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	304	2500	3002	2984	108	107	1
SO4	300.0	2395	2500	4988	4965	104	103	0

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

		PREP BLK	LCS				
Test	Method	Value	Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	53.2	50	106	90%	110%
SO4	300.0	ND	51.1	50	102	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES

QA REPORT FORM

QC Sample : LR 135835-552286

Matrix: WATER

Prep. Date: 09/25/04

Analysis Date: 09/25/04

Lab ID#'s in Batch: LR 135835, 137160,

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
NO3	300.0	10.8	100	115.0	114	104	103	1
NO2	300.0	ND	100	103	102	103	102	1

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
NO3	300.0	ND	20.2	20.0	101	90%	110%
NO2	300.0	ND	5.1	5.0	102	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 135835-552283

Matrix: WATER

Method : 310.1

Prep. Date: 09/07/04

Analysis Date: 09/07/04

ID#'s in Batch: LR 135835

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Sample Result	Sample Duplicate	RPD
Bicarbonate	303	303	0.0
Carbonate	ND	ND	0.0
Hydroxide	ND	ND	0.0
Total Alkalinity as CaCO3	369	369	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate
ND = "U" - Not Detected

RPD LIMITS = 20

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 135832-276

Analysis Date: Sep 09-04 7:27 AM

Applies to: LR 135835, 135381, 135240, 135824, 135882, 135883, 135832, 135739, 135769

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	43.20	42.62	86	85	1	22	59-172
MTBE	ND	50	48.96	48.66	98	97	1	24	62-137
Benzene	ND	50	49.68	51.40	99	103	3	24	62-137
Trichloroethene	ND	50	51.14	50.89	102	102	0	21	66-142
Toluene	ND	50	51.55	52.04	103	104	1	21	59-139
Chlorobenzene	ND	50	51.96	51.97	104	104	0	21	60-133

QC Sample: LCS/LCSD
Analysis Date: Sep 08-04 12:32 PM

Lab Controlled Spike / Lab Controlled Spike Duplicate

Test	Sample Result	Spike Added	LCS Spike	LCS Spk. Dup	%Rec LCS	%Rec LCS D	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	46.32	43.46	93	87	6	22	59-172
MTBE	ND	50	49.20	46.91	98	94	5	24	62-137
Benzene	ND	50	53.64	49.88	107	100	7	24	62-137
Trichloroethene	ND	50	51.41	52.02	103	104	1	21	66-142
Toluene	ND	50	50.85	52.70	102	105	4	21	59-139
Chlorobenzene	ND	50	52.88	54.16	106	108	2	21	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS	LCSD
DBFM	94	93	95	89	95	88
1,2-DCA	100	100	88	91	92	90
Tol-d8	96	99	98	99	98	101
p-BFB	96	94	92	97	94	100

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 135835-284-D

Matrix: WATER

Prep. Date: Sep 07-04

Analysis Date: Sep 07-04

ID#'s in Batch: LR 135835

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
CH4	RSK-175	0.062	0.069	10.69
C2H4	RSK-175	ND	ND	0.00
C2H6	RSK-175	0.030	0.033	9.52

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES

NARRATIVE

Date: September 29, 2004

Narrative for Lab Request LR: 135835

Client Project Identification:
Client Name: BHATE
Project: Holmn – Spill Site 61
This narrative includes all samples as shown on the attached Lab Request final report.

Analyses Requested:

- EPA 160.1 – Filterable Residue (TDS)
- EPA 300.0 – Anions by IC.
- EPA 310.1 – Alkalinity.
- EPA 8260B – Volatile Organic Compounds.
- RSK 175 – Ethane/Ethene/Methane.
- Method 9060 – Total Organic Carbon.

Data Validation:

Holding Times
All EPA designated holding times were met.

Calibration
Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

Quality Control Samples
All QC results were within control.

Other Anomalies or Comments
The reporting limit (DLR) is adjusted if dilution of the sample is necessary.

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

Page 1 of 1

Project Number: 9030024.02.02

P.O. _____

Chain of Custody Number [1]: 090320042

LIMS Number: _____

Facility/Base I.D.: HOLMN

Project Name / Site Name: Spill Site 61

Client Name: USACE

Collected by: Germann, Kevin and Tucker, Justin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military)	Sample Depth (beginning -	SA Code [2]	Sample Numb	Sample Matri	Number of containers	See Attachment								Matrix Description	Trip Blank Lot Control Number	Cooler ID
								Sample Analysis Requested [5]									Quality Assurance Samples [6]		
SS61-MW08-a	SS61	03092004	0715		FD	1	AQ	10	[1]								SS61 Quarterly Wells		2
SS61-MW08-ms	SS61	03092004	0715		MS	1	AQ	10	[1]								SS61 Quarterly Wells		2
Trip Blank					TB			2	[1]								SS61 Quarterly Wells		2
				-															
				-															
				-															
				-															
				-															

COMMENTS: Please fax results to 505-679-2148
Email PDF to rrenvironmental@zianet.com, kcving@zianet.com, dmoder@bhate.com
FEDEX #845705833540 ATTN: Danielle @ Associated Laboratories 806 N. Batavia, Orange CA 92868

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. RDG	9/03/04	1600	1. [signature]	9-7	
2.			2.		
3.			3. [signature]	9-7-04	10:00

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____

Method of Shipment: FEDEX Airbill Number: _____

Analytical Lab: Associated Delivery Location: Orange, CA

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FO = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike DupNeate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, If sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 101099001 in the Equipment Blank Lot Control

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

Page 1 of 1

Project Number: 9030024.02.02

P.O. _____

Chain of Custody Number [1]: 090320041

LDMS Number: _____

Facility/Base I.D.: HOLMN

Project Name / Site Name: Spill Site 61

Client Name: USACE

Collected by: Germann, Kevin and Tucker, Justin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military)	Sample Depth (beginning -	SA Code [2]	Sample Numb	Sample Matri	Number of containers	See Attachment								Matrix Description	Trip Blank Lot Control Number	Cooler ID
								Sample Analysis Requested [5]									Quality Assurance Samples [6]		
SS61-MW08	SS61	03092004	0715		N	1	AQ	10	☒								SS61 Quarterly Wells		1
SS61-MW08-msd	SS61	03092004	0715		SD	1	AQ	10	☒								SS61 Quarterly Wells		1
SS61-MW06	SS61	03092004	0940		N	1	AQ	10	☒								SS61 Quarterly Wells		1
Trip Blank					TB			1									Trip Blank	09032004	1

COMMENTS: Please fax results to 505-679-2148
Email PDF to rrenvironmental@zianet.com, keving@zianet.com, dmeder@bhate.com
FEDEX #845705833539 ATTN: Danielle @ Associated Laboratories 806 N. Batavia, Orange CA 92868

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	KDG	9/03/04	1600			9-7
2.						
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____

Method of Shipment: FEDEX Airbill Number: _____

Analytical Lab: Associated Delivery Location: Orange, CA

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WQ = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

Page 1 of 1

Project Number: 9030024.02.02

P.O. _____

Chain of Custody Number [1]: 092420043

LIMS Number: _____

Facility/Base I.D.: HOLMN

Project Name / Site Name: Spill Site 61

Client Name: USACE

Collected by: Germann, Kevin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military)	Sample Depth (beginning -		SA Code [2]	Sample Numb	Sample Matri	Number of containers	Nitrate/Nitrite 300.0								Matrix Description	Trip Blank Lot Control Number	Cooler ID
									Sample Analysis Requested [5]									Quality Assurance Samples [6]		
SS61-MW08	SS61	24092004	1400	0	0	N	1	AQ	2	[1]								SS61 Quarterly Wells		3
SS61-MW08-a	SS61	24092004	1400	0	0	N	1	AQ	2	[1]								SS61 Quarterly Wells		3

COMMENTS: Please fax results to 505-679-2148
Email PDF to rrenvironmental@zianet.com, keving@zianet.com, dmoder@bhate.com
FEDEX #842603295216 ATTN: Danielle @ Associated Laboratories 806 N. Batavia, Orange CA 92868

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	KD	9/24/04	1600	Jean Martinez	9/25/04	11:15
2.						
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____

Method of Shipment: FEDEX Airbill Number: _____

Analytical Lab: Associated Delivery Location: Orange, CA

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 142820
REPORTED 01/11/2005
RECEIVED 12/30/2004

PROJECT Spill Site 61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
584869	SS61-MW-01
584870	Trip Blank
584871	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 584869 **Client Sample ID:** SS61-MW-01

Matrix: WATER

Date Sampled: 12/28/2004
Time Sampled: 10:00

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	103	1	5.0	1.8	mg/L	12/31/04 HK
310.1	Bicarbonate	125	1	5.0	2.0	mg/L	12/31/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	12/31/04 HK
300.0	Chloride	7890	100	100.0	0.10	mg/L	12/31/04 RC
160.1	Filterable Residue (TDS)	18400	1	6.0	5.0	mg/L	12/31/04 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	12/31/04 HK
300.0	Nitrate/Nitrite - N	17.2	4	0.4	0.04	mg/L	12/31/04 RC
300.0	Sulfate	2620	100	100.0	0.20	mg/L	12/31/04 RC
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	12/31/04 WL
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	12/31/04 WL
RSK-175	Methane	ND	1	0.005	0.005	mg/L	12/31/04 WL
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/03/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/03/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/03/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/03/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/03/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/03/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/03/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/03/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/03/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/03/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/03/05 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	01/03/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/03/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/03/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	01/03/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/03/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/03/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/03/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/03/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/03/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/03/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 584869 **Client Sample ID**: SS61-MW-01

Matrix: WATER

Date Sampled: 12/28/2004
Time Sampled: 10:00

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/03/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/03/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/03/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/03/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/03/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/03/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/03/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/03/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/03/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/03/05 AM
8260B	Benzene	ND	1	1	0.22	ug/L	01/03/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/03/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/03/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/03/05 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/03/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/03/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/03/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/03/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/03/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/03/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/03/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/03/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/03/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/03/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/03/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/03/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/03/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/03/05 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	01/03/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/03/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/03/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/03/05 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	01/03/05 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	01/03/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/03/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/03/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 584869 **Client Sample ID**: SS61-MW-01

Matrix: WATER

Date Sampled: 12/28/2004
Time Sampled: 10:00

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/03/05 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/03/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/03/05 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/03/05 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	01/03/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/03/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/03/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/03/05 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	01/03/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/03/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/03/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/03/05 AM
8260B	Toluene	ND	1	5	0.32	ug/L	01/03/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/03/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/03/05 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/03/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/03/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/03/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/03/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/03/05 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	01/03/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	92	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	102	%	70 - 135
8260B	Surr3 - Toluene-d8	97	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	95	%	70 - 135

415.1	Total Organic Carbon	0.8	1	0.5	0.3	mg/L	12/30/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 584870 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/03/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/03/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/03/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/03/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/03/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/03/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/03/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/03/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/03/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/03/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/03/05 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	01/03/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/03/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/03/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	01/03/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/03/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/03/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/03/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/03/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/03/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/03/05 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/03/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/03/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/03/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/03/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/03/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/03/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/03/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/03/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/03/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/03/05 AM
8260B	Benzene	ND	1	1	0.22	ug/L	01/03/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/03/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/03/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/03/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 584870 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/03/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/03/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/03/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/03/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/03/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/03/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/03/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/03/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/03/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/03/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/03/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/03/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/03/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/03/05 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	01/03/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/03/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/03/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/03/05 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	01/03/05 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	01/03/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/03/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/03/05 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/03/05 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/03/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/03/05 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/03/05 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	01/03/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/03/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/03/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/03/05 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	01/03/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/03/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/03/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/03/05 AM
8260B	Toluene	ND	1	5	0.32	ug/L	01/03/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/03/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/03/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 584870 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/03/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/03/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/03/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/03/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/03/05 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	01/03/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	93	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	103	%	70 - 135
8260B	Surr3 - Toluene-d8	98	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	95	%	70 - 135

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 584871 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonat	ND	1	5.0	1.8	mg/L	12/31/04 HK
310.1	Bicarbonate	ND	1	5.0	2.0	mg/L	12/31/04 HK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	12/31/04 HK
300.0	Chloride	ND	1	1.0	0.10	mg/L	12/31/04 RC
160.1	Filterable Residue (TDS)	ND	1	6.0	5.0	mg/L	12/31/04 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	12/31/04 HK
300.0	Nitrate/Nitrite - N	ND	1	0.1	0.04	mg/L	12/31/04 RC
300.0	Sulfate	ND	1	1.0	0.20	mg/L	12/31/04 RC
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	12/31/04 WL
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	12/31/04 WL
RSK-175	Methane	ND	1	0.005	0.005	mg/L	12/31/04 WL
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/03/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/03/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/03/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/03/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/03/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/03/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/03/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/03/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/03/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/03/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/03/05 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	01/03/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/03/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/03/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	01/03/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/03/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/03/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/03/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/03/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/03/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/03/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 584871 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/03/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/03/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/03/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/03/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/03/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/03/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/03/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/03/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/03/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/03/05 AM
8260B	Benzene	ND	1	1	0.22	ug/L	01/03/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/03/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/03/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/03/05 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/03/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/03/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/03/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/03/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/03/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/03/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/03/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/03/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/03/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/03/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/03/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/03/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/03/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/03/05 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	01/03/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/03/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/03/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/03/05 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	01/03/05 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	01/03/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/03/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/03/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor

ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 584871 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/03/05 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/03/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/03/05 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	01/03/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/03/05 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	01/03/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/03/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/03/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/03/05 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	01/03/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/03/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/03/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/03/05 AM
8260B	Toluene	ND	1	5	0.32	ug/L	01/03/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/03/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/03/05 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/03/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/03/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/03/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/03/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/03/05 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	01/03/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	95	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	104	%	70 - 135
8260B	Surr3 - Toluene-d8	98	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	94	%	70 - 135

415.1	Total Organic Carbon	ND	1	0.5	0.3	mg/L	12/30/04 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 142778

Matrix: WATER

Prep. Date: Dec 31-04

Analysis Date: Dec 31-04

ID#'s in Batch: LR 142778, 142821, 142803, 142820

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	94	92	2.2

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	284	293	97	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 142820-584869

Matrix: WATER

Prep. Date: 12/30/04

Analysis Date: 12/31/04

Lab ID#'s in Batch: LR 142820, 142549, 142777, 142758, 142504, 142693, 142141, 142778, 142786
LR 142787, 142803, 142824

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	7890	2000	9600	9610	86	86	0
SO4	300.0	2620	2000	4510	4500	95	94	0
NO3	300.0	82.0	1000	1090.0	1090	101	101	0
NO2	300.0	ND	1000	966	974	97	97	1

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	40	40	100	90%	110%
SO4	300.0	ND	39	40	98	90%	110%
NO3	300.0	ND	19.9	20	100	90%	110%
NO2	300.0	ND	4.8	5	96	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 142820-869

Analysis Date: January 3, 2005 5:55 PM

Applies to: LR 142630, 142701, 142820, 142718, 142693, 142772

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	51.79	51.11	104	102	1	22	59-172
MTBE	ND	50	41.19	40.58	82	81	1	24	62-137
Benzene	ND	50	51.46	48.87	103	98	5	24	62-137
Trichloroethene	ND	50	48.23	47.13	96	94	2	21	66-142
Toluene	ND	50	47.25	46.67	95	93	1	21	59-139
Chlorobenzene	ND	50	48.40	46.71	97	93	4	21	60-133

QC Sample: LCS 5:40 AM
Analysis Date: January 4, 2005

LCS RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	50.24	100	59-172
MTBE	ND	50	43.78	88	62-137
Benzene	ND	50	50.91	102	62-137
Trichloroethene	ND	50	48.44	97	66-142
Toluene	ND	50	47.97	96	59-139
Chlorobenzene	ND	50	48.02	96	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS
DBFM	95	93	94	94	99
1,2-DCA	104	99	96	96	92
Tol-d8	98	99	97	95	98
p-BFB	94	94	93	91	94

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 142820

Matrix: WATER

Prep. Date: December 23, 2004

Analysis Date: December 23, 2004

ID#'s in Batch: LR 142820

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
METHANE	GC/FID	ND	ND	0.00
ETHANE	GC/FID	ND	ND	0.00
ETHYLENE	GC/FID	ND	ND	0.00

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES

NARRATIVE

Date: January 13, 2005

Narrative for Lab Request LR: 142820

Client Project Identification:
Client Name: BHATE
Project: HOLMN #9030024, 02.02 – Spill Site 61
This narrative includes all samples as shown on the attached Lab Request final report.

Analyses Requested:
- EPA 160.1 – Filterable Residue (TDS)
- EPA 310.1 – Alkalinity
- EPA 300.0 – Chloride by Ion Chromatography, Sulfate by Ion Chromatography, Nitrate + Nitrite – N
- RSK – 175 – Hydrocarbons (Ethane, Ethene, Methane)
- EPA 8260 – Volatile Organic Compounds
- EPA 415.1 – Total Organic Carbon (TOC)

Data Validation:

Holding Times
All EPA designated holding times were met.

Calibration
Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

Quality Control Samples
All QC results were within control limits.

Other Anomalies or Comments
The reporting limit (DLR) is adjusted if dilution of the sample is necessary.

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868-1225 - 714/771-6900 FAX 714/538-1209

Cooler Receipt Form

Client: Bhate Project: Site 61

Date Cooler Received: 12/30 Date Cooler Opened: 12/30

Was cooler scanned for presence of radioactivity ? Yes/No
If yes was radioactivity results above 25 cpm ? Yes/No

Was a shipper's packing slip attached to the cooler ? Yes/No

If the cooler had custody seal(s), were thy signed and intact ? Yes/No/Na

Was the cooler packed with: Ice ✓ Ice Packs _____ Bubble wrap _____
Styrofoam _____ Paper _____ None _____ Other _____

Cooler Temperature: 2.6 °C *
*cooler needs to be received @ 4°C with an acceptable range of 2°- 6 °C

If samples were hand delivered do they meet the temp. criteria, which should be @ 4°C with an acceptable range of 2°- 6 °C ? Yes/No

If no explain: _____

Were all samples sealed in plastic bags ? Yes/No

Did all samples arrive intact ? If no, indicate below. Yes/No

Were all samples labeled correctly ? (ID's Dates, Times) If no, indicate below. Yes/No

Can the tests required be ran with the provided containers, If no indicate below. Yes/No

Was sufficient sample volume sent for all containers ? Yes/No

Were any VOA vials received with head space ? Yes/No/Na

Was the correct preservatives used ? Yes/No/Na
If no, see the pH log for a list of samples containers regarding pH

Any other important information: _____

Receiving Department: M Date: 12-30

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

142820

Page 1 of 1

Project Number: 9030024.02.02

P.O. _____

Chain of Custody Number [1]: 122820041

LIMS Number: _____

Facility/Base I.D.: HOLMN

Project Name / Site Name: Spill Site 61

Client Name: USACE

Collected by: Germann, Kevin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military)	Sample Depth (beginning -		SA Code [2]	Sample Numb	Sample Matri	Number of containers	Nitrate/Nitrite 300	Sulfates 300	Alkalinity 310.1	TOC 415.1	TDS 160.1	Chloride 300	VOC 8260	Methane, Ethane RSK 175	Matrix Description	Trip Blank Lot Control Number	Cooler ID
									Sample Analysis Requested [3]									Quality Assurance Samples [4]		
SS61-MW01	SS61	28122004	1000	0	0	N	1	AQ	10	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	SS61 Quarterly Wells		1
Trip Blank						TB			2										12282004	1
					-															
					-															
					-															
					-															
					-															

COMMENTS: Please fax results to 505-679-2148
Email PDF to rrenvironmental@zianet.com, keving@zianet.com, dmeder@bhate.com
FEDEX #842603294850 ATTN: Danielle @ Associated Laboratories 806 N. Batavia, Orange CA 92868

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	KDG	12/28/04	1600	[signature]	12/30	3 30 pm
2.						
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____

Method of Shipment: FEDEX Airbill Number: _____

Analytical Lab: Associated Delivery Location: Orange, CA

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 143965
REPORTED 01/27/2005
RECEIVED 01/21/2005

PROJECT Holmn - Spill Site 61
#9030024.02.02

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
589834	SS61-MW04
589835	Trip Blank
589836	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 589834 **Client Sample ID:** SS61-MW04

Matrix: WATER **Sample Description:** SS61

Date Sampled: 01/20/2005
Time Sampled: 08:55

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
2320B	Bicarbonate	174	1	5.0	1.0	mg/L	01/21/05 DK
2320B	Carbonate	ND	1	5.0	0.7	mg/L	01/21/05 DK
300.0	Chloride	633	25	25.0	0.10	mg/L	01/21/05 RC
160.1	Filterable Residue (TDS)	7050	1	6.0	5.0	mg/L	01/24/05 MS
2320B	Hydroxide	ND	1	5.0	0.3	mg/L	01/21/05 DK
300.0	Nitrate/Nitrite - N	10.6	2	0.2	0.04	mg/L	01/21/05 RC
300.0	Sulfate	3930	100	100.0	0.20	mg/L	01/21/05 RC
2320B	Total Alkalinity as CaCO3	143	1	5.0	1.8	mg/L	01/21/05 DK
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	01/24/05 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	01/24/05 LT
RSK-175	Methane	ND	1	0.005	0.005	mg/L	01/24/05 LT
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/24/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/24/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/24/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/24/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/24/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/24/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/24/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/24/05 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	01/24/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/24/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	01/24/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/24/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/24/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 589834 **Client Sample ID:** SS61-MW04

Matrix: WATER **Sample Description:** SS61

Date Sampled: 01/20/2005
Time Sampled: 08:55

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/24/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/24/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/24/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/24/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/24/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/24/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/24/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/24/05 AM
8260B	Benzene	ND	1	1	0.22	ug/L	01/24/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/24/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/24/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/24/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/24/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/24/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/24/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/24/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/24/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/24/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/24/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/24/05 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	01/24/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/24/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/24/05 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	01/24/05 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	01/24/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/24/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/24/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 589834 **Client Sample ID:** SS61-MW04

Matrix: WATER **Sample Description:** SS61

Date Sampled: 01/20/2005
Time Sampled: 08:55

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/24/05 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/24/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/24/05 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/24/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/24/05 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	01/24/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/24/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/24/05 AM
8260B	Toluene	ND	1	5	0.32	ug/L	01/24/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/24/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/24/05 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/24/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/24/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/24/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/24/05 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	01/24/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	101	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	102	%	70 - 135
8260B	Surr3 - Toluene-d8	98	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	102	%	70 - 135

9060	Total Organic Carbon	2.9	1			mg/L	01/24/05 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 589835 **Client Sample ID:** Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/24/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/24/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/24/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/24/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/24/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/24/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/24/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/24/05 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	01/24/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/24/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	01/24/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/24/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/24/05 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/24/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/24/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/24/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/24/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/24/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/24/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/24/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/24/05 AM
8260B	Benzene	ND	1	1	0.22	ug/L	01/24/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/24/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/24/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/24/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 589835 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/24/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/24/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/24/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/24/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/24/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/24/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/24/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/24/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/24/05 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	01/24/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/24/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/24/05 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	01/24/05 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	01/24/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/24/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/24/05 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/24/05 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/24/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/24/05 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/24/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/24/05 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	01/24/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/24/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/24/05 AM
8260B	Toluene	ND	1	5	0.32	ug/L	01/24/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/24/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/24/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 589835 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/24/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/24/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/24/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/24/05 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	01/24/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	98	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	103	%	70 - 135
8260B	Surr3 - Toluene-d8	97	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	103	%	70 - 135

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 589836 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
2320B	Bicarbonate	ND	1	5.0	1.0	mg/L	01/21/05 DK
2320B	Carbonate	ND	1	5.0	0.7	mg/L	01/21/05 DK
300.0	Chloride	ND	1	1.0	0.10	mg/L	01/21/05 RC
160.1	Filterable Residue (TDS)	ND	1	6.0	5.0	mg/L	01/24/05 MS
2320B	Hydroxide	ND	1	5.0	0.3	mg/L	01/21/05 DK
300.0	Nitrate/Nitrite - N	ND	1	0.1	0.04	mg/L	01/21/05 RC
300.0	Sulfate	ND	1	1.0	0.20	mg/L	01/21/05 RC
2320B	Total Alkalinity as CaCO3	ND	1	5.0	1.8	mg/L	01/21/05 DK
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	01/24/05 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	01/24/05 LT
RSK-175	Methane	ND	1	0.005	0.005	mg/L	01/24/05 LT
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/24/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/24/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/24/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/24/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/24/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/24/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/24/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/24/05 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	01/24/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/24/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	01/24/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/24/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/24/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 589836 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/24/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/24/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/24/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/24/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/24/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/24/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/24/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/24/05 AM
8260B	Benzene	ND	1	1	0.22	ug/L	01/24/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/24/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/24/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/24/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/24/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/24/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/24/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/24/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/24/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/24/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/24/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/24/05 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	01/24/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/24/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/24/05 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	01/24/05 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	01/24/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/24/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/24/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 589836 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/24/05 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/24/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/24/05 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/24/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/24/05 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	01/24/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/24/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/24/05 AM
8260B	Toluene	ND	1	5	0.32	ug/L	01/24/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/24/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/24/05 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/24/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/24/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/24/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/24/05 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	01/24/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	97	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	99	%	70 - 135
8260B	Surr3 - Toluene-d8	104	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	99	%	70 - 135

9060	Total Organic Carbon	ND	1			mg/L	01/24/05 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 143965-589834

Matrix: WATER

Prep. Date: 01/21/05

Analysis Date: 01/21/05

Lab ID#'s in Batch: LR 143965, 143942, 143992

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	633	2000	2530	2550	95	96	1
SO4	300.0	3930	2000	5900	5990	99	103	2
NO3	300.0	48.4	1000	1070.0	1080	102	103	1
NO2	300.0	ND	1000	954	966	95	97	1

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	40	40	99	90%	110%
SO4	300.0	ND	41	40	102	90%	110%
NO3	300.0	ND	20.1	20	101	90%	110%
NO2	300.0	ND	4.9	5	98	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 144031

Matrix: WATER

Prep. Date: Jan 24-05

Analysis Date: Jan 24-05

ID#'s in Batch: LR 144031, 143965, 143967

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	3,020	3,024	0.1

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	274	293	94	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 143744/588758

Matrix: WATER

Method : 310.1

Prep. Date: 01/21/05

Analysis Date: 01/21/05

ID#'s in Batch: LR 143873, 143529, 143530, 143531, 143532, 143744, 143965

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Sample Result	Sample Duplicate	RPD
Bicarbonate	79	79	0.0
Carbonate	ND	ND	0.0
Hydroxide	ND	ND	0.0
Total Alkalinity as CaCO3	220	220	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate
ND = "U" - Not Detected

RPD LIMITS = 20

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 143965-834

Analysis Date: January 24, 2005 4:01 PM

Applies to: LR 143964, 143965, 144031, 143836

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	47.50	45.91	95	92	3	22	59-172
MTBE	ND	50	39.03	37.50	78	75	4	24	62-137
Benzene	ND	50	48.11	48.15	96	96	0	24	62-137
Trichloroethene	ND	50	46.30	47.47	93	95	2	21	66-142
Toluene	ND	50	44.40	46.39	89	93	4	21	59-139
Chlorobenzene	ND	50	44.67	45.58	89	91	2	21	60-133

QC Sample: LCS 12:02 PM
Analysis Date: January 24, 2005

LCS RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	48.41	97	59-172
MTBE	ND	50	46.35	93	62-137
Benzene	ND	50	52.70	105	62-137
Trichloroethene	ND	50	51.54	103	66-142
Toluene	ND	50	49.68	99	59-139
Chlorobenzene	ND	50	50.31	101	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS
DBFM	97	99	97	97	97
1,2-DCA	99	101	99	97	95
Tol-d8	104	99	96	96	94
p-BFB	99	99	100	101	101

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 143965

Matrix: WATER

Prep. Date: January 24, 2005

Analysis Date: January 24, 2005

ID#'s in Batch: LR 143965, 144031, 143825, 143910, 143926

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1 / 9060	2.9	10	12.9	12.9	100	100	0

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	9.6	10	96	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 144031-157 D

Matrix: WATER

Prep. Date: January 24, 2005

Analysis Date: January 24, 2005

ID#'s in Batch: LR 144031, 143965

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = Vppm

Test	Method	Sample Result	Sample Duplicate	RPD
METHANE	GC/FID	ND	ND	0.00
ETHANE	GC/FID	ND	ND	0.00
METHANE	GC/FID	ND	ND	0.00

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES

NARRATIVE

Date: January 31, 2005

Narrative for Lab Request LR: 143965

Client Project Identification:
Client Name: BHATE
Project: HOLMN #9030024, 02.02 – Spill Site 61
This narrative includes all samples as shown on the attached Lab Request final report.

Analyses Requested:
- EPA 160.1 – Filterable Residue (TDS)
- EPA 2320B – Alkalinity
- EPA 300.0 – Chloride by Ion Chromatography, Sulfate by Ion Chromatography, Nitrate + Nitrite – N
- RSK – 175 – Hydrocarbons (Ethane, Ethene, Methane)
- EPA 8260 – Volatile Organic Compounds
- EPA 9060 – Total Organic Carbon (TOC)

Data Validation:

Holding Times
All EPA designated holding times were met.

Calibration
Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

Quality Control Samples
All QC results were within control limits.

Other Anomalies or Comments
The reporting limit (DLR) is adjusted if dilution of the sample is necessary.

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

143965

Page 1 of 1

Project Number: 9030024.02.02

P.O. _____

Chain of Custody Number (1): 012020051

LIMS Number: _____

Facility/Base I.D.: HOLMN

Project Name / Site Name: Spill Site 61

Client Name: USACE

Collected by: Germann, Kevin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military)	Sample Depth (beginning -		SA Code (2)	Sample Numb	Sample Matri	Number of containers	See Attachment								Matrix Description	Trip Blank Lot Control Number	Cooler ID
									Sample Analysis Requested (3)									Quality Assurance Samples (4)		
SS61-MW04	SS61	20012005	0855	0	0	N	1	AQ	10	[illegible]								SS61 Quarterly Wells		1
Trip Blank						TB			2										01202005	1
				-																
				-																
				-																
				-																
				-																

COMMENTS: Please fax results to 505-679-2148

Email PDF to menvironmental@zianet.com, keving@zianet.com, dmeder@bhate.com

FEDEX #845705836192 ATTN: Danielle @ Associated Laboratories 805 N. Batavia, Orange CA 92868

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	KDG	1/20/2005	1600	1. [signature]	1/21/05	1030
2.				2.		
3.				3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____

Method of Shipment: FEDEX Airbill Number: _____

Analytical Lab: Associated Delivery Location: Orange, CA

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WT = Aqueous Blank Samples (rin, equipment, ambient, etc), SO = Soil Blanks

ATTACHMENT TO SS61-MW04 COC

PLEASE ANALYZE FOR THE FOLLOWING:

Sulfate	300.0
Nitrate/Nitrite	300.0
VOC	8260
Total Dissolved Solids	160.1
Chloride	300.0
Total Organic Carbon	9060
Alkalinity	310.1
Methane/Ethane/Ethene	RSK 175

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 143362
REPORTED 01/17/2005
RECEIVED 01/11/2005

PROJECT Spill Site 61
#9030024.02.02

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
587070	SS61-MW03
587071	Trip Blank
587072	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 587070 **Client Sample ID:** SS61-MW03

Matrix: WATER **Sample Description:** SS61
SS61 Quarterly Wells

Date Sampled: 01/10/2005
Time Sampled: 09:30

Method	Analyte	Result		DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonat	910		1	5.0	1.8	mg/L	01/11/05 DK
310.1	Bicarbonate	1110		1	5.0	2.0	mg/L	01/11/05 DK
310.1	Carbonate	ND		1	5.0	1.1	mg/L	01/11/05 DK
300.0	Chloride	8920		100	100.0	0.10	mg/L	01/11/05 RC
160.1	Filterable Residue (TDS)	25600		1	6.0	5.0	mg/L	01/11/05 MS
310.1	Hydroxide	ND		1	5.0	0.4	mg/L	01/11/05 DK
300.0	Nitrate/Nitrite - N	ND		5	0.5	0.04	mg/L	01/12/05 RC
300.0	Sulfate	5700		100	100.0	0.20	mg/L	01/11/05 RC
RSK-175	Ethane	0.026		1	0.005	0.005	mg/L	01/12/05 WL
RSK-175	Ethene	0.011		1	0.005	0.005	mg/L	01/12/05 WL
RSK-175	Methane	ND		1	0.005	0.005	mg/L	01/12/05 WL
8260B	1,1,1,2-Tetrachloroethane	ND		100	500.0	0.83	ug/L	01/12/05 AM
8260B	1,1,1-Trichloroethane	ND		100	500.0	0.25	ug/L	01/12/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND		100	500.0	0.26	ug/L	01/12/05 AM
8260B	1,1,2-Trichloroethane	ND		100	500.0	0.15	ug/L	01/12/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND		100	500.0	0.10	ug/L	01/12/05 AM
8260B	1,1-Dichloroethane	ND		100	500.0	0.31	ug/L	01/12/05 AM
8260B	1,1-Dichloroethene	ND		100	500.0	0.62	ug/L	01/12/05 AM
8260B	1,1-Dichloropropene	ND		100	500.0	0.72	ug/L	01/12/05 AM
8260B	1,2,3-Trichlorobenzene	ND		100	500.0	0.61	ug/L	01/12/05 AM
8260B	1,2,3-Trichloropropane	ND		100	500.0	0.22	ug/L	01/12/05 AM
8260B	1,2,4-Trichlorobenzene	ND		100	500.0	0.61	ug/L	01/12/05 AM
8260B	1,2,4-Trimethylbenzene	274	J	100	500.0	0.49	ug/L	01/12/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND		100	500.0	1.74	ug/L	01/12/05 AM
8260B	1,2-Dibromoethane	ND		100	500.0	0.26	ug/L	01/12/05 AM
8260B	1,2-Dichlorobenzene	ND		100	500.0	0.18	ug/L	01/12/05 AM
8260B	1,2-Dichloroethane	602		100	500.0	0.17	ug/L	01/12/05 AM
8260B	1,2-Dichloropropane	ND		100	500.0	0.26	ug/L	01/12/05 AM
8260B	1,3,5-Trimethylbenzene	152	J	100	500.0	0.26	ug/L	01/12/05 AM
8260B	1,3-Dichlorobenzene	ND		100	500.0	0.41	ug/L	01/12/05 AM
8260B	1,3-Dichloropropane	ND		100	500.0	0.24	ug/L	01/12/05 AM
8260B	1,4-Dichlorobenzene	ND		100	500.0	0.35	ug/L	01/12/05 AM
8260B	1-Chlorohexane	ND		100	500.0	0.32	ug/L	01/12/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587070 **Client Sample ID**: SS61-MW03

Matrix: WATER **Sample Description:** SS61
SS61 Quarterly Wells

ate Sampled: 01/10/2005
ime Sampled: 09:30

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	100	500.0	0.30	ug/L	01/12/05 AM
8260B	2-Butanone (MEK)	ND	100	10000.0	0.75	ug/L	01/12/05 AM
8260B	2-Chloroethyl vinyl ether	ND	100	500.0	0.25	ug/L	01/12/05 AM
8260B	2-Chlorotoluene	ND	100	500.0	0.18	ug/L	01/12/05 AM
8260B	2-Hexanone	ND	100	2000.0	0.78	ug/L	01/12/05 AM
8260B	4-Chlorotoluene	ND	100	500.0	0.18	ug/L	01/12/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	100	1000.0	0.20	ug/L	01/12/05 AM
8260B	Acetone	ND	100	10000.0	3.18	ug/L	01/12/05 AM
8260B	Acetonitrile	ND	100	5000.0	0.49	ug/L	01/12/05 AM
8260B	Acrolein	ND	100	20000.0	3.3	ug/L	01/12/05 AM
8260B	Acrylonitrile	ND	100	1000.0	1.6	ug/L	01/12/05 AM
8260B	Allyl chloride	ND	100	500.0	0.3	ug/L	01/12/05 AM
8260B	Benzene	16900	100	100.0	0.22	ug/L	01/12/05 AM
8260B	Benzyl chloride	ND	100	500.0	0.37	ug/L	01/12/05 AM
8260B	Bromobenzene	ND	100	500.0	0.58	ug/L	01/12/05 AM
8260B	Bromochloromethane	ND	100	500.0	0.30	ug/L	01/12/05 AM
8260B	Bromodichloromethane	ND	100	500.0	0.25	ug/L	01/12/05 AM
8260B	Bromoform	ND	100	500.0	0.17	ug/L	01/12/05 AM
8260B	Bromomethane	ND	100	500.0	1.15	ug/L	01/12/05 AM
8260B	Carbon Disulfide	ND	100	500.0	2.56	ug/L	01/12/05 AM
8260B	Carbon tetrachloride	ND	100	500.0	0.49	ug/L	01/12/05 AM
8260B	Chlorobenzene	ND	100	500.0	0.18	ug/L	01/12/05 AM
8260B	Chloroethane	ND	100	500.0	0.4	ug/L	01/12/05 AM
8260B	Chloroform	ND	100	500.0	0.36	ug/L	01/12/05 AM
8260B	Chloromethane	ND	100	500.0	0.27	ug/L	01/12/05 AM
8260B	cis-1,2-Dichloroethene	ND	100	500.0	0.30	ug/L	01/12/05 AM
8260B	cis-1,3-Dichloropropene	ND	100	500.0	0.22	ug/L	01/12/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	100	2000.0	0.28	ug/L	01/12/05 AM
8260B	Dibromochloromethane	ND	100	500.0	0.22	ug/L	01/12/05 AM
8260B	Dibromomethane	ND	100	500.0	0.25	ug/L	01/12/05 AM
8260B	Dichlorodifluoromethane	ND	100	500.0	0.08	ug/L	01/12/05 AM
8260B	Ethyl benzene	309 J	100	500.0	0.31	ug/L	01/12/05 AM
8260B	Ethyl methacrylate	ND	100	5000.0	0.2	ug/L	01/12/05 AM
8260B	Hexachlorobutadiene	ND	100	500.0	0.24	ug/L	01/12/05 AM
8260B	Iodomethane	ND	100	500.0	0.5	ug/L	01/12/05 AM
8260B	Isopropylbenzene (Cumene)	426 J	100	500.0	0.23	ug/L	01/12/05 AM
8260B	Methacrylonitrile	ND	100	3500.0	0.43	ug/L	01/12/05 AM
8260B	Methyl methacrylate	ND	100	500.0	0.38	ug/L	01/12/05 AM
8260B	Methyl-tert-butylether (MTBE)	ND	100	100.0	0.18	ug/L	01/12/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ID = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587070 **Client Sample ID:** SS61-MW03

Matrix: WATER **Sample Description:** SS61
SS61 Quarterly Wells

Date Sampled: 01/10/2005
Time Sampled: 09:30

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methylene chloride	ND	100	500.0	0.64	ug/L	01/12/05 AM
8260B	n-Butylbenzene	ND	100	500.0	0.35	ug/L	01/12/05 AM
8260B	n-Propylbenzene	ND	100	500.0	0.18	ug/L	01/12/05 AM
8260B	Naphthalene	ND	100	500.0	0.88	ug/L	01/12/05 AM
8260B	p-Isopropyltoluene	ND	100	500.0	0.24	ug/L	01/12/05 AM
8260B	Pentachloroethane	ND	100	500.0	0.4	ug/L	01/12/05 AM
8260B	Propionitrile	ND	100	10000.0	1.9	ug/L	01/12/05 AM
8260B	sec-Butylbenzene	ND	100	500.0	0.28	ug/L	01/12/05 AM
8260B	Styrene	ND	100	500.0	0.20	ug/L	01/12/05 AM
8260B	tert-Butylbenzene	ND	100	500.0	0.35	ug/L	01/12/05 AM
8260B	Tetrachloroethene	ND	100	500.0	0.36	ug/L	01/12/05 AM
8260B	Toluene	4060	100	500.0	0.32	ug/L	01/12/05 AM
8260B	trans-1,2-Dichloroethene	ND	100	500.0	0.41	ug/L	01/12/05 AM
8260B	trans-1,3-Dichloropropene	ND	100	500.0	0.28	ug/L	01/12/05 AM
8260B	trans-1,4-Dichloro-2-butene	ND	100	2000.0	0.28	ug/L	01/12/05 AM
8260B	Trichloroethene	ND	100	500.0	0.23	ug/L	01/12/05 AM
8260B	Trichlorofluoromethane	ND	100	500.0	0.35	ug/L	01/12/05 AM
8260B	Vinyl acetate	ND	100	5000.0	0.3	ug/L	01/12/05 AM
8260B	Vinyl chloride	ND	100	500.0	0.27	ug/L	01/12/05 AM
8260B	Xylenes, total	4370	100	500.0	0.4	ug/L	01/12/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	101	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	88	%	70 - 135
8260B	Surr3 - Toluene-d8	97	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	102	%	70 - 135

415.1	Total Organic Carbon	28	2	1.0	0.3	mg/L	01/11/05 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587071 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/12/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/12/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/12/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/12/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/12/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/12/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/12/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/12/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/12/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/12/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/12/05 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	01/12/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/12/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/12/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/12/05 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	01/12/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/12/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/12/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/12/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/12/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/12/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/12/05 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/12/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/12/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/12/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/12/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/12/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/12/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/12/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/12/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/12/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/12/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/12/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/12/05 AM
8260B	Benzene	ND	1	1	0.22	ug/L	01/12/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/12/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/12/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/12/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587071 **Client Sample ID:** Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/12/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/12/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/12/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/12/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/12/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/12/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/12/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/12/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/12/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/12/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/12/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/12/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/12/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/12/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/12/05 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	01/12/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/12/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/12/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/12/05 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	01/12/05 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	01/12/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/12/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/12/05 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/12/05 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/12/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/12/05 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	01/12/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/12/05 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	01/12/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/12/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/12/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/12/05 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	01/12/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/12/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/12/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/12/05 AM
8260B	Toluene	ND	1	5	0.32	ug/L	01/12/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/12/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/12/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor

ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587071 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/12/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/12/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/12/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/12/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/12/05 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	01/12/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	99	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	99	%	70 - 135
8260B	Surr3 - Toluene-d8	100	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	97	%	70 - 135

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587072 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	ND	1	5.0	1.8	mg/L	01/11/05 DK
310.1	Bicarbonate	ND	1	5.0	2.0	mg/L	01/11/05 DK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	01/11/05 DK
300.0	Chloride	ND	1	1.0	0.10	mg/L	01/12/05 RC
160.1	Filterable Residue (TDS)	ND	1	6.0	5.0	mg/L	01/11/05 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	01/11/05 DK
300.0	Nitrate/Nitrite - N	ND	1	0.1	0.04	mg/L	01/12/05 RC
300.0	Sulfate	ND	1	1.0	0.20	mg/L	01/12/05 RC
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	01/12/05 WL
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	01/12/05 WL
RSK-175	Methane	ND	1	0.005	0.005	mg/L	01/12/05 WL
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/12/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/12/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/12/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/12/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/12/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/12/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/12/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/12/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/12/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/12/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/12/05 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	01/12/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/12/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/12/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/12/05 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	01/12/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/12/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/12/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/12/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/12/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/12/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/12/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587072 **Client Sample ID:** Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/12/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/12/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/12/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/12/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/12/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/12/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/12/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/12/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/12/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/12/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/12/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/12/05 AM
8260B	Benzene	ND	1	1	0.22	ug/L	01/12/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/12/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/12/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/12/05 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/12/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/12/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/12/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/12/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/12/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/12/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/12/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/12/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/12/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/12/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/12/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/12/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/12/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/12/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/12/05 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	01/12/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/12/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/12/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/12/05 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	01/12/05 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	01/12/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/12/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/12/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587072 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/12/05 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/12/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/12/05 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	01/12/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/12/05 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	01/12/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/12/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/12/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/12/05 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	01/12/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/12/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/12/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/12/05 AM
8260B	Toluene	ND	1	5	0.32	ug/L	01/12/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/12/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/12/05 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/12/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/12/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/12/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/12/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/12/05 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	01/12/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	98	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	98	%	70 - 135
8260B	Surr3 - Toluene-d8	99	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	101	%	70 - 135

415.1	Total Organic Carbon	ND	1	0.5	0.3	mg/L	01/11/05 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 143074-033

Matrix: WATER

Prep. Date: January 12, 2005

Analysis Date: January 12, 2005

ID#'s in Batch: LR 143074, 143197, 143362

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = Vppm

Test	Method	Sample Result	Sample Duplicate	RPD
METHANE	GC/FID	5.568	5.226	6.34
ETHANE	GC/FID	ND	ND	0.00
METHANE	GC/FID	ND	ND	0.00

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES

LCS REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: LCS/LCSD - Water Samples

Analysis Date: January 12, 2005 2:42 PM

Applies to: LR 143459, 143364, 143362, 143097, 143208, 143010

Reporting Units = ug/L

Lab Controlled Spike / Lab Controlled Spike Duplicate

Test	Sample Result	Spike Added	LCS Spike	LCS Spk. Dup	%Rec LCS	%Rec LCS D	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	50.95	53.29	102	107	4	22	59-172
MTBE	ND	50	46.93	47.18	94	94	1	24	62-137
Benzene	ND	50	52.05	53.40	104	107	3	24	62-137
Trichloroethene	ND	50	49.72	52.57	99	105	6	21	66-142
Toluene	ND	50	49.80	52.22	100	104	5	21	59-139
Chlorobenzene	ND	50	51.21	50.92	102	102	1	21	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	LCS	LCSD
DBFM	98	99	96
1,2-DCA	98	96	95
Tol-d8	99	97	98
p-BFB	101	99	99

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 143362

Matrix: WATER

Prep. Date: January 11, 2005

Analysis Date: January 11, 2005

ID#'s in Batch: LR 143362, 143216, 143277

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1 / 9060	26.8	10	36.4	37.1	96	103	2

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	9.9	10	99	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 143362

Matrix: WATER

Method : 310.1

Prep. Date: 01/11/05

Analysis Date: 01/11/05

ID#'s in Batch: LR 142786, 142787, 142852, 142959, 143031, 142551, 143202, 142852, 143362, 143226, LR 142898

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Sample Result	Sample Duplicate	RPD
Bicarbonate	1110	1110	0.0
Carbonate	ND	ND	0.0
Hydroxide	ND	ND	0.0
Total Alkalinity as CaCO3	220	220	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate
ND = "U" - Not Detected

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 143226

Matrix: WATER

Prep. Date: Jan 11-05

Analysis Date: Jan 11-05

ID#'s in Batch: LR 143226, 143031, 143362, 143143, 143254, 143260, 143289, 143290,

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	908	904	0.4

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	288	293	98	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 143362-587070

Matrix: WATER

Prep. Date: 01/11/05

Analysis Date: 01/12/05

Lab ID#'s in Batch: LR 143362, 143468

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	8920	5000	14000	14000	102	102	0
SO4	300.0	5700	2500	8240	8200	102	100	0
NO3	300.0	ND	2500	2620.0	2610	105	104	0
NO2	300.0	ND	2000	2000	1970	100	99	2

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	42	40	105	90%	110%
SO4	300.0	ND	41	40	103	90%	110%
NO3	300.0	ND	20.3	20	102	90%	110%
NO2	300.0	ND	5.1	5	102	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 143346-586991

Matrix: WATER

Prep. Date: 01/11/05

Analysis Date: 01/11/05

Lab ID#'s in Batch: LR 143346, 143396, 143347, 143348, 143354, 143330, 143362

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	5	200	191	192	93	94	1
SO4	300.0	11	200	204	203	97	96	0
NO3	300.0	0.7	100	99.9	100	99	99	0
NO2	300.0	ND	100	95	95	95	95	1

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	38	40	95	90%	110%
SO4	300.0	ND	38	40	95	90%	110%
NO3	300.0	ND	19.2	20	96	90%	110%
NO2	300.0	ND	4.7	5	94	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES

NARRATIVE

Date: January 21, 2005

Narrative for Lab Request LR: 143362

Client Project Identification:
Client Name: BHATE
Project: HOLMN #9030024, 02.02 – Spill Site 61
This narrative includes all samples as shown on the attached Lab Request final report.

Analyses Requested:
- EPA 160.1 – Filterable Residue (TDS)
- EPA 310.1 – Alkalinity
- EPA 300.0 – Chloride by Ion Chromatography, Sulfate by Ion Chromatography, Nitrate + Nitrite – N
- RSK – 175 – Hydrocarbons (Ethane, Ethene, Methane)
- EPA 8260 – Volatile Organic Compounds
- EPA 415.1 – Total Organic Carbon (TOC)

Data Validation:

Holding Times
All EPA designated holding times were met.

Calibration
Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

Quality Control Samples
All QC results were within control limits.

Other Anomalies or Comments
The reporting limit (DLR) is adjusted if dilution of the sample is necessary.

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868-1225 - 714/771-6900 FAX 714/538-1209

Cooler Receipt Form

Client: Bhate Project: SS 61

Date Cooler Received: 1/11 Date Cooler Opened: 1/11/05

Was cooler scanned for presence of radioactivity ? Yes/No
If yes was radioactivity results above 25 cpm ? Yes/No

Was a shipper's packing slip attached to the cooler ? Yes/No

If the cooler had custody seal(s), were thy signed and intact ? Yes/No/Na

Was the cooler packed with: Ice ✓ Ice Packs ____ Bubble wrap ____
Styrofoam ____ Paper ____ None ____ Other ____

Cooler Temperature: 2-7 °C *
*cooler needs to be received @ 4°C with an acceptable range of 2°- 6 °C

If samples were hand delivered do they meet the temp. criteria, which should be @ 4°C with an acceptable range of 2°- 6 °C ? Yes/No

If no explain: ____

Were all samples sealed in plastic bags ? Yes/No

Did all samples arrive intact ? If no, indicate below. Yes/No

Were all samples labeled correctly ? (ID's Dates, Times) If no, indicate below. Yes/No

Can the tests required be ran with the provided containers, If no indicate below. Yes/No

Was sufficient sample volume sent for all containers ? Yes/No

Were any VOA vials received with head space ? Yes/No/Na

Was the correct preservatives used ? Yes/No/Na
If no, see the pH log for a list of samples containers regarding pH

Any other important information: ____

Receiving Department: MV Date: 1/11

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

143362

Page 1 of 1

Project Number: 9030024.02.02

P.O. _____

Chain of Custody Number [1]: 011020051

LIMS Number: _____

Facility/Base I.D.: HOLMN

Project Name / Site Name: Spill Site 61

Client Name: USACE

Collected by: Germann, Kevin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military)	Sample Depth (beginning -	SA Code [2]	Sample Numb	Sample Matri	Number of containers	Nitrate/Nitrite 300	Sulfates 300	Alkalinity 310.1	TOC 415.1	TDS 160.1	Chloride 300	VOC 8260	Methane, Ethane, Ethene RSK 175	Matrix Description	Trip Blank Lot Control Number	Cooler ID
								Sample Analysis Requested [5]									Quality Assurance Samples [6]		
SS61-MW03	SS61	10012005	930	0 0	N	1	AQ	10	[2]	[2]	[1]	[1]	[1]	[1]	[1]	[2]	SS61 Quarterly Wells		1
Trip Blank				.	TB			2										01102005	1
				-															
				-															
				-															
				-															
				-															

COMMENTS: Please fax results to 505-679-2148
Email PDF to rrenvironmental@zianet.com, keving@zianet.com, dmeder@bhate.com
FEDEX #845705834605 ATTN: Danielle @ Associated Laboratories 806 N. Batavia, Orange CA 92868

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. KDF	1/10/2005	1600	1. [signature]	1/11	10 20
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____

Method of Shipment: FEDEX Airbill Number: _____

Analytical Lab: Associated Delivery Location: Orange, CA

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 143468
REPORTED 01/18/2005
RECEIVED 01/12/2005

PROJECT #9030024.02.02
Holmn - Spill Site 61

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
587501	SS61-MW06
587502	Trip Blank
587503	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 587501 **Client Sample ID:** SS61-MW06

Matrix: WATER

Date Sampled: 01/11/2005
Time Sampled: 09:02

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	450	1	5.0	1.8	mg/L	01/12/05 DK
310.1	Bicarbonate	549	1	5.0	2.0	mg/L	01/12/05 DK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	01/12/05 DK
300.0	Chloride	4400	50	50.0	0.10	mg/L	01/12/05 RC
160.1	Filterable Residue (TDS)	18700	1	6.0	5.0	mg/L	01/13/05 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	01/12/05 DK
300.0	Nitrate/Nitrite - N	20.7	50	5.0	0.04	mg/L	01/12/05 RC
300.0	Sulfate	5890	100	100.0	0.20	mg/L	01/12/05 RC
RSK-175	Ethane	0.012	1	0.005	0.005	mg/L	01/14/05 WL
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	01/14/05 WL
RSK-175	Methane	0.037	1	0.005	0.005	mg/L	01/14/05 WL
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/13/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/13/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/13/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/13/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/13/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/13/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/13/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/13/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/13/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/13/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/13/05 AM
8260B	1,2,4-Trimethylbenzene	5.4	1	5	0.49	ug/L	01/13/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/13/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/13/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/13/05 AM
8260B	1,2-Dichloroethane	8.5	1	5	0.17	ug/L	01/13/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/13/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/13/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/13/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/13/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/13/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/13/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587501 **Client Sample ID:** SS61-MW06

Matrix: WATER

Date Sampled: 01/11/2005
Time Sampled: 09:02

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/13/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/13/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/13/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/13/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/13/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/13/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/13/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/13/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/13/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/13/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/13/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/13/05 AM
8260B	Benzene	802	10	10.0	0.22	ug/L	01/14/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/13/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/13/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/13/05 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/13/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/13/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/13/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/13/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/13/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/13/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/13/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/13/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/13/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/13/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/13/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/13/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/13/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/13/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/13/05 AM
8260B	Ethyl benzene	4.9 J	1	5	0.31	ug/L	01/13/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/13/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/13/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/13/05 AM
8260B	Isopropylbenzene (Cumene)	352	10	50.0	0.23	ug/L	01/14/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/13/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/13/05 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/13/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587501 **Client Sample ID**: SS61-MW06

Matrix: WATER

Date Sampled: 01/11/2005
Time Sampled: 09:02

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/13/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/13/05 AM
8260B	n-Propylbenzene	1.3 J	1	5	0.18	ug/L	01/13/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/13/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/13/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/13/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/13/05 AM
8260B	sec-Butylbenzene	4.7 J	1	5	0.28	ug/L	01/13/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/13/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/13/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/13/05 AM
8260B	Toluene	9.8	1	5	0.32	ug/L	01/13/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/13/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/13/05 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/13/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/13/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/13/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/13/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/13/05 AM
8260B	Xylenes, total	16	1	5	0.4	ug/L	01/13/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	99	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	91	%	70 - 135
8260B	Surr3 - Toluene-d8	99	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	97	%	70 - 135

9060	Total Organic Carbon	8.8	2	1.0		mg/L	01/13/05 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587502 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/14/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/14/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/14/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/14/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/14/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/14/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/14/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/14/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/14/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/14/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/14/05 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	01/14/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/14/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/14/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/14/05 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	01/14/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/14/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/14/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/14/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/14/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/14/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/14/05 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/14/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/14/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/14/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/14/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/14/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/14/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/14/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/14/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/14/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/14/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/14/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/14/05 AM
8260B	Benzene	ND	1	1	0.22	ug/L	01/14/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/14/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/14/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/14/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587502 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/14/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/14/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/14/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/14/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/14/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/14/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/14/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/14/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/14/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/14/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/14/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/14/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/14/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/14/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/14/05 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	01/14/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/14/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/14/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/14/05 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	01/14/05 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	01/14/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/14/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/14/05 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/14/05 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/14/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/14/05 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	01/14/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/14/05 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	01/14/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/14/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/14/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/14/05 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	01/14/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/14/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/14/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/14/05 AM
8260B	Toluene	ND	1	5	0.32	ug/L	01/14/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/14/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/14/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587502 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/14/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/14/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/14/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/14/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/14/05 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	01/14/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	100	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	103	%	70 - 135
8260B	Surr3 - Toluene-d8	97	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	100	%	70 - 135

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587503 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	ND	1	5.0	1.8	mg/L	01/12/05 DK
310.1	Bicarbonate	ND	1	5.0	2.0	mg/L	01/12/05 DK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	01/12/05 DK
300.0	Chloride	ND	1	1.0	0.10	mg/L	01/12/05 RC
160.1	Filterable Residue (TDS)	ND	1	6.0	5.0	mg/L	01/13/05 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	01/12/05 DK
300.0	Nitrate/Nitrite - N	ND	1	0.1	0.04	mg/L	01/12/05 RC
300.0	Sulfate	ND	1	1.0	0.20	mg/L	01/12/05 RC
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	01/14/05 WL
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	01/14/05 WL
RSK-175	Methane	ND	1	0.005	0.005	mg/L	01/14/05 WL
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/14/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/14/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/14/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/14/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/14/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/14/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/14/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/14/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/14/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/14/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/14/05 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	01/14/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/14/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/14/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/14/05 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	01/14/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/14/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/14/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/14/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/14/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/14/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/14/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587503 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/14/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/14/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/14/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/14/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/14/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/14/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/14/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/14/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/14/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/14/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/14/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/14/05 AM
8260B	Benzene	ND	1	1	0.22	ug/L	01/14/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/14/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/14/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/14/05 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/14/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/14/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/14/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/14/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/14/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/14/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/14/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/14/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/14/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/14/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/14/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/14/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/14/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/14/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/14/05 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	01/14/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/14/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/14/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/14/05 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	01/14/05 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	01/14/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/14/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/14/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 587503 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/14/05 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/14/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/14/05 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	01/14/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/14/05 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	01/14/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/14/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/14/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/14/05 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	01/14/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/14/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/14/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/14/05 AM
8260B	Toluene	ND	1	5	0.32	ug/L	01/14/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/14/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/14/05 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/14/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/14/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/14/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/14/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/14/05 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	01/14/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	97	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	102	%	70 - 135
8260B	Surr3 - Toluene-d8	100	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	101	%	70 - 135

9060	Total Organic Carbon	ND	1	0.5		mg/L	01/13/05 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 142777

Matrix: WATER

Prep. Date: Jan 13-05

Analysis Date: Jan 13-05

ID#'s in Batch: LR 142777, 143217, 143218, 143245, 143247, 143346, 143347, 143468

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	852	852	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	296	293	101	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 143362-587070

Matrix: WATER

Prep. Date: 01/11/05

Analysis Date: 01/12/05

Lab ID#'s in Batch: LR 143362, 143468

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	8920	5000	14000	14000	102	102	0
SO4	300.0	5700	2500	8240	8200	102	100	0
NO3	300.0	ND	2500	2620.0	2610	105	104	0
NO2	300.0	ND	2000	2000	1970	100	99	2

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	42	40	105	90%	110%
SO4	300.0	ND	41	40	103	90%	110%
NO3	300.0	ND	20.3	20	102	90%	110%
NO2	300.0	ND	5.1	5	102	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 143468-501

Analysis Date: January 14, 2005 5:51 PM

Applies to: LR 143468

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	49.90	49.46	100	99	1	22	59-172
MTBE	ND	50	46.46	45.79	93	92	1	24	62-137
Benzene	80.23	50	129.33	126.69	98	93	2	24	62-137
Trichloroethene	ND	50	51.43	49.35	103	99	4	21	66-142
Toluene	ND	50	52.34	50.44	105	101	4	21	59-139
Chlorobenzene	ND	50	50.76	50.35	102	101	1	21	60-133

QC Sample: LCS 3:27 PM
Analysis Date: January 14, 2005

LCS RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	49.75	100	59-172
MTBE	ND	50	45.36	91	62-137
Benzene	ND	50	51.00	102	62-137
Trichloroethene	ND	50	49.91	100	66-142
Toluene	ND	50	49.80	100	59-139
Chlorobenzene	ND	50	50.00	100	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MS	MSD	LCS
DBFM	97	96	98	100
1,2-DCA	102	85	84	92
Tol-d8	100	101	98	98
p-BFB	101	98	99	98

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 143468-501

Analysis Date: January 13, 2005 5:29 PM

Applies to: LR 143413, 143370, 143468, 143389, 143378, 143424, 143480, 143484, 143364, 143208, LR 143608

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk Dup.	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	53.24	53.16	106	106	0	22	59-172
MTBE	ND	50	45.13	46.21	90	92	2	24	62-137
Benzene *	733.72	50	756.28	775.46	45	83	3	24	62-137
Trichloroethene	ND	50	46.31	47.97	93	96	4	21	66-142
Toluene	ND	50	53.64	56.59	107	113	5	21	59-139
Chlorobenzene	ND	50	45.85	48.06	92	96	5	21	60-133

QC Sample: LCS/LCSD 9:58 PM
Analysis Date: January 13 - 14, 2005

Lab Controlled Spike / Lab Controlled Spike Duplicate

Test	Sample Result	Spike Added	LCS Spike	LCS Spk Dup.	%Rec LCS	%Rec LCS D	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	50.51	49.25	101	99	3	22	59-172
MTBE	ND	50	46.41	46.69	93	93	1	24	62-137
Benzene	ND	50	51.70	49.75	103	100	4	24	62-137
Trichloroethene	ND	50	49.91	50.13	100	100	0	21	66-142
Toluene	ND	50	49.26	45.48	99	91	8	21	59-139
Chlorobenzene	ND	50	49.85	47.08	100	94	6	21	60-133

Method Blank = All ND
*** RPD is high. The MS/MSD and LCS/LCSD recoveries conformed to QC limits.**

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS	LCSD
DBFM	100	102	98	96	98	98
1,2-DCA	103	106	54 *	56 *	96	96
Tol-d8	101	102	93	97	99	97
p-BFB	99	97	97	97	98	100

****Surrogate recovery is out of control.**

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 143190/586428

Matrix: WATER

Method : 310.1

Prep. Date: 01/12/05

Analysis Date: 01/12/05

ID#'s in Batch: LR 143190, 142550, 143468

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Sample Result	Sample Duplicate	RPD
Bicarbonate	113	113	0.0
Carbonate	ND	ND	0.0
Hydroxide	ND	ND	0.0
Total Alkalinity as CaCO3	220	220	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate
ND = "U" - Not Detected

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 14340-259

Matrix: WATER

Prep. Date: January 14, 2005

Analysis Date: January 14, 2005

ID#'s in Batch: LR 143409, 143592, 143468

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
METHANE	RSK-175	2.263	2.090	7.95
ETHANE	RSK-175	1.246	1.135	9.32
ETHYLENE	RSK-175	ND	ND	0.00

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 143468

Matrix: WATER

Prep. Date: January 13, 2005

Analysis Date: January 13, 2005

ID#'s in Batch: LR 143468, 143463, 143479

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1 / 9060	8.4	10	18.3	18.5	99	101	1

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	9.6	10	96	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES

NARRATIVE

Date: January 19, 2005

Narrative for Lab Request LR: 143468

Client Project Identification:
Client Name: BHATE
Project: HOLMN #9030024, 02.02 – Spill Site 61
This narrative includes all samples as shown on the attached Lab Request final report.

Analyses Requested:
- EPA 160.1 – Filterable Residue (TDS)
- EPA 310.1 – Alkalinity
- EPA 300.0 – Chloride by Ion Chromatography, Sulfate by Ion Chromatography, Nitrate + Nitrite – N
- RSK – 175 – Hydrocarbons (Ethane, Ethene, Methane)
- EPA 8260 – Volatile Organic Compounds
- EPA 9060 – Total Organic Carbon (TOC)

Data Validation:

Holding Times
All EPA designated holding times were met.

Calibration
Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

Quality Control Samples
All QC results were within control limits.

Other Anomalies or Comments
The reporting limit (DLR) is adjusted if dilution of the sample is necessary.

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868-1225 - 714/771-6900 FAX 714/538-1209

Cooler Receipt Form

Client: Bhatt Project: SSCI

Date Cooler Received: 1/12 Date Cooler Opened: 1/12/05

Was cooler scanned for presence of radioactivity ? Yes/No
If yes was radioactivity results above 25 cpm ? Yes/No

Was a shipper's packing slip attached to the cooler ? Yes/No

If the cooler had custody seal(s), were thy signed and intact ? Yes/No/Na

Was the cooler packed with: Ice ✓ Ice Packs _____ Bubble wrap _____
Styrofoam _____ Paper _____ None _____ Other _____

Cooler Temperature: 2.4°C *
*cooler needs to be received @ 4°C with an acceptable range of 2°- 6 °C

If samples were hand delivered do they meet the temp. criteria, which should be @ 4°C with an acceptable range of 2°- 6 °C ? Yes/No

If no explain: _____

Were all samples sealed in plastic bags ? Yes/No

Did all samples arrive intact ? If no, indicate below. Yes/No

Were all samples labeled correctly ? (ID's Dates, Times) If no, indicate below. Yes/No

Can the tests required be ran with the provided containers, If no indicate below. Yes/No

Was sufficient sample volume sent for all containers ? Yes/No

Were any VOA vials received with head space ? Yes/No/Na

Was the correct preservatives used ? Yes/No/Na
If no, see the pH log for a list of samples containers regarding pH

Any other important information: _____

Receiving Department: M Date: 1/12

ATTACHMENT TO SS61-MW0~~8~~6 KG COC

PLEASE ANALYZE FOR THE FOLLOWING:

Sulfate	300.0
Nitrate/Nitrite	300.0
VOC	8260
Total Dissolved Solids	160.1
Chloride	300.0
Total Organic Carbon	9060
Alkalinity	310.1
Methane/Ethane/Ethene	RSK 175

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

Page 1 of 1

Project Number: 9030024.02.02

P.O. _____

Chain of Custody Number [1]: 011120051

LIMS Number: _____

143468

Facility/Base I.D.: HOLMN

Project Name / Site Name: Spill Site 61

Client Name: USACE

Collected by: Germann, Kevin

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military)	Sample Depth (beginning -	SA Code (2)	Sample Numb	Sample Matri	Number of containers	See Attachment								Matrix Description	Trip Blank Lot Control Number	Cooler ID
								Sample Analysis Requested [5]									Quality Assurance Samples [6]		
SS61-MW06	SS61	11012005	0902	0 0	N	1	AQ	10	[1]								SS61 Quarterly Wells		1
Trip Blank					TB			2										01112005	1

COMMENTS: Please fax results to 505-679-2148
Email PDF to rrenvironmental@zianet.com, keving@zianet.com, dmoder@bhate.com
FEDEX #845705834340 ATTN: Danielle @ Associated Laboratories 806 N. Batavia, Orange CA 92868

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	KDG	1/11/2005	1600	1. [signature]	1/12/05	1040
2.				2.		
3.				3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____

Method of Shipment: FEDEX Airbill Number: _____

Analytical Lab: Associated Delivery Location: Orange, CA

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT BHATE (10177)
ATTN: Jerry Pelfry
1111 10th. Street
480
Alamorgordo, NM 88310

LAB REQUEST 144031
REPORTED 01/27/2005
RECEIVED 01/22/2005

PROJECT Holmn - Spill Site 61
#9030024.02.02

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
590157	SS61-MW08
590158	Trip Blank
590159	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

The reports of the Associated Laboratories are confidential property of our clients and may not be reproduced or used for publication in part or in full without our written permission. This is for the mutual protection of the public, our clients, and ourselves.

TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 590157 **Client Sample ID**: SS61-MW08

Matrix: WATER **Sample Description:** SS61

Date Sampled: 01/21/2005
me Sampled: 09:40

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonat	133	1	5.0	1.8	mg/L	01/23/05 DK
310.1	Bicarbonate	162	1	5.0	2.0	mg/L	01/23/05 DK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	01/23/05 DK
300.0	Chloride	85	1	1.0	0.10	mg/L	01/23/05 BGS
160.1	Filterable Residue (TDS)	3020	1	6.0	5.0	mg/L	01/24/05 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	01/23/05 DK
300.0	Nitrate/Nitrite - N	3.6	1	0.1	0.04	mg/L	01/23/05 BGS
300.0	Sulfate	1770	20	20.0	0.20	mg/L	01/23/05 BGS
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	01/24/05 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	01/24/05 LT
RSK-175	Methane	ND	1	0.005	0.005	mg/L	01/24/05 LT
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/24/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/24/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/24/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/24/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/24/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/24/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/24/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/24/05 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	01/24/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/24/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	01/24/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/24/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/24/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 590157 **Client Sample ID:** SS61-MW08

Matrix: WATER **Sample Description:** SS61

Date Sampled: 01/21/2005
Time Sampled: 09:40

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/24/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/24/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/24/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/24/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/24/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/24/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/24/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/24/05 AM
8260B	Benzene	ND	1	1	0.22	ug/L	01/24/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/24/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/24/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/24/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/24/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/24/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/24/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/24/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/24/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/24/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/24/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/24/05 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	01/24/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/24/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/24/05 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	01/24/05 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	01/24/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/24/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/24/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 590157 **Client Sample ID:** SS61-MW08

Matrix: WATER **Sample Description:** SS61

Date Sampled: 01/21/2005
Time Sampled: 09:40

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/24/05 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/24/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/24/05 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/24/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/24/05 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	01/24/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/24/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/24/05 AM
8260B	Toluene	ND	1	5	0.32	ug/L	01/24/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/24/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/24/05 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/24/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/24/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/24/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/24/05 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	01/24/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	100	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	103	%	70 - 135
8260B	Surr3 - Toluene-d8	101	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	100	%	70 - 135

415.1	Total Organic Carbon	1.5	1	0.5	0.3	mg/L	01/24/05 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 590158 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/24/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/24/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/24/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/24/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/24/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/24/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/24/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/24/05 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	01/24/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/24/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	01/24/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/24/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/24/05 AM
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/24/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/24/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/24/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/24/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/24/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/24/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/24/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/24/05 AM
8260B	Benzene	ND	1	1	0.22	ug/L	01/24/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/24/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/24/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/24/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 590158 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/24/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/24/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/24/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/24/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/24/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/24/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/24/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/24/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/24/05 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	01/24/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/24/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/24/05 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	01/24/05 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	01/24/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/24/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/24/05 AM
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/24/05 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/24/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/24/05 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/24/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/24/05 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	01/24/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/24/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/24/05 AM
8260B	Toluene	ND	1	5	0.32	ug/L	01/24/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/24/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/24/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 590158 **Client Sample ID**: Trip Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/24/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/24/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/24/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/24/05 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	01/24/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	98	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	103	%	70 - 135
8260B	Surr3 - Toluene-d8	98	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	100	%	70 - 135

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 590159 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
310.1	Alkalinity as Calcium Carbonate	ND	1	5.0	1.8	mg/L	01/22/05 DK
310.1	Bicarbonate	ND	1	5.0	2.0	mg/L	01/22/05 DK
310.1	Carbonate	ND	1	5.0	1.1	mg/L	01/22/05 DK
300.0	Chloride	ND	1	1.0	0.10	mg/L	01/23/05 BGS
160.1	Filterable Residue (TDS)	ND	1	6.0	5.0	mg/L	01/24/05 MS
310.1	Hydroxide	ND	1	5.0	0.4	mg/L	01/22/05 DK
300.0	Nitrate/Nitrite - N	ND	1	0.1	0.04	mg/L	01/23/05 BGS
300.0	Sulfate	ND	1	1.0	0.20	mg/L	01/23/05 BGS
RSK-175	Ethane	ND	1	0.005	0.005	mg/L	01/24/05 LT
RSK-175	Ethene	ND	1	0.005	0.005	mg/L	01/24/05 LT
RSK-175	Methane	ND	1	0.005	0.005	mg/L	01/24/05 LT
8260B	1,1,1,2-Tetrachloroethane	ND	1	5	0.83	ug/L	01/24/05 AM
8260B	1,1,1-Trichloroethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	1,1,2,2-Tetrachloroethane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,1,2-Trichloroethane	ND	1	5	0.15	ug/L	01/24/05 AM
8260B	1,1,2-Trichlorotrifluoroethane	ND	1	5	0.10	ug/L	01/24/05 AM
8260B	1,1-Dichloroethane	ND	1	5	0.31	ug/L	01/24/05 AM
8260B	1,1-Dichloroethene	ND	1	5	0.62	ug/L	01/24/05 AM
8260B	1,1-Dichloropropene	ND	1	5	0.72	ug/L	01/24/05 AM
8260B	1,2,3-Trichlorobenzene	ND	1	5	0.61	ug/L	01/24/05 AM
8260B	1,2,3-Trichloropropane	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	1,2,4-Trichlorobenzene	ND	1	5	0.61	ug/L	01/24/05 AM
8260B	1,2,4-Trimethylbenzene	ND	1	5	0.49	ug/L	01/24/05 AM
8260B	1,2-Dibromo-3-chloropropane	ND	1	5	1.74	ug/L	01/24/05 AM
8260B	1,2-Dibromoethane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,2-Dichlorobenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	1,2-Dichloroethane	ND	1	5	0.17	ug/L	01/24/05 AM
8260B	1,2-Dichloropropane	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,3,5-Trimethylbenzene	ND	1	5	0.26	ug/L	01/24/05 AM
8260B	1,3-Dichlorobenzene	ND	1	5	0.41	ug/L	01/24/05 AM
8260B	1,3-Dichloropropane	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	1,4-Dichlorobenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	1-Chlorohexane	ND	1	5	0.32	ug/L	01/24/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 590159 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	2,2-Dichloropropane	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	2-Butanone (MEK)	ND	1	100	0.75	ug/L	01/24/05 AM
8260B	2-Chloroethyl vinyl ether	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	2-Chlorotoluene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	2-Hexanone	ND	1	20	0.78	ug/L	01/24/05 AM
8260B	4-Chlorotoluene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	4-Methyl -2- Pentanone (MIBK)	ND	1	10	0.20	ug/L	01/24/05 AM
8260B	Acetone	ND	1	100	3.18	ug/L	01/24/05 AM
8260B	Acetonitrile	ND	1	50	0.49	ug/L	01/24/05 AM
8260B	Acrolein	ND	1	200	3.3	ug/L	01/24/05 AM
8260B	Acrylonitrile	ND	1	10	1.6	ug/L	01/24/05 AM
8260B	Allyl chloride	ND	1	5	0.3	ug/L	01/24/05 AM
8260B	Benzene	ND	1	1	0.22	ug/L	01/24/05 AM
8260B	Benzyl chloride	ND	1	5	0.37	ug/L	01/24/05 AM
8260B	Bromobenzene	ND	1	5	0.58	ug/L	01/24/05 AM
8260B	Bromochloromethane	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	Bromodichloromethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	Bromoform	ND	1	5	0.17	ug/L	01/24/05 AM
8260B	Bromomethane	ND	1	5	1.15	ug/L	01/24/05 AM
8260B	Carbon Disulfide	ND	1	5	2.56	ug/L	01/24/05 AM
8260B	Carbon tetrachloride	ND	1	5	0.49	ug/L	01/24/05 AM
8260B	Chlorobenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	Chloroethane	ND	1	5	0.4	ug/L	01/24/05 AM
8260B	Chloroform	ND	1	5	0.36	ug/L	01/24/05 AM
8260B	Chloromethane	ND	1	5	0.27	ug/L	01/24/05 AM
8260B	cis-1,2-Dichloroethene	ND	1	5	0.30	ug/L	01/24/05 AM
8260B	cis-1,3-Dichloropropene	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	cis-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/24/05 AM
8260B	Dibromochloromethane	ND	1	5	0.22	ug/L	01/24/05 AM
8260B	Dibromomethane	ND	1	5	0.25	ug/L	01/24/05 AM
8260B	Dichlorodifluoromethane	ND	1	5	0.08	ug/L	01/24/05 AM
8260B	Ethyl benzene	ND	1	5	0.31	ug/L	01/24/05 AM
8260B	Ethyl methacrylate	ND	1	50	0.2	ug/L	01/24/05 AM
8260B	Hexachlorobutadiene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	Iodomethane	ND	1	5	0.5	ug/L	01/24/05 AM
8260B	Isopropylbenzene (Cumene)	ND	1	5	0.23	ug/L	01/24/05 AM
8260B	m and p-Xylene	ND	1	5	0.54	ug/L	01/24/05 AM
8260B	Methacrylonitrile	ND	1	35	0.43	ug/L	01/24/05 AM
8260B	Methyl methacrylate	ND	1	5	0.38	ug/L	01/24/05 AM

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

Order #: 590159 **Client Sample ID**: Laboratory Method Blank

Matrix: WATER

Method	Analyte	Result	DF	EQL	MDL	Units	Date/Analyst
8260B	Methyl-tert-butylether (MTBE)	ND	1	1	0.18	ug/L	01/24/05 AM
8260B	Methylene chloride	ND	1	5	0.64	ug/L	01/24/05 AM
8260B	n-Butylbenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	n-Propylbenzene	ND	1	5	0.18	ug/L	01/24/05 AM
8260B	Naphthalene	ND	1	5	0.88	ug/L	01/24/05 AM
8260B	o-Xylene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	p-Isopropyltoluene	ND	1	5	0.24	ug/L	01/24/05 AM
8260B	Pentachloroethane	ND	1	5	0.4	ug/L	01/24/05 AM
8260B	Propionitrile	ND	1	100	1.9	ug/L	01/24/05 AM
8260B	sec-Butylbenzene	ND	1	5	0.28	ug/L	01/24/05 AM
8260B	Styrene	ND	1	5	0.20	ug/L	01/24/05 AM
8260B	tert-Butylbenzene	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	Tetrachloroethene	ND	1	5	0.36	ug/L	01/24/05 AM
8260B	Toluene	ND	1	5	0.32	ug/L	01/24/05 AM
8260B	trans-1,2-Dichloroethene	ND	1	5	0.41	ug/L	01/24/05 AM
8260B	trans-1,3-Dichloropropene	ND	1	5	0.28	ug/L	01/24/05 AM
8260B	trans-1,4-Dichloro-2-butene	ND	1	20	0.28	ug/L	01/24/05 AM
8260B	Trichloroethene	ND	1	5	0.23	ug/L	01/24/05 AM
8260B	Trichlorofluoromethane	ND	1	5	0.35	ug/L	01/24/05 AM
8260B	Vinyl acetate	ND	1	50	0.3	ug/L	01/24/05 AM
8260B	Vinyl chloride	ND	1	5	0.27	ug/L	01/24/05 AM
8260B	Xylenes, total	ND	1	5	0.4	ug/L	01/24/05 AM

Surrogates			Units	Control Limits
8260B	Surr1 - Dibromofluoromethane	97	%	70 - 135
8260B	Surr2 - 1,2-Dichloroethane-d4	99	%	70 - 135
8260B	Surr3 - Toluene-d8	104	%	70 - 135
8260B	Surr4 - p-Bromofluorobenzene	99	%	70 - 135

415.1	Total Organic Carbon	ND	1	0.5	0.3	mg/L	01/24/05 QP

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S=Surrogate Outside Control Limits

ASSOCIATED LABORATORIES

QA REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: MS / MSD - Water Samples 143965-834

Analysis Date: January 24, 2005 4:01 PM

Applies to: LR 143964, 143965, 144031, 143836

Reporting Units = ug/L

Matrix Spike / Matrix Spike Duplicate

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits RPD	QC Limits %REC
1,1-Dichloroethene	ND	50	47.50	45.91	95	92	3	22	59-172
MTBE	ND	50	39.03	37.50	78	75	4	24	62-137
Benzene	ND	50	48.11	48.15	96	96	0	24	62-137
Trichloroethene	ND	50	46.30	47.47	93	95	2	21	66-142
Toluene	ND	50	44.40	46.39	89	93	4	21	59-139
Chlorobenzene	ND	50	44.67	45.58	89	91	2	21	60-133

QC Sample: LCS 12:02 PM
Analysis Date: January 24, 2005

LCS RECOVERY / METHOD BLANK

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50	48.41	97	59-172
MTBE	ND	50	46.35	93	62-137
Benzene	ND	50	52.70	105	62-137
Trichloroethene	ND	50	51.54	103	66-142
Toluene	ND	50	49.68	99	59-139
Chlorobenzene	ND	50	50.31	101	60-133

Method Blank = All ND

SURROGATE (QC Limits : 70-135)

Compound	MB 1	MB 2	MS	MSD	LCS
DBFM	97	99	97	97	97
1,2-DCA	99	101	99	97	95
Tol-d8	104	99	96	96	94
p-BFB	99	99	100	101	101

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 144031

Matrix: WATER

Method : 310.1

Prep. Date: 01/22/05

Analysis Date: 01/22/05

ID#'s in Batch: LR 144031

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Sample Result	Sample Duplicate	RPD
Bicarbonate	162	162	0.0
Carbonate	ND	ND	0.0
Hydroxide	ND	ND	0.0
Total Alkalinity as CaCO3	133	133	0.0

RPD = Relative Percent Difference of Sample Result and Sample Duplicate
ND = "U" - Not Detected

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 144031-157 D

Matrix: WATER

Prep. Date: January 24, 2005

Analysis Date: January 24, 2005

ID#'s in Batch: LR 144031, 143965

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = Vppm

Test	Method	Sample Result	Sample Duplicate	RPD
METHANE	GC/FID	ND	ND	0.00
ETHANE	GC/FID	ND	ND	0.00
METHANE	GC/FID	ND	ND	0.00

ND = U - Not Detected

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 20

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 144031

Matrix: WATER

Prep. Date: Jan 24-05

Analysis Date: Jan 24-05

ID#'s in Batch: LR 144031, 143965, 143967

SAMPLE RESULT / SAMPLE DUPLICATE

Reporting Units = mg/L

Test	Method	Sample Result	Sample Duplicate	RPD
TDS	160-1 / 2540C	3,020	3,024	0.1

RPD = Relative Percent Difference of Sample Result and Sample Duplicate

RPD LIMITS = 5 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLANK	LCS				
Value	Result	TRUE	% Rec	L. Limit	H. Limit
ND	274	293	94	90%	110%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample : LR 144036-590179

Matrix: WATER

Prep. Date: 01/23/05

Analysis Date: 01/23/05

Lab ID#'s in Batch: LR 144036, 144031, 144012, 144013, 144014

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
CL	300.0	27	200	235	235	104	104	0
SO4	300.0	3	200	217	216	107	107	0
NO3	300.0	ND	100	110.0	110	110	110	0
NO2	300.0	ND	100	101	101	101	101	0

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Rec Limits = 80 - 120
RPD Limits = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK Value	LCS Result	True	%Rec	L.Limit	H.Limit
CL	300.0	ND	40	40	100	90%	110%
SO4	300.0	ND	40	40	101	90%	110%
NO3	300.0	ND	20.3	20	102	90%	110%
NO2	300.0	ND	4.9	5	98	90%	110%

VALUE = Preparation Blank Value; ND = Not-Detected
LCS = Lab Control Sample Result
TRUE = True Value of LCS
L.LIMIT / H.LIMIT = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: 143965

Matrix: WATER

Prep. Date: January 24, 2005

Analysis Date: January 24, 2005

ID#'s in Batch: LR 143965, 144031, 143825, 143910, 143926

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1 / 9060	2.9	10	12.9	12.9	100	100	0

ND = "U" - Not Detected
RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120
RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	9.6	10	96	80%	120%

Value = Preparation Blank Value; ND = Not-Detected
LCS Result = Lab Control Sample Result
True = True Value of LCS
L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES

NARRATIVE

Date: Feburary 03, 2005

Narrative for Lab Request LR: 144031

Client Project Identification:
Client Name: BHATE
Project: HOLMN #9030024, 02.02 – Spill Site 61
This narrative includes all samples as shown on the attached Lab Request final report.

Analyses Requested:
- EPA 160.1 – Filterable Residue (TDS)
- EPA 310.1 – Alkalinity
- EPA 300.0 – Chloride by Ion Chromatography, Sulfate by Ion Chromatography, Nitrate + Nitrite – N
- RSK – 175 – Hydrocarbons (Ethane, Ethene, Methane)
- EPA 8260 – Volatile Organic Compounds
- EPA 415.1 – Total Organic Carbon (TOC)

Data Validation:

Holding Times
All EPA designated holding times were met.

Calibration
Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

Quality Control Samples
All QC results were within control limits.

Other Anomalies or Comments
The reporting limit (DLR) is adjusted if dilution of the sample is necessary.

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

14403Ø

Page 1 of 1

Project Number: 9030024.02.02

P.O. _____

Chain of Custody Number [1]: 01212005 1

LIMS Number: _____

Facility/Base I.D.: HOLMN

Project Name / Site Name: Spill Site 61

Client Name: USACE

Collected by: Germann, Kevin

Sample Analysis Requested [2] | Quality Assurance Samples [3]

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military)	Sample Depth (beginning -	SA Code [2]	Sample Numb	Sample Matri	Number of containers	See Attachment								Matrix Description	Trip Blank Lot Control Number	Cooler ID
SS61-MW08	SS61	21012005	0940	0 0	N	1	AQ	10	[1]								SS61 Quarterly Wells		1
Trip Blank					TB			2										01212005	1
				-															
				-															
				-															
				-															
				-															

COMMENTS: Please fax results to 505-679-2148
Email PDF to rrenvironmental@zianet.com, keving@zianet.com, dmeder@bhate.com
FEDEX #845705836170 ATTN: Danielle @ Associated Laboratories 806 N. Batavia, Orange CA 92868

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received By (Signed)	Date	Time
1.	KDG	1/21/2005	1600	[signature]	1/22/05	10:15
2.						
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____

Method of Shipment: FEDEX Airbill Number: _____

Analytical Lab: Associated Delivery Location: Orange, CA

Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

ATTACHMENT TO SS61-MW08 COC

PLEASE ANALYZE FOR THE FOLLOWING:

Sulfate	300.0
Nitrate/Nitrite	300.0
VOC	8260
Total Dissolved Solids	160.1
Chloride	300.0
Total Organic Carbon	9060
Alkalinity	310.1
Methane/Ethane/Ethene	RSK 175

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868-1225 - 714/771-6900 FAX 714/538-1209

Cooler Receipt Form

Client: BHATE Project: Spill Site 61

Date Cooler Received: 1/22/05 Date Cooler Opened: 1/22/05

Was cooler scanned for presence of radioactivity ? Yes/No
If yes was radioactivity results above 25 cpm ? Yes/No

Was a shipper's packing slip attached to the cooler ? Yes/No

If the cooler had custody seal(s), were thy signed and intact ? Yes/No/Na

Was the cooler packed with: Ice X Ice Packs _____ Bubble wrap _____
Styrofoam _____ Paper _____ None _____ Other _____

Cooler Temperature: 0.4 *
*cooler needs to be received @ 4°C with an acceptable range of 2°- 6 °C

If samples were hand delivered do they meet the temp. criteria, which should be @ 4°C with an acceptable range of 2°- 6 °C ? Yes/No

If no explain: _____

Were all samples sealed in plastic bags ? Yes/No

Did all samples arrive intact ? If no, indicate below. Yes/No

Were all samples labeled correctly ? (ID's Dates, Times) If no, indicate below. Yes/No

Can the tests required be ran with the provided containers, If no indicate below. Yes/No

Was sufficient sample volume sent for all containers ? Yes/No

Were any VOA vials received with head space ? Yes/No/Na

Was the correct preservatives used ? Yes/No/Na
If no, see the pH log for a list of samples containers regarding pH

Any other important information: _____

Receiving Department: [signature] Date: 1/22/05

APPENDIX E

BIOSCREEN MODELING RESULTS

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence

Version 1.4

SS-61, Holloman	
Benzene Target 100 ppb	
Run Name	

Data Input Instructions:

115 — *1. Enter value directly....or*

or — *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*

0.02

Variable* — *Data used directly in model.*

20 — *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	2.5	*(ft/yr)*
or		or	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.003	*(ft/ft)*
Porosity	*n*	0.388	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	24.1	*(ft)*
Transverse Dispersivity*	*alpha y*	2.4	*(ft)*
Vertical Dispersivity*	*alpha z*	0.0	*(ft)*
or		or	
Estimated Plume Length	*Lp*	959	*(ft)*

3. ADSORPTION

Retardation Factor*	*R*	1.5	*(-)*
or		or	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	5.7E-5	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	3.2E+0	*(per yr)*
or		or	
Solute Half-Life	*t-half*	0.22	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	2.644	*(mg/L)*
Delta Nitrate*	*NO3*	11.86	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	0.152	*(mg/L)*
Delta Sulfate*	*SO4*	3982	*(mg/L)*
Observed Methane*	*CH4*	0.0074	*(mg/L)*

5. GENERAL

Modeled Area Length*	959	*(ft)*
Modeled Area Width*	509	*(ft)*
Simulation Time*	2	*(yr)*

6. SOURCE DATA

Source Thickness in Sat.Zone* 10 *(ft)*

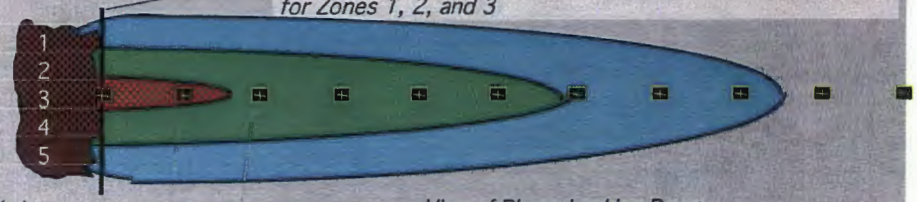
Source Zones:

Width* (ft)	Conc. (mg/L)*
64	0.01
80	1
97	10
80	1
64	0.01

Source Halflife (see Help):

<1	60	*(yr)*
Inst. React.	1st Order	
Soluble Mass	26	*(Kg)*
In Source NAPL, Soil		

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)											
Dist. from Source (ft)	0	96	192	288	384	480	575	671	767	863	959

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — **View Output**

RUN ARRAY — **View Output**

Help

Recalculate This Sheet

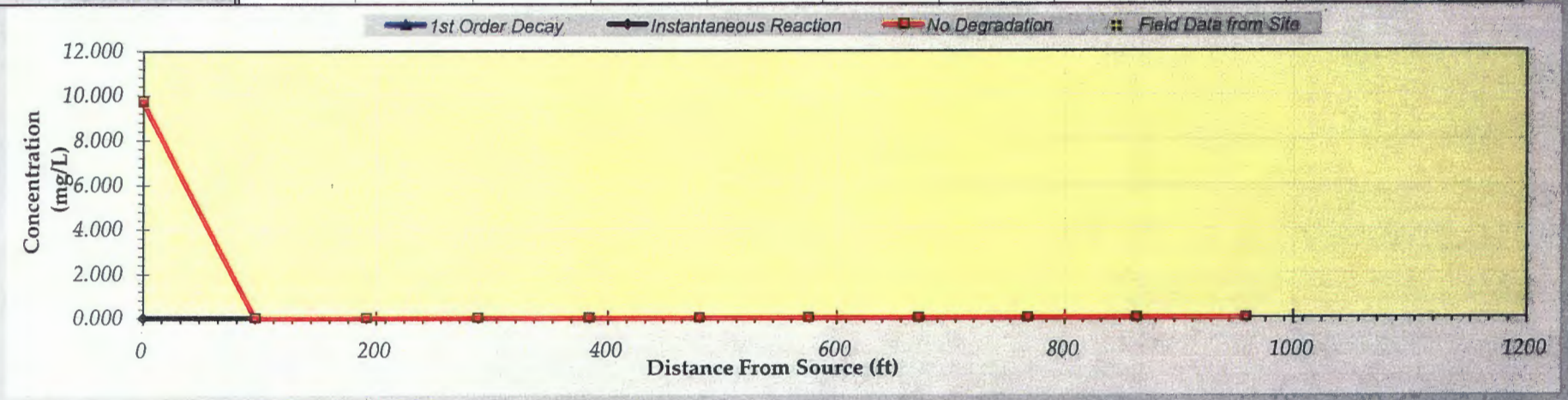
Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	96	192	288	384	480	575	671	767	863	959
No Degradation	9.756	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1st Order Decay	9.756	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site											



Calculate Animation

Time:
1 Years

Return to Input

Recalculate This Sheet

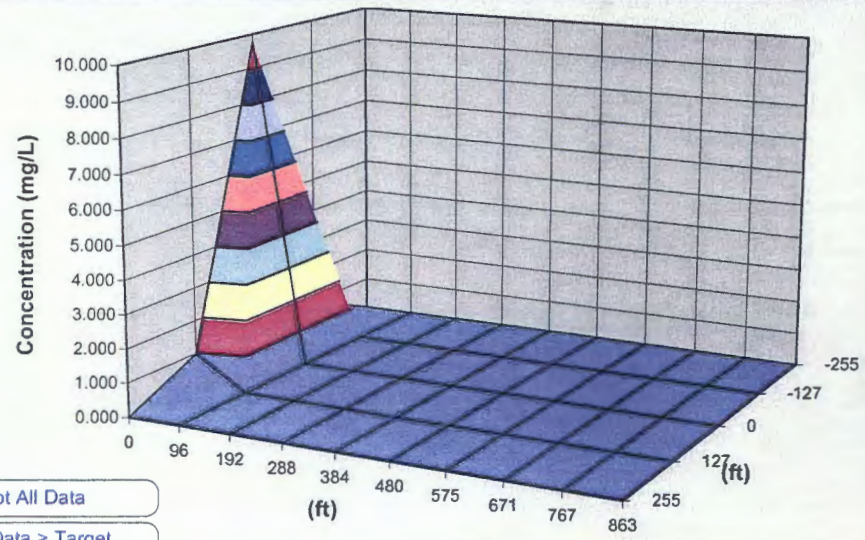
DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)

Transverse Distance (ft)	Distance from Source (ft) 0	96	192	288	384	480	575	671	767	863	959
255	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
127	0.976	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	9.756	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-127	0.976	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-255	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	8.6E+2	7.6E-13	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Time: 2 Years Target Level: 0.005 mg/L Displayed Model: 1st Order Decay

Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass if No Biodegradation	Can't Calc.	(Kg)
- Actual Plume Mass	Can't Calc.	(Kg)
= Plume Mass Removed by Biodeg	-	(Kg)

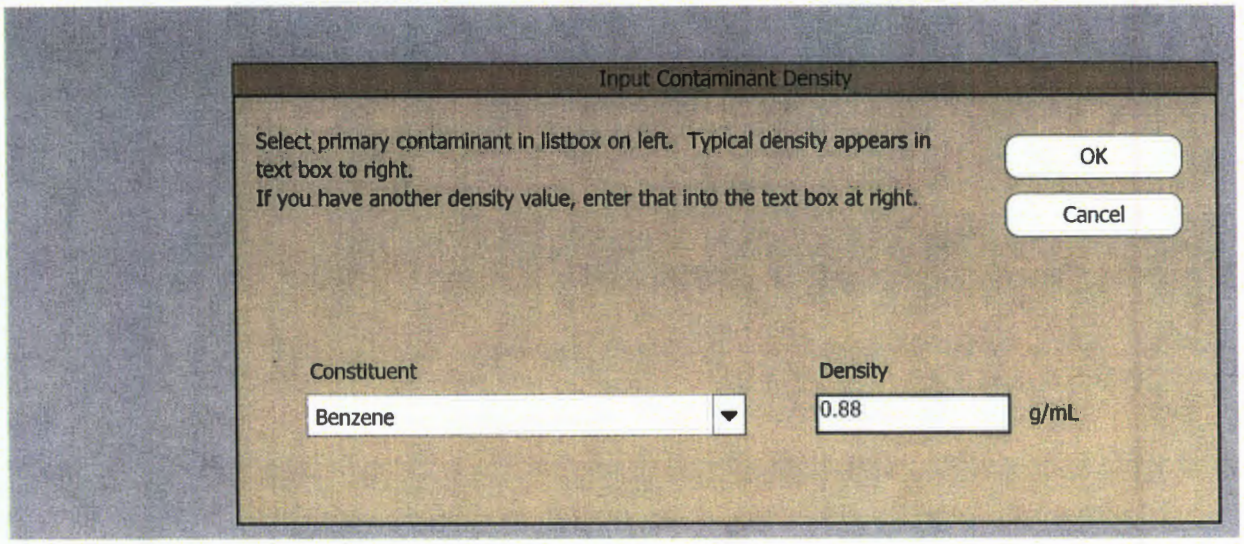
Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Contam. Mass in Source (t=0 Years)	25.5	(Kg)
Contam. Mass in Source Now (t=2Years)	24.9	(Kg)
Current Volume of Groundwater in Plume	Can't Calc.	(ac-ft)
Flowrate of Water Through Source Zone	Can't Calc.	(ac-ft/yr)

Mass HELP

Recalculate


Input Contaminant Density
Select primary contaminant in listbox on left. Typical density appears in text box to right.
If you have another density value, enter that into the text box at right.
OK
Cancel
Constituent
Benzene
Density
0.88
g/mL