KEMRON
ENVIRONMENTAL SERVICES

1359-A Ellsworth Industrial Boulevard ■ Atlanta, GA 30318 ■ Telephone (404) 636-0928 ■ FAX (404) 636-7162 ■ http://www.kemron.com

May 20, 2008

David Ringquist
Central District Supervisor
Department of Environmental Protection
Bureau of Water Protection and Land Reuse
79 Elm Street
Hartford, CT 06106-5127

RE: Final Remedial Investigation Report
Site 08 Groundwater; Middletown USARC

Dear Mr. Ringquist:

KEMRON Environmental Services (KEMRON), on behalf of the U.S. Army Environmental Center, is transmitting for your review one copy of the Final Remedial Investigation (RI) Report for Site 08 Groundwater at the U.S. Army Reserve Center in Middletown. The report has been prepared in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The Army's intent is to achieve site closure under CERCLA and achieve Response Complete under the Defense Environmental Restoration Program for Site 08.

The purpose of the RI Report is to summarize the results of investigations conducted, present the human health risk assessment and ecological risk evaluation, and provide a recommendation that either more work is required or No Action is appropriate. The RI Report concludes that there is no unacceptable risk to human health or the environment from exposure to site soil and groundwater, and therefore No Action under CERCLA is appropriate for Site 08 Groundwater.

Please note that a Public Notice will be published in the Hartford Courant to announce that this RI Report will be available for public review at the Russell Library in Middletown, Connecticut. In accordance with CERCLA requirements, public comments received on the RI Report will be addressed in the Responsiveness Summary portion of the Decision Document to be prepared by the U.S. Army.

Please contact Lou Ehrhard at 847-266-1350, ext. 10 or Mark Stelmack at 207-828-3592 if you have any questions.

Sincerely,
KEMRON Environmental Services, Inc.

Tracy Benquist
Program Manager

cc:
Richard Mendoza, USAEC
Daniel Walsh, USAEC (Contractor for USAEC)
Heidi Novotny, USACE
Steve Lombardi, 94th RRC (w/ encl)

94th Regional Readiness Command
U.S. Army Reserve Center, Middletown, CT
Final Remedial Investigation Report
Site 08 - Groundwater
Contract # W911SO-04-F0017

Submitted to:
United States Army Environmental Command
1 Rock Island Arsenal
Bldg 90, 3rd Floor, Room 30A
ATTN: IMAE-CDN (Mr. Richard Mendoza)
Rock Island, Il 61299

Contracted by:

US Army Contracting Agency
APG Directorate of Contracting
Building 4118, Susquehanna Avenue
Aberdeen Proving Ground, MD 21005

KEMRON Environmental Services, Inc.
1359-A Ellsworth Industrial Boulevard
Atlanta, GA 30318

May 20, 2008

Table of Contents

Section 1.0 Project Background 1
1.1 Introduction 1
1.2 Regulatory Framework 1
1.3 Site Location 1
1.4 Site Description and History 2
1.5 Physical Setting 2
1.5.1 Topography 2
1.5.2 Bedrock Geology 2
1.5.3 Surficial Geology 3
1.5.4 Surface Water 4
1.5.5 Hydrogeology 4
1.5.6 Climate 4
1.5.7 Land Use and Demography 4
1.6 Previous Investigations 4
1.6.1 Limited Subsurface Investigation, 1990 4
1.6.2 Geohydrologic Study No. 38-26-KL46-92 Site Investigation, 1992 5
1.6.3 Underground Storage Tank Closure, 1994 6
1.6.4 Final Underground Storage Tank Closure Report, 1997 6
1.6.5 Environmental Baseline Study, 1998 7
1.6.6 Draft Groundwater Monitoring Report, 2006 7
1.7 Summary of Areas of Concern 8

Section 2.0 Remedial Investigation 22
2.1 RI Field Activities 22
2.1.1 Mobilization/Demobilization 22
2.1.2 Site Clearance and Utility Mark-Out 22
2.1.3 Direct Push Soil Sampling 22
2.1.4 Overburden Groundwater Monitoring Well Installation 23
2.1.5 Bedrock Groundwater Monitoring Well Installation 23
2.1.6 Groundwater Well Development 24
2.1.7 Groundwater Sampling 24
2.1.8 Land Survey 25
2.2 RI Results 25
2.2.1 Soil Sample Results 25
2.2.2 Groundwater Sample Results 26

Section 3.0 Data Interpretation 35
3.1 Geologic and Hydrogelogic Conditions 35
3.2 Nature and Distribution of Contamination 36
3.3 Contaminant Fate and Transport 36

Section 4.0 Baseline Risk Assessment 49
4.1 Human Health Risk Assessment 49
4.1.1 Hazard Identification 50
4.1.2 Exposure Assessment 54
4.1.3 Toxicity Assessment 57
4.1.4 Risk Characterization 60
4.2 Ecological Risk Evaluation 63

Section 5.0 Conclusions and Recommendations 78

Data contained on this sheet shall not be disclosed without prior approval from KEMRON Environmental Services, Inc. (Proprietary)

Table of Contents, continued

5.1 Conclusions 78
5.2 Recommendations 79

Section 6.0 References 80

LIST OF APPENDICES

Appendix A Field Data Records
Appendix B: Data Validation Reports
Appendix C: Analytical Data
Appendix D: Exposure Point Concentration Calculations

LIST OF FIGURES

Figure 1-1 Locus Map
Figure 1-2 Site Layout
Figure 1-3 Bedrock Geologic Map
Figure 1-4 Previous Exploration Locations

Figure 2-1 Exploration Locations

Figure 3-1 Cross Section Locations
Figure 3-2 Cross Section A-A'
Figure 3-3 Cross Section B-B'
Figure 3-4 Cross Section C-C'
Figure 3-5 Cross Section D-D'
Figure 3-6 Potentiometric Groundwater Contours, Overburden Wells, November 27, 2006
Figure 3-7 Potentiometric Groundwater Contours, Overburden Wells, March 16, 2007
Figure 3-8 Potentiometric Groundwater Contours, Overburden Wells, October 29, 2007
Figure 3-9 Potentiometric Groundwater Contours, Bedrock Wells, March 16, 2007
Figure 3-10 Potentiometric Groundwater Contours, Bedrock Wells, October 29, 2007

LIST OF TABLES

Table 1-1 Summary of Analytical Results from the Limited Subsurface Investigation (CHEE, 1990)
Table 1-2 Summary of Soil Analytical Results from the Geohydrologic Study No. 38-26-KL46-92 Site Investigation (USAEHA, 1992)
Table 1-3 Summary of Groundwater Analytical Results from the Geohydrologic Study No. 38-26-KL46-92 Site Investigation (USAEHA, 1992)
Table 1-4 Summary of Soil Analytical Results from the Underground Storage Tank Closure (ATEC, 1994)
Table 1-5 Summary of Soil Analytical Results from the Final Underground Storage Tank Closure Report (Weston, 1997)
Table 1-6 Summary of Soil Analytical Results from the Environmental Baseline Study (DTC, 1998)
Table 1-7 Detected Constituents in Groundwater, August 2005 Sampling Event (Kemron, 2006)
Table 1-8 Detected Constituents in Groundwater, February 2006 Sampling Event (Kemron, 2006)

Table 2-1 Summary of Soil Analytical Results

Data contained on this sheet shall not be disclosed without prior approval from KEMRON Environmental Services, Inc. (Proprietary)

LIST OF TABLES, continued

Table 2-2 Summary of Groundwater Analytical Results

Table 3-1 Groundwater Well Details

Table 4-1 Selection of Chemicals of Potential Concern - Soil

Table 4-2 Selection of Chemicals of Potential Concern - Groundwater
Table 4-3 Selection of Exposure Pathways
Table 4-4 Values Used for Daily Intake Calculations Reasonable Maximum Exposure - Future Land Use Groundwater
Table 4-5 Values Used for Daily Intake Calculations Reasonable Maximum Exposure - Future Land Use Soil
Table 4-6 Exposure Point Concentrations - Soil
Table 4-7 Exposure Point Concentrations - Groundwater
Table 4-8 Cancer Toxicity Data - Oral/Dermal
Table 4-9 Cancer Toxicity Data - Inhalation
Table 4-10 Non-Cancer Toxicity Data - Oral/Dermal
Table 4-11 Non-Cancer Toxicity Data - Inhalation
Table 4-12 Calculation of Chemical Cancer Risks and Non-Cancer Hazards - Reasonable Maximum Exposure - Current/Future - Commercial/Industrial Worker - Adult
Table 4-13 Calculation of Chemical Cancer Risks and Non-Cancer Hazards - Reasonable Maximum Exposure - Current/Future - Commercial/Industrial Worker - Adult
Table 4-14 Risk Summary

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LIST OF ACRONYMS

ADT	Aquifer Drilling and Testing, Inc
amsl	above mean sea level
ARAR	Applicable or Relevant and Appropriate Requirement
AOC	area of concern
ATEC	ATEC Associates, Inc.
bgs	below ground surface
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHEE	Clean Harbors Environmental Engineering, Inc.
CHI	Clean Harbors, Inc.
cis-1,2-DCE	cis-1,2-dichloroethene
CSF	cancer slope factor
COPC	Chemical of Potential Concern
CTDEP	Connecticut Department of Environmental Protection
DERP	Defense Environmental Restoration Program
DTC	Diversified Technical Consultants
ELCR	excess lifetime cancer risk
EPC	exposure point concentration
EPH	extractable petroleum hydrocarbons
ETPH	extractable total petroleum hydrocarbons
ft	feet
F&O	Fuss and O'Neill
GA PMC	Pollutant Mobility Criteria for Soil, GA Area
GWPC	Groundwater Protection Criteria
HEAST	Health Effects Assessment Summary Tables
HHRA	Human Health Risk Assessment
HI	Hazard Index
HQ	Hazard Quotient
I/C DEC	Industrial / Commercial Direct Exposure Criteria for Soil
IRIS	Integrated Risk Information System
KEMRON	KEMRON Environmental Services, Inc.
MACTEC	MACTEC Engineering and Consulting, Inc.
MCL	Maximum Contaminant Level
mg/l	milligrams per liter
MRL	Minimum Risk Level
NCEA	National Center for Environmental Assessment

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LIST OF ACRONYMS, continued

NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEDACE	New England District of Army Corps of Engineers
PA	Preliminary Assessment
PCB	polychlorinated biphenyl
PID	photoionization detector
ppm	parts per million
PPRTV	Provisional Peer Reviewed Toxicity Value
PRG	Preliminary Remediation Goal
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RAGS	Risk Assessment for Superfund
RCRA	Resource Conservation and Recovery Act
R DEC	Residential Direct Exposure Criteria for Soil
RfC	reference concentration
RfD	reference dose
R GWVC	Residential Groundwater Volatilization Criteria for Groundwater
RI	Remedial Investigation
RME	Reasonable Maximum Exposure
RRC	Regional Readiness Command
RSR	Remediation Standard Regulations (Sections 22a-133k-1 through 22a-133k-3, Regulations of Connecticut State Agencies)
SF	slope factor
SI	Site Inspection
SPLP	Synthetic Precipitation and Leaching Procedure
STSC	Superfund Technical Support Center
SVOC	Semi-volatile Organic Compound
SWPC	Surface Water Protection Criteria for Substances in Groundwater
TCE	trichloroethylene
TPH	total petroleum hydrocarbons
UCL	Upper Confident Limit
ug/kg	micrograms per kilogram
UR	unit risk
USAEC	United States Environmental Command
USAEHA	United States Army Environmental Hygiene Agency
USARC	United States Army Reserve Center
USEPA	United States Environmental Protection Agency
USGS	Unites States Geological Survey
UST	underground storage tank
VOCs	volatile organic compounds
VPH	volatile petroleum hydrocarbons

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Section 1.0 Project Background

1.1 Introduction

MACTEC Engineering and Consulting, Inc. (MACTEC), in partnership with KEMRON Environmental Services, Inc. (KEMRON) under contract to the United States Army Environmental Command (USAEC), has conducted a Remedial Investigation (RI) of Site 08, defined as groundwater at the U.S. Army Reserve Center (USARC) 94th Regional Readiness Command (RRC) facility in Middletown, Connecticut. The purpose of this RI is to address identified data gaps regarding site groundwater and to determine whether or not additional environmental restoration efforts are needed. This report presents the results of the soil boring, monitoring well installation and groundwater sampling conducted at the facility between November 2006 and October 2007.

1.2 Regulatory Framework

The U.S. Army, as the lead agency, is conducting response actions at Site 08 in accordance with the Defense Environmental Restoration Program (DERP), which requires that these activities be conducted in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The Army's intent is to achieve site closure under CERCLA specific to Site 08 at the USARC property.

In 1992, United States Army Environmental Hygiene Agency (USAEHA) conducted a subsurface investigation at the USARC facility. The purpose of the investigation was to examine potential impacted environmental media at the facility (USAEHA, 1992). USAEHA conducted background research, a site visit and sampling activities. The Site Investigation Report prepared by USAEHA generally meets the CERCLA requirements for a Preliminary Assessment (PA) and Site Inspection (SI).

This RI Report summarizes the results of previous investigation activities and presents the results of the RI conducted from November 2006 through October 2007 at Site 08. The analytical data from historical investigation activities (Section 1.6) have been compared to the Connecticut Department of Environmental Protection (CTDEP) Remediation Standard Regulations (RSR) criteria for soil and groundwater, which have been used as screening criteria during evaluation of historical Site data. The analytical data collected during the RI (Section 2.0) have been compared to the CTDEP RSR criteria for soil and the Federal Maximum Contaminant Levels (MCLs) for groundwater, which have been used as screening criteria during evaluation of Site RI data.

This RI Report also includes a human health risk assessment and an ecological risk evaluation for Site 08 that have been preformed in accordance with CERCLA, the NCP, and applicable United States Environmental Protection Agency (USEPA) guidance. The results of the risk assessments provide the basis for recommendations presented in this RI Report.

1.3 Site Location

The Site is located at 499 Mile Lane, in Middletown, Connecticut (**Figure 1-1**). The Site is situated on the south side of Mile Lane at the north end of the town of Middletown in a primarily residential section of town.

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1.4 Site Description and History

This facility consists of a 23.7-acre parcel of land (**Figure 1-2**) that was used from the mid 1950s to the early 1960s as a NIKE missile launching facility, furnished with three launch silos. Operations typically conducted at NIKE sites included missile assembly and disassembly, missile fueling and warheading, missile maintenance and testing, general launcher and magazine maintenance, vehicle maintenance and general facility maintenance. The launch silos were closed by the New England District of the Army Corps of Engineers (NEDACE) in 1988.

In the early 1960s the facility was converted to a USARC facility and has been operated as such since. Three buildings (former reserve center building, former maintenance building and former garage) were demolished in the late 1990's; however, their concrete slab foundations remain. The current USARC building was constructed prior to demolishment of the former reserve center building. Four underground storage tanks (USTs) were removed from the site between 1990 and 1997 (see Section 1.6 for further details).

The property currently consists of the USARC building and three former slab on grade foundations located on a multi-tiered hillside. Several paved parking areas and roadways are located on the property along with grass covered and wooded areas.

The site was listed during the 2005 Base Realignment and Closure (BRAC) process to be realigned. Recommendations made in this report are based on existing Site conditions and current land use.

1.5 Physical Setting

The 23.7-acre facility is currently comprised of one building, the main USARC building (**Figure 1-2**). There are also the concrete foundation slabs of three former buildings on the Site (former reserve center, former maintenance building and former garage). The old NIKE launch site is located at the southeast end of the Site.

1.5.1 Topography

The United States Geological Survey (USGS) Topographic map for the area (**Figure 1-1**) indicates that the Site has a total relief of approximately 150 feet (ft). The Site lies between approximately 50 and 200 ft above mean sea level (amsl). The Site is located in the Connecticut Valley Lowland physiographic province (USAEHA, 1992). The topography in the region is the result of glacial ice movement in a general north-south direction.

1.5.2 Bedrock Geology

The bedrock in the area is described in the State Geological and Natural History Survey of Connecticut; Quadrangle Report No. 8 on the Bedrock Geology of the Middletown Quadrangle, (Lehmann, 1955). The bedrock geologic map (**Figure 1-3**) identifies the bedrock underlying the Site as Portland Arkose consisting mostly of a reddish-brown arkose with interbedded arkose conglomerate, red and gray shale, mudstone and gray-green feldspathic sandstone. At the Site, the upper few feet is a red-brown conglomerate overlying red-brown or gray-red shale or mudstone (USAEHA, 1992).

An evaluation of likely bedrock fracture patterns at the site, based on best available published data, was completed by MACTEC during the RI. Geologic and topographic maps of the Middletown Quadrangle and electronically available aerial photographs were reviewed to determine if surface features or

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lineaments were present that provide an indication of possible un-mapped fault locations. Topographic changes observed indicate ridges and valleys are orientated in north-south directions and correspond to bedrock lithology. There are no linear features located to the north or south of the Site that would suggest evidence of a fault running through the Site.

Within the mapped quadrangle, geologic contacts and bedrock faults are orientated in a north-south to southwest-northeast direction. The Site is located along a ridge and no known or inferred faults are indicated on the geologic map within or near the Site. In the vicinity of the Site, the mapped geologic stratigraphy has been well established by Lehmann and consists of alternating sequences of detrital sedimentary rocks overlying basalt flows which are assigned to the upper part of the Newark Group of Triassic age. Lehmann also mapped bedding planes within the sedimentary units which strike north and dip east at shallow angles from 5 to 13 degrees. The uppermost sedimentary unit is the Portland Arkose which conformably overlies the Hampden basalt (e.g., strata are an unbroken sequence where one unit lies directly over the other as a consequence of depositional history). The Hampden basalt conformably overlies the East Berlin formation which consists of mudstone and shale interbedded with arkose and sandstone. The East Berlin formation overlies the Holyoke basalt sequence which consists of at least two distinct basalt flows. In this normal sequence of stratigraphic layering, the geologic contacts are not fault contacts.

The lateral continuity of these sedimentary and volcanic units allows the mapping of faults which, due to their vertical displacements, disrupt the stratigraphic sequence causing juxtaposition of sedimentary units and volcanic units of different ages. The primary mode of faulting in the Middletown Quadrangle is normal block faulting. The faults typically strike north to northeast and dip at moderate to steep angles to the west and northwest. The western hanging walls of the faults blocks are displaced downward relative to the eastern foot walls. The closest mapped fault is approximately 1.5 miles to the northwest of the Site. The mapped geology shows no indication that other faults have displaced the sedimentary and volcanic strata within this 1.5 mile radius from the Site.

Joint systems were mapped by Lehmann and are presented on a separate plate in that report (Lehmann, 1955). The joint systems are spatially associated with the mapped faults shown on the bedrock geologic map, a portion of which is reproduced in Figure 1-3. A lack of jointing in the vicinity of the Site is conspicuous in that plate. This lack of jointing in the Portland Arkose in the vicinity of the Site is an additional line of evidence suggesting significant geologic fault structures are not present in vicinity of the Site.

The direction of groundwater flow in bedrock at the Site is interpreted from water level data in site bedrock wells to be generally toward the northeast. In the absence of faulting, the anisotropy of hydraulic conductivity in the bedrock aquifer is likely to be controlled largely by bedding plane geometry, and have a principal axis dipping to the east with the inferred dip of bedding. Thus, preferential flow direction within the bedrock is likely to be generally coincident with the direction of groundwater movement as interpreted from water level data in bedrock wells.

1.5.3 Surficial Geology

The USGS Surficial Materials Map for Connecticut (Stone et al, 1992) shows the Site to be underlain by thin till in the southern portion of the property and fine deposits at the north-northeastern portion of the property. The till deposits are described as being generally less than 10 to 15 ft thick, loose to moderately compact, generally sandy and commonly stony. The fine deposits are described as being composed of well-sorted, thin layers of alternating silt and clay, or thicker layers of very fine sand and silt.

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1.5.4 Surface Water

There are no perennial surface water streams located on the Site; however, there is an intermittent stream located near the southeast boundary of the property and on the abutting property to the east. The closest perennial surface water body to the Site is West Swamp Brook, located on the abutting property to the west. This brook has been classified by the CTDEP as a "Class A" water resource. This classification indicates that water is known or presumed to meet water quality criteria which support designated uses. These designated uses include existing or potential drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply, and other uses including navigation (CTDEP, 1996).

1.5.5 Hydrogeology

Groundwater below the area of the Site has been classified by the CTDEP as "GA" quality. This classification is given to groundwater within the area of influence of existing private water supply wells or groundwater with potential to provide water to public or private water supply wells, and which is suitable for direct human consumption without prior treatment (CTDEP, 1996).

Groundwater flow follows topography and discharges to the West Swamp Brook to the north of the Site. Depth to overburden groundwater varies from about 2 to 20 ft, being shallower at the lower elevations.

1.5.6 Climate

The pertinent characteristics of Connecticut's climate are: (1) equable distribution of precipitation among the four seasons, (2) large ranges of temperature both daily and annually, (3) great differences in the same season or month of different years, and (4) considerable diversity of the weather over short periods of time (CSCC, 2004).

Precipitation tends to become evenly distributed throughout the year in all parts of Connecticut. The average annual precipitation in Middletown, Connecticut is approximately 52 inches per year. Variations in precipitation from month to month are sometimes extreme, but prolonged droughts and widespread floods are infrequent. Measurable precipitation falls on an average of one day in three, with the yearly total approximating 120 days (CSCC, 2004).

1.5.7 Land Use and Demography

The surrounding land use is mainly undeveloped with residences located to the east and northeast along Mile Lane. The residences are believed to be hydrologically downgradient of the Site 08.

1.6 Previous Investigations

1.6.1 Limited Subsurface Investigation, 1990

Clean Harbors Environmental Engineering, Inc. (CHEE) conducted a subsurface investigation to investigate the possibility of petroleum migration in site soils and groundwater caused by a former leaking 2,000-gallon fuel oil UST which was located along the southwestern side of the Former Reserve Center / Barracks Building as shown on **Figure 1-2**. The UST was removed by Clean Harbors Inc. (CHI) and several perforations were noted on its sides and bottom. During removal of the UST, petroleum contaminated soils were encountered around the perimeter of the tank and the surrounding impacted soils

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were removed (approx. 100 cubic yards) to a depth of approximately 7 ft, where groundwater started entering the excavation.

Three soil borings (CHI-1 through CHI-3) were performed in the vicinity of the UST excavation and surrounding the Former Reserve Center / Barracks Building and were subsequently completed as monitoring wells. Soil samples were collected from CHI-1 and CHI-2 from the 5 to 7 depth interval and were analyzed for total petroleum hydrocarbons (TPH) by Environmental Protection Agency (EPA) Method 418.1. The soil sample collected from CH-1 was also analyzed for volatile organic compounds (VOCs) by EPA Method 8240. TPH and VOCs were not detected in the soil samples.

Groundwater samples were collected from all three wells and were analyzed for TPH and VOCs. 1,1-Dichloroethane (1,1-DCA) was detected at a concentration of 6 micrograms per liter (ug/l) and 1,1,1-trichloroethane (1,1,1-TCA) was detected at a concentration of 9 ug/l in CHI-1. The concentration of 1,1-DCA detected is below the applicable RSR Groundwater Protection Criteria (GWPC) of 70 ug/l and the concentration of 1,1,1-TCA was below the GWPC of 200 ug/l. VOCs were not detected in CHI-2 and CHI-3. The sample locations are included on **Figure 1-4** and analytical results are presented on **Table 1-1.**

CHEE indicated that petroleum contamination noted during the tank removal was not widespread and did not appear to impact groundwater on the site. CHEE recommended that a groundwater monitoring program be implemented to monitor groundwater conditions over one hydrologic cycle.

1.6.2 Geohydrologic Study No. 38-26-KL46-92 Site Investigation, 1992

The USAEHA conducted a limited site investigation to examine the potentially impacted environmental media at the Site (USAEHA, 1992). Five main areas of concern (AOC) were identified at the Site:

- **Three NIKE Missile Silos -** Three NIKE missile silos were located on the southern portion of the property. The silos were closed by the NEDACE. The silos were pumped dry and were filled with a sand slurry and debris from the walls of the silos. No samples were taken during the closure.
- **Acid Neutralization Pit -** An acid neutralization pit was located underneath the former garage. Typically at NIKE sites, these pits were used for the disposal of waste liquids and solids. These wastes may have included used oil, lubricants and/or solvents.
- **2,000-gallon UST -** A 2,000-gallon UST used for the storage of fuel oil was located behind the old reserves center and was removed in 1990 by CHEE. This AOC was discussed in Section 1.6.1.
- **Material Storage (e.g., solvents) -** Materials were stored on the property during the construction of family housing. The materials were reportedly stored on the south side of the property.
- **Septic Tank and Leaching Field -** A septic tank and leaching field system was operated on-site until the site was connected to the sanitary sewer system.

As part of this investigation 14 monitoring wells (M1 through M10, M10B and M11 through M13) were installed and sampled. Eight soil samples were collected during drilling for the monitoring wells. In addition, one surface soil sample (SS-1) was collected. All soil samples were analyzed for total metals, VOCs (except four samples), semi-volatile organic compounds (SVOCs), and TPH. All of the installed monitoring wells were sampled (except M-10 and M-12) and samples analyzed for dissolved metals, VOCs, SVOCs, TPH, nitrites/nitrates, pesticides and polychlorinated biphenyls (PCBs). The sample locations are included on **Figure 1-4**.

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Analytical results (**Table 1-2**) indicated that soil samples from M-2, M-6 and M-7 exhibited TPH impacts but at concentrations below RSR criteria. VOCs and SVOCs were not detected in any soil sample. Total metals were not detected at concentrations above background levels, which were determined during the investigation. Background samples were collected from presumed non-impacted areas located up-gradient of site operations.

Groundwater samples (**Table 1-3**) indicated the presence of one or more VOCs in two groundwater samples (M1 and M8), including carbon tetrachloride, trichloroethylene (TCE), chloroform and cis-1,2-dichloroethene (cis-1,2-DCE). The concentrations of carbon tetrachloride and TCE are slightly above current RSR criteria. Dissolved metals were identified in all of the wells sampled; with the exception of arsenic and mercury, all metals were detected at levels below regulatory criteria. Total mercury exceeded the Surface Water Protection Criteria (SWPC) in five wells and equaled the SWPC in three wells and total arsenic exceeded the SWPC in M1.

The USAEHA concluded that no contamination was found to be originating from the former NIKE silos, former acid neutralization pit, former heating oil UST associated with the former reserve center and former septic tank and leaching fields.

Based on the results of the investigation USAEHA recommended:

- Resample monitoring wells M1, M8, and M10B for VOCs and continue to monitor every six months until the detected concentrations of carbon tetrachloride and TCE are less than 2 ug/L for two consecutive sampling events.
- Take water level measurements in wells M-1, and M-8, MW-9, MW-10B, MW-11, MW-12, and M-13 when the wells are resampled to confirm groundwater flow directions and determine any seasonal variations.
- Examine activities at the Site to determine whether any continuing activities might be a continuing source of contamination.
- Abandon monitoring well M-10 and the two remaining wells from a previous study.

1.6.3 Underground Storage Tank Closure, 1994

ATEC Associates, Inc. (ATEC) conducted closure of a 2,500-gallon UST located at the Site (ATEC, 1994). The 2,500-gallon UST was located along the southwestern side of the Current Reserve Center building. The UST was removed in November of 1993 and according to the report appeared to be free of holes or corrosion. The subsurface was evaluated from within and below the area of the removed tank for the possibility of soil impacted by petroleum products. Contaminated soil was encountered and a total of 63.65 tons were removed and disposed. Field screening of the final excavation extent (PE-1 through PE-10) for VOCs and TPH was completed with relativity low results detected, and two samples (LRS-1 and LRS-2) were analyzed at a fixed laboratory for VOCs, TPH and SVOCs. VOCs, TPH, and SVOCs were reported at either non-detect levels or below RSR criteria with the exception of 2-methylnaphthalene which was detected at a concentration above the Pollutant Mobility Criteria for GA areas (GA PMC) in LRS-1. The tank excavation was backfilled in January of 1994 with clean backfill. The sample locations are shown on **Figure 1-4** and sample results are presented on **Table 1-4**.

1.6.4 Final Underground Storage Tank Closure Report, 1997

Roy F. Weston, Inc. (Weston) coordinated the removal of a 550-gallon double-walled fiberglass UST from the site (Weston, 1997). The 550-gallon UST was located along the northeast side of the Maintenance/Missile Assembly and Test Building. Approximately 20-gallons of oily water was removed

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from the tank and the UST itself was removed in August 1996. The UST was originally used for the storage of fuel oil but was abandoned when the building was converted to gas for heating. Soils removed during the UST removal were screened with a photoionization detector (PID) with no concentrations reported above background levels. One soil sample was collected from the tank grave. The sample was a composite of all four sidewalls and the excavation bottom. The sample was analyzed for volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), and PCBs by EPA Method 8080, and total RCRA 8 metals. VPH and EPH analytes and PCBs were not detected. Several total RCRA 8 metals were reported, but at concentrations which would be expected for background conditions. Following the UST removal, the excavation was restored. The sample locations are shown on **Figure 1-4** and sample results are presented on **Table 1-5**.

Weston concluded that no evidence of a release from the tank or associated piping occurred.

1.6.5 Environmental Baseline Study, 1998

Diversified Technology Consults (DTC) prepared an Environmental Baseline Study which included a summary of previous environmental related activities and completion of asbestos and lead paint inspections and sampling in support of proposed demolition of several on-site buildings (DTC, 1998). Soil sampling was also conducted though the floor of the Former Garage/Warhead Building and Former Maintenance/Missile Assembly and Test Building. The soil samples, two per building, were collected from soils directly below the concrete flooring and were analyzed for VOCs, SVOCs, TPH, PCBs and synthetic precipitation leaching procedure (SPLP) RCRA 8 metals. SPLP barium was detected in all four samples (up to 0.59 milligrams per liter (mg/l)) and TPH was detected in both samples from underneath the Former Maintenance/Missile Assembly and Test Building (up to 72 parts per million (ppm)). The reported concentrations were below applicable RSR criteria and no other concentrations were above the laboratory's minimum reporting limit. The sample locations are shown on **Figure 1-4** and sample results are presented on **Table 1-6**.

1.6.6 Draft Groundwater Monitoring Report, 2006

Groundwater samples were collected from existing remaining accessible monitoring wells in August 2005 and February 2006 (KEMRON, 2006a). The groundwater sampling program was completed to obtain current groundwater quality data on-site since the last round of groundwater data was collected in 1992. Groundwater samples were collected from M1, M3, M6, M7 and M11 in August 2005 and groundwater samples were collected from M1, M3, M6, M7, M8, M9, M11, M12 and M13 in February 2006. Groundwater samples could not be collected from several wells in August 2005 since the wells were dry or did not contain enough groundwater volume for sampling. Groundwater wells M2, M4, M5 and M10B were damaged or abandoned and could not be sampled.

The groundwater samples were analyzed for VOCs, SVOCs, total and dissolved metals and extractable total petroleum hydrocarbons (ETPH). The groundwater sample from M11 could only be analyzed for VOCs and total and dissolved metals due to the limited quantity of sample that could be collected. A summary of the laboratory results are included in **Tables 1-7** and **1-8**.

VOCs were detected in three of the nine wells sampled in February 2006, including M6, M7, and M8. TCE was detected in M8 exceeded the RSR criteria, including the GWPC and the Residential Groundwater Volatilization Criteria (R GWVC). The remaining VOCs detected in M8 (carbon tetrachloride and chloroform) were detected at concentrations below RSR criteria. The concentrations of VOCs detected in M6 (cis-1,2-DCE and toluene) and in M7 (toluene) were below RSR criteria. In August 2005, one or more VOCs were detected in M1, M3, M6, or M11. Carbon tetrachloride,

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chloroform, cis-1,2-DCE, and toluene were detected in one or more of the samples from but at concentrations below the RSRs.

During the August 2005 sampling event, only one SVOC, di-n-octylphthalate, was detected in only one well (M1) but at a concentration below the GWPC. This compound is a common laboratory contaminant and the absence of other phthalates suggest that this is a laboratory artifact. SVOCs were not detected in wells that were sampled during the February 2006 event.

ETPH was detected in one well in February 2006, M8, but at a concentration below the GWPC. ETPH was not detected in the samples collected in August 2005, although the quantitation limits for ETPH for the August 2005 event were above the GWPC.

Several metals were detected in the groundwater samples in February 2006, including total and dissolved arsenic, barium, lead, and selenium; however, none of the detected metals exceeded the applicable RSR criteria. During the August 2005 sampling event, barium, lead, selenium, and mercury were detected in at least one of the five samples but at concentrations below the RSRs.

Analytical results from the groundwater sampling events suggest that groundwater has been impacted by past site activities. The detection of carbon tetrachloride, chloroform, and TCE in M8 in February 2006 is consistent with the results of prior (pre-2005) investigations, although the reported concentrations were somewhat higher in 1992 (**Table 1-3**).

1.7 Summary of Areas of Concern

AOCs and potential AOCs have been developed for the facility based on evaluation of prior data and review of prior reports and other relative information. The following AOCs have been identified for the property:

- AOC No. 1 - Former 2,000-gallon Fuel Oil UST at the Former Reserve Center/Barracks Building
- AOC No. 2 - Former Maintenance / Missile Test and Assembly Building
- AOC No. 3 - Former 550-gallon Fuel Oil UST at the Former Maintenance / Missile Test and Assembly Building
- AOC No. 4 - Catch Basin Located Adjacent to the Former Maintenance / Missile Test and Assembly Building with Outfall
- AOC No. 5 - Former Garage / Warhead Building
- AOC No. 6 - Former Acid Neutralization Pit within the Former Garage / Warhead Building
- AOC No. 7 - Former Missile Silos
- AOC No. 8 - Former Acid Storage Shed
- AOC No. 9 - Former Leaching Field
- AOC No. 10 - Former 2,500-gallon Fuel Oil UST at the Current Reserve Center
- AOC No. 11 - Well M8 area

Select AOCs have been previously investigated and been determined that a release to the environment has not occurred (i.e., AOCs 7, 8, and 9). For other select AOCs, releases have been noted and have been properly remediated (i.e., AOCs 1, 3, and 10).

Groundwater impacts, specifically chlorinated solvents, have been noted in M8 and neighboring wells. The focus of the Army's work at Middletown has been characterization of TCE and degradation products in groundwater. A specific release point(s) for the TCE detected in groundwater has not been determined.

Data contained on this sheet shall not be disclosed without prior approval from KEMRON Environmental Services, Inc. (Proprietary)

Potential sources of the TCE may include AOCs 2, 4, 5, 6, and 11. The RI discussed in this report focuses on investigation of these potential source areas and delineation of the previously identified groundwater impacts.

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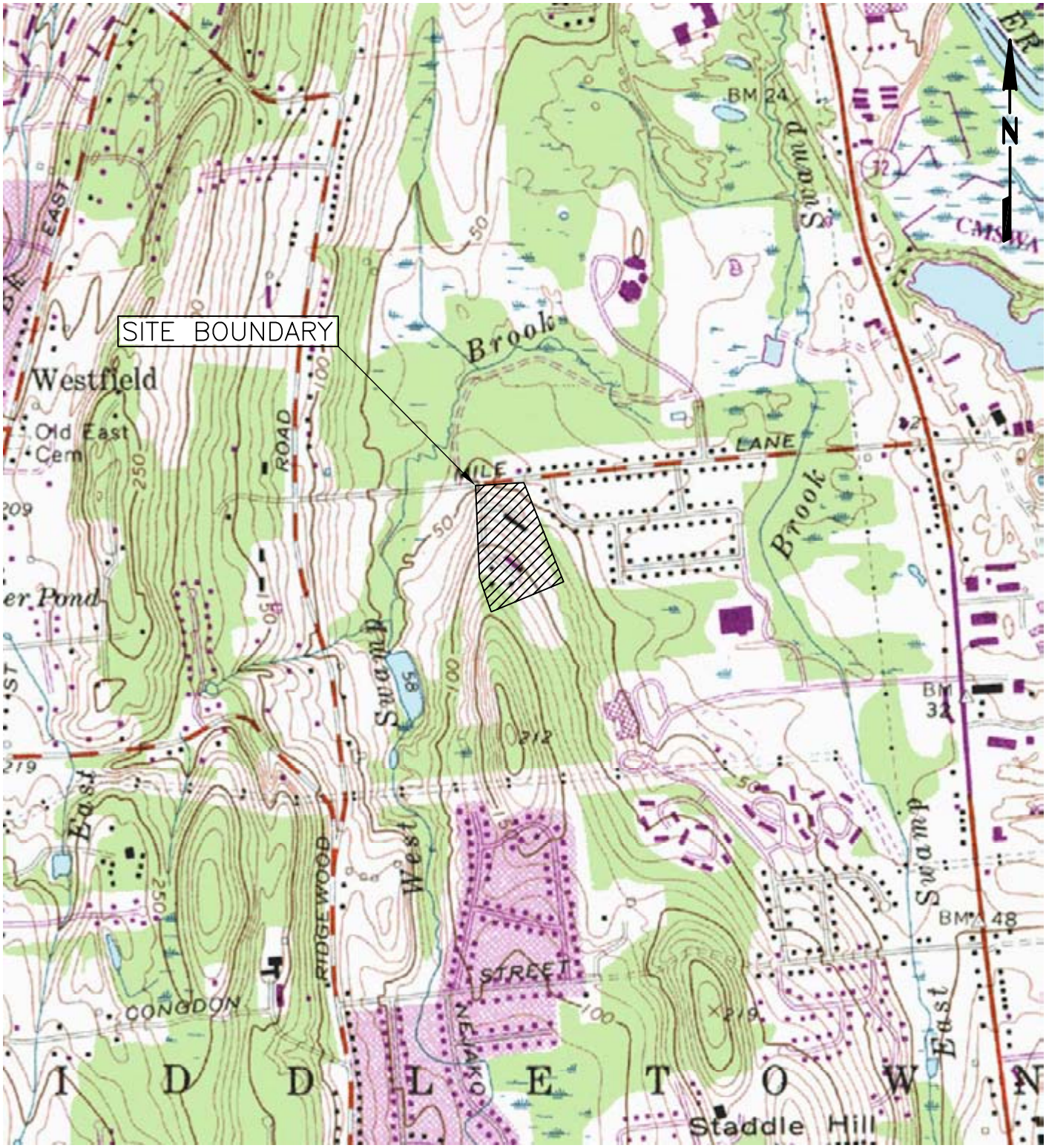

SOURCE:
USGS – MIDDLETOWN, CT
1965 – REVISED 1992

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Prepared/Date: MRS 08/01/2006
Checked/Date: JRY 08/01/2006

94th Regional Readiness Command
US Army Reserve Center
Middletown, Connecticut

KEMRON ENVIRONMENTAL SERVICES MACTEC

LOCUS MAP
Project 3618-04-8110
Figure 1-1

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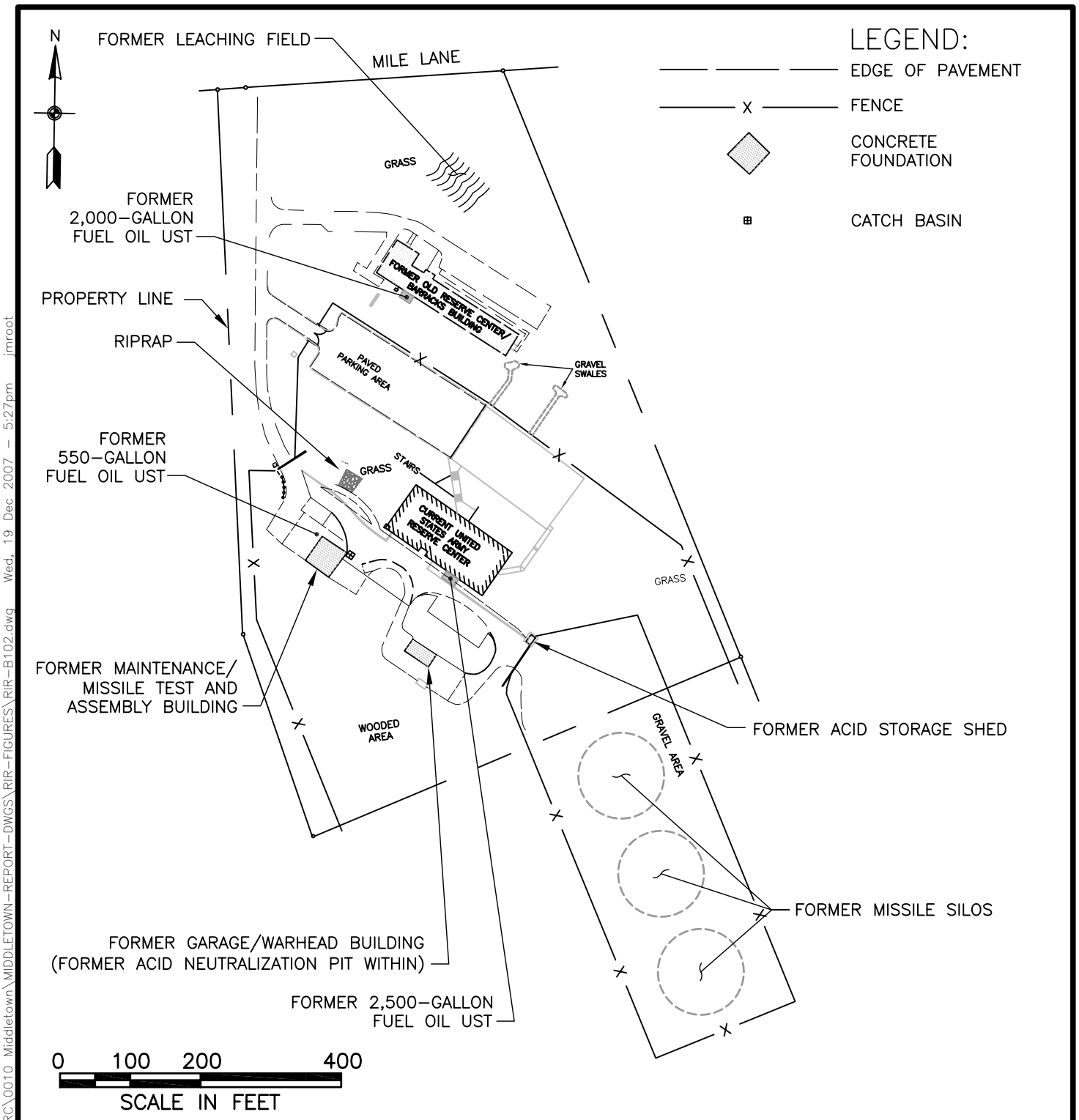

DRAWING REFERENCE: PLAN PREPARED BY THE DEPARTMENT OF THE ARMY, ENTITLED "150 MEMBER UNITED STATES ARMY RESERVE MIDDLETOWN, CT; SITE LAYOUT PLAN" DATED 31 OCT 1984, ORIGINAL SCALE: 1"=40'.

ENVIRONMENTAL INVESTIGATION PERFORMED IN SUPPORT OF CLOSURE OF DSERTS SITE 08 "GROUNDWATER" UNDER CONTRACT NO. W911SO-04-F0017.

Prepared/Date: JBC 04/19/07
Checked/Date: JRY 04/19/07

94th Regional Readiness Command US Army Reserve Center Middletown, Connecticut	KEMRON ENVIRONMENTAL SERVICES / MACTEC	Site Layout Project 3618-04-8110 Figure 1-2

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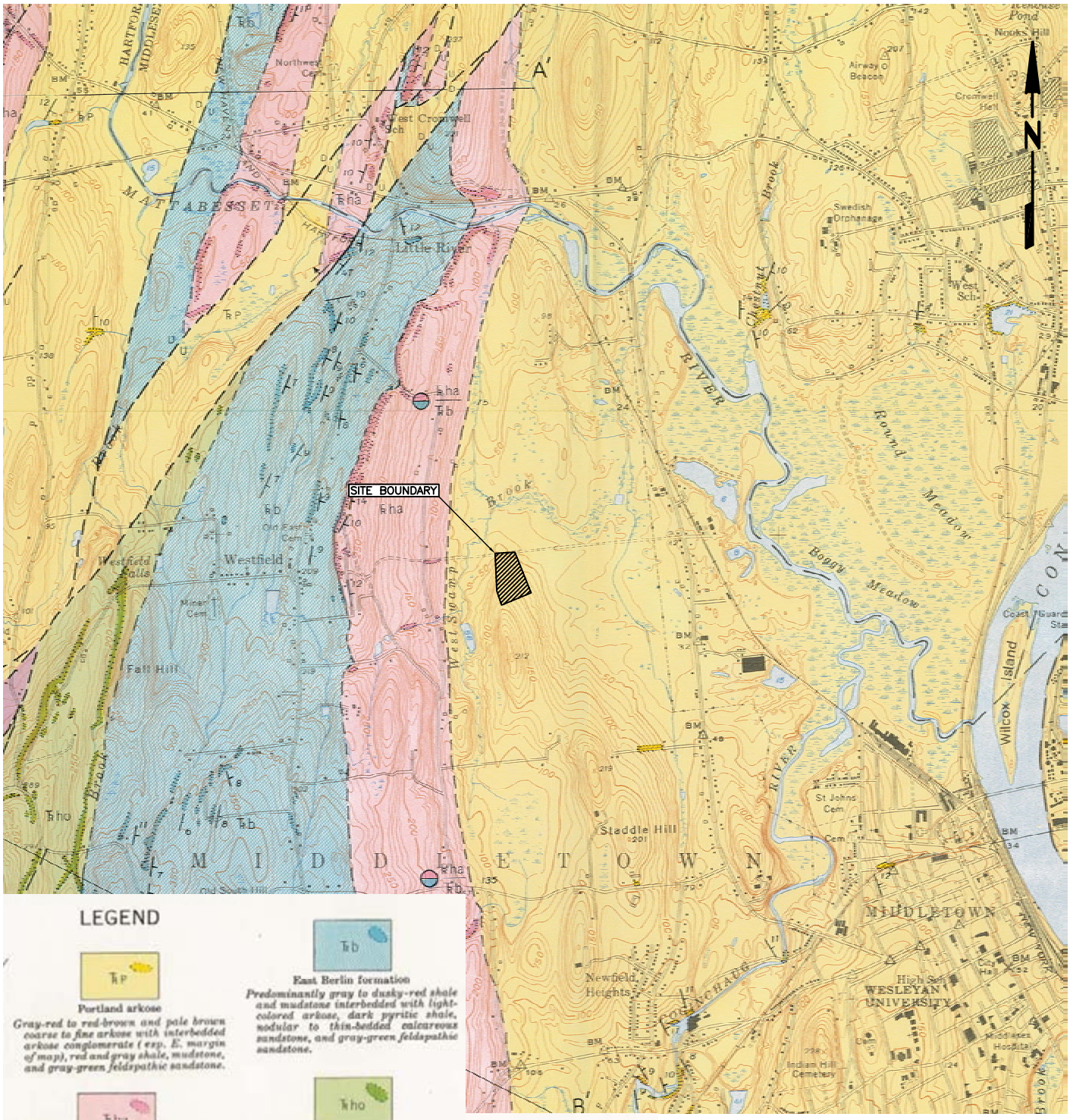

SOURCE:
USGS – MIDDLETOWN, CT, GEOLOGICAL MAP 1959
BEDROCK GEOLOGY BY ELROY P. LEHMANN IN 1955

Prepared/Date: RJR 03/17/2008
Checked/Date: PHT 03/17/2008

94th Regional Readiness Command
US Army Reserve Center
Middletown, Connecticut

KEMRON ENVIRONMENTAL SERVICES MACTEC

BEDROCK GEOLOGIC MAP
Project 3618-04-8110
Figure 1- 3

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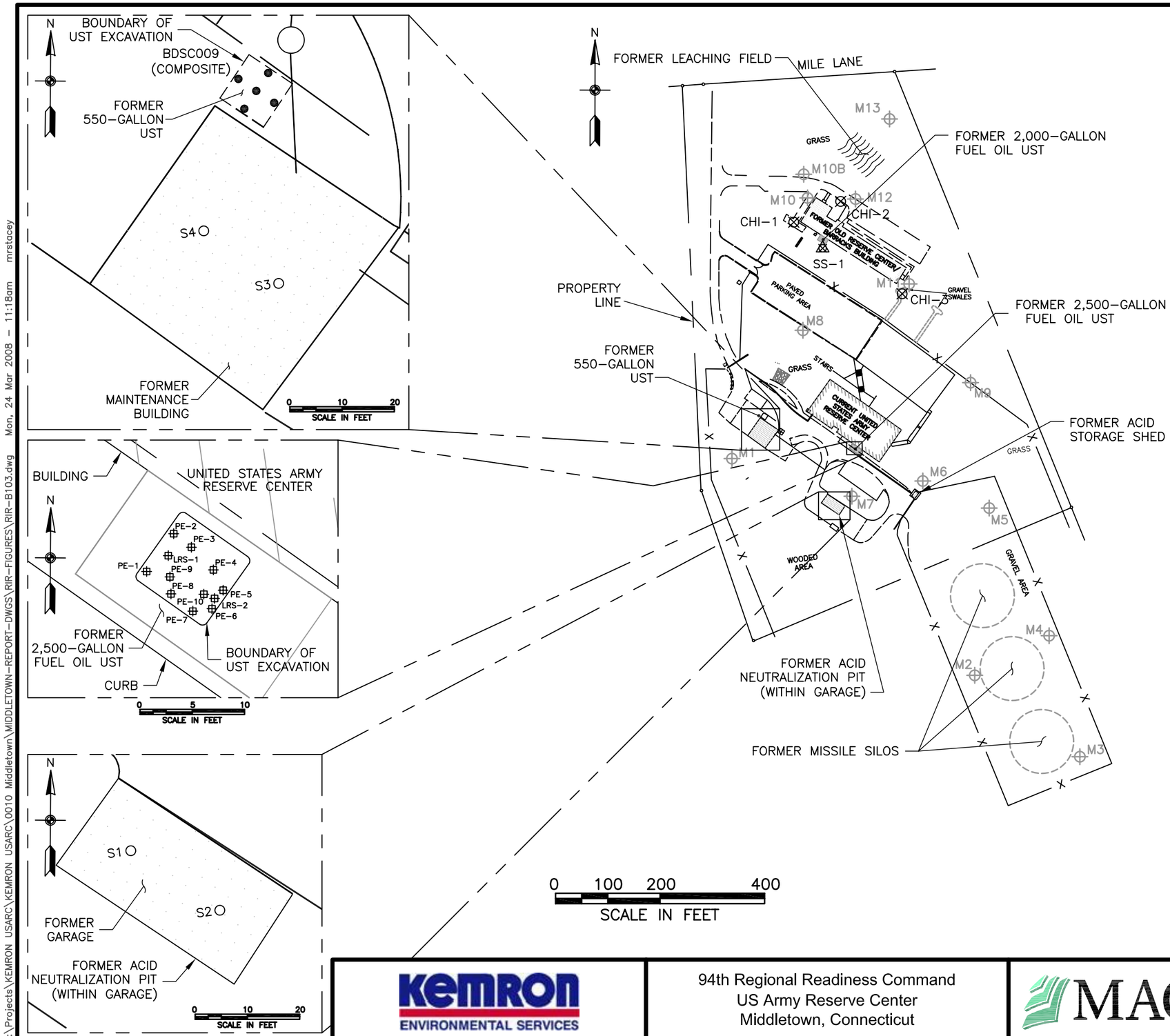

LEGEND:

- M1 — GROUNDWATER MONITORING WELL, USAEHA (1992)
- CHI — SOIL SAMPLE, MONITORING WELL, CHEE (1990)
- SS — SURFACE SOIL SAMPLE, USAEHA (1992)
- PE-1 — POST EXCAVATION SAMPLE, ATEC (1994)
- POST EXCAVATION COMPOSITE, WESTON (1997)
- S1 — SOIL SAMPLE, DTC (1998)
- EDGE OF PAVEMENT
- FENCE
- CONCRETE FOUNDATION
- CATCH BASIN

DRAWING REFERENCES:

PLAN PREPARED BY THE DEPARTMENT OF THE ARMY, ENTITLED "150 MEMBER UNITED STATES ARMY RESERVE MIDDLETOWN, CT; SITE LAYOUT PLAN" DATED 31 OCT 1984, ORIGINAL SCALE: 1"=40'.

FIGURES 2 AND 3 FROM THE "TECHNICAL REPORT, UNDERGROUND STORAGE TANK CLOSURE" PREPARED BY ATEC ASSOCIATES, INC. 1994.

FIGURE 2 "SKETCH PLAN OF STUDY AREA" FROM THE "LIMITED SUBSURFACE INVESTIGATION" PREPARED BY CLEAN HARBORS ENVIRONMENTAL ENGINEERING CORPORATION. 1990.

FIGURES 3 AND 4 FROM THE "ENVIRONMENTAL BASELINE STUDY" PREPARED BY DIVERSIFIED TECHNOLOGY CONSULTANTS 1998.

FIGURES A-2, A-3 AND A-4 FROM THE "GEOHYDROLOGICAL STUDY NO. 38-26-KL46-92 SITE INVESTIGATION" PREPARED BY U.S,. ARMY ENVIRONMENTAL HYGIENE AGENCY. 1992.

FIGURE 2-3 "UST EXCAVATION SAMPLING MAP" FROM THE "FINAL UNDERGROUND STORAGE TANK CLOSURE REPORT" PREPARED BY ROY F. WESTON, INC. 1997.

ENVIRONMENTAL INVESTIGATION PERFORMED IN SUPPORT OF CLOSURE OF DSERTS SITE 08 "GROUNDWATER" UNDER CONTRACT NO. W911SO-04-F0017.

Prepared/Date: JBC 04/20/07
Checked/Date: JRY 04/20/07

KEMRON ENVIRONMENTAL SERVICES

94th Regional Readiness Command
US Army Reserve Center
Middletown, Connecticut

MACTEC

Previous Exploration Locations
Project 3618-04-8110
Figure 1-4

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Table 1-1
Summary of Analytical Results from the Limited Subsurface Investigation (CHEE, 1990)
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

Soil Samples	Sample Location:			CHI-1	CHI-2
	CTDEP RSR Criteria			04/02/90	04/02/90
	GA PMC[1] (mg/kg)	R DEC[2] (mg/kg)	I/C DEC[3] (mg/kg)	5-7'	5-7'
TPH (mg/kg)	500	500	2,500	<10	<10
VOCs (mg/kg)	varies	varies	varies	ND	--

Groundwater Samples	Sample Location:				CHI-1	CHI-2	CHI-3
	CTDEP RSR Criteria				04/04/90	04/04/90	04/04/90
	GWPC[4] (ug/l)	SWPC[5] (ug/l)	R GWVC[6] (ug/l)	I/C GWVC[7] (ug/l)			
TPH (ug/l)	500	--	--	--	**<1,000**	**<1,000**	**<1,000**
VOCs (ug/l)							
1,1-Dichloroethane	70	--	3,000	41,000	6	<5	<5
1,1,1-Trichloroethane	200	62,000	6,500	16,000	9	<5	<5

Notes:

TPH = Total Petroleum Hydrocarbons by Infrared (IR)
VOCs = Volatile Organic Compounds (EPA Method 8240)
mg/kg = milligrams per kilogram
ug/L = micrograms per liter
ND = Not Detected
(1) GA PMC = Pollutant Mobility Criteria for Soil in GA Classified Areas (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(2) R DEC = Residential Direct Exposure Criteria for Soil (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(3) I/C DEC = Industrial/Commercial Direct Exposure Criteria for Soil (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(4) GWPC = Groundwater Protection Criteria for Ground Water (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(5) SWPC = Surface Water Protection Criteria for Substances in Ground Water (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(6) R GWVC = Proposed Residential Ground Water Volatilization Criteria (Proposed Revisions to Connecticut's Remediation Standard Regulations Volatilization Criteria, March 2003).
(7) I/C GWVC = Proposed Industrail/Commerical Ground Water Volatilization Criteria (Proposed Revisions to Connecticut's Remediation Standard Regulations Volatilization Criteria, March 2003)
Bold = Quantitation limit above RSR value
Shaded and **Bold** indicates exceedances of RSR criteria

Table 1-2
Summary of Soil Analytical Results from the Geohydrologic Study No. 38-26-KL46-92 Site Investigation (USAEHA, 1992)
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

			Sample Location:	**M1**	**M2**	**M6**	**M7**	**M7**	**M7**	**M10**	**M10**	**SS-1**
	CTDEP RSR Criteria			**06/02/92**	**06/02/92**	**06/04/92**	**06/04/92**	**06/04/92**	**06/04/92**	**06/06/92**	**06/06/92**	**06/06/92**
	GA PMC[1] (mg/kg)	**R DEC[2] (mg/kg)**	**I/C DEC[3] (mg/kg)**	**4"-20"**	**2"-8"**	**1"-6"**	**3"-18"**	**60"-78"**	**114"-126"**	**2"-38"**	**40"-63"**	**2"-16"**
TPH (mg/kg)	**500**	**500**	**2,500**	<10	103	22	26	<10	<10	<10	<10	<10
VOCs (mg/kg)	**varies**	**varies**	**varies**	ND	ND	ND	ND	ND	ND	ND	ND	ND
SVOCs (mg/kg)	**varies**	**varies**	**varies**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Metals (mg/kg)												
Arsenic	--	**10**	**10**	4.8	1.8	3.2	3.2	7.7	3.5	1.6	0.65	3.8
Barium	--	**4,700**	**140,000**	82	61	96	92	180	110	78	26	120
Cadmium	--	**34**	**1,000**	<0.25	<0.25	<0.25	<0.25	<0.25	0.28	<0.25	<0.25	0.26
Chromium	--	**3,900**	**51,000**	16	9.5	19	19	24	20	20	6.5	24
Lead	--	**500**	**1,000**	7.9	7.0	15	10	8.0	5.1	15	4.2	6.4
Mercury	--	**20**	**610**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Selenium	--	**340**	**10,000**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Silver	--	**340**	**10,000**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
TCLP Metals (mg/l)												
Chromium	**0.05**	--	--	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	--	**<0.50**
Lead	**0.015**	--	--	--	--	**<0.50**	**<0.50**	--	--	**<0.50**	--	--

Notes:
TPH = Total Petroleum Hydrocarbons (EPA Method 418.1)
VOCs = Volatile Organic Compounds (EPA Method 8260)
SVOCs = Semi-Volatile Organic Compounds (EPA Method 8270)
TCLP = Toxicity Characteristic Leaching Procedure
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
ND = Not detected above quantitation limit
(1) GA PMC = Pollutant Mobility Criteria for Soil in GA Classified Areas (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(2) R DEC = Residential Direct Exposure Criteria for Soil (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(3) I/C DEC = Industrial/Commercial Direct Exposure Criteria for Soil (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
Bold = Quantitation limit above RSR value
Shaded and **Bold** indicates exceedances of RSR criteria

Table 1-3
Summary of Groundwater Analytical Results from the Geohydrologic Study No. 38-26-KL46-92 Site Investigation (USAEHA, 1992)
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

				Sample Location:	**M1**	**M2**	**M3**	**M4**	**M5**	**M6**	**M7**	**M8**	**M9**	**M10B**	**M11**	**M12**	**M13**
	CTDEP RSR Criteria				**06/09/92**	**06/09/92**	**06/09/92**	**06/09/92**	**06/09/92**	**06/09/92**	**06/09/92**	**06/09/92**	**06/09/92**	**06/09/92**	**06/09/92**	**06/09/92**	**06/09/92**
	GWPC[1] (ug/l)	**SWPC[2] (ug/l)**	**R GWVC[3] (ug/l)**	**I/C GWVC[4] (ug/l)**													
TPH (ug/l)	**500**	**--**	**--**	**--**	**<1,000**	**<1,000**	**<1,000**	**<1,000**	**<1,000**	**<1,000**	**<1,000**	**<1,000**	**<1,000**	**<1,000**	**<1,000**	NA	**<1,000**
VOCs (ug/l)																	
Carbon tetrachloride	**5**	**132**	**5.3**	**14**	2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**14**	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	**6**	**14,100**	**26**	**62**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2	<0.5	<0.5	<0.5	<0.5	<0.5
Cis-1,2-Dichloroethene	**70**	**--**	**830**	**11,000**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	**5**	**48,000**	**160**	**2,200**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<0.5
Toluene	**1,000**	**4,000,000**	**7,100**	**41,000**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<0.5
Trichloroethene	**5**	**2,340**	**27**	**67**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**38**	<0.5	<0.5	<0.5	<0.5	<0.5
SVOCs (ug/l)	**varies**	**varies**	**varies**	**varies**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Metals (ug/l)																	
Arsenic	**50**	**4**	**--**	**--**	**20**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**
Barium	**1,000**	**-**	**--**	**--**	240	240	380	330	320	220	230	310	220	120	130	200	100
Beryllium	**4**	**4**	**--**	**--**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**
Cadmium	**5**	**6**	**--**	**--**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2	0.7
Chromium	**--**	**1,200**	**--**	**--**	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead	**15**	**13**	**--**	**--**	2	6	7	2	<1	5	3	<1	2	<1	<1	3	<1
Mercury	**2**	**0.4**	**--**	**--**	<0.2	<0.2	**0.6**	**0.8**	**0.5**	**1.5**	<0.2	**0.6**	0.4	0.3	<0.2	0.4	0.4
Zinc	**5,000**	**123**	**--**	**--**	20	20	30	30	30	10	10	10	30	30	30	30	3

Notes:
TPH = Total Petroleum Hydrocarbons (EPA Method 418.1)
VOCs = Volatile Organic Compounds (EPA Method 8260)
SVOCs = Semi-Volatile Organic Compounds (EPA Method 8270)
µg/L = micrograms per liter
ND = Not Detected
(1) GWPC = Groundwater Protection Criteria for Ground Water (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(2) SWPC = Surface Water Protection Criteria for Substances in Ground Water (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies)
(3) R GWVC = Proposed Residential Ground Water Volatilization Criteria (Proposed Revisions to Connecticut's Remediation Standard Regulations Volatilization Criteria, March 2003).
(4) I/C GWVC = Proposed Industrail/Commerical Ground Water Volatilization Criteria (Proposed Revisions to Connecticut's Remediation Standard Regulations Volatilization Criteria, March 2003).
Bold = Quantitation limit above RSR value
Shaded and **Bold** indicates exceedances of RSR criteria

Table 1-4
Summary of Soil Analytical Results from the Underground Storage Tank Closure (ATEC, 1994)
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

			Sample Location:	**PE-1**	**PE-2**	**PE-3**	**PE-4**	**PE-5**	**PE-6**	**PE-7**	**PE-8**	**PE-9**	**PE-10**	**LRS-1**	**LRS-2**
	CT DEP RSR			**11/16/93**	**11/16/93**	**11/16/93**	**11/16/93**	**11/16/93**	**11/16/93**	**11/16/93**	**11/16/93**	**11/16/93**	**11/16/93**	**11/16/93**	**11/16/93**
	RDEC[1] (mg/kg)	**I/C DEC[2] (mg/kg)**	**GA PMC[3] (mg/kg)**	7'	7'	7'	7'	7'	7'	7'	7'	7'	7'	7'	7'
VOCs via PID (ppm)	--	--	--	ND	ND	2	ND	ND	ND	ND	ND	3	1	--	--
TPH via NDIR (ppm)	--	--	--	24.4	33.2	34.5	41.3	28.1	38.7	26.7	28.9	36.9	48.3	--	--
TPH (mg/kg)	**500**	**2,500**	**500**	--	--	--	--	--	--	--	--	--	--	<20	**52**
VOCs (mg/kg)	**varies**	**varies**	**varies**	--	--	--	--	--	--	--	--	--	--	ND	ND
SVOCs (mg/kg)															
Naphthalene	**1,000**	**2,500**	**5.6**	--	--	--	--	--	--	--	--	--	--	1.78	<0.33
Phenanthrene	**1,000**	**2,500**	**4**	--	--	--	--	--	--	--	--	--	--	0.74	<0.33
2-Methylnaphthalene	**474**	**2,500**	**0.98**	--	--	--	--	--	--	--	--	--	--	**1.9**	<0.33

Notes:
VOCs = Volatile Organic Compounds via photoionization detector (PID)
TPH = Total Petroleum Hydrocarbons via non-dispersive infrared analyzer (NDIR)
TPH = Total Petroleum Hydrocarbons (EPA Method 418.1)
VOCs = Volatile Organic Compounds (EPA Method 8260)
SVOCs = Semi-Volatile Organic Compounds (EPA Method 8270)
mg/kg = milligrams per kilogram
ND = Not Detected
(1) R DEC = Residential Direct Exposure Criteria for Soil (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(2) I/C DEC = Industrial/Commercial Direct Exposure Criteria for Soil (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(3) GA PMC = Pollutant Mobility Criteria for Soil in GA Classified Areas (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
Bold = Quantitation limit above RSR value
Shaded and **Bold** indicates exceedances of RSR criteria

Table 1-5
Summary of Soil Analytical Results from the Final Underground Storage Tank Closure Report (Weston, 1997)
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

	Sample Location:			**BDSC009**
	CTDEP RSR Criteria			**08/09/96**
	GA PMC[1] (mg/kg)	**R DEC[2] (mg/kg)**	**I/C DEC[3] (mg/kg)**	**0-10'**
VPH (mg/kg)	**--**	**--**	**--**	ND
EPH (mg/kg)	**--**	**--**	**--**	ND
PCBs (mg/kg)	**--**	**1**	**10**	ND
Total Metals (mg/kg)				
Arsenic	**--**	**10**	**10**	1.96
Cadmium	**--**	**34**	**1,000**	0.265
Chromium	**--**	**3,900**	**51,000**	9.88
Lead	**--**	**500**	**1,000**	11.6

Notes:
VPH = Volatile Petroleum Hydrocarbons
EPH = Extractable Petroleum Hydrocarbons
PCBs = polychlorinated biphenyl's (EPA Method 8080)
mg/kg = milligrams per kilogram
ND = Not detected above quantitation limit
(1) GA PMC = Pollutant Mobility Criteria for Soil in GA Classified Areas (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(2) R DEC = Residential Direct Exposure Criteria for Soil (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(3) I/C DEC = Industrial/Commercial Direct Exposure Criteria for Soil (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
Bold = Quantitation limit above RSR value
Shaded and **Bold** indicates exceedances of RSR criteria

Table 1-6
Summary of Soil Analytical Results from the Environmental Baseline Study (DTC, 1998)
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

			Sample Location:	S1	S2	S3	S4
	CTDEP RSR Criteria			08/19/97 3 to 12"	08/19/97 3 to 12"	08/19/97 3 to 12"	08/19/97 3 to 12"
	GA PMC[1] (mg/kg)	R DEC[2] (mg/kg)	I/C DEC[3] (mg/kg)				
TPH (mg/kg)	**500**	**500**	**2,500**	<50	<50	70	72
VOCs (mg/kg)	**varies**	**varies**	**varies**	ND	ND	ND	ND
SVOCs (mg/kg)	**varies**	**varies**	**varies**	ND	ND	ND	ND
PCBs (mg/kg)	**--**	**1**	**10**	<0.50	<0.50	<0.50	<0.50
SPLP Metals (mg/l)							
Barium	**1**	--	--	0.53	0.59	0.52	0.57

Notes:

TPH = Total Petroleum Hydrocarbons (EPA Method 418.1)
VOCs = Volatile Organic Compounds (EPA Method 8260)
SVOCs = Semi-Volatile Organic Compounds (EPA Method 8270)
PCBs = polychlorinated biphenyl's (EPA Method 8082)
SPLP = Synthetic Precipitation Leaching Procedure
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
ND = Not detected above quantitation limit
NE = No Criteria Established

(1) GA PMC = Pollutant Mobility Criteria for Soil in GA Classified Areas (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).

(2) R DEC = Residential Direct Exposure Criteria for Soil (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).

(3) I/C DEC = Industrial/Commercial Direct Exposure Criteria for Soil (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).

Bold = Quantitation limit above RSR value

Table 1-7
Detected Constituents in Groundwater August 2005 Sampling Event (Kemron, 2006)
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

					Location:	**M1**		**M3**		**M6**		**M7**		**M11**	
					Sample ID:	**CT08-GWS0126**		**CT08-GWS0327**		**CT08-GWS0627**		**CT08-GWS0724**		**CT08-GWS1110**	
					Date Collected:	**8/16/2005**		**8/19/2005**		**8/17/2005**		**8/16/2005**		**8/16/2005**	
					Sample Type:	**FS**		**FS**		**FS**		**FS**		**FS**	
					Groundwater Depth:	**15.60 ft**		**22.01 ft**		**19.40 ft**		**18.20 ft**		**10.32 ft**	
	CTDEP RSR Criteria														
Analyte	**GWPC[1]**	**SWPC[2]**	**R GWVC[3]**	**I/C GWVC[4]**	**Unit**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Metals															
Barium, Dissolved	1	--	--	--	mg/l	0.32		0.221		0.229		0.273		0.235	
Barium, Total	1	--	--	--	mg/l	0.213		0.266		0.273		0.176		0.136	
Lead, Dissolved	0.015	0.013	--	--	mg/l	0.005	U	0.00278	J	0.005	U	0.005	U	0.005	U
Lead, Total	0.015	0.013	--	--	mg/l	0.005	U	0.00268	J	0.005	U	0.005	U	0.005	U
Selenium, Dissolved	0.05	0.05	--	--	mg/l	0.000625	J	0.000569	J	0.001	U	0.001	U	0.001	U
Selenium, Total	0.05	0.05	--	--	mg/l	0.00111		0.00116		0.000663	J	0.001	U	0.001	U
Mercury, Dissolved	0.002	0.0004	--	--	mg/l	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
Mercury, Total	0.002	0.0004	--	--	mg/l	0.0002	U	0.0002	U	0.000155	J	0.0002	U	0.0002	U
Volatile Organic Compounds															
Carbon tetrachloride	5	132	5.3	14	ug/l	4.58		1	U	1	U	1	U	1	U
Chloroform	6	14,100	26	62	ug/l	0.469	J	1	U	1	U	1	U	1	U
Cis-1,2-Dichloroethene	70	--	830	11,000	ug/l	1	U	0.289	J	0.721	J	1	U	1	U
Toluene	1,000	4,000,000	7,100	41,000	ug/l	1	U	1	U	1	U	1	U	0.482	J
Semivolatile Organic Compounds															
Di-n-octylphthalate	100	59	--	--	ug/l	13.6		5.1	U	5.15	U	5.13	U	--	
Extractable Total Petroleum Hydrocarbons															
ETPH	100	--	--	--	ug/l	**278**	**U**	**299**	**U**	**325**	**U**	**281**	**U**	--	

Notes:

mg/l = milligrams per liter
ug/l = micrograms per liter
FS = Field Sample
U = compound was not detected at concentrations greater than the associated quantitation limit
J = reported concentration is considered an estimated value
(1) GWPC = Groundwater Protection Criteria for Ground Water (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(2) SWPC = Surface Water Protection Criteria for Substances in Ground Water (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(3) R GWVC = Proposed Residential Ground Water Volatilization Criteria (Proposed Revisions to Connecticut's Remediation Standard Regulations Volatilization Criteria, March 2003).
(4) I/C GWVC = Proposed Industrail/Commerical Ground Water Volatilization Criteria (Proposed Revisions to Connecticut's Remediation Standard Regulations Volatilization Criteria, March 2003).
The GWPC for ETPH is 100 ug/l per updated regulations provided by the CTDEP in the technical guideline "Use of ETPH Analytical Test Method for Total Petroleum Hydrocarbons" 4/6/2004.
Bold = Quantitation limit above RSR value
Exceeds RSRs **27.7**

Table 1-8
Detected Constituents in Groundwater February 2006 Sampling Event (Kemron, 2006)
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

					Location:	**M1**		**M3**		**M6**		**M7**		**M8**		**M8**		**M9**		**M11**		**M12**		**M13**	
					Sample ID:	**CT08-GWS0128**		**CT08-GWS0325**		**CT08-GWS0628**		**CT08-GWS0715**		**CT08-GWD0819**		**CT08-GWS0819**		**CT08-GWS0913**		**CT08-GWS1111**		**CT08-GWS1218**		**CT08-GWS1313**	
					Date Collected:	**2/21/2006**		**2/23/2006**		**2/22/2006**		**2/22/2006**		**2/22/2006**		**2/22/2006**		**2/22/2006**		**2/21/2006**		**2/23/2006**		**2/23/2006**	
					Sample Type:	**FS**		**FS**		**FS**		**FS**		**FD**		**FS**		**FS**		**FS**		**FS**		**FS**	
					Groundwater Depth:	**12.85 ft**		**21.20 ft**		**16.77 ft**		**16.91 ft**		**5.58 ft**		**5.58 ft**		**7.54 ft**		**6.38 ft**		**15.97 ft**		**7.14 ft**	
	CTDEP RSR Criteria																								
Analyte	**GWPC[1]**	**SWPC[2]**	**R GWVC[3]**	**I/C GWVC[4]**	**Unit**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Metals																									
Arsenic, Dissolved	0.05	0.004	--	--	mg/l	0.001	U	0.00071	J	0.0005	J	0.0011		0.00028	J	0.00078	J	0.0003	J	0.001	U	0.001	U	0.001	U
Arsenic, Total	0.05	0.004	--	--	mg/l	0.00035	J	0.00156	J	0.00072	J	0.00138	J	0.00027	J	0.00523	J	0.00032	J	0.001	UJ	NA		0.001	UJ
Barium, Dissolved	1	--	--	--	mg/l	0.219		0.257		0.262		0.173		0.345		0.31		0.057		0.0342		0.0263		0.0214	
Barium, Total	1	--	--	--	mg/l	0.226		0.267		0.285		0.19		0.356		0.35		0.0543		0.0325		NA		0.0278	
Lead, Dissolved	0.015	0.013	--	--	mg/l	0.005	U	0.00304	J	0.005	U	0.005	U	0.00256	J	0.00515		0.005	U	0.005	U	0.005	U	0.005	U
Lead, Total	0.015	0.013	--	--	mg/l	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.01	U	0.005	U	NA		0.005	U
Selenium, Dissolved	0.05	0.05	--	--	mg/l	0.001	U	0.00095	J	0.00068	J	0.001	U	0.001	U	0.00051	J	0.00063	J	0.001	U	0.001	U	0.001	U
Selenium, Total	0.05	0.05	--	--	mg/l	0.001	U	0.00457		0.00128		0.00065	J	0.00082	J	0.00093	J	0.00091	J	0.001	U	NA		0.00069	J
Volatile Organic Compounds																									
Acetone	700	--	50,000	50,000	ug/l		R		R		R		R		R	4.16	J		R		R	4.04	J		R
Carbon tetrachloride	5	132	5	14	ug/l	1	U	1	U	1	U	1	U	3.63		3.54		1	U	1	U	1	U	1	U
Chloroform	6	14,100	26	62	ug/l	1	U	1	U	1	U	1	U	1.11		1.14		1	U	1	U	1	U	1	U
Cis-1,2-Dichloroethene	70	--	3	35	ug/l	1	U	1	U	0.578	J	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Toluene	1,000	4,000,000	7,100	41,000	ug/l	1	U	1	U	0.282	J	0.693	J	1	U	1	U	1	U	1	U	1	U	1	U
Trichloroethene	5	2,340	27	67	ug/l	1	U	1	U	1	U	1	U	**27.7**		**27.8**		1	U	1	U	1	U	1	U
Extractable Total Petroleum Hydrocarbons																									
ETPH	100	--	--	--	ug/l	100	U	100	U	102	U	102	U	100	U	54.6	J	100	U	106	U	118	U	102	U

Notes:

mg/l = milligrams per liter
ug/l = micrograms per liter
FS = Field Sample
FD = Field Duplicate
U = compound was not detected at concentrations greater than the associated quantitation limit
J = reported concentration is considered an estimated value
R = result is rejected and considered unusable
(1) GWPC = Groundwater Protection Criteria for Ground Water (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(2) SWPC = Surface Water Protection Criteria for Substances in Ground Water (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(3) R GWVC = Proposed Residential Ground Water Volatilization Criteria (Proposed Revisions to Connecticut's Remediation Standard Regulations Volatilization Criteria, March 2003).
(4) I/C GWVC = Proposed Industrail/Commerical Ground Water Volatilization Criteria (Proposed Revisions to Connecticut's Remediation Standard Regulations Volatilization Criteria, March 2003).
The GWPC for ETPH is 100 ug/l per updated regulations provided by the CTDEP in the technical guideline "Use of ETPH Analytical Test Method for Total Petroleum Hydrocarbons" 4/6/2004.
Exceeds RSRs **27.7**

Section 2.0 Remedial Investigation

MACTEC conducted the RI at the Site between November 6, 2006 and October 29, 2007. The specific methodologies for the RI field tasks, conducted in accordance with the approved Sampling and Analysis Plan (KEMRON, 2005b), Sampling and Analysis Plan Addendum (KEMRON, 2006b), Supplement to the Sampling and Analysis Plan Addendum (KEMRON, 2007a) and Supplement No. 2 to the Sampling and Analysis Plan Addendum (KEMRON, 2007b), are outlined in the following paragraphs.

2.1 RI Field Activities

2.1.1 Mobilization/Demobilization

MACTEC mobilized to the site on November 6, 2006 and began subsurface exploration that day. The subsurface exploration was completed by Aquifer Drilling and Testing, Inc (ADT) of Bloomfield, Connecticut under the direction of MACTEC. Subsurface exploration was completed on November 6 through 10 and 16 and 17, 2006. MACTEC personal were also on-site on November 15, 27 through 29 and December 1, 2006 to conduct well development and groundwater sampling. The land survey was completed on January 5 and 8, 2007 by Fuss and O'Neill (F&O) of Manchester, Connecticut under the direction of MACTEC.

MACTEC remobilized to the site on March 5, 2007 and began a supplemental round of subsurface exploration. The subsurface exploration was again completed by ADT under the direction of MACTEC. Subsurface exploration was completed on March 5 through 9, 2007. MACTEC personal were also on-site on March 12, 13 and 16, 2007 to conduct groundwater sampling and conduct measurements to incorporate new exploration locations into the existing land survey.

MACTEC remobilized to the site again on October 9, 2007 and began a second supplemental round of subsurface exploration. The subsurface exploration was again completed by ADT under the direction of MACTEC. Subsurface exploration was completed on October 9 through 12 and 15, 2007. MACTEC personal were also on-site on October 29, 2007 to conduct groundwater sampling and conduct measurements to incorporate new exploration locations into the existing land survey.

2.1.2 Site Clearance and Utility Mark-Out

Prior to completing intrusive subsurface investigations, locations were cleared of underground utilities. MACTEC personnel marked the proposed exploration locations and reviewed the locations relative to known utilities using available maps. The proposed locations were also cleared for underground utilities by contacting the commercial utility clearing service "Call-Before-You-Dig". The actual locations completed are presented on **Figure 2-1**.

2.1.3 Direct Push Soil Sampling

Soil borings were performed to investigate the subsurface at various locations on-site. Soil borings were performed adjacent and downgradient of Former Maintenance/Missile Test and Assembly Building, the outfall connected to the catch basin adjacent to the Former Maintenance/Missile Test and Assembly Building, the Former Garage/Warhead Building, the Former Acid Neutralization Pit within the Former Garage/Warhead Building, and the Well M8 area. These areas were identified as possible sources of the TCE impact observed in groundwater from M8.

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Ten direct-push boring locations (SB-1 through SB-10) were completed as planned and are shown on **Figure 2-1**. Soil cores were collected continuously at five foot intervals from the ground surface to refusal on the apparent bedrock surface. The bedrock surface was encountered at depths between 18 and 24 feet below ground surface (bgs). The subsurface soils consisted primarily of a dense mixture of clay, silt and fine sand with trace amounts of gravel. Upon retrieval of each five foot soil core from each borehole, the core was screened with a PID to determine whether any intervals exhibited organic vapors detectable by the PID. A slightly evaluated PID reading of 50 ppm was noted in the 5 to 10 foot soil interval in SB-8. No other soil intervals exhibited PID readings indicative of possible subsurface impact. Similarly, visual inspections of the cores did not reveal any areas of readily discernable contamination. Samples were collected from select intervals from each soil boring location for laboratory analysis. The soil boring logs which include the soil profile and results of the PID screened are included in **Appendix A**.

One soil sample was submitted from each boring to KEMRON in Marietta, Ohio for analysis. The soil samples were submitted for analysis of VOCs and ETPH.

2.1.4 Overburden Groundwater Monitoring Well Installation

Overburden groundwater monitoring wells were installed at eight locations (MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20 and MW-21) on the property as shown on **Figure 2-1**. The overburden wells were installed to provide additional information on overburden groundwater quality in areas where data gaps potentially existed. Overburden groundwater monitoring wells were installed adjacent or downgradient of the Former Maintenance/Missile Test and Assembly Building, the outfall connected to the catch basin adjacent to the Former Maintenance/Missile Test and Assembly Building, the Former Garage/Warhead Building, the Former Acid Neutralization Pit within the Former Garage/Warhead Building, and the well M8 area.

Soil cores were collected from select wells during installation. Soil cores were not collected from certain wells since soil borings were performed within close proximity to these wells. Soil cores were screened with a PID with no soil intervals exhibiting PID readings indicative of possible subsurface impact. A soil sample collected during the installation of MW-17 and was submitted to KEMRON for analysis. The soil sample was submitted for analysis of VOCs.

Hollow-stem auger drilling methods were used to install the overburden wells. The wells were installed at depth so the screened portion of the well would intersect the groundwater surface. The wells were installed with 10 feet of 0.010 inch slot, two inch diameter PVC set at the bottom of the borehole. Solid PVC riser was installed to the ground surface. The well was constructed with appropriate sand pack and seal and a protective roadbox or standpipe. Monitoring well construction diagrams and soil boring logs are included in **Appendix A**.

2.1.5 Bedrock Groundwater Monitoring Well Installation

Bedrock groundwater monitoring wells were installed at seven locations (BR-1, BR-2, BR-3, BR-4, BR-5, BR-6 and BR-7) on the property as shown on **Figure 2-1**. Two additional bedrock wells (BR-4A and BR-5A) were also installed to supplement previously installed wells BR-4 and BR-5. The bedrock wells were installed to provide additional information on bedrock groundwater quality in areas where data gaps potentially existed.

At locations BR-1, BR-3, BR-4 and BR-5 soil cores were collected continuously from the ground surface until refusal on the apparent bedrock surface using direct-push technology. Soil cores were collected

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continuously at five foot intervals with the bedrock surface encountered at depths between 19 and 24 feet bgs. Soil cores were screened using a PID with and readings indicative of possible subsurface impact were not observed. Soil cores were not collected from BR-2, BR-4A, BR-5A, BR-6 and BR-7 since a soil boring or a boring completed as an overburden well was performed adjacent to the bedrock well. The soil boring logs which include the soil profile and results of the PID screening are included in **Appendix A**.

For all nine bedrock wells, four inch steel casing was installed from the ground surface to the top of the bedrock surface. For BR-1, a four inch core barrel was used to core 14 feet into bedrock. The bedrock consisted of highly fractured shale with traces of silt and clay. For BR-2, an air hammer was used to penetrate approximately 15 into the bedrock and for BR-3 through BR-5 a roller-bit was used to penetrate approximately 15 into the bedrock. Bedrock wells BR-1 through BR-5 were installed with 10 feet of 0.010 inch slot, two inch diameter PVC set at the bottom of the borehole. Solid PVC riser was installed to the ground surface. The wells were constructed with appropriate sand pack and seal and a protective roadbox or standpipe. A rock coring log for BR-1 and monitoring well construction diagrams are included in **Appendix A**.

For bedrock wells BR-4A, BR-5A, BR-6 and BR-7, an air hammer was used to penetrate the bedrock. A water bearing fracture was encountered in BR-4A at a depth of approximately 46 feet and the borehole was advanced to a total depth of 68 feet. For well BR-5A, a water bearing fracture was encountered in BR-5A at a depth of approximately 55 feet and the borehole was advanced to a total depth of 70 feet. For well BR-6, an apparent water bearing fracture was encountered at a depth of approximately 65 feet and the borehole was advanced to a total depth of 78.5 feet. For well BR-7, a water bearing fracture was encountered at a depth of approximately 52 feet and the borehole was advanced to a total depth of 60.5 feet. Both wells were installed with a 0.010-inch slotted screen consisting of two inch diameter PVC set at the bottom of the borehole with a solid PVC riser installed to the ground surface. A 30 foot well screen was installed in BR-4A and 20 foot well screens were installed in BR-5A, BR-6 and BR-7. The wells were constructed with appropriate sand pack and seal and a protective roadbox or standpipe. Monitoring well construction diagrams are included in **Appendix A**.

2.1.6 Groundwater Well Development

The newly installed overburden and bedrock wells were developed in accordance with the Sampling and Analysis Plan (KEMRON, 2005b). The wells were developed using a surge block and submersible pump. A low recharge rate was noted in both the overburden and bedrock with many of the wells pumping dry during development. The low volume of water within bedrock wells BR-1, BR-3, BR-4 and BR-5 would not allow for complete well development. Well development records are included in **Appendix A**.

2.1.7 Groundwater Sampling

In November 2006 all existing in service (M1, M3, M6, M7, M8, M9, M10, M11, M12 and M13) and newly installed wells (MW-14, MW-15, MW-16, BR-1, BR-2, BR-3 and BR-4), were sampled in accordance with the Sampling and Analysis Plan (KEMRON, 2005b). All wells were sampled using low-flow sampling protocols except for select bedrock wells. Bedrock wells BR-1, BR-3 and BR-4 did not obtain a volume of groundwater or recharge at a rate which allow for low-flow sampling. For these three bedrock wells, the standing water was removed from the well and well was allowed to recharge prior to sample collection. Samples were collected from the well using a disposable bailer. BR-5 did not contain enough groundwater for a sample to be collected. Samples from all overburden wells were collected and submitted for VOCs and ETPH. Groundwater samples from the bedrock wells were

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collected and submitted for VOCs. The groundwater samples were submitted to KEMRON for analysis. Groundwater sample field data records are included in **Appendix A**.

In March 2007 newly installed wells (MW-17, MW-18, BR-4A, and BR-5A) were sampled along with existing wells M8 and MW-16. The wells were also sampled in accordance with the Sampling and Analysis Plan (KEMRON, 2005b) and were sampled using low stress (low-flow) sampling protocols. Well MW-19 was dry and could not be sampled. Samples from the wells were collected and submitted to KEMRON for analysis of VOCs. Groundwater sample field data records are included in **Appendix A**.

In October 2007, the newly installed wells (MW-20, MW-21, BR-6, and BR-7) were sampled. These wells were sampled in accordance with the Sampling and Analysis Plan (KEMRON, 2005b) using low stress (low-flow) sampling protocols. Monitoring wells MW-19 and BR-4 were proposed to be sampled as part of this event; however, less than a foot of standing water was present in each and therefore the wells were not sampled. Collected samples were submitted to KEMRON for analysis of VOCs. Groundwater sample field data records are included in **Appendix A**.

2.1.8 Land Survey

All boring locations, newly installed wells and existing groundwater monitoring wells were surveyed by a CT licensed surveyor (Fuss and O'Neill of Manchester, CT). The boring locations and wells were surveyed for horizontal placement and CT state plane coordinates were determined. The elevation above mean sea level was determined for the top of casing on the newly installed and existing monitoring wells to an accuracy of 0.01 feet. The information collected from the survey was using to create groundwater contour maps and developed geologic cross-sections to better understand the surficial geology and hydrogeology of the site.

The wells installed in March and October 2007 were surveyed into the existing network using a survey transit and rod.

2.2 RI Results

The RI was conducted to evaluate potential sources of the TCE impact noted in groundwater in M8 and to attempt to delineate the extent of the TCE in groundwater. ETPH has also been detected in groundwater in M8.

Because the Site is located in an area with a GA groundwater classification, soil analytical results presented herein are evaluated against the RSR criteria applicable to GA areas. The analytical results are also being compared to both the residential and commercial/industrial criteria since the site is used for commercial uses but located in a predominately residential area. For soils, this includes the GA PMC, the Residential Direct Exposure Criteria (R DEC) and the Industrial/Commercial Direct Exposure Criteria (I/C DEC). Analytical results for groundwater are evaluated against the Federal MCLs.

The laboratory results were reviewed and validated in accordance with the Quality Assurance Project Plan (QAPP) (Kemron, 2005a). Copies of the validation reports are included in **Appendix B** and the laboratory reports are included in **Appendix C**.

2.2.1 Soil Sample Results

Soil samples were collected from the each of the direct-push soil borings (SB-1 through SB-10) and from MW-17. The soil samples from SB-1 through SB-5 were collected from the vicinity of M8. The soil

Data contained on this sheet shall not be disclosed without prior approval from KEMRON Environmental Services, Inc. (Proprietary)

samples from SB-6 through SB-9 were collected from the vicinity of the Former Maintenance/Missile Test and Assembly Building and the catch basin located adjacent to the former building. The soil sample from SB-10 was located adjacent to the Former Garage/Warhead Building and the Former Acid Neutralization Pit within the former building. The soil sample from MW-17 was located at the base of the outfall connected to the catch basin located adjacent to the Former Maintenance/Missile Test and Assembly Building. One soil sample was collected from each boring (SB-1 through SB-10) and analyzed for VOCs and ETPH. The soil sample from MW-17 was analyzed for VOCs.

The results of the soil samples analysis are presented in **Table 2-1**. The table includes only those analytes that were detected. TCE was detected in the soil samples from SB-2 through SB-5 but at concentrations well below applicable RSR criteria. The highest concentration of TCE was detected at a concentration of 12.5 micrograms per kilogram (ug/kg) which is well below the most stringent RSR criteria for this compound (GA PMC) of 100 ug/kg. Acetone and methylene chloride were also detected in select soil samples at trace concentrations; as discussed in the validation report in **Appendix B**, these analytes are typically attributable to laboratory contamination.

ETPH was detected in the soil samples from SB-9 and SB-10 but at concentrations well below RSR criteria.

2.2.2 Groundwater Sample Results

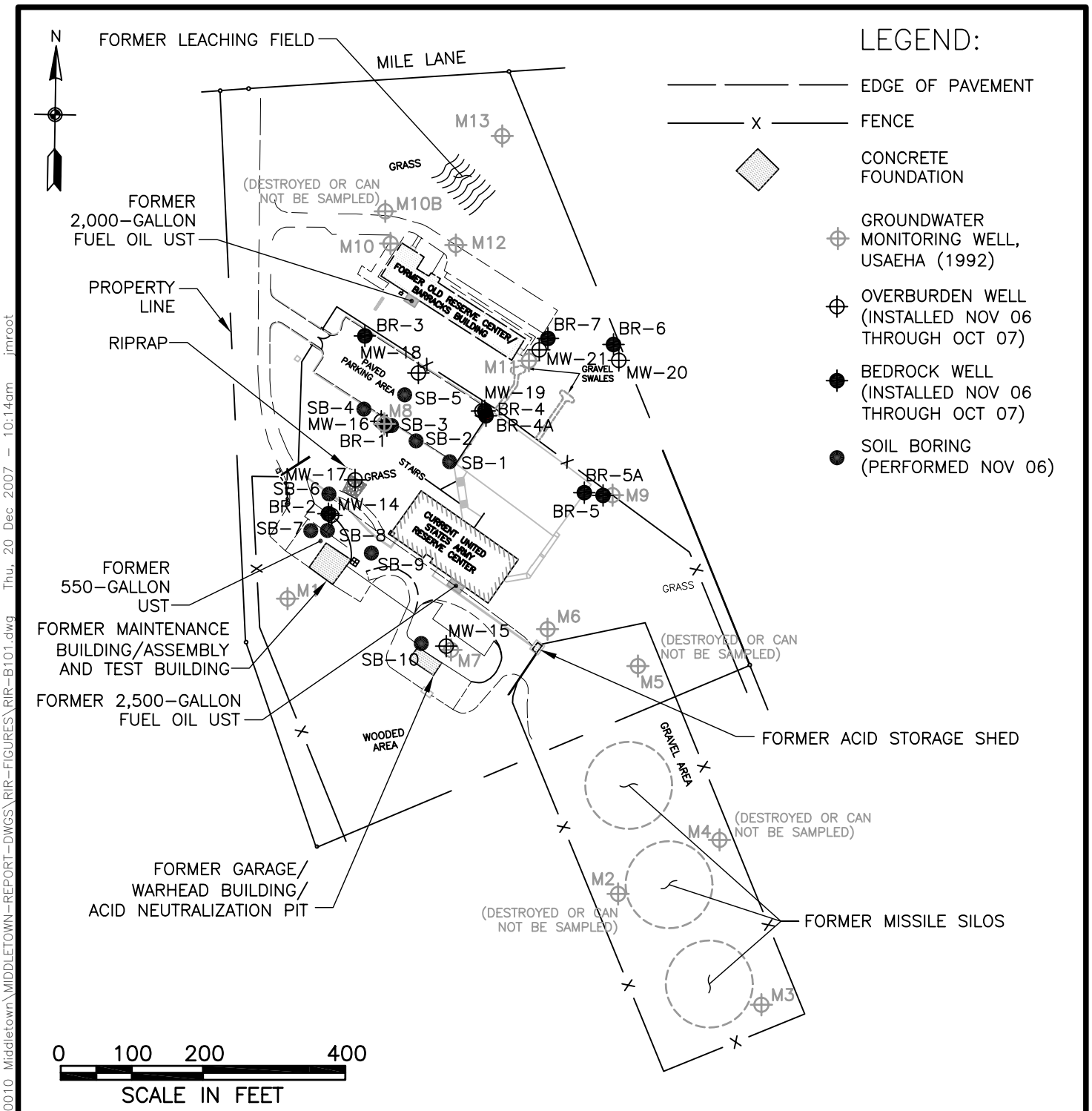
Groundwater samples were collected in November 2006 from the ten existing wells (M1, M3, M6, M7, M8, M9, M10, M11, M12 and M13), three of the newly installed overburden wells (MW-14, MW-15 and MW-16) and from four of the newly installed bedrock wells (BR-1, BR-2, BR-3 and BR-4). Samples from the nine overburden wells (M8, M9, M10, M11, M12, M13, MW-14, MW-15 and MW-16) were analyzed for both VOCs and ETPH. Samples from the nine bedrock wells (M1, M3, M6, M7, BR-1, BR-2, BR-3 and BR-4) were analyzed for VOCs only.

Groundwater samples were collected in March 2007 from wells M8, MW-16, MW-17, MW-18, BR-4A and BR-5A and groundwater samples were collected in October 2007 from wells MW-20, MW-21, BR-6 and BR-7. All of the samples were analyzed for VOCs only.

The results of the groundwater sample analysis are presented in **Table 2-2**. The table includes only those analytes that were detected. TCE was detected in the groundwater samples from M8, MW-16 and BR-4 at concentrations above the MCL. TCE was also detected in MW-18 and BR-1 but at concentrations below the MCL. Estimated concentrations (below the laboratories reporting limit) of TCE were also detected in M6, MW-14, MW-17, and BR-4A. Carbon tetrachloride was detected in M1 at a concentration above the MCL. Carbon tetrachloride was also detected in M8 and MW-16 but at a concentration below the MCL. Other select VOCs were detected at trace concentrations in select wells but at concentrations well below the MCLs.

ETPH was not detected in any of the groundwater samples except for MW-16. An estimated concentration of 178 mg/l was reported but appears to be a false positive. The false positive result is discussed further in the data validation report in **Appendix B**.

Data contained on this sheet shall not be disclosed without prior approval from KEMRON Environmental Services, Inc. (Proprietary)



DRAWING REFERENCE: PLAN PREPARED BY THE DEPARTMENT OF THE ARMY, ENTITLED "150 MEMBER UNITED STATES ARMY RESERVE MIDDLETOWN, CT; SITE LAYOUT PLAN" DATED 31 OCT 1984, ORIGINAL SCALE: 1"=40'.

ENVIRONMENTAL INVESTIGATION PERFORMED IN SUPPORT OF CLOSURE OF DSERTS SITE 08 "GROUNDWATER" UNDER CONTRACT NO. W911SO-04-F0017.

Prepared/Date: JBC 04/20/07
Checked/Date: JRY 04/20/07

94th Regional Readiness Command US Army Reserve Center Middletown, Connecticut	Kemron ENVIRONMENTAL SERVICES / MACTEC	EXPLORATION LOCATIONS Project 3618-04-8110 Figure 2-1

M:\Projects\KEMRON USARC\KEMRON USARC\0010 Middletown\MIDDLETOWN-REPORT-DWGS\RIR-FIGURES\RIR-B101.dwg Thu, 20 Dec 2007 - 10:14am jmroot

Table 2-1
Summary of Soil Analytical Results
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

			Sample Location:	**SB-1**		**SB-2**		**SB-3**		**SB-4**		**SB-4**		**SB-5**		**SB-6**		**SB-7**		**SB-8**		**SB-9**		**SB-10**		**MW-17**	
			Sample Identification:	**CT08-SBS0113**		**CT08-SBS0207**		**CT08-SBS0308**		**CT08-SBS0408**		**CT08-SBD0408**		**CT08-SBS0508**		**CT08-SBS0603**		**CT08-SBS0707**		**CT08-SBS0807**		**CT08-SBS0905**		**CT08-SBS1008**		**CT08-MWS1706**	
			Sample Date:	**11/07/06**		**11/07/06**		**11/07/06**		**11/07/06**		**11/07/06**		**11/07/06**		**11/07/06**		**11/09/06**		**11/09/06**		**11/09/06**		**11/09/06**		**03/05/07**	
			Sample Depth:	**13'**		**7'**		**8'**		**8'**		**8'**		**8'**		**3'**		**7'**		**7'**		**5'**		**8'**		**6'**	
	CTDEP RSR Criteria																										
	GA PMC[1]	**R DEC[2]**	**I/C DEC[3]**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
ETPH (mg/kg)	**500**	**500**	**2,500**	11.50	U	11.4	U	11.5	U	12	U	11.7	U	11.9	U	11.3	U	12.2	U	11.6	U	11.2	J	10.8	J	--	
VOCs by EPA Method 8260B (ug/kg)																											
Acetone	**14,000**	**500,000**	**1,000,000**	13.2	U	12.4	J	13.9	J	8.41	J	13.1	U	12.6	UJ	12.6	J	11.7	U	10.7	U	11.3	U	11.9	U	38.9	
Methylene Chloride	**100**	**82,000**	**760,000**	6.6	U	1.45	J	2.54	J	5.49	U	6.54	U	1.90	J	5.4	U	5.87	U	5.37	U	5.67	U	5.95	U	4.87	U
Trichloroethene	**100**	**56,000**	**520,000**	6.6	U	8.61		12.5		6.56		6.78		10.2		5.4	U	3.32	J	5.37	U	5.67	U	5.95	U	4.87	U

Notes:
ETPH = Extractable Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
U = compound was not detected at concentrations greater than the associated quantitation limit
J = reported concentration is considered an estimated value
(1) GA PMC - Pollutant Mobility Criteria for Soil in GA Classified Areas (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(2) R DEC - Residential Direct Exposure Criteria for Soil (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
(3) I/C DEC - Industrial/Commercial Direct Exposure Criteria for Soil (Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies).
Bold = Quantitation limit above RSR value
Shaded and **Bold** indicates exceedences of RSR criteria

Table 2-2
Summary of Groundwater Analytical Results
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

	Sample Location:	**M1**		**M3**		**M6**		**M7**		**M8**	
	Sample Identification:	**MWS0103**		**MWS0303**		**MWS0603**		**MWS0703**		**MWS0803**	
	Sample Date:	**ll/28/06**		**ll/28/06**		**ll/29/06**		**ll/28/06**		**ll/27/06**	
	Groundwater Depth:	**12.11 ft**		**20.53 ft**		**15.97 ft**		**15.84 ft**		**4.40 ft**	
	MCL	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
ETPH (ug/l)	**--**	--		--		--		--		102	U
VOCs by EPA Method 8260B (ug/l)											
Acetone	**--**		R		R		R		R		R
2-Butanone	**--**		R		R		R		R		R
Carbon disulfide	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Carbon tetrachloride	**5**	**6.36**		1.00	U	1.00	U	1.00	U	3.87	
Chloroform	**--**	0.615	J	1.00	U	1.00	U	1.00	U	1.55	
Chloromethane	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
cis-1,2-Dichloroethene	**70**	1.00	U	1.00	U	0.816	J	1.00	U	1.00	U
trans-1,2-Dichloroethene	**100**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Ethylbenzene	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Methylene chloride	**--**	5.00	U	5.00	U	0.888	J	5.00	U	5.00	U
Methyl tert butyl ether	**--**	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
Toluene	**1,000**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
1,1,1-Trichloroethane	**200**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Trichloroethene	**5**	1.00	U	1.00	U	0.255	J	1.00	U	**35.5**	
1,3,5-Trimethylbenzene	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U

Notes:
ETPH = Extractable Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
ug/l = micrograms per liter
U = compound was not detected at concentrations greater than the associated quantitation limit
J = reported concentration is considered an estimated value
R = result rejected
MCL = Maximum Contaminant Level
Bold = Quantitation limit above MCL
Shaded and **Bold** indicates exceedences of MCL

Table 2-2
Summary of Groundwater Analytical Results
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

	Sample Location:	**M8**		**M8**		**M9**		**M10**		**M11**	
	Sample Identification:	**CT08-MWSM804**		**CT08-MWDM804**		**MWS0903**		**MWS1003**		**MWS1103**	
	Sample Date:	**03/12/07**		**03/12/07**		**11/29/06**		**11/27/06**		**11/27/06**	
	Groundwater Depth:	**8.22 ft**		**8.22 ft**		**7.22 ft**		**16.99 ft**		**5.85 ft**	
	MCL	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
ETPH (ug/l)	**--**	102	U	102	U	100	U	100	U	100	U
VOCs by EPA Method 8260B (ug/l)											
Acetone	**--**		R		R		R		R		R
2-Butanone	**--**	10.0	U	10.0	U		R		R		R
Carbon disulfide	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Carbon tetrachloride	**5**	3.61		3.56		1.00	U	1.00	U	1.00	U
Chloroform	**--**	1.49	J	1.00	UJ	1.00	U	1.00	U	1.00	U
Chloromethane	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
cis-1,2-Dichloroethene	**70**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
trans-1,2-Dichloroethene	**100**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Ethylbenzene	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Methylene chloride	**--**	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
Methyl tert butyl ether	**--**	0.619	J	0.619	J	5.00	U	5.00	U	5.00	U
Toluene	**1,000**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
1,1,1-Trichloroethane	**200**	0.290	J	0.280	J	1.00	U	1.00	U	1.00	U
Trichloroethene	**5**	**28.2**		**27.7**		1.00	U	1.00	U	1.00	U
1,3,5-Trimethylbenzene	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U

Notes:
ETPH = Extractable Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
ug/l = micrograms per liter
U = compound was not detected at concentrations greater than the associated quantitation limit
J = reported concentration is considered an estimated value
R = result rejected
MCL = Maximum Contaminant Level
Bold = Quantitation limit above MCL
Shaded and **Bold** indicates exceedences of MCL

Table 2-2
Summary of Groundwater Analytical Results
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

	Sample Location:	**M12**		**M13**		**MW-14**		**MW-15**		**MW-16**	
	Sample Identification:	**MWS1203**		**MWS1303**		**MWS1403**		**MWS1503**		**MWS1603**	
	Sample Date:	**11/27/06**		**11/29/06**		**11/28/06**		**11/28/06**		**11/27/06**	
	Groundwater Depth:	**14.92 ft**		**5.84 ft**		**7.55 ft**		**7.88 ft**		**4.35 ft**	
	MCL	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
ETPH (ug/l)	**--**	100	U	104	UJ	100	U	100	U	178	NJ
VOCs by EPA Method 8260B (ug/l)											
Acetone	**--**		R		R		R		R		R
2-Butanone	**--**		R		R		R		R		R
Carbon disulfide	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Carbon tetrachloride	**5**	1.00	U	1.00	U	0.742	J	1.00	U	4.05	
Chloroform	**--**	1.00	U	1.00	U	0.341	J	1.00	U	1.62	
Chloromethane	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
cis-1,2-Dichloroethene	**70**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
trans-1,2-Dichloroethene	**100**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Ethylbenzene	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Methylene chloride	**--**	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
Methyl tert butyl ether	**--**	5.00	U	5.00	U	5.00	U	5.00	U	0.656	J
Toluene	**1,000**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
1,1,1-Trichloroethane	**200**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Trichloroethene	**5**	1.00	U	1.00	U	0.291	J	1.00	U	**32.4**	
1,3,5-Trimethylbenzene	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U

Notes:
ETPH = Extractable Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
ug/l = micrograms per liter
U = compound was not detected at concentrations greater than the associated quantitation limit
J = reported concentration is considered an estimated value
R = result rejected
MCL = Maximum Contaminant Level
Bold = Quantitation limit above MCL
Shaded and **Bold** indicates exceedences of MCL

Table 2-2
Summary of Groundwater Analytical Results
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

	Sample Location:	**MW-16**		**MW-16**		**MW-17**		**MW-18**		**MW-20**	
	Sample Identification:	**MWD1603**		**CT08-MWS1604**		**CT08-MWS1704**		**CT08-MWS1804**		**CT08-MWS2005**	
	Sample Date:	**11/27/06**		**03/12/07**		**03/12/07**		**03/12/07**		**10/29/07**	
	Groundwater Depth:	**4.35 ft**		**7.24 ft**		**6.45 ft**		**9.69 ft**		**20.09**	
	MCL	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
ETPH (ug/l)	**--**	100	U	--		--		--		--	
VOCs by EPA Method 8260B (ug/l)											
Acetone	**--**		R		R		R		R		R
2-Butanone	**--**		R	10.0	U	10.0	U	10.0	U	10.0	U
Carbon disulfide	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.58	
Carbon tetrachloride	**5**	3.94		3.92		1.00	U	0.910	J	1.00	U
Chloroform	**--**	1.68		1.63		0.724	J	0.297	J	1.00	U
Chloromethane	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
cis-1,2-Dichloroethene	**70**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
trans-1,2-Dichloroethene	**100**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Ethylbenzene	**--**	1.00	U	1.00	U	1.00	U	0.532	J	1.00	U
Methylene chloride	**--**	5.00	U	5.00	U	5.00	U	5.00	U	5.00	UJ
Methyl tert butyl ether	**--**	0.671	J	0.578	J	5.00	U	5.00	U	5.00	U
Toluene	**1,000**	1.00	U	1.00	U	1.00	U	0.361	J	1.00	U
1,1,1-Trichloroethane	**200**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Trichloroethene	**5**	**31.9**		**25.1**		0.343	J	3.59		1.00	U
1,3,5-Trimethylbenzene	**--**	1.00	U	1.00	U	1.00	U	0.268	J	1.00	U

Notes:
ETPH = Extractable Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
ug/l = micrograms per liter
U = compound was not detected at concentrations greater than the associated quantitation limit
J = reported concentration is considered an estimated value
R = result rejected
MCL = Maximum Contaminant Level
Bold = Quantitation limit above MCL
Shaded and **Bold** indicates exceedences of MCL

Table 2-2
Summary of Groundwater Analytical Results
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

	Sample Location:	**MW-21**		**BR-1**		**BR-2**		**BR-3**		**BR-4**	
	Sample Identification:	**CT08-MWS2105**		**BRS0103**		**BRS0203**		**BRS0303**		**BRS0403**	
	Sample Date:	**10/29/07**		**12/01/06**		**11/28/06**		**11/29/06**		**11/29/06**	
	Groundwater Depth:	**14.11**		**39.68 ft**		**14.60 ft**		**33.18 ft**		**34.09 ft**	
	MCL	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
ETPH (ug/l)	**--**	--		--		--		--		--	
VOCs by EPA Method 8260B (ug/l)											
Acetone	**--**		R		R		R	88.3	J	37.9	J
2-Butanone	**--**	10.0	U		R	10.0	U	12.3			R
Carbon disulfide	**--**	2.29		1.00	U	1.02		1.20		0.695	J
Carbon tetrachloride	**5**	1.00	U	0.673	J	1.00	U	1.00	U	1.00	U
Chloroform	**--**	1.00	U	1.52		1.00	U	4.58		1.00	U
Chloromethane	**--**	1.00	U	1.00	U	1.00	U	1.00	U	0.604	J
cis-1,2-Dichloroethene	**70**	1.00	U	0.664	J	1.00	U	1.00	U	1.67	
trans-1,2-Dichloroethene	**100**	1.00	U	10.6		1.00	U	1.00	U	1.00	U
Ethylbenzene	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Methylene chloride	**--**	5.00	UJ	5.00	U	5.00	U	5.00	U	5.00	U
Methyl tert butyl ether	**--**	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
Toluene	**1,000**	1.00	U	1.00	U	1.00	U	0.345	J	1.00	U
1,1,1-Trichloroethane	**200**	1.00	U	1.00	U	1.00	U	1.00	U	1.62	
Trichloroethene	**5**	1.00	U	2.09		1.00	U	1.00	U	**38.5**	
1,3,5-Trimethylbenzene	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U

Notes:
ETPH = Extractable Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
ug/l = micrograms per liter
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J = reported concentration is considered an estimated value
R = result rejected
MCL = Maximum Contaminant Level
Bold = Quantitation limit above MCL
Shaded and **Bold** indicates exceedences of MCL

Table 2-2
Summary of Groundwater Analytical Results
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

	Sample Location:	**BR-4A**		**BR-5A**		**BR-6**		**BR-6**		**BR-7**	
	Sample Identification:	**CT08-BRS4A04**		**CT08-BRS5A04**		**CT08-BRS0605**		**CT08-BRD0605**		**CT08-BRS0705**	
	Sample Date:	**03/12/07**		**03/13/07**		**10/29/07**		**10/29/07**		**10/29/07**	
	Groundwater Depth:	**45.61 ft**		**47.71 ft**		**32.05**		**32.05**		**37.14**	
	MCL	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
ETPH (ug/l)	**--**	--		--		--		--		--	
VOCs by EPA Method 8260B (ug/l)											
Acetone	**--**		R		R		R		R		R
2-Butanone	**--**	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Carbon disulfide	**--**	1.18	U	1.00	U	1	U	1	U	1	U
Carbon tetrachloride	**5**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Chloroform	**--**	0.947	J	0.251	J	1.00	U	1.00	U	1.00	U
Chloromethane	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
cis-1,2-Dichloroethene	**70**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
trans-1,2-Dichloroethene	**100**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Ethylbenzene	**--**	0.456	J	1.00	U	1.00	U	1.00	U	1.00	U
Methylene chloride	**--**	5.00	U	5.00	U	5.00	UJ	5.00	UJ	5.00	UJ
Methyl tert butyl ether	**--**	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
Toluene	**1,000**	0.261	J	1.00	U	1.00	U	1.00	U	1.00	U
1,1,1-Trichloroethane	**200**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Trichloroethene	**5**	0.340	J	1.00	U	1.00	U	1.00	U	1.00	U
1,3,5-Trimethylbenzene	**--**	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U

Notes:
ETPH = Extractable Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
ug/l = micrograms per liter
U = compound was not detected at concentrations greater than the associated quantitation limit
J = reported concentration is considered an estimated value
R = result rejected
MCL = Maximum Contaminant Level
Bold = Quantitation limit above MCL
Shaded and **Bold** indicates exceedences of MCL

Section 3.0 Data Interpretation

The explorations conducted as part of this RI along with historic subsurface investigation provide an increased understanding of the subsurface geology and hydrogeology at the site. The combination of soil and groundwater data collected during this RI along with historic data and an improved understanding of subsurface conditions completes the delineation of the groundwater contamination, as described in this Section.

3.1 Geologic and Hydrogeologic Conditions

The explorations conducted during this RI confirm that the overburden consists of a poorly sorted mixture of sand, silt and clay with some cobbles/gravel. The RI provided a more accurate determination of the thickness of the overburden and depth to bedrock than what was previously understood. Geologic cross-sections were developed using the subsurface data and are presented as **Figures 3-1** through **3-5**. The data collected from this RI was also used to verify whether certain existing wells were screened in overburden or bedrock. The thickness of the overburden on-site varies from 18.5 to 25 feet bgs.

Groundwater monitoring wells BR-1, BR-3, BR-4 and BR-5 were installed to depths of approximately 35 feet within bedrock in November 2006. The bedrock observed in these borings was moderately fractured. After installation, the saturated thickness within the screened sections was limited to several feet and the wells provided only limited quantities of groundwater and were slow to recharge after sampling. Supplemental bedrock groundwater monitoring wells BR-4A and BR-5A were installed in March 2007 and BR-6 and BR-7 were installed in October 2007 to provide additional and more representative samples of bedrock groundwater. These wells were advanced deeper into the bedrock. Water bearing fractures were observed in the supplemental bedrock wells at depths between 46 and 65 feet. Based on the bedrock potentiometric surface observed in the supplemental bedrock wells it does not appear that the water within wells BR-1, BR-3, BR-4 and BR-5 is representative of the bedrock aquifer. Because a very limited quantity of groundwater is present in these shallow bedrock wells, there appears to be limited connection between the overburden groundwater and the bedrock aquifer.

An interpretation of the overburden groundwater flow direction was developed using the data collected as part of this RI along with previous investigations. Overburden groundwater flow direction was interpreted using groundwater level measurements from the overburden wells during the November 2006 and March and October 2007 sampling events. **Figures 3-6, 3-7** and **3-8** present these interpreted groundwater contours. Based on these groundwater contours, site overburden groundwater flows to the northeast. Monitoring well MW-21 groundwater elevation data was not used for contouring because the measured water level does not appear representative of the groundwater surface compared to groundwater levels observed in surrounding wells during the November 2007 sampling event and compared to groundwater contouring from prior sampling events completed in November 2006 and March 2007. Groundwater well details are included in **Table 3-1**.

Potentiometric bedrock contours were developed using measurement data from the confirmed bedrock aquifer wells (M1, M3, M6, M7, BR-2, BR-4A, BR-5A, BR-6 and BR-7). The interpreted contours were developed using groundwater level measurements recorded during the March and October 2007 sampling events. **Figures 3-9** and **3-10** present the contours and indicate that the bedrock groundwater flow direction across the site is also to the northeast.

Data contained on this sheet shall not be disclosed without prior approval from KEMRON Environmental Services, Inc. (Proprietary)

3.2 Nature and Distribution of Contamination

TCE has been detected historically and recently at an approximate concentration of 30 ug/l in groundwater samples collected from overburden monitoring wells M8 and MW-16. TCE has also been detected at an approximate concentration of 3.5 ug/l in groundwater samples collected from overburden monitoring well MW-18. MW-18 is located directly downgradient of monitoring wells M8/MW-16. TCE has not been detected in groundwater collected from overburden monitoring wells located further downgradient and crossgradient (M9, M10, M11, M12, M13, MW-20 and MW-21) indicating that the horizontal extent of groundwater contamination is limited and that downgradient extent has been bounded. These well locations and screened intervals are appropriately located as downgradient monitoring points based upon interpreted direction of groundwater flow and screen elevations.

TCE was detected at a concentration of 2.09 ug/L in groundwater from BR-1 in November 2006. TCE was also detected at an estimated concentration of 0.34J ug/L (below the laboratory reporting limit) in bedrock groundwater from monitoring well BR-4A. TCE was not detected in bedrock groundwater from monitoring wells BR-5A, BR-6 and BR-7. Based on this data, the bedrock impacts are extremely limited and at concentrations below the MCL of 5 ug/L for TCE. In general, a small plume of TCE impacted groundwater is located within the overburden aquifer and appears to extend from the M8/MW-16 area to the northeast just beyond MW-18. The interpreted extent of the plume is shown in section parallel to the direction of groundwater flow on cross-section A-A' (Figure 3-2).

TCE was detected at a concentration of 38.5 ug/L in groundwater from BR-4 in November 2006. Based on the potentiometric groundwater surface observed in adjacent bedrock well BR-4A and lack of recharge in BR-4, the sample collected from BR-4 does not appear representative of bedrock groundwater and may be more representative of overburden groundwater percolating downward (recharging) to the bedrock water table. TCE has not been detected in overburden wells (M11, MW-20 and MW-21) located downgradient of BR-4; therefore if the detected TCE concentration in BR-4 is representative of overburden groundwater quality, then the downgradient TCE extent in Site-08 groundwater terminates between BR-4 and MW-11.

Carbon tetrachloride was detected in November 2006 in MW-1 at a concentration of 6.36 ug/L which is above its MCL. MW-1 is a background well which is not located near an AOC and therefore the source of the carbon tetrachloride is unknown.

3.3 Contaminant Fate and Transport

The presumed timing of the release of TCE into the environment was during NIKE operation some time in the mid-1950's to mid-1960s. The low dissolved concentrations of TCE in the overburden groundwater, and the limited downgradient extent suggest that residual TCE mass in the aquifer would by now be largely retained as sorbed and diffused TCE within the aquifer matrix. The TCE in overburden groundwater is not co-located with cis-1,2 DCE, which suggests that attenuation by sequential dechlorination is not actively occurring. Downgradient concentrations are approximately one order of magnitude lower than highest upgradient TCE concentrations and are within the range expected by attenuation from advection, dispersion and dilution. As solutes travel through the aquifer they will be sorbed (and desorbed) from the aquifer matrix resulting in additional attenuation of dissolved concentrations of TCE downgradient groundwater.

The groundwater plume is expected to remain stable in this configuration with no further downgradient migration. With time, the plume will be expected to shrink as dissolved TCE concentrations are reduced by advective dispersion and chemical diffusion.

Data contained on this sheet shall not be disclosed without prior approval from KEMRON Environmental Services, Inc. (Proprietary)

The bedrock wells are appropriately located to intercept contamination entering the bedrock groundwater system by recharge from overburden groundwater. The low concentrations of TCE detected in bedrock groundwater beneath the overburden groundwater plume indicate that bedrock aquifer experiences an appreciable mixing factor with overburden groundwater that recharges underlying bedrock groundwater.

Based on these observations, existing distribution and concentrations of dissolved TCE in overburden and bedrock groundwater, the TCE plume has not, and is not, expected to migrate to or beyond the site boundary, and as a result of data interpretation the nature and extent of groundwater contamination has been appropriately delineated.

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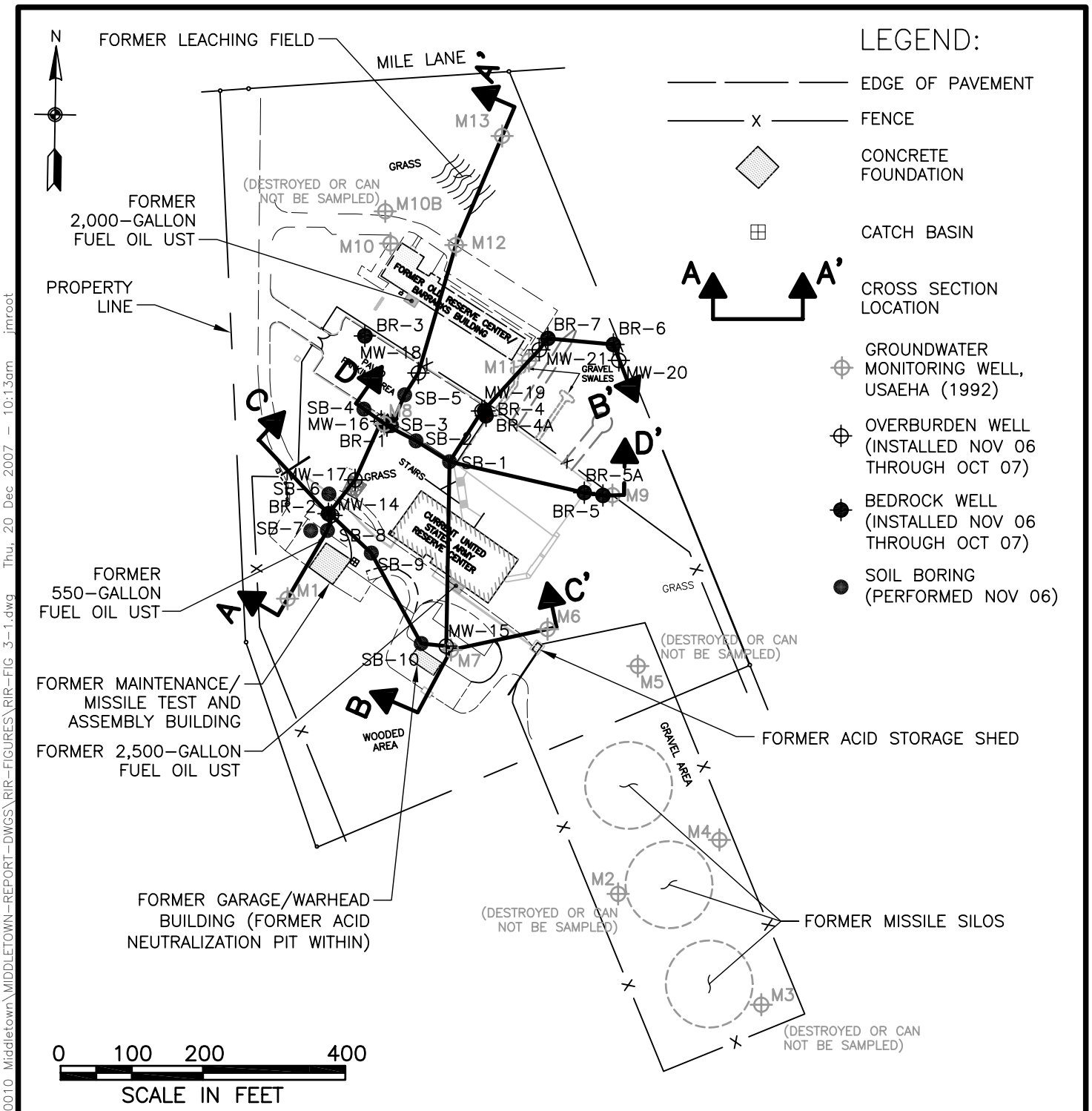

DRAWING REFERENCE: PLAN PREPARED BY THE DEPARTMENT OF THE ARMY, ENTITLED "150 MEMBER UNITED STATES ARMY RESERVE MIDDLETOWN, CT; SITE LAYOUT PLAN" DATED 31 OCT 1984, ORIGINAL SCALE: 1"=40'.

ENVIRONMENTAL INVESTIGATION PERFORMED IN SUPPORT OF CLOSURE OF DSERTS SITE 08 "GROUNDWATER" UNDER CONTRACT NO. W911SO-04-F0017.

Prepared/Date: JBC 05/07/07
Checked/Date: JRY 05/07/07

94th Regional Readiness Command US Army Reserve Center Middletown, Connecticut	Kemron ENVIRONMENTAL SERVICES / MACTEC	Cross Section Locations Project 3618-04-8110 Figure 3-1

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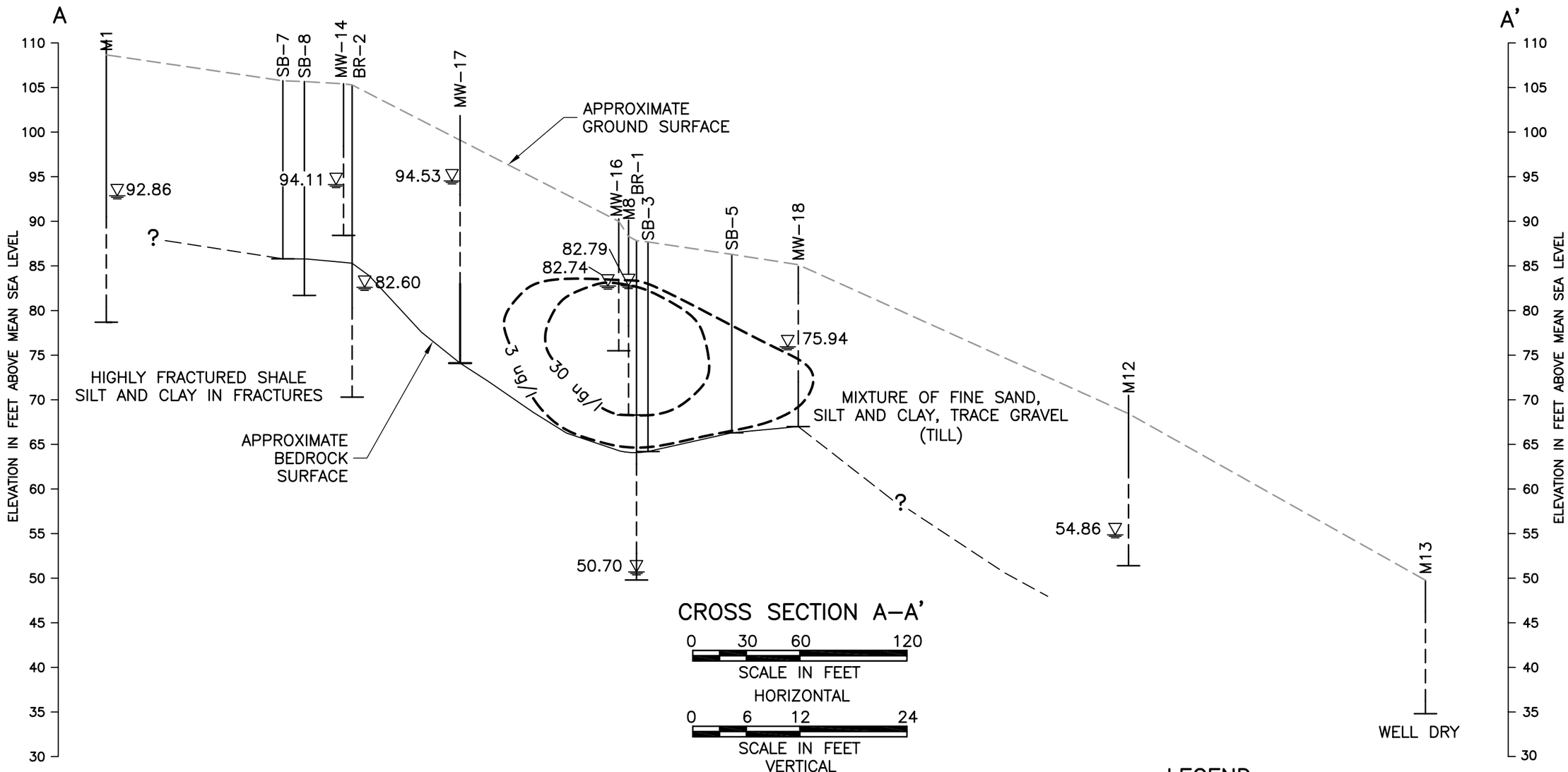

CROSS SECTIONS DEVELOPED FROM INFORMATION PROVIDED IN GEOHYDROLOGIC STUDY NO. 38–26–KL46–92, SITE INVESTIGATION, U.S. ARMY RESERVE CENTER – MIDDLETOWN, MIDDLETOWN, CONNECTICUT, 1–12 JUNE 1992; U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY

GROUNDWATER MEASUREMENTS TAKEN ON 10/29/07.

ISOPLETHS INDICATE INTERPRETED TCE CONCENTRATIONS.

LEGEND

45.45 ▽ GROUNDWATER ELEVATION

WELL SCREEN

Prepared/Date: DEL 05/17/07
Checked/Date: JRY 05/17/07

KEMRON ENVIRONMENTAL SERVICES

94th Regional Readiness Command
US Army Reserve Center
Middletown, Connecticut

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Cross Section A-A'

Project 3618-04-8110
Figure 3-2

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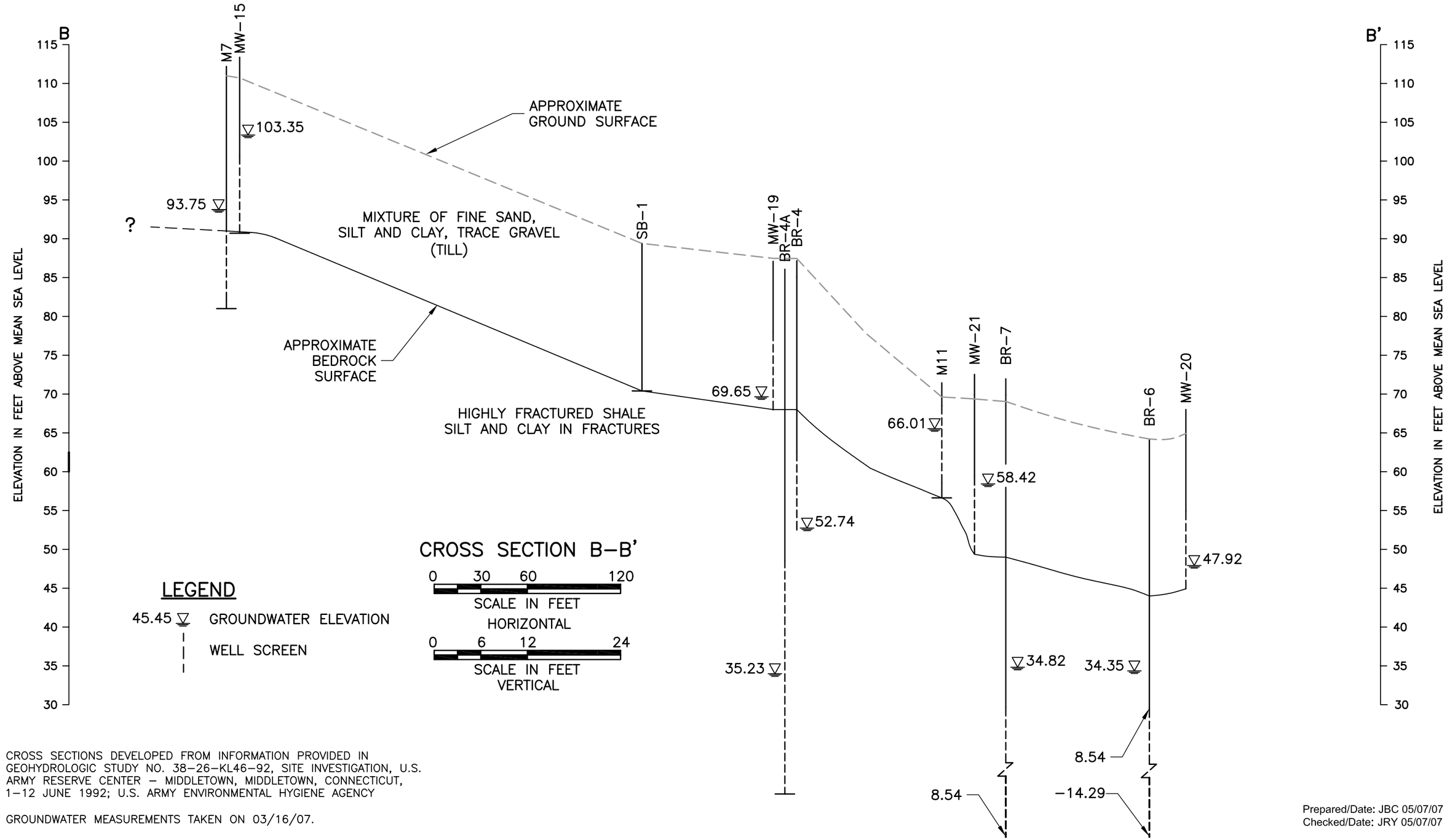

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GROUNDWATER MEASUREMENTS TAKEN ON 03/16/07.

Prepared/Date: JBC 05/07/07
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94th Regional Readiness Command
US Army Reserve Center
Middletown, Connecticut

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Cross Section B-B'

Project 3618-04-8110
Figure 3-3

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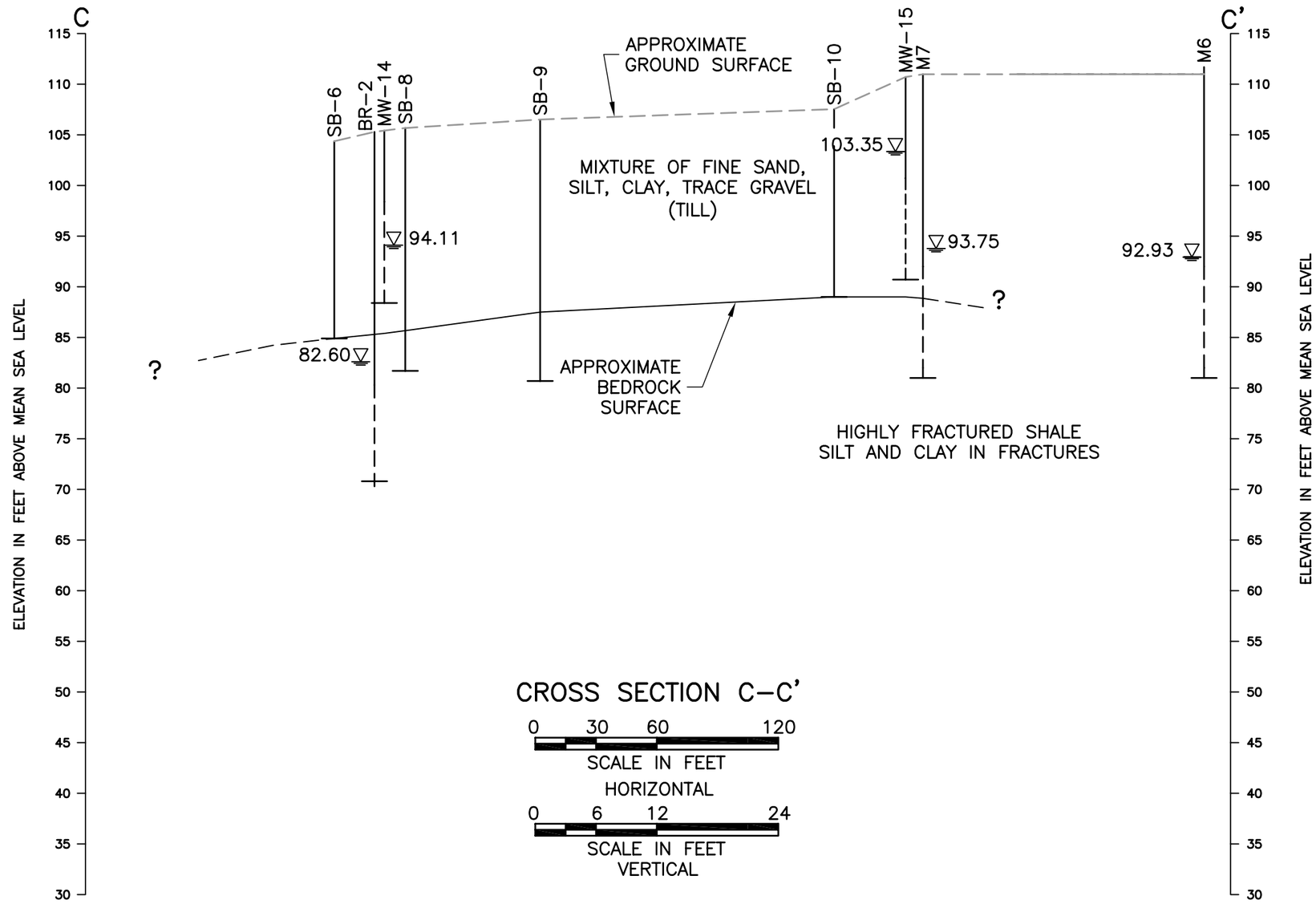

CROSS SECTION C–C'

0 30 60 120
SCALE IN FEET
HORIZONTAL

0 6 12 24
SCALE IN FEET
VERTICAL

CROSS SECTIONS DEVELOPED FROM INFORMATION PROVIDED IN GEOHYDROLOGIC STUDY NO. 38–26–KL46–92, SITE INVESTIGATION, U.S. ARMY RESERVE CENTER – MIDDLETOWN, MIDDLETOWN, CONNECTICUT, 1–12 JUNE 1992; U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY

GROUNDWATER MEASUREMENTS TAKEN ON 10/29/07.

LEGEND

45.45 ▽ GROUNDWATER ELEVATION

WELL SCREEN

Prepared/Date: JBC 05/07/07
Checked/Date: JRY 05/07/07

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Middletown, Connecticut

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Cross Section C-C'

Project 3618-04-8110
Figure 3-4

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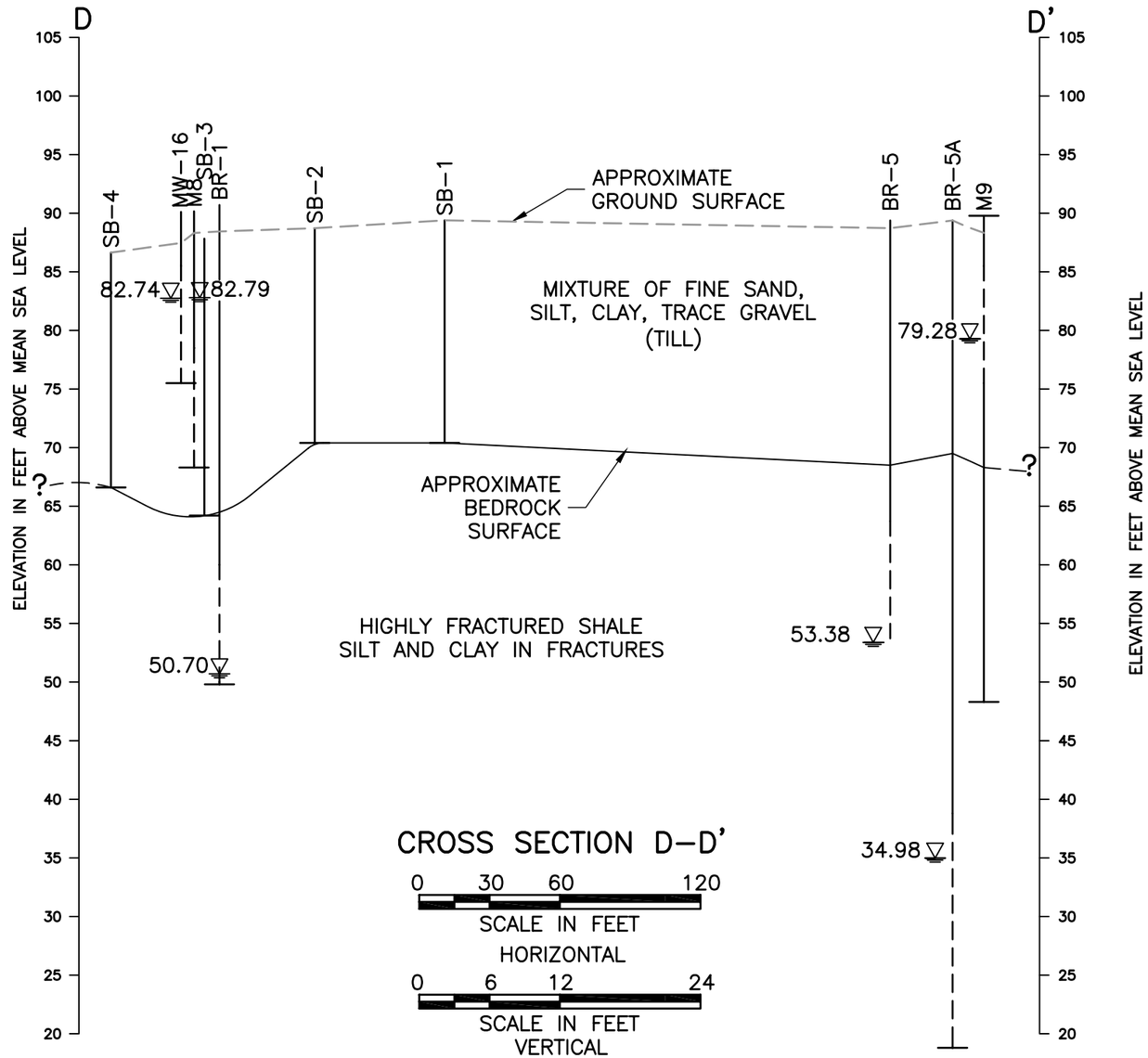

CROSS SECTION D–D'

0 30 60 120
SCALE IN FEET
HORIZONTAL

0 6 12 24
SCALE IN FEET
VERTICAL

CROSS SECTIONS DEVELOPED FROM INFORMATION PROVIDED IN GEOHYDROLOGIC STUDY NO. 38–26–KL46–92, SITE INVESTIGATION, U.S. ARMY RESERVE CENTER – MIDDLETOWN, MIDDLETOWN, CONNECTICUT, 1–12 JUNE 1992; U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY

GROUNDWATER MEASUREMENTS TAKEN ON 10/29/07.

LEGEND

45.45 ▽ GROUNDWATER ELEVATION

WELL SCREEN

Prepared/Date: JBC 05/08/07
Checked/Date: JRY 05/08/07

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94th Regional Readiness Command
US Army Reserve Center
Middletown, Connecticut

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Cross Section D-D'

Project 3618-04-8110
Figure 3-5

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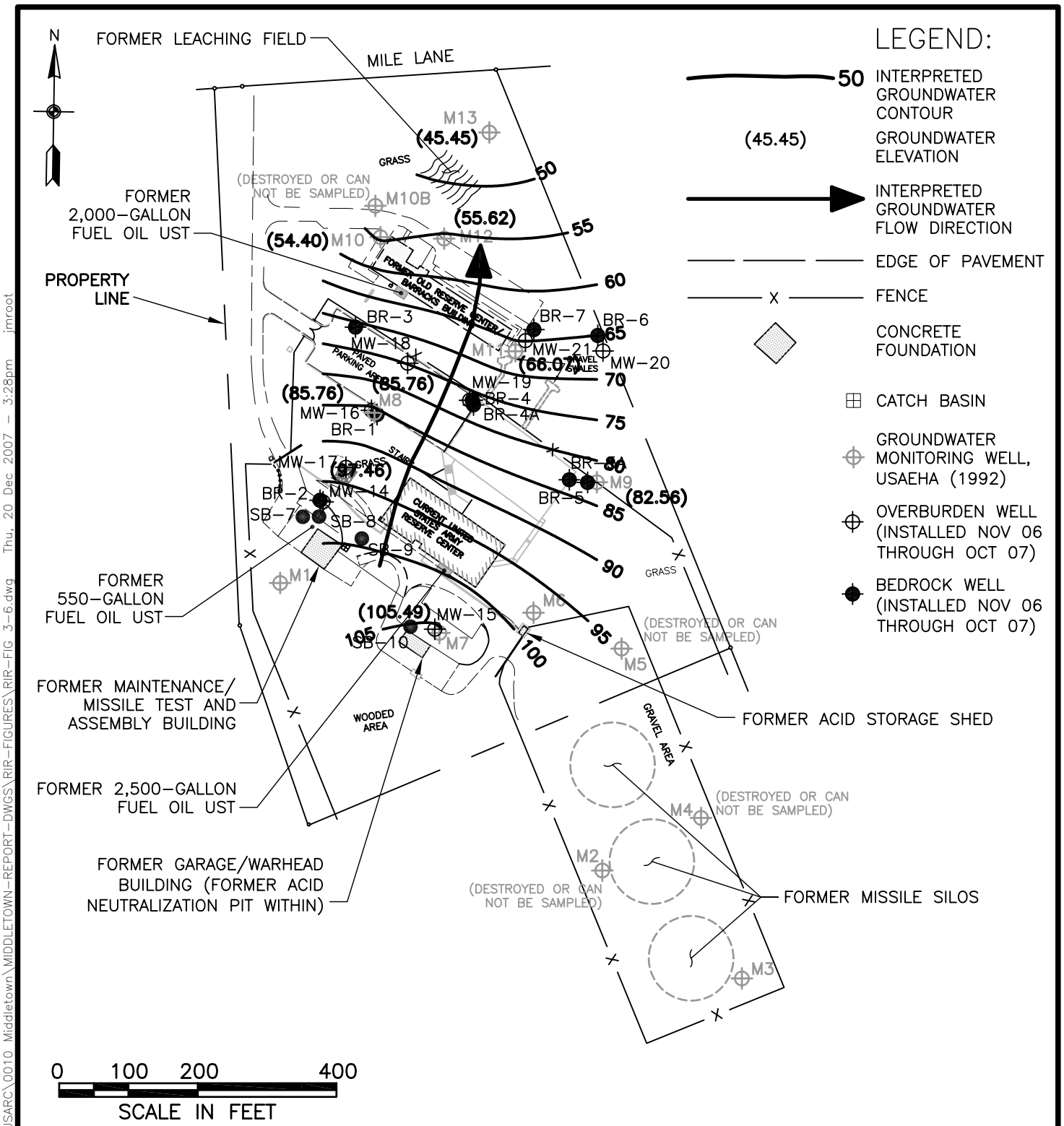

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ENVIRONMENTAL INVESTIGATION PERFORMED IN SUPPORT OF CLOSURE OF DSERTS SITE 08 "GROUNDWATER" UNDER CONTRACT NO. W911SO-04-F0017.

Prepared/Date: DEL 05/17/07
Checked/Date: JRY 05/17/07

94th Regional Readiness Command US Army Reserve Center Middletown, Connecticut	KEMRON ENVIRONMENTAL SERVICES / MACTEC	Potentiometric Groundwater Contours Overburden Wells November 27,2006 Project 3618-04-8110 Figure 3-6

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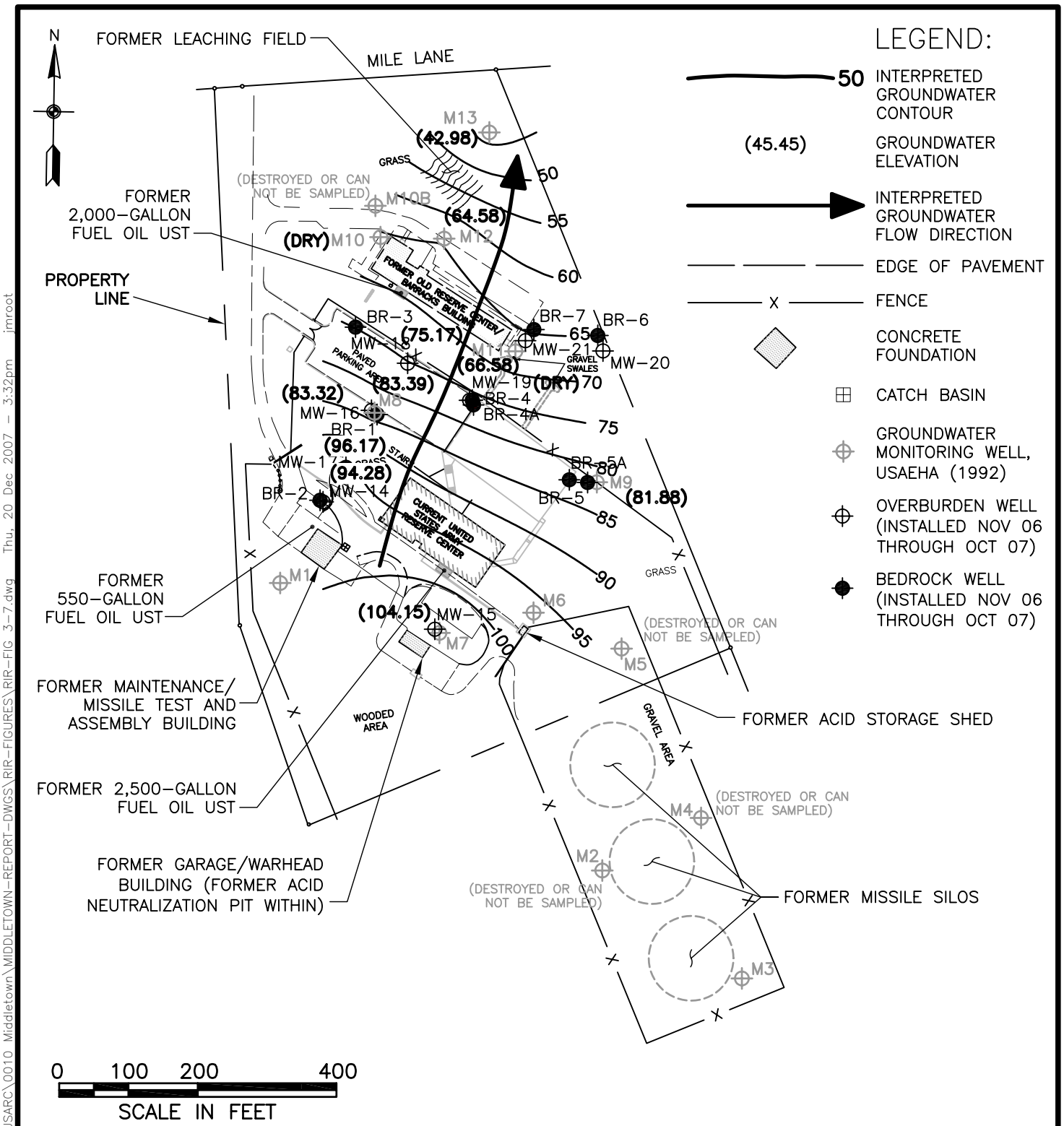

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94th Regional Readiness Command US Army Reserve Center Middletown, Connecticut	KEMRON ENVIRONMENTAL SERVICES / MACTEC	Potentiometric Groundwater Contours Overburden Wells March 16, 2007 Project 3618-04-8110 Figure 3-7

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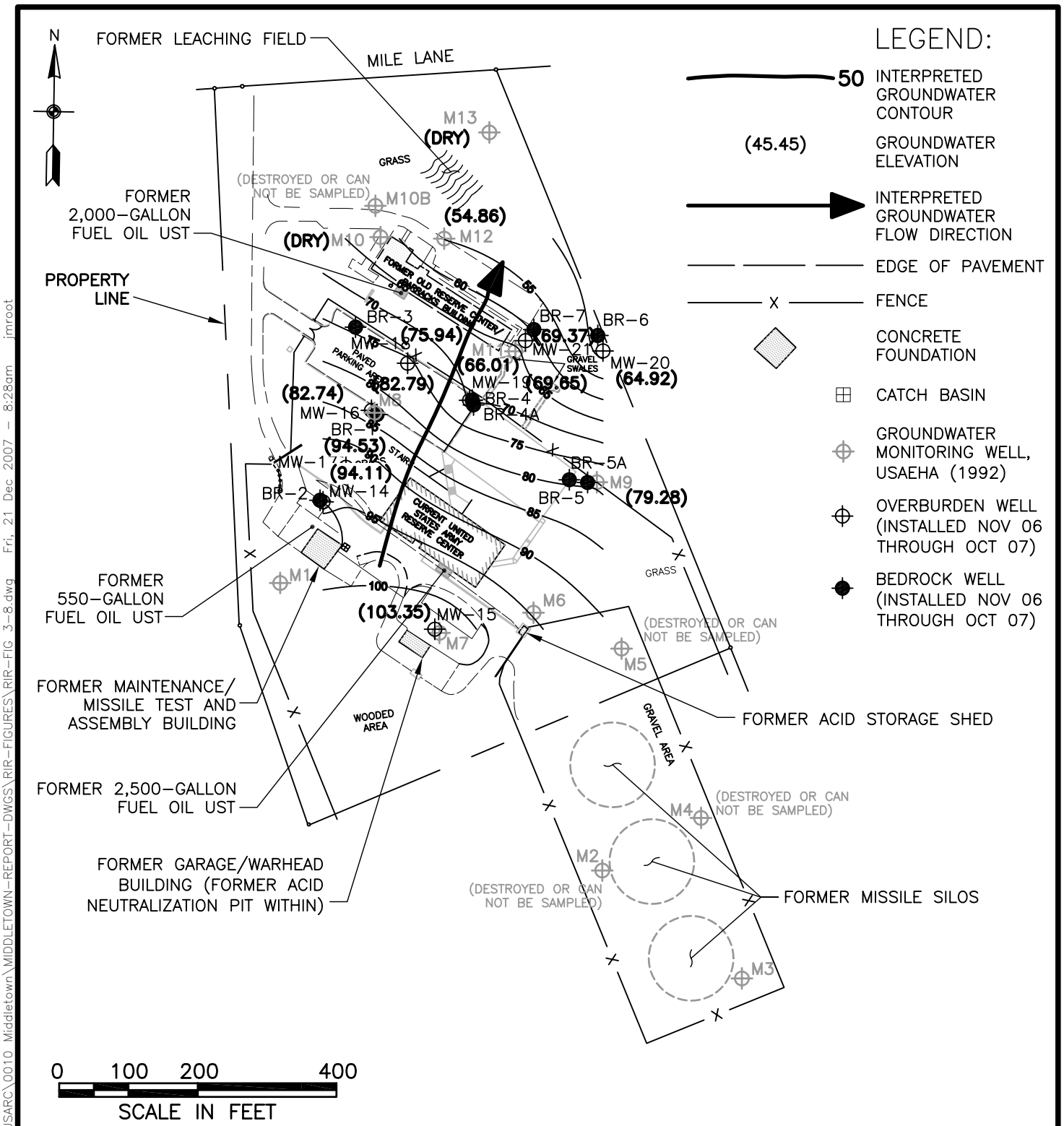

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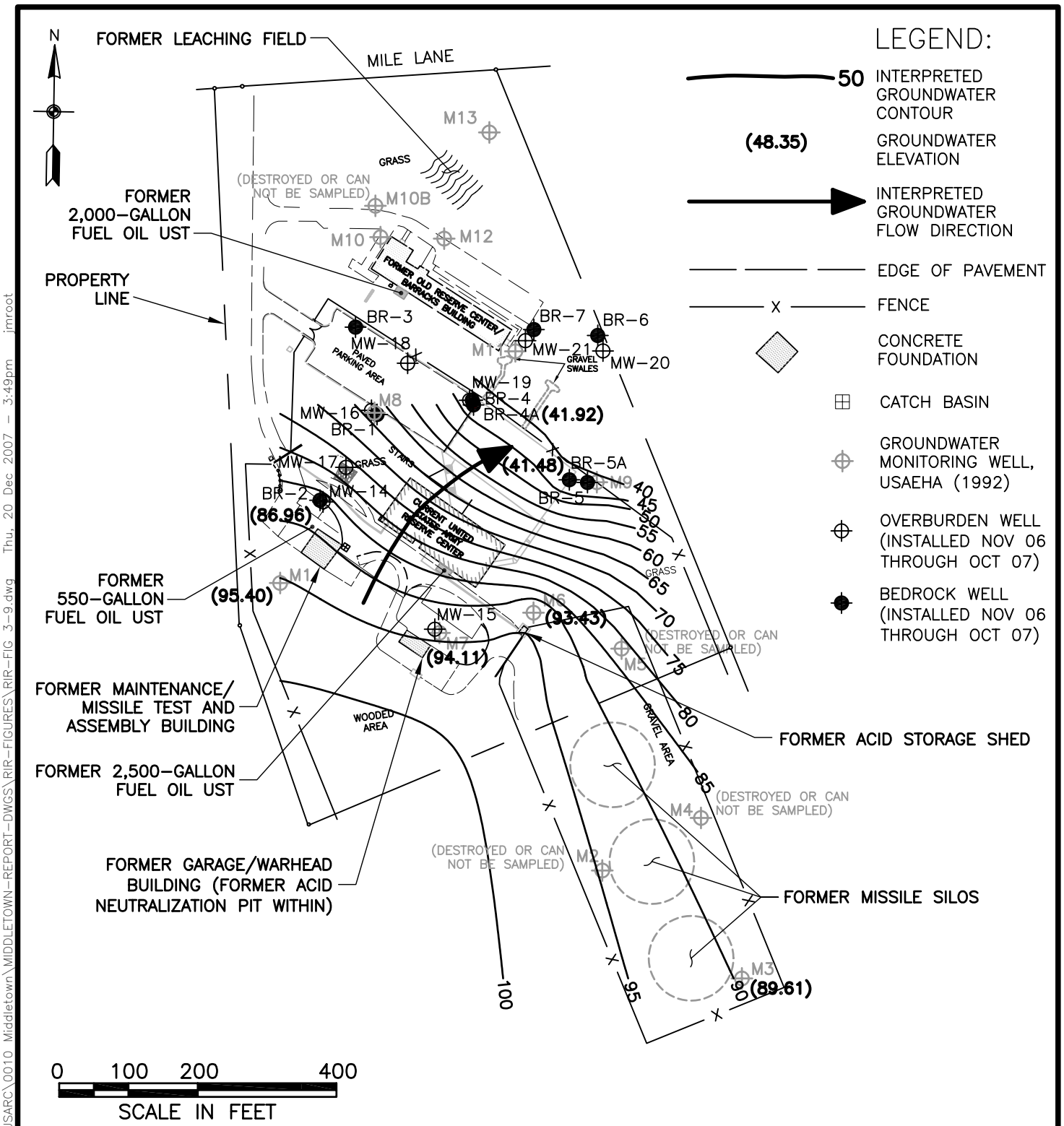

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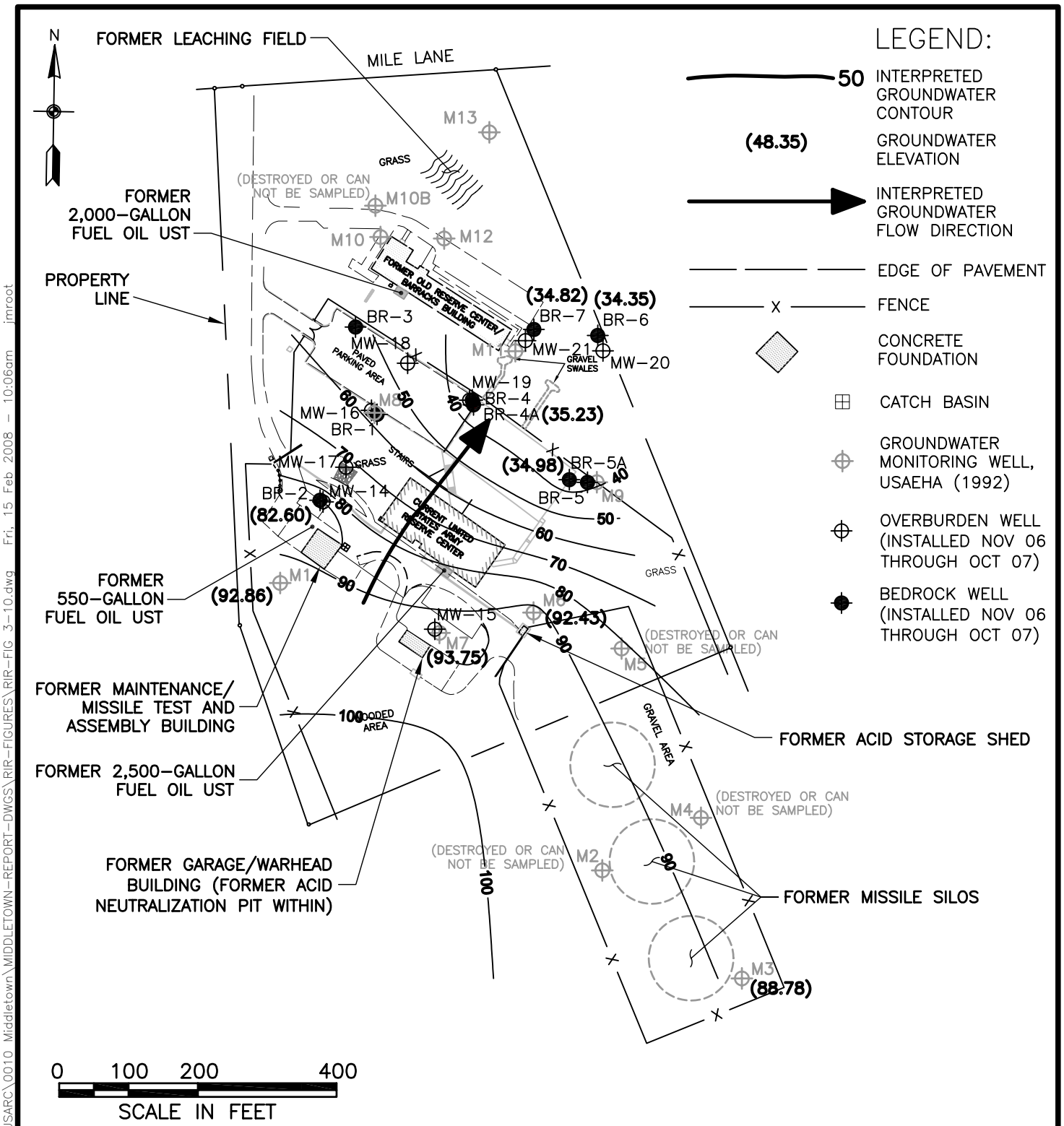

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94th Regional Readiness Command US Army Reserve Center Middletown, Connecticut	KEMRON ENVIRONMENTAL SERVICES / MACTEC	Potentiometric Groundwater Contours Bedrock Wells OCTOBER 29, 2007 Project 3618-04-8110 Figure 3-10

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Table 3-1
Groundwater Well and Soil Boring Details
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

Well or Boring ID	Date Installed	Well Status	Well Type	Screened Interval (ft bgs)	Top of PVC Elevation (ft)	Depth-to-water (ft) 11/27/06	Water Table Elevation (ft) 11/27/06	Depth-to-water (ft) 03/16/07	Water Table Elevation (ft) 03/16/07	Depth-to-water (ft) 10/29/07	Water Table Elevation (ft) 10/29/07	Ground Surface Elevation (ft)	Approx. Depth to Bedrock (ft bgs)	Approx. Bedrock Elevation (ft)
M1	06/02/92	present	bedrock	18-28'	110.29	12.11	98.18	14.89	95.40	17.43	92.86	108.66	--	--
M2	06/02/92	out-of-service												
M3	06/03/92	present	bedrock	18-28'	111.47	20.53	90.94	21.86	89.61	22.69	88.78	109.42	--	--
M4	06/03/92	out-of-service												
M5	06/03/92	out-of-service												
M6	06/04/92	present	bedrock	18.5-28.5'	112.26	15.97	96.29	18.83	93.43	19.33	92.93	110.98	--	--
M7	06/04/92	present	bedrock	18.5-28.5'	112.14	15.84	96.30	18.03	94.11	18.39	93.75	110.98	18.5	92.5
M8	06/06/92	present	overburden	9.5-19.5'	90.16	4.40	85.76	6.77	83.39	7.37	82.79	88.31	24.0	64.5
M9	06/05/92	present	overburden	3.5-13.5'	89.78	7.22	82.56	7.90	81.88	10.50	79.28	88.32	20.0	68.5
M10	06/06/92	present	overburden	6-16'	71.39	16.99	54.40	dry	--	dry	--	69.66	--	--
M10B	06/06/92	out-of-service												
M11	06/06/92	present	overburden	1.5-11.5'	71.92	5.85	66.07	5.34	66.58	5.91	66.01	70.09	--	--
M12	06/06/92	present	overburden	6-16'	70.54	14.92	55.62	5.96	64.58	15.68	54.86	68.44	--	--
M13	06/10/92	present	overburden	3.5-13.5'	51.29	5.84	45.45	8.31	42.98	dry	--	49.77	--	--
MW-14	11/09/06	present	overburden	7-17'	105.01	7.55	97.46	10.73	94.28	10.90	94.11	105.42	20.0	85.5
MW-15	11/09/06	present	overburden	10-20'	113.37	7.88	105.49	9.22	104.15	10.02	103.35	110.71	18.5	92.0
MW-16	11/10/06	present	overburden	2-12'	90.11	4.35	85.76	6.79	83.32	7.37	82.74	87.46	24.0	63.5
MW-17	03/05/07	present	overburden	6-16'	101.85	--	--	5.68	96.17	7.32	94.53	--	25.0	--
MW-18	03/05/07	present	overburden	3-13'	84.93	--	--	9.76	75.17	8.99	75.94	85.14	18.0	67.0
MW-19	03/08/07	present	overburden	9.5-19.5'	87.09	--	--	dry	--	17.44	69.65	87.47	19.5	68.0
MW-20	10/09/07	present	overburden	10-20'	68.01	--	--	--	--	20.09	47.92	64.92	20.0	45.0
MW-21	10/11/07	present	overburden	10-20'	72.53	--	--	--	--	14.11	58.42	69.37	20.0	49.5
BR-1	11/06/06	present	bedrock	25-35'	90.70	39.68	51.02	39.98	50.72	40.00	50.70	87.83	24.0	64.0
BR-2	11/08/06	present	bedrock	25-35'	105.02	14.60	90.42	18.06	86.96	22.42	82.60	105.29	20.0	85.5
BR-3	11/16/06	present	bedrock	24-34'	81.53	33.18	48.35	33.71	47.82	33.67	47.86	81.97	19.0	63.0
BR-4	11/17/06	present	bedrock	25-35'	87.17	34.09	53.08	34.41	52.76	34.43	52.74	87.46	19.5	68.0
BR-4A	03/07/07	present	bedrock	38-68'	87.32	--	--	45.40	41.92	52.09	35.23	87.67	19.5	68.0
BR-5	11/17/06	present	bedrock	25-35'	91.60	37.72	53.88	35.97	55.63	38.22	53.38	88.72	20.0	68.5
BR-5A	03/08/07	present	bedrock	50-70'	88.99	--	--	47.51	41.48	54.01	34.98	89.38	20.0	69.5
BR-6	10/10/97	present	bedrock	58.5-78.5'	66.40	--	--	--	--	32.05	34.35	64.21	20.0	44.0
BR-7	10/12/07	present	bedrock	40.5-60.5'	71.96	--	--	--	--	37.14	34.82	69.04	20.0	49.0
SB-01	11/07/06	--	--	--	--			--	--	--	--	89.39	19.0	70.5
SB-02	11/07/06	--	--	--	--			--	--	--	--	88.44	18.0	70.5
SB-03	11/07/06	--	--	--	--			--	--	--	--	87.69	23.5	64.0
SB-04	11/07/06	--	--	--	--			--	--	--	--	86.64	20.0	66.5
SB-05	11/07/06	--	--	--	--			--	--	--	--	86.30	20.0	66.5
SB-06	11/07/06	--	--	--	--			--	--	--	--	104.37	19.5	85.0
SB-07	11/07/06	--	--	--	--			--	--	--	--	105.76	20.0	86.0
SB-08	11/09/06	--	--	--	--			--	--	--	--	105.67	24.0	81.5
SB-09	11/09/06	--	--	--	--			--	--	--	--	106.51	19.0	87.5
SB-10	11/09/06	--	--	--	--			--	--	--	--	107.53	18.5	89.0

Notes:
ft = feet
bgs = below ground surface

Section 4.0 Baseline Risk Assessment

This Baseline Risk Assessment for Site 08 has been preformed in accordance with CERCLA, the NCP, and applicable USEPA guidance. Section 4.1 presents the Human Health Risk Assessment (HHRA) and Section 4.2 provides an Ecological Risk Evaluation.

4.1 Human Health Risk Assessment

This section provides the technical approach and results for the HHRA performed in support of the RI for Site 08. The purpose of the risk assessment is to quantify the human health risks associated with potential exposures to site-related constituents under current and reasonably foreseeable future land use conditions, in the absence of any remedial actions.

The applicable legal requirement for the HHRA is CERCLA, as amended. The applicable regulatory requirement is the NCP, 40 CFR Part 300. The HHRA is performed using USEPA CERCLA guidance for risk assessment, including the following USEPA risk assessment guidance and directives:

- *Risk Assessment Guidance for Superfund. Volume 1: Human Health Evaluation Manual (Part A)* (RAGS) (USEPA, 1989)
- *Risk Assessment Guidance for Superfund. Volume 1: Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors (OSWER Directive 9285.6-03.;* USEPA, 1991)
- *Guidance for Data Usability in Risk Assessments* (USEPA, 1992)
- *Exposure Factors Handbook* (USEPA, 1997a)
- *Risk Assessment Guidance for Superfund. Volume 1: Human Health Evaluation Manual (Part D)* (RAGS) (USEPA, 2001)
- *Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites* (USEPA, 2002a)
- *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites* (USEPA, 2002b)
- *Human Health Toxicity Values in Superfund Risk Assessments (OSWER No. 9285.7-53, December 2003)*
- *Risk Assessment Guidance for Superfund. Volume 1: Human Health Evaluation Manual (Part E)* (RAGS) (USEPA, 2004a)

The HHRA is organized into four sections (hazard identification, exposure assessment, toxicity assessment, and risk characterization), and includes supporting documentation for data sets used in the risk assessment, exposure point concentration (EPC) calculations, and modeling in Appendix D.

The hazard identification presents a summary of the analytical data that are used in the HHRA and the chemicals selected for evaluation in the risk assessment (i.e., the chemicals of potential concern [COPCs]). The exposure assessment provides information about the activities that may occur under the current and anticipated future land uses of the Site, the pathways by which people engaged in those activities could be exposed to COPCs at the Site, and quantifies the exposures associated with those pathways. The toxicity assessment provides information about the potential toxicity and dose-response profiles of the COPCs. The risk characterization combines the dose-response information and quantitative exposure estimates to provide quantitative estimates of risk for cancer and systemic toxic effects. In order to provide additional perspective for risk management decision-making, this section also contains an analysis of the variables that lend the greatest uncertainty and have the greatest potential

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effect on the quantitative risk estimates, including a comparison of site risks to risks associated with background conditions.

4.1.1 Hazard Identification

Site Description and Conceptual Site Model

Section 1.0 provides a detailed description of the Site. The USARC installation is located on a 23.7-acre parcel of land in a residential area of Middletown. The property currently consists of the USARC building and three former slab on grade foundations located on a multi-tiered hillside. Several paved parking areas and roadways are located on the property along with grass covered and wooded areas. The facility is surrounded by a chain-link fence, with gates. The property is used by the USARC as the 94th RRC and is staffed by military personnel performing administrative duties on a full-time basis.

Site 08 is defined as facility-wide groundwater (i.e., groundwater beneath the facility that has been affected by potential releases from the facility). Figure 1-1 shows the facility layout and property boundary. For the purposes of this RI, Site 08 facility-wide groundwater is defined as the area of the facility, bounded by the facility property boundary. The various investigations that been performed in support of the RI for Site 08 have included collection of groundwater samples from a series of monitoring wells around the installation and soil samples collected from the monitoring well borings. Figure 2-1 shows the monitoring well locations. This HHRA evaluates human health risks associated with potential exposures to groundwater, as well as soil that was collected during the installation of the groundwater monitoring wells.

The analytical data collected in support of the RI for Site 08 indicate that TCE is the primary constituent of concern. TCE has been detected in overburden and bedrock groundwater at concentrations ranging from less than 1 ug/L to 38.5 ug/L. Chloroform and carbon tetrachloride have also been detected in groundwater at concentrations up to 4 ug/L and 6 ug/L, respectively. Low levels of VOCs and metals have been detected in soil and groundwater, and three PAHs have also been detected at low concentrations in soil. The RI investigations have not located a source of TCE remaining in the soil at the facility.

Groundwater beneath the facility flows northeast. The VOCs detected in groundwater are generally located in the central portion of the facility. As documented in Section 2.0, there is no evidence to indicate that VOCs are migrating off the facility property. The facility and all downgradient properties within one-half mile of the Site are connected to public water supply. The only properties within one-half mile of the Site that are not on public water supply are located upgradient of the Site. Although no use of groundwater at or downgradient of the property is occurring, groundwater beneath and in the vicinity of the facility is classified as a potable groundwater resource by the State of Connecticut (Class GA water).

There are no direct exposures to groundwater under the current land use conditions because there are no uses of groundwater at the facility property and contaminated groundwater is not migrating off the facility property. However, volatile constituents in groundwater that is located within one-hundred feet (horizontally and vertically) of an occupied building are considered a potential source of vapors to indoor air (USEPA, 2002c). Specifically, it is possible that volatiles in groundwater may partition to soil gas, migrate within the soil column to the convective influence of a building, and then be drawn into the building where exposures to the VOCs in indoor air could occur. The existing USARC building, though occupied, is not located within 100 feet of any detected groundwater VOC contamination. In addition, VOCs have not been detected in the wells upgradient of the building (MW-15/M7). Therefore, there are no potentially complete exposure pathways to VOCs that may migrate to indoor air under the existing

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Site conditions (i.e., the vapor intrusion exposure pathway is incomplete). Vapor intrusion pathways beyond the facility property boundary are also incomplete because the VOC-contaminated groundwater is not migrating beyond the facility property boundary, and is not within 100 feet of the property boundary, as discussed in Section 3.0.

The soil samples collected during installation of the various monitoring wells at the facility property were generally collected from depths greater than one foot below ground surface. The majority of USARC activities at this facility are performed in the building, and personnel have minimal opportunity to contact soil. If soil contact occurred, it would be to surface soil (e.g., soil within the top six inches of ground surface), as there are no on-going or planned excavation activities that would potentially move deeper soils to the surface where they could be contacted. VOCs identified in soil were detected at such low concentrations that they would not constitute a vapor migration concern for outdoor air. Therefore, under the existing land use conditions, potential exposure pathways to soil would likely be incomplete, or at least very negligible.

The facility has been included for realignment on the 2005 list BRAC, indicting that future use may change. For the purposes of this risk assessment, it is assumed that the future use of the USARC property continues to be non-residential (i.e., military or commercial/industrial use). Under these conditions, it is assumed that exposure pathways to groundwater and indoor air would remain incomplete, and that potential exposures to soil would remain negligible. However, the HHRA evaluates these exposure pathways under the assumption that they are complete for commercial/industrial workers or military personnel in the future. Specifically, the HHRA evaluates:

- Potable use of groundwater by military or commercial/industrial workers at the facility. This evaluation addresses the fact that although drinking water is supplied by the City of Middletown, it is classified as GA by the State of Connecticut and, therefore, hypothetically could be used by occupants of the property;
- Indoor air exposures to VOCs by military or commercial/industrial workers at the facility. This evaluation addresses the possibility that the existing building is expanded or new buildings are constructed such that the vapor intrusion exposure pathway is potentially complete;
- Contact with soil by military or commercial/industrial workers at the facility. This evaluation addresses the possibility that activities at the property change such that outdoor workers or military personnel frequently contact soil by incidental ingestion, dermal contact, and dust inhalation exposure pathways.

Data Evaluation

The data evaluation portion of the Hazard Identification section: a) identifies the data available for use in HHRA, and justifies the selection or exclusion of particular data for use in the risk assessment; b) provides the rationale for the way data will be grouped for evaluation in the risk assessment; and c) documents the methods used to summarize data into statistical descriptors.

Data Sources and Data Quality

The RI and Risk Assessment for the Site are based on the data collected in support of the RI program. Data collected for the RI are selected for use in the HHRA using the criteria established by USEPA in "Guidance for Data Usability in Risk Assessment" (USEPA, 1992).

The data presented in this RI and selected for use in the HHRA are the product of laboratory analyses performed in accordance with USEPA methods and associated Quality Assurance/Quality Control

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(QA/QC) procedures, as described in the QAPP**.** Data are presented in Appendix C. Based on the data quality assessment (Section 2), data are of suitable quality for use in the risk assessment.

Data Used in HHRA
Soil samples used in the HHRA for Site 08 include:

- Nine soil samples collected at monitoring well locations in 1992, from depth intervals ranging between 1-6 inches bgs to 114-126 inches bgs. Soil samples were analyzed for VOCs, SVOCs, metals, and TPH. Among these samples, only metals and TPH were detected and only metals data were included in the summary statistics.
- Thirteen soil samples collected in 1993 and 1997 during underground storage tank closure activities, from depths of 7 ft bgs and 10 ft bgs. Soil samples were analyzed for VOCs, SVOCs, metals, PCBs, and TPH. Among these samples, TPH was detected in all samples, PAHs were only detected in two of the samples (LRS-1, LRS-2), and metals were only detected in one of the samples (BDSC009). Data for the PAHs in samples LRS-1 and LRS-2, and the metals in sample BDSC009, were included in the summary statistics, and data for petroleum hydrocarbons in all samples were included in the summary statistics
- Eleven soil samples collected at monitoring well locations in 2006 (ten soil samples) and 2007 (one soil sample) from depth intervals ranging between 3 and 13 ft bgs. Soil samples were analyzed for VOCs and ETPH. These data were included in the summary statistics.
- Additional soil samples were collected during other investigations (e.g., Environmental Baseline Study), but no constituents other than petroleum hydrocarbons were detected above reporting limits; therefore, only petroleum hydrocarbon data were included in the data sets evaluated in this HHRA.

The resulting soil data set includes 11 samples analyzed for VOCs, 2 samples analyzed for SVOCs, 10 samples analyzed for metals, and 37 samples analyzed for petroleum hydrocarbons. Soil sample locations are shown on Figure 2-1, and the soil data used in the risk assessment are presented in Appendix D.

Groundwater samples were collected at Site 08 from monitoring wells (Figure 2-1). The first round of data was collected in 1992, a second round was collected in 2005, and additional rounds were collected in February 2006, November 2006, March, 2007, and October 2007. The February 2006 sampling round included re-sampling of all of the original wells, plus additional wells installed in support of the Site 08 RI activities. Groundwater samples collected from the wells were analyzed for metals, VOCs, and ETPH. Re-sampling of these wells, as well as additional wells installed in support of the Site 08 RI activities, for VOCs and ETPH, occurred in November, 2006 and March 2007. Newly installed wells MW-20, MW-21, BR-6, and BR-7 were sampled in October 2007 for VOCs. The groundwater samples collected between February 2006 and March 2007 provide the most current and most comprehensive groundwater data set, and include detected VOC concentrations that are higher than those recorded in the August 2005 and previous sampling events. Therefore, the 2006 and 2007 groundwater data are selected for evaluation in the HHRA. No VOCs were detected in the groundwater samples collected from the wells installed in October 2007. Therefore, data for those wells were not included in groundwater data set used in the risk assessment. The groundwater data set includes up to three rounds of data from each of the following monitoring wells: Overburden wells M1, M3, M6, M7, M8, M9, M10, M11, M12, M13, MW-14, MW-15, MW-16, MW-17, MW-18, and bedrock wells BR-1, BR-2, BR-3, BR-4, BR-4A, and BR-5A. The groundwater data used in the risk assessment are presented in Appendix D.

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Data Summarization

The ultimate product of data evaluation and data summarization is a set of analytical data in a form that can be used in the quantitative risk assessment. Each data set developed for the risk assessment is summarized so as to provide the following statistical descriptors:

- The ratio of the number of samples in which the constituent is detected to the total number of samples (i.e., frequency of detection);
- Range of analytical quantitation limits;
- Range of detected concentrations;
- Data qualifiers associated with the minimum and maximum detected concentrations;
- Sample identifier associated with the maximum detected concentration; and
- Arithmetic mean concentration.

Data summaries for soil and groundwater are provided in Tables 4-1 and 4-2, respectively. The following procedures were applied when summarizing the analytical data for the HHRA:

- For samples in which a field duplicate was collected, the higher of the analytical result for each parameter between the original and field duplicate is selected for use in the risk assessment.
- Rejected data ("R" qualified results) were not used in the risk assessment.
- Results qualified as estimated ("J" qualified) were used in the risk assessment.
- For samples in which analyte concentrations are detected outside the calibration range, and the samples are diluted and reanalyzed, only the re-analysis results were used in the risk assessment.
- When calculating the arithmetic mean concentrations, one-half the value reported as the non-detect value (usually the analytical quantitation limit) was used for results reported as not-detected.

Chemicals of Potential Concern

COPCs are chemicals that may pose more than a *de minimis* health risk. A concentration-toxicity screening is used to reduce the chemicals evaluated in the risk assessment to only those that would potentially pose more than a *de minimis* health risk (USEPA, 1989). The procedure used to select COPCs for the HHRA is summarized as follows, and is consistent with USEPA methodology:

- A constituent is selected as a COPC in soil if the maximum detected concentration exceeds the USEPA Region IX Preliminary Remediation Goal (PRG) for residential soils (USEPA, 2004b), or the CTDEP R DEC (CTDEP, 1996).
- A constituent is selected as a COPC in groundwater if the maximum detected concentration exceeds the USEPA Region IX PRG for tap water (USEPA, 2004b), the CTDEP GWPC (CTDEP, 1996), or the Federal Maximum Contaminant Level (MCL) (USEPA, 2005).

The PRGs for soil are protective for direct contact (ingestion and dermal contact) exposures, as well as for inhalation of constituents that may be released to air, for residential land use conditions. The PRGs for groundwater are protective for residential potable use of the water. The PRGs are derived for a 1 in 1 million ($1x10^{-6}$) cancer risk level or a non-cancer hazard quotient (HQ) of 1. Consistent with USEPA Region I guidance, the PRGs based on non-carcinogenic effects are adjusted to represent a HQ of 0.1 for the purposes of COPC selection, except lead was based on an HQ of 1. The use of residential soil PRGs to select COPCs in soil represents a conservative approach since the Site is presently, and will continue to be, used only for non-residential purposes.

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The results of the COPC selection for each medium are provided in Tables 4-1 and 4-2. The following notes are used to denote the reasons for selection or exclusion of analytes as COPCs:

ASL: The concentration used for COPC screening (the maximum detected concentration) is greater than the risk-based PRG and/or Applicable or Relevant and Appropriate Requirement (ARAR); the analyte is therefore selected as a COPC.

BSL: The concentration used for COPC screening (the maximum detected concentration) is less than the risk-based PRG and/or ARAR; the analyte is therefore not selected as a COPC.

NSL: There is no screening value and/or ARAR available; the analyte is therefore selected as a COPC.

In surface soil, arsenic was the only constituent retained as a COPC. Arsenic was detected at a maximum concentration above the Region IX PRG value, but below the CTDEP RES-DEC RSR. In groundwater, three VOCs (carbon tetrachloride, chloroform, and TCE) and two metals (arsenic and barium) were retained as COPCs. Among these VOCs, only carbon tetrachloride and TCE were detected at concentrations greater than CTDEP GA GWPC and MCLs.

4.1.2 Exposure Assessment

The exposure assessment is conducted to evaluate the populations of humans that may potentially occur at the site, the mechanisms or exposure pathways by which those humans may be potentially exposed to contamination at the site, and the magnitude of exposure that may occur through the potential exposure pathways. This process involves three steps:

1) Characterization of the exposure setting in terms of physical characteristics, current and future uses of the site, and the populations that may be potentially exposed to COPCs under the current and future land uses;

2) Identification of potential exposure pathways and exposure points to which the populations may be exposed; and

3) Quantification of exposure to COPCs for each potentially complete pathway and exposure point.

Characterization of Exposure Setting and Potentially Exposed Populations

Under the existing land use conditions, the Site is located in a fenced, secured, military installation. Military personnel would be the only potentially exposed populations at the Site. Future use of this Site is assumed to be military or commercial/industrial. Under these land use conditions, military personnel and/or commercial/industrial workers (e.g., outdoor commercial/industrial workers, landscape workers, office workers, and indoor manufacturing workers) would be expected to be present at the Site.

Exposure Pathways and Exposure Points

Table 4-3 provides a summary of the potentially complete and incomplete exposure pathways to groundwater and soil associated with Site 08. As discussed in Section 4.1.1, there are no complete exposure pathways to groundwater under the existing land use conditions, and negligible exposure potential to soil under the existing land use conditions. The use of the facility is expected to remain

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military or commercial/industrial in the future. The HHRA incorporates the assumption that under a future commercial/industrial land use, groundwater beneath the facility could be consumed by workers as potable water, vapor intrusion from groundwater to indoor air could be complete if buildings are constructed over groundwater containing VOCs, and contact with soil could occur. The following exposure pathways are evaluated in the risk assessment:

- Ingestion of groundwater as drinking water by military personnel or commercial/industrial workers.
- Inhalation of vapors that may migrate to indoor air by military personnel or commercial/industrial workers.
- Incidental ingestion, dermal contact, and dust inhalation to COPCs in soil by military personnel or commercial/industrial workers.

Use of groundwater as a potable water source is not expected, since the facility is presently connected to the public water supply. In accordance with USEPA guidance (USEPA, 1991), potable use of groundwater at a commercial/industrial facility is characterized by assuming that workers drink the groundwater as tap water during work hours. In accordance with USEPA guidance (USEPA, 1989), each monitoring well is considered to be a separate exposure point for the purposes of evaluating consumption of groundwater. Since the monitoring wells are generally spaced at least 100 feet from each other, each monitoring well is also considered a separate point source of vapors that may migrate to indoor air, as it is unlikely that buildings constructed at the Site would be large enough to encompass areas represented by multiple wells.

Exposure to the COPCs in soil can occur through dermal contact with the soil (e.g., placing hands on the soil or when soil-derived dust becomes adhered to skin following active work on the soil), incidental ingestion of soil (e.g., through hand-mouth activity), and through inhalation of soil-derived dust (e.g., wind erosion or excavation of un-vegetated soil). No VOCs were retained as COPCs in soil. Therefore, inhalation of VOCs that may volatilize to air is not a complete pathway. There are no attributes associated with the Site that would indicate or suggest that contact with soil, if it were to occur, would occur preferentially in one area of the Site over another. In addition, concentrations of arsenic in Site soil (the only COPC in Site soil) are fairly consistent (ranging from 0.65 to 7.7 mg/kg). Therefore, soil samples from all soil sampling locations and soil sampling depths were grouped together in a single exposure point.

Exposure Scenarios

Exposure scenarios are used to quantitatively describe the COPC exposures that could theoretically occur for each land use and exposure pathway evaluated. The exposure scenarios are used in conjunction with EPCs to derive quantitative estimates of COPC intake. The ultimate goal of developing exposure scenarios, as defined in USEPA guidance, is to identify the combination of exposure parameters that results in the most intense level of exposure that may "reasonably" be expected to occur under the current and future site conditions (USEPA, 1989). Therefore, one exposure scenario is often selected to provide a conservative evaluation for the range of possible receptors and populations that could be exposed at the site. The resulting exposure scenarios are referred to as the Reasonable Maximum Exposure (RME) for each exposure pathway.

To characterize potential exposures and risks associated with groundwater and soil at this Site, a full-time commercial/industrial worker scenario is used. Although current and anticipated use of the property is by military personnel as opposed to commercial/industrial workers, the commercial/industrial worker scenario simulates potential exposure that would occur for someone who accessed or worked at the Site

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full-time over a long duration, and is therefore protective for military personnel who may have more limited occurrence at the Site.

Use of groundwater as tap water by commercial/industrial workers is characterized by assuming that workers ingest 1 liter of water per day, 250 days per year, over a 25-year period (USEPA, 1991). Exposure to VOCs that may migrate to indoor air is also characterized assuming that workers spend 8 hours per day indoors, 250 days per year, over a 25-year period (USEPA, 2002a). Exposure parameters and algorithms for groundwater are provided in Table 4-4.

To evaluate potential exposures to soil, the risk assessment considers an outdoor commercial/industrial worker scenario (USEPA, 2002a). The exposure parameters and intake algorithms are provided in Table 4-5, and are based on ingestion, dermal contact, and inhalation of soil-derived dust 8 hours per day, 225 days per year, over a 25 year period. Adding risks for potential exposures to indoor air and soil together provides an overestimate of risks, since it is not possible for the same worker to spend all of each work-day indoors *and* outdoors.

Exposure Point Concentrations

In accordance with USEPA guidance, RME EPCs for all media except groundwater that is used as potable water are based on the lesser of the 95 percent upper confident limit (UCL) on the arithmetic mean of the concentration, or the maximum detected concentration in the data set, for each exposure point (USEPA, 2002b). The 95 percent UCL value for arsenic in soil is calculated using the ProUCL software (V. 3.02). The ProUCL software tests the distribution of the data set for which the EPC is being derived (e.g., normal, lognormal, gamma), and then calculates a conservative and stable 95 percent UCL value in accordance with the framework described in "Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites" (USEPA, 2002b). The 95% UCL calculations are documented in Appendix D. For groundwater, the maximum detected COPC concentrations among all wells and all rounds of sampling are used as the EPCs. The EPCs for metals are based on dissolved metals analyses. Since each monitoring well is a separate exposure point; use of the maximum detected concentration in groundwater (i.e., maximum concentration across all wells) as the EPC represents a health-protective approach because the maximum concentrations of various COPCs may be associated with separate wells. The EPCs for soil and groundwater are presented in Tables 4-6 and 4-7, respectively.

Indoor air EPCs were estimated from the groundwater EPCs using the Johnson-Ettinger model, as adapted by USEPA. This model is widely accepted as a screening-level model for estimating vapor intrusion into buildings, and has been adopted by USEPA for establishing vapor intrusion screening levels in groundwater and soil gas (USEPA, 2002c). The model is based on the premise that volatile COPCs partition from groundwater to soil gas, then migrate through soil pore space and are drawn through cracks in a foundation or building slab into the air within an overlying building, where receptors breathing the air might be located. The model used in this HHRA is the Groundwater Advanced Model (v. 3.1) published by USEPA. The groundwater model uses measured groundwater COPC concentrations with soil characteristics (e.g., porosity), chemical-specific parameters (e.g., Henry's Law constant), and building-specific parameters (e.g., building ventilation rate), to provide an estimate of indoor air concentrations.

Modeling was performed assuming that a slab-on-grade commercial or industrial building is constructed at the Site. The groundwater source concentrations uses in the modeling were the groundwater EPCs of the three volatile COPCs (i.e., maximum detected groundwater concentrations). The groundwater EPC for TCE of 38.5 ug/L is associated with a bedrock monitoring well (BR-4). Although the depth to groundwater at BR-4 (34 ft bgs) is within the 100 foot zone of influence for vapor intrusion (USEPA, 2002), the overburden groundwater in the vicinity of BR-4 would provide a more reasonable

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representation of the potential vapor source in groundwater. However, TCE concentrations in overburden monitoring wells are similar to the concentration measured in BR-4, ranging from 25 ug/L (MW-16) to 35 ug/L (M8). The following Site-specific input parameters to the model were used; all other input parameters are the USEPA default values:

- Depth of groundwater: 3 ft bgs (91 cm)
- Soil type: Sandy clay (type "SC")
- Indoor ceiling height: 8 feet (244 cm) (assumes office space ceiling height)
- Duration of exposure: 25 years (based on RME duration for commercial/industrial workers)

The output of the model is a building indoor air vapor concentration; calculations are provided in Appendix D. The following table summarizes the groundwater EPCs and indoor air EPCs. The indoor air EPCs are used with worker exposure parameters for indoor air (Table 4-4) to calculate indoor air inhalation risks in the risk calculations presented in Table 4-13.

COPC	Groundwater EPC (ug/L)	Indoor Air EPC (ug/m^3)
Carbon tetrachloride	6.36	0.054
Chloroform	4.58	0.014
Trichloroethene	38.5	0.17

Calculation of Intakes

COPC intakes via the ingestion, dermal contact, and inhalation exposure routes are calculated using the exposure parameters and EPCs identified previously. The quantified intakes for these exposure routes are combined with the appropriate dose-response data to quantify risks, as discussed in Section 4.1.4.

The equations used to calculate intake are those presented in USEPA guidance (USEPA, 1989; 2004a), and are shown in Tables 4-4 and 4-5. Exposures are quantified in the risk characterization calculation tables (Tables 4-12 and 4-13).

4.1.3 Toxicity Assessment

The objective of the toxicity assessment is to quantify the relationship between the intake, or dose, of COPCs and the likelihood that an adverse health effect may result from exposure to the COPCs. There are two major types of adverse health effects evaluated in the risk assessment: carcinogenic, and non-carcinogenic. Following USEPA guidance (USEPA, 1989), these two effects (carcinogenic and non-carcinogenic) are evaluated separately.

There are two types of dose-response values: cancer slope factor (CSF) values for carcinogens; and reference dose (RfD) values for non-carcinogens. For potentially carcinogenic COPCs, both types of values have been developed by USEPA because these COPCs may elicit both carcinogenic and non-carcinogenic (systemic) effects. In addition, because toxicity and/or carcinogenicity can depend on the route of exposure (i.e., oral or dermal), unique dose-response values have been developed for the oral and dermal exposure routes.

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Dose-Response Values for Carcinogenic Effects

For carcinogenic effects, USEPA uses a two-part evaluation in which the substance is first assigned a weight-of-evidence classification, and then a CSF or unit risk (UR) is calculated to reflect the carcinogenic potency.

Group A - Human Carcinogen. This category indicates there is sufficient evidence from epidemiological studies to support a causal association between an agent and human cancer.

Group B - Probable Human Carcinogen. This category generally indicates there is at least limited evidence from epidemiologic studies of carcinogenicity to humans (Group B1) or that, in the absence of data on humans, there is sufficient evidence of carcinogenicity in animals (Group B2).

Group C - Possible Human Carcinogen. This category indicates that there is limited evidence of carcinogenicity in animals in the absence of data on humans.

Group D - Not Classified. This category indicates that the evidence for carcinogenicity in animals is inadequate.

Group E - No Evidence of Carcinogenicity to Humans. This category indicates that there is evidence of noncarcinogenicity in at least two adequate animal tests in different species or in both epidemiologic and animal studies.

In the Guidelines for Carcinogenic Risk Assessment (USEPA, 2005), USEPA revised the approach to describing the carcinogenic potential of an agent from an alphanumeric system to a weight-of-evidence-based descriptive narrative. “Carcinogenic to Humans”, “Likely to Be Carcinogenic to Humans”, “Suggestive Evidence of Carcinogenic Potential”, “Data Inadequate for an Assessment of Human Carcinogenic Potential”, and “Not Likely to be Carcinogenic in Humans” are example descriptors that would be accompanied by a narrative that summarizes the basis of the descriptor. In the USEPA Integrated Risk Information System (IRIS), the weight of evidence classification for a given chemical may reflect either of the two classification schemes identified above.

The CSF or UR is an estimate of the upper 95 percent confidence limit of the slope of the dose-response curve extrapolated to low doses. CSF and UR values are typically calculated for chemicals in Groups A, B1, B2, and “Carcinogenic to humans” and “Likely to be carcinogenic to humans”.

Dose-Response Values for Non-carcinogenic Effects

In contrast to carcinogens, non-carcinogens are believed to have threshold exposure levels below which adverse effects are not expected. USEPA has derived standards and guidelines based on acceptable levels of exposure for such compounds. Non-carcinogenic effects of concern on which many of the standards and guidelines are based include liver toxicity, reproductive effects, neurotoxicity, teratogenicity, and other chronic toxicities. Various criteria have been developed from experiments that can be used to estimate the dose-response relationship of non-carcinogens. Some of the same uncertainties involved in deriving cancer risk estimates (namely, selection of an appropriate data set and extrapolation of high-dose animal data to low-dose human exposure) are also involved in deriving non-carcinogenic dose-response criteria.

The RfD, expressed in units of mg/kg/day, is defined as an estimate (with uncertainty spanning perhaps an order of magnitude or greater) of a daily exposure level for the human population, including sensitive

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subpopulations, that is likely to be without an appreciable risk of deleterious effects during a lifetime (USEPA, 1989). When available, the RfD is the dose-response criterion most appropriate for quantitatively estimating non-carcinogenic effects.

The reference concentration (RfC), in units of mg/m^3, is analogous to the RfD and is developed through a similar process. However, unlike RfDs, which represent a dose (in mg/kg/day) at which adverse or deleterious effects are unlikely, RfCs represent air concentrations (in mg/m^3) at which adverse or deleterious effects are unlikely (i.e., an air concentration corresponding to a hazard index (HI) = 1.0). In this HHRA, inhalation RfCs are used to estimate the non-cancer risks associated with inhaling COPCs.

Adjustment for Dermal Exposure

CSFs and RfDs were developed to evaluate risk associated with the dermal contact exposure route. In accordance with USEPA guidance (USEPA, 2004a), dermal dose-response values are calculated from oral dose-response values using an oral absorption factor. The oral absorption factor represents the amount of substance that is absorbed from the gastrointestinal tract following oral administration of a substance. The absorbed dose represents the amount of substance that is potentially available for biological interaction; it is by this dose-response relationship that the toxicity of a dermally absorbed substance must be evaluated.

Thus, for potentially carcinogenic substances, the dermal dose-response value is calculated as follows:

$$SF_d = SF_o \ / \ Oral\ ABS$$

The dermal dose-response value for evaluating noncarcinogenic effects is calculated as follows:

$$RfD_d = RfD_o \ X \ Oral\ ABS$$

Chemical-specific oral absorption (ABS) values for are published by USEPA (USEPA, 2004a). In accordance with USEPA guidance (USEPA, 2004a), oral dose-response values are only adjusted using an oral ABS value if the COPC has an oral ABS value less than 50 percent. Otherwise, the oral dose-response value is used as the dermal dose-response value.

Sources of Dose-Response Values

The following hierarchy of sources, established by USEPA (USEPA, 2003), has been used to identify dose-response values for this risk assessment.

Tier 1- IRIS (http://www.epa.gov/iris/). In accordance with USEPA guidance, the main source of dose-response values is the USEPA IRIS, which is a database established by USEPA containing all validated data on many toxic substances found at hazardous waste Sites. This database, current as of April 2007, was used to identify the majority of dose-response values applied in this risk assessment.

Tier 2- NCEA's provisional peer reviewed toxicity values (PPRTVs) (http://hhpprtv.ornl.gov/). National Center for Environmental Assessment (NCEA) PPRTVs are developed by the Superfund Technical Support Center (STSC) for the USEPA Superfund program. STSC's reassessment of Health Effects Assessment Summary Tables (HEAST) toxicity values, as well as development of PPRTVs in response to Regional or Headquarters Superfund program requests, are consistent with Agency practices on toxicity value development, use the most recent scientific literature, and are supported by both internal and

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external peer review, providing a high level of confidence in the use of these values in the Superfund Program. The PPRTVs used in this risk assessment are current as of October 2006.

Tier 3 - Other toxicity values

- Cal EPA's toxicity values. Cal EPA develops toxicity values for both cancer and non-cancer effects. Cal EPA toxicity values are obtained on the Cal EPA website at http://www.oehha.ca.gov/risk/chemicalDB//index.asp. The Cal EPA toxicity values used in this risk assessment are current as of August 2005.

- ATSDR's Minimum Risk Levels (MRLs) address non-cancer effects only, and are available on the ATSDR website at http://www.atsdr.cdc.gov/mrls.html. MRL values for chronic exposure were used as chronic RfD values. The MRL values used in this risk assessment are current as of December, 2006.

- Toxicity values remaining in current versions of HEAST (USEPA, 1997b).

Dose-response values are presented in Tables 4-8 through 4-11. In accordance with the hierarchy of sources used to identify dose-response values, cancer slope factor, unit risk, and chronic oral RfD values for all COPCs except TCE are from IRIS (USEPA, 2007). Inhalation RfCs for all COPCs are based on ATSDR chronic MRLs or CALEPA RELs, since RfC values for the COPCs are not published in IRIS and PPRTVs are not available. USEPA NCEA publishes provisional dose-response values for TCE.

However, those values are not PPRTVs and, therefore, are not commensurate with the hierarchy of sources prescribed by USEPA. Consequently, the CSF and UR values for TCE are the values derived by CALEPA. A chronic oral RfD for TCE has not been published by any of the sources listed in the hierarchy of sources. Therefore, the chronic oral RfD for TCE is the value that was published in IRIS, but is now withdrawn.

4.1.4 Risk Characterization

The risk characterization integrates the exposure and toxicity information generated in previous sections to qualitatively or quantitatively evaluate the potential health risks associated with exposure to COPCs at the Site. Risk estimates are then evaluated through a comparison to risk management criteria.

Risk Characterization Methods

Quantitative estimates of both carcinogenic and non-carcinogenic risks are calculated for each complete exposure scenario selected for evaluation in the exposure assessment, in accordance with USEPA (1989) guidance. Methods of quantifying cancer and non-cancer risks, and summing total pathway risks, are discussed below.

Carcinogenic Risks. Cancer risks associated with exposure to each COPC are estimated by multiplying the exposure route-pathway specific intake (e.g., oral exposure to groundwater) by its exposure route-specific CSF (e.g., oral CSF). The calculated value is an excess lifetime cancer risk (ELCR) and represents an upper bound of the probability of an individual developing cancer over a lifetime as the result of exposure to a COPC.

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Non-carcinogenic Risks. Non-cancer risk estimates are calculated by dividing the COPC intake for each exposure pathway by the appropriate RfD. The result is called the HQ. The HI is the sum of the chemical-specific HQs for each exposure pathway.

A HI less than 1 indicates that non-carcinogenic toxic effects are unlikely to occur as a result of COPC exposure. HIs greater than 1 may be indicative of a possible non-carcinogenic toxic effect. As the HI increases, so does the likelihood that adverse effects might be associated with exposure. This determination is necessarily imprecise because the RfD is developed using uncertainty factors (uncertainty factors of 10 or greater are not uncommon) to be protective of human health. It is not at all certain, therefore, that an intake that exceeds the RfD would mean that adverse effects would be experienced.

Summary. Risks are summed across all COPCs for each exposure route and each exposure point. Risks across multiple exposure points and multiple exposure media are then summed to yield cumulative cancer and non-cancer risk estimates for the receptor.

Within the risk characterization for each receptor scenario, the relative significance of the risk for each pathway, exposure point, and receptor scenario is evaluated in terms of a comparison with acceptable risk levels established by USEPA. The USEPA guidelines, established in the NCP, indicate that the total excess lifetime cancer risk due to exposure to the chemicals at a site, by each complete exposure pathway, should not exceed a range of 1 in 1,000,000 ($1x10^{-6}$) to 1 in 10,000 ($1x10^{-4}$) (USEPA, 1990). Risks between $1x10^{-6}$ and $1x10^{-4}$ should be considered on a case-by-case basis during the risk management process. According to the NCP, for non-cancer effects, the acceptable risk is associated with chemical concentrations that people (including sensitive individuals such as children) can be exposed to with an adequate margin of safety without adverse effects occurring. This level is generally interpreted by USEPA to be a HI of 1 or less.

Risk Characterization Results

Risk calculations are presented in Tables 4-12 and 4-13 and a risk summary is provided in Table 4-14.

As indicated in Table 4-14, the cancer risks for exposure to soil ($2x10^{-6}$), vapor that may migrate from groundwater to indoor air ($1x10^{-7}$), and potable use of groundwater as tap water by commercial/industrial workers ($1x10^{-5}$) are each below or within the USEPA cancer risk range of $1x10^{-6}$ to $1x10^{-4}$ and the cumulative risk among all exposure media ($1x10^{-5}$) is also within the USEPA cancer risk range. Non-cancer hazard index values for soil (0.01), indoor air (0.0002), and groundwater used as tap water (0.2) are each below the threshold value of a HI of 1, and the cumulative HI among all exposure media (0.2) is below a HI of 1.

Under current land use conditions, the only potentially complete exposure pathway would be to soil; however, potential exposures to soil would be negligible. The cancer and non-cancer risks calculated in this HHRA for full-time worker contact with soil provide a very conservative assessment of potential risks associated with potential exposures to soil under current land use conditions. The risk assessment results indicate that use of the facility for military or commercial/industrial activities that involve full-time worker exposure to soil, full-time worker exposure to vapors that may migrate from groundwater to indoor air, and full-time worker consumption of groundwater used as tap water would be associated with cancer risks within the USEPA cancer risk range and non-cancer HI values below a HI of 1. Therefore, the HHRA demonstrates that the cumulative cancer and non-cancer risks meet the USEPA risk management criteria.

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Uncertainty Analysis

This section identifies and discusses uncertainties in the risk assessment. These uncertainties are identified in order to place the results in a context or perspective. Unlike some other assessments, risk assessments rely not just on measured or certain facts, but also on assumptions and estimates, and also policy decisions, in the face of limited or non-existent data. Several types of uncertainties should be considered in any human health risk evaluation:

- uncertainties in the nature and extent of release of constituents;
- uncertainties associated with estimating the frequency, duration, and magnitude of possible exposure;
- uncertainties associated with assigning exposure parameters to a heterogeneous population that includes both men and women and young and old (e.g., body weight and ventilation rates);
- uncertainties in estimating carcinogenic slope factors and/or noncarcinogenic measures of toxicity (e.g., RfDs or RfCs); and
- uncertainties about possible synergistic or antagonistic chemical interactions of a chemical mixture.

Because some of these parameters are functions of the behavior patterns and personal habits of the exposed populations, no single value can be assumed to be representative of all possible exposure conditions. The standard of care for environmental risk assessments for addressing many of these uncertainties is to use upper-bound (90th or 95th percentile) estimates of input values, such as exposure parameters and toxicity values. Uncertainties that are specific to this risk assessment and that may affect the interpretation of the results or conclusions are discussed below.

- The existing and foreseeable use of the facility is as a military or commercial/industrial property. There are no complete exposure pathways to groundwater, and only negligible potential for exposure to soil under the existing land use conditions. It is unlikely that any increases in exposure to soil, or that any complete pathways to groundwater, will exist in the future. Consequently, the health risks calculated in this HHRA represent risks for exposures that are unlikely to occur at the facility. In addition, it should be recognized that even under hypothetical unrestricted (i.e., residential) land use conditions, the cancer and non-cancer risks associated with exposure to soil would not exceed USEPA risk management criteria, with a residential land use cancer risk of approximately $1x10^{-5}$ and a non-cancer HI of approximately 0.2.
- Groundwater beneath the facility is classified as GA by the State of Connecticut, indicating that it must be protected as a potable water aquifer. However, there are no uses of the groundwater at the facility or within one-half mile downgradient of the facility. The groundwater contamination on the facility property is localized, and there are no indications that it will migrate off the facility property. However, risks to a commercial/industrial worker who is assumed to ingest the contaminated groundwater beneath the property were evaluated in the HHRA to provide perspective on what the baseline risks would be for consumption of the groundwater on the facility property. As demonstrated, the cancer risk of $1x10^{-5}$ and non-cancer HI of 0.2 do not exceed USEPA risk management criteria. It should be recognized that the exposure assumptions used to evaluate drinking water use of groundwater by a commercial/industrial worker differ somewhat from the general exposure assumptions used to evaluate potable use of groundwater. Specifically, the commercial/industrial tap water use scenario considers consumption of 1 liter of water per day 250 days per for 25 years, whereas general exposure assumptions used to evaluate potable use of groundwater consider consumption of 2 liters of water per day, 350 days per year, for 30 years (USEPA, 1991). Nonetheless, even if the groundwater beneath the facility was

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evaluated using the general potable use exposure assumptions, the cancer risk would be only $3x10^{-5}$ and the HI only 0.6. These risks do not exceed USEPA risk management criteria.

Overall, given the application of conservative risk assessment methods and assumptions, the results and conclusions of the risk assessment represent a sound, defensible characterization of potential current and future risks to human health and public welfare.

4.2 Ecological Risk Evaluation

Ecological risks associated with Site 08 are negligible due to the limited habitat at the USARC and absence of exposure pathways to affected media. Specifically, the contaminants detected at Site 08 are primarily associated with subsurface soils and groundwater. Exposures of ecological receptors to subsurface soils are presumed to be negligible. Likewise, contaminated groundwater beneath the facility is not discharging to any surface water bodies, as discussed in Section 2.0. Therefore, there are no mechanisms by which ecological receptors could be exposed to groundwater. Therefore, it is unlikely that Site 08 would pose any significant risk to resident or migratory species.

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Table 4-1
Selection of Chemicals of Potential Concern - Soil
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

CAS Number	Chemical	Minimum (1) Concentration (Qualifier)		Maximum (1) Concentration (Qualifier)		Units	Sample ID of Maximum Concentration	Frequency of Detection	Range of Non Detects	Concentration Used for Screening (2)	Background Value	Screening Toxicity Value (3)		Potential ARAR/TBC Value (4)	Potential ARAR/TBC Source	Retain as COPC?	Rationale for Contaminant Deletion or Selection
	Volatile Organics																
67-64-1	Acetone	0.00841	J	0.0389		MG/KG	CT08-MWS1706	5 / 11	0.0107 - 0.0132	0.0389		1400	nc	500	RESDEC	No	BSL
75-09-2	Methylene chloride	0.00145	J	0.00254	J	MG/KG	CT08-SBS0308	3 / 11	0.0049 - 0.0066	0.00254		9.1	ca	82	RESDEC	No	BSL
79-01-6	Trichloroethene	0.00332	J	0.0125		MG/KG	CT08-SBS0308	5 / 11	0.0049 - 0.0066	0.0125		0.053	ca	56	RESDEC	No	BSL
	Semivolatile Organics																
91-20-3	Naphthalene	1.78		1.78		MG/KG	LRS-1	1 / 2	0.33 - 0.33	1.78		5.6	nc	1000	RESDEC	No	BSL
85-01-8	Phenanthrene	0.74		0.74		MG/KG	LRS-1	1 / 2	0.33 - 0.33	0.74		230	nc	1000	RESDEC	No	BSL
91-57-6	2-Methylnaphthalene	1.9		1.9		MG/KG	LRS-1	1 / 2	0.33 - 0.33	1.9		5.6	nc	474	RESDEC	No	BSL
	Metals																
7440-38-2	Arsenic	0.65		7.7		MG/KG	M7 60"-78"	10 / 10		7.7		0.39	ca	10	RESDEC	Yes	ASL
7440-39-3	Barium	26		180		MG/KG	M7 60"-78"	9 / 9		180		540	nc	4700	RESDEC	No	BSL
7440-43-9	Cadmium	0.26		0.28		MG/KG	M7 114"-126"	3 / 10	0.25 - 0.25	0.28		3.7	nc	34	RESDEC	No	BSL
7440-47-3	Chromium	6.5		24		MG/KG	M7 60"-78"	10 / 10		24		210	ca	100	RESDEC	No	BSL
7439-92-1	Lead	4.2		73.9		MG/KG	M1 4"-20"	10 / 10		73.9		400	nc	500	RESDEC	No	BSL
	Total Petroleum Hydrocarbons																
	Extractable Total Petroleum Hydrocarbo	22		103		MG/KG	M2 2"-8"	16 / 37	10 - 50	103				500	RESDEC	No	BSL

Notes:
(1) Minimum or maximum concentration detected in data set. Samples included in data set are identified in Appendix D.
(2) The concentration used for screening is the maximum detected concentration.
(3) Values are the Preliminary Remediation Goals (PRGs) obtained from USEPA Region IX dated October 2004.
Values used for screening are the residential soil PRGs for the lesser of cancer risks equal to 1E-06 or non-cancer risks equal to a hazard index of 0.1.
PRG for pyrene used for phenanthrene.
PRG for 2-methylnaphthalene based on value for naphthalene.
nc - PRG is based on a non-cancer hazard quotient of 0.1.
ca - PRG is based on an excess lifetime cancer risk of 1 in 1 million.
(4) The ARAR/TBC for soil are the Connecticut CTDEP RSR Direct Exposure Criteira for Residenital Soil (RES DEC).
(5) Analyte is selected as a COPC if the concentration used for screening exceeds the PRG or if no screening value is available.
BSL = Concentration used for screening is less than the screening toxicity value; the analyte was not selected as a COPC.
ASL = Concentration used for screening is greater than the screening toxicity value; the analyte was selected as a COPC.
NSL = No screening level available; the anlayte was selected as a COPC.

mg/Kg = milligrams per kilogram
COPC = chemical of potential concern
J - Value is estimated.

Table 4-2
Selection of Chemicals of Potential Concern - Groundwater
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

CAS Number	Chemical	Minimum (1) Concentration (Qualifier)		Maximum (1) Concentration (Qualifier)		Units	Sample ID of Maximum Concentration	Frequency of Detection	Range of Non Detects	Concentration Used for Screening (2)	Background Value	Screening Toxicity Value (3)		Potential ARAR/TBC Value (4)	Potential ARAR/TBC Source	Potential ARAR/TBC Value (4)	Potential ARAR/TBC Source	Retain as COPC?	Rationale for Contaminant Deletion or Selection
	Volatile Organics (mg/L)																		
71-55-6	1,1,1-Trichloroethane	0.00029	J	0.00162		MG/L	BRS0403	2 / 32	0.001 - 0.001	0.00162		0.32	nc	0.2	MCL	0.2	GA GWPC	No	BSL
108-67-8	1,3,5-Trimethylbenzene	0.000268	J	0.000268	J	MG/L	CT08-MWS1804	1 / 32	0.001 - 0.001	0.000268		0.0012	nc			0.35	GA GWPC	No	BSL
78-93-3	2-Butanone	0.0123	J	0.0123	J	MG/L	BRS0303	1 / 7	0.01 - 0.01	0.0123		0.7	nc			0.4	GA GWPC	No	BSL
67-64-1	Acetone	0.00404	J	0.0883	J	MG/L	BRS0303	4 / 4	-	0.0883		0.55	nc			0.7	GA GWPC	No	BSL
75-15-0	Carbon disulfide	0.000695	J	0.0012		MG/L	BRS0303	3 / 32	0.001 - 0.0012	0.0012		0.1	nc			0.7	GA GWPC	No	BSL
56-23-5	Carbon tetrachloride	0.000673	J	0.00636		MG/L	MWS0103	9 / 32	0.001 - 0.001	0.00636		0.00017	ca*	0.005	MCL	0.005	GA GWPC	Yes	ASL
67-66-3	Chloroform	0.000251	J	0.00458		MG/L	BRS0303	13 / 32	0.001 - 0.001	0.00458		0.00017	ca			0.006	GA GWPC	Yes	ASL
74-87-3	Chloromethane	0.000604	J	0.000604	J	MG/L	BRS0403	1 / 32	0.001 - 0.001	0.000604		0.016	nc			0.0027	GA GWPC	No	BSL
156-59-2	Cis-1,2-Dichloroethene	0.000578	J	0.00167		MG/L	BRS0403	4 / 32	0.001 - 0.001	0.00167		0.0061	nc	0.07	MCL	0.07	GA GWPC	No	BSL
100-41-4	Ethyl benzene	0.000456	J	0.000532	J	MG/L	CT08-MWS1804	2 / 32	0.001 - 0.001	0.000532		0.13	nc	0.7	MCL	0.7	GA GWPC	No	BSL
1634-04-4	Methyl Tertbutyl Ether	0.000578	J	0.000656	J	MG/L	MWS1603	3 / 32	0.005 - 0.005	0.000656		0.011	ca			0.1	GA GWPC	No	BSL
108-88-3	Toluene	0.000261	J	0.000693	J	MG/L	CT08-GWS0715	5 / 32	0.001 - 0.001	0.000693		0.072	nc	1	MCL	1	GA GWPC	No	BSL
156-60-5	trans-1,2-Dichloroethene	0.0106		0.0106		MG/L	BRS0103	1 / 32	0.001 - 0.001	0.0106		0.012	nc	0.1	MCL	0.1	GA GWPC	No	BSL
79-01-6	Trichloroethene	0.000255	J	0.0385		MG/L	BRS0403	12 / 32	0.001 - 0.001	0.0385		0.000028	ca	0.005	MCL	0.005	GA GWPC	Yes	ASL
	Metals, Total (mg/L)																		
7440-38-2	Arsenic	0.000316	J	0.00523	J	MG/L	CT08-GWS0819	6 / 8	0.001 - 0.001	0.00523		0.000045	ca	0.01	MCL	0.05	GA GWPC	Yes	ASL
7440-39-3	Barium	0.0278		0.35		MG/L	CT08-GWS0819	8 / 8	-	0.35		0.26	nc	2	MCL	1	GA GWPC	Yes	ASL
7782-49-2	Selenium	0.000648	J	0.00457		MG/L	CT08-GWS0325	6 / 8	0.001 - 0.001	0.00457		0.018	nc	0.05	MCL	0.05	GA GWPC	No	BSL
	Metals, Dissolved (mg/L)																		
7440-38-2	Arsenic	0.000299	J	0.0011		MG/L	CT08-GWS0715	5 / 9	0.001 - 0.001	0.0011		0.000045	ca	0.01	MCL	0.05	GA GWPC	Yes	ASL
7440-39-3	Barium	0.0214		0.31		MG/L	CT08-GWS0819	9 / 9	-	0.31		0.26	nc	2	MCL	1	GA GWPC	Yes	ASL
7439-92-1	Lead	0.00304	J	0.00515		MG/L	CT08-GWS0819	2 / 9	0.005 - 0.005	0.00515				0.015	MCL	0.015	GA GWPC	No	BSL
7782-49-2	Selenium	0.000506	J	0.000949	J	MG/L	CT08-GWS0325	4 / 9	0.001 - 0.001	0.000949		0.018	nc	0.05	MCL	0.05	GA GWPC	No	BSL
	Petroleum Hydrocarbons (mg/L)																		
HLA0101	Extractable Total Petroleum Hydrocarbons	0.0546	J	0.178	NJ	MG/L	MWS1603	4 / 18	0.1 - 0.118	0.178						0.5	GA GWPC	No	BSL

Notes:
(1) Minimum or maximum concentration detected in data set. Samples included in data set are identified in Appendix D.
(2) The concentration used for screening is the maximum detected concentration.
(3) Values are the Preliminary Remediation Goals (PRGs) obtained from USEPA Region IX dated October 2004.
Values used for screening are the tap water PRGs for the lesser of cancer risks equal to 1E-06 or non-cancer risks equal to a hazard index of 0.1.
nc - PRG is based on a non-cancer hazard quotient of 0.1.
ca - PRG is based on an excess lifetime cancer risk of 1 in 1 million.
ca* - where nc PRG < 100X ca PRG.
(4) The ARAR/TBC for groundwater are the Federal MCLs and the Connecticut CTDEP RSR Groundwater Protection Criteria for Class GA Groundwater.
(5) Analyte is selected as a COPC if the concentration used for screening exceeds the PRG or if no screening value is available.
BSL = Concentration used for screening is less than the screening toxicity value; the analyte was not selected as a COPC.
ASL = Concentration used for screening is greater than the screening toxicity value; the analyte was selected as a COPC.
NSL = No screening level available; the anlayte was selected as a COPC.

mg/L = milligrams per liter
COPC = chemical of potential concern
J - Value is estimated.

Table 4-3
Selection of Exposure Pathways
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

Scenario Timeframe	Medium	Exposure Medium	Exposure Points	Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
CURRENT	**Soil**	**Soil**	Site 08	Area Resident / Trespasser	Adult	Dermal	None	Area residents and others do not have access to this area due to the secure nature of the military installation.
						Ingestion	None	
					Child	Dermal	None	
						Ingestion	None	
				Military Personnel	Adult	Dermal	Qualitative	Military personnel access the facility, but have limited contact with soil; evaluation of future exposures to soil is
						Ingestion	Qualitative	conservative for the current land use conditions.
		Air - Dust	Site 08	Area Resident / Trespasser	Adult	Inhalation	None	Area residents and others do not have access to this area due to the secure nature of the military installation.
					Child	Inhalation	None	
				Military Personnel	Adult	Inhalation	Qualitative	Military personnel access the facility, but have limited contact with soil; evaluation of future exposures to soil i
								conservative for the current land use conditions.
		Air - Vapors	Site 08	Area Resident / Trespasser	Adult	Inhalation	None	VOCs were not retained as COPCs in soil.
					Child	Inhalation	None	
				Military Personnel	Adult	Inhalation	None	
	Groundwater	**Groundwater**	Site 08	Area Resident	Adult	Dermal	None	Groundwater is not presently used for water supply. Water to facility and downgradient area is municipally-supplied.
						Ingestion	None	
				Military Personnel	Adult	Dermal	None	Groundwater is not presently used for water supply. Water to facility and downgradient area is municipally-supplied.
						Ingestion	None	
		Air - Vapors	Site 08	Area Resident / Trespasser	Adult	Inhalation	None	No occupied buildings within 100 feet of groundwater VOC contamination.
					Child	Inhalation	None	
				Military Personnel	Adult	Inhalation	None	
FUTURE	**Soil**	**Soil**	Site 08	Resident	Adult	Dermal	None	Future use is military/commercial-industrial; residential use will not occur.
						Ingestion	None	
					Child	Dermal	None	
						Ingestion	None	
				Recreational Visitor	Adult	Dermal	None	Future use is military/commercial-industrial; recreational use will not occur.
						Ingestion	None	
					Child	Dermal	None	
						Ingestion	None	
				Commercial/Industrial Worker	Adult	Dermal	Quantitative	Future use is military/commercial-industrial; contact with soil is assumed to occur.
						Ingestion	Quantitative	
				Construction worker	Adult	Dermal	Qualitative	Commercial/industrial worker scenario is protective for construction worker scenario.
						Ingestion	Qualitative	
		Air - Dust	Site 08	Resident	Adult	Inhalation	None	Future use is military/commercial-industrial; residential use will not occur.
					Child	Inhalation	None	
				Recreational Visitor	Adult	Inhalation	None	Future use is military/commercial-industrial; recreational use will not occu
					Child	Inhalation	None	
				Commercial/Industrial Worker	Adult	Inhalation	Quantitative	Future use is military/commercial-industrial; liberation of dust could occu
				Construction worker	Adult	Inhalation	Qualitative	Commercial/industrial worker scenario is protective for construction worker scenari
		Air - Vapors	Site 08	Resident	Adult	Inhalation	None	VOCs were not retained as COPCs.
					Child	Inhalation	None	
				Recreational Visitor	Adult	Inhalation	None	
					Child	Inhalation	None	
				Commercial/Industrial Worker	Adult	Inhalation	None	
				Construction worker	Adult	Inhalation	None	
	Groundwater	**Groundwater**	Site 08	Resident	Adult	Dermal	None	No migration of contaminated groundwater off the facility property is occurring or is expected to occur, and down-gradient areas are
						Ingestion	None	supplied with municipal water. Future use of property is military/commercial-industrial.
				Recreational Visitor	Adult	Dermal	None	Future use is military/commercial-industrial; recreational use will not occur.
						Ingestion	None	
					Child	Dermal	None	
						Ingestion	None	
				Commercial/Industrial Worker	Adult	Dermal	None	Future use is military/commercial-industrial and groundwater use is highly unlikely. Ingestion of groundwater as tap water at a commercia
						Ingestion	Quantitative	facility is evaluated to provide perspective on baseline risks associated with potable use of groundwater beneath property.
				Construction worker	Adult	Dermal	None	Commercial-industrial worker scenario is protective for construction worker scenario.
						Ingestion	Qualitative	
		Air - Vapors	Site 08	Resident	Adult	Inhalation	None	No migration of contaminated groundwater off the facility property is occurring or is expected to occu
					Child	Inhalation	None	Future use of property is military/commercial-industrial.
				Recreational Visitor	Adult	Inhalation	None	Future use is military/commercial-industrial; recreational use will not occu
					Child	Inhalation	None	
				Commercial/Industrial Worker	Adult	Inhalation	Quantitative	Vapor intrusion pathway could potentially be complete if occupied buildings were constructed over VOC-contaminated groundwat
				Construction worker	Adult	Inhalation	Qualitative	Commercial-industrial worker scenario is protective for construction worker scenari

Table 4-4
Values Used for Daily Intake Calculations Reasonable Maximum Exposure - Future Land Use Groundwater
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

Scenario Timeframe: Future Land Use
Medium: Groundwater

Exposure Route	Receptor Population	Receptor Age	Exposure Points	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation / Model Name
Ingestion	Commercial / Industrial Worker (Indoor or Outdoor)	Adult	Overburden and bedrock wells	CW-c	Chemical Concentration in Water	Maximum	mg/l	USEPA, 1989	CHEMICAL INTAKE-INGESTION (mg/kg-day)=
				IR-W	Ingestion Rate of Water	1	l/day	USEPA, 1991	CW-c x IR-W x FI x EF x ED x 1/BW x 1/AT
				FI	Fraction Ingested	1	unitless	Assumption	
				EF	Exposure Frequency	250	day/yr	USEPA, 1991	
				ED	Exposure Duration	25	yr	USEPA, 1991	
				BW	Body Weight	70	kg	USEPA, 1991	
				AT-C	Averaging Time (Cancer)	25550	day	USEPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	8760	day	USEPA, 1989 / equal to ED	
Inhalation	Commercial / Industrial Worker (Indoor)	Adult	Indoor Air	CW-c	Chemical Concentration in Water	Maximum	mg/l	USEPA, 1989	CHEMICAL INTAKE-INGESTION (mg/kg-day)=
				CW-air	Chemical Concentration in Indoor Air	Modeled	ug/m^3	[a]	CW-c x IR-W x FI x EF x ED x 1/BW x 1/AT
				ET	Exposure Time	8	hour/day	USEPA, 2002	
				EF	Exposure Frequency	250	day/yr	USEPA, 2002	CHEMICAL EXPOSURE-INHALATION (ug/m^3)=
				ED	Exposure Duration	25	yr	USEPA, 2002	CW-air x ET x EF x ED x 1/24 hr x 1/AT
				BW	Body Weight	70	kg	USEPA, 2002	
				AT-C	Averaging Time (Cancer)	25550	day	USEPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	8760	day	USEPA, 1989 / equal to ED	

Notes:
USEPA, 1989. "Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual (Part A)"; Office of Emergency and Remedial Response; EPA-540/1-89/002 (interim final); Washington, D.C., December.
USEPA, 1991. Risk Assessment Guidance for Superfund Volume 1: Human Health Evaluation Manual Supplemental Guidance "Standard Default Exposure Factors". OSWER 9285.6-03. March.
USEPA, 2002. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. OSWER 9355.4-24. December.
[a] - Indoor air concentrations are modeled using the Johnson-Ettinger vapor intrusion model and the maximum groundwater concentration as the groundwater vapor source EPC. See D Appendix for modeling.
mg - milligrams
l - liter
yr - year
kg - kilograms
ug - micrograms
hr - hours

Table 4-5
Values Used for Daily Intake Calculations Reasonable Maximum Exposure - Future Land Use Soil
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

Scenario Timeframe: Future Land Use
Medium: Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Points	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation / Model Name
Ingestion	Commercial /	Adult	Site 08	CS-c	Chemical Concentration in Soil	95% UCL	mg/kg	USEPA, 2002a	CHEMICAL INTAKE-INGESTION (mg/kg-day) =
	Industrial			IR-S	Ingestion Rate of Soil	100	mg/day	USEPA, 2002b	CS-c x IR-S x FI x EF x ED x CF1 x 1/BW x 1/AT
	Worker			FI	Fraction Ingested	1	unitless	Assumption	
	Outdoor			EF	Exposure Frequency	225	day/yr	USEPA, 2002b	
				ED	Exposure Duration	25	yr	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-C	Averaging Time (Cancer)	25550	day	USEPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	9125	day	USEPA, 1989 / equal to ED	
				CF1	Conversion Factor	1.E-06	kg/mg		
Dermal	Commercial /	Adult	Site 08	CS	Chemical Concentration in Soil	95% UCL	mg/kg	USEPA, 2002a	INTAKE-DERMAL (mg/kg-day) =
	Industrial			DAevent	Dose Absorbed Per Event	chemical-specific	mg/cm^2-event	USEPA, 2004	DAevent x SA x EF x ED x EV x 1/BW x 1/AT
	Worker			SA	Skin Surface Area Available for Contact	3300	cm^2	USEPA, 2002b	
	Outdoor			EF	Exposure Frequency	225	day/yr	USEPA, 2002b	Where DAevent =
				ED	Exposure Duration	25	yr	USEPA, 2002b	CS x AF x ABSd x CF
				EV	Events per Day	1	event/day	USEPA, 2002b	
				AF	Adherence Factor	0.2	mg/cm^2-event	USEPA, 2002b	
				ABSd	Dermal Absorption Factor	0.03	unitless	USEPA, 2004	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-C	Averaging Time (Cancer)	25550	day	USEPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	9125	day	USEPA, 1989 / equal to ED	
				CF	Conversion Factor	1E-06	kg/mg		
Dust	Commercial /	Adult	Site 08	CS-c	Chemical Concentration in Soil	95% UCL	mg/kg	USEPA, 2002a	CHEMICAL INTAKE-INHALATION (ug/m³) =
Inhalation	Industrial			CAair-dust	Concentration in Air - Dust	95% UCL	ug/m^3	Modeled from soil	CAair x ED x EFx ET x 1/AT
	Worker			EF	Exposure Frequency - outdoor	225	day/yr	USEPA, 2002b	CAair-dust =
	Outdoor			ED	Exposure Duration	25	yr	USEPA, 2002b	CS-c x 1/PEF x 1000 ug/mg
				ET	Exposure Time	8	hr/day	USEPA, 2002b	
				AT-C	Averaging Time (Cancer)	25550	day	USEPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	9125	day	USEPA, 1989 / equal to ED	
				PEF	Particulate Emission Factor	1.16E+09	m^3/kg	USEPA, 2002b [a]	

USEPA, 1989. "Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual (Part A)"; Office of Emergency and Remedial Response; EPA-540/1-89/002 (interim final); Washington, D.C., December.
USEPA, 2002a. "Calculating UpperConfidence Limits for Exposure Point Concentrations at Hazardous Waste Sites". OSWER 9285.6-10. December.
USEPA, 2002b. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. OSWER 9355.4-24. December.
USEPA, 2004. "Risk Assessment Guidance for Superfund. Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final. EPA/540/R/99/005.
[a] - Based on 1/2 acre source area with parameters for Hartford, CT
NA - Not Applicable

kg - kilograms	mg - milligrams	ug - micrograms	hr - hour
cm^2 - square centimeters	m^3 - cubic meters	yr - year	UCL - upper confidence limit

Table 4-6
Exposure Point Concentrations - Soil
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

						Exposure Point Concentration			
Chemical of Potential Concern	Units	Arithmetic Mean (1)	95% UCL (distribution)		Maximum Concentration (Qualifier)	EPC	Units	Statistic	Rationale
Metals									
Arsenic	mg/Kg	3.2	4.4	N [a]	7.7	4.4	mg/kg	95% UCL - N [a]	(2)

(1) Arithmetic mean is calculated using one half the detection limit for nondetects.
(2) UCL - The 95% UCL is used as the EPC because the calculated 95% UCL is less than the maximum detected concentration.
UCLs are calculated using ProUCL (V. 3.02); documentation of calculations is provided in Appendix D.

N - Normal Distribution
[a] Student's-t UCL

mg/Kg = milligrams per kilogram
EPC = Exposure Point Concentration
UCL = Upper Confidence Limit on the mean

Table 4-7
Exposure Point Concentrations - Groundwater
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

					Exposure Point Concentration			
Chemical of Potential Concern	Units	Arithmetic Mean (1)	95% UCL (distribution)	Maximum Concentration (Qualifier)	EPC	Units	Statistic	Rationale
Volatile Organics								
Carbon tetrachloride	mg/L	0.0012	NC	0.00636	0.00636	mg/L	Maximum	(2)
Chloroform	mg/L	0.00082	NC	0.00458	0.00458	mg/L	Maximum	(2)
Trichloroethene	mg/L	0.0064	NC	0.0385	0.0385	mg/L	Maximum	(2)
Metals, Dissolved								
Arsenic	mg/L	0.00060	NC	0.0011	0.0011	mg/L	Maximum	(2)
Barium	mg/L	0.15	NC	0.31	0.31	mg/L	Maximum	(2)

(1) Arithmetic mean is calculated using one half the detection limit for nondetects.
(2) The maximum detected concentration is used as the EPC.
mg/L = milligrams per liter
EPC = Exposure Point Concentration
UCL = Upper Confidence Limit on the mean
NC = Not Calculated

Table 4-8
Cancer Toxicity Data - Oral/Dermal
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (1)	Absorbed Cancer Slope Factor for Dermal (2)		Weight of Evidence/ Cancer Guideline Description	Oral Cancer Slope Factor	
	Value	Units		Value	Units		Source(s)	Date(s)
VOLATILES								
Carbon Tetrachloride	1.3E-01	$(mg/kg/day)^{-1}$	100%	1.3E-01	$(mg/kg/day)^{-1}$	B2	IRIS	April, 2007
Chloroform	NA		100%	NA		Likely carcinogenic in humans	IRIS	April, 2007
Trichloroethene	1.3E-02	$(mg/kg/day)^{-1}$	100%	1.3E-02	$(mg/kg/day)^{-1}$	NA	CALEPA	August, 2005
INORGANICS/METALS								
Arsenic	1.5E+00	$(mg/kg/day)^{-1}$	95%	1.5E+00	$(mg/kg/day)^{-1}$	A	IRIS	April, 2007
Barium	NA			NA		D	IRIS	April, 2007

Notes:
In accordance with OSWER 9285.7-53, chronic RfDs are identified from the following heirarchy of sources:
Tier 1:
IRIS = Integrated Risk Information System: April, 2007
Tier 2:
PPRTV = Preliminary Peer-Reviewed Refe October, 2006 Obtained from Region III RBC Table
Tier 3:
HEAST= Health Effects Assessment Sumr FY 1997 Verified using Region IX PRG and/or Region III RBC Table
CALEPA - California Environmental Prote August, 2005
In addition, provisional RfDs developed by NCEA are presented for informational purposes and to be used on a case-by-case basis:
NCEA = National Center for Environmenta October, 2006 Obtained from Region III RBC Table

Weight of Evidence:
A - Human carcinogen
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen

mg = milligram
kg = kilogram
BW = body weight
ND = no data available

(1) Values obtained from RAGS Volume 1 (Part E, Supplemental Guidance for Dermal Risk Assessment, Interim Guidance) (EPA, 2004) Per this guidance, a value of 100% is used for analytes without published values.
(2) Adjusted Dermal SF = Oral SF / Oral to Dermal Adjustment Factor. Per RAGS Part E (USEPA, 2004), adjustments are only performed for chemicals that have an oral absorption efficiency of less than 50%.

Table 4-9
Cancer Toxicity Data - Inhalation
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

Chemical of Potential Concern	Unit Risk		Inhalation Cancer Slope Factor (1)		Weight of Evidence/ Cancer Guideline Description	Unit Risk: Inhalation Cancer Slope Factor	
	Value	Units	Value	Units		Source(s)	Date(s)
VOLATILES							
Carbon Tetrachloride	1.50E-05	$(ug/m^3)^{-1}$	5.30E-02	$(mg/kg/day)^{-1}$	B2	IRIS	April, 2007
Chloroform	2.30E-05	$(ug/m^3)^{-1}$	8.10E-02	$(mg/kg/day)^{-1}$	Likely carcinogenic in humans	IRIS	April, 2007
Trichloroethene	2.00E-06	$(ug/m^3)^{-1}$	7.00E-03	$(mg/kg/day)^{-1}$	NA	CALEPA	August, 2005
INORGANICS/METALS							
Arsenic	4.30E-03	$(ug/m^3)^{-1}$	1.50E+01	$(mg/kg/day)^{-1}$	A	IRIS	April, 2007
Barium	NA		NA		D	IRIS	April, 2007

Notes:
In accordance with OSWER 9285.7-53, chronic RfDs are identified from the following heirarchy of sources:
Tier 1:
IRIS = Integrated Risk Information System: April, 2007
Tier 2:
PPRTV = Preliminary Peer-Reviewed Refe October, 2006 Obtained from Region III RBC Table
Tier 3:
HEAST= Health Effects Assessment Summ FY 1997 Verified using Region IX PRG and/or Region III RBC Table
CALEPA - California Environmental Prote August, 2005
In addition, provisional RfDs developed by NCEA are presented for informational purposes and to be used on a case-by-case basis:
NCEA = National Center for Environmenta October, 2006 Obtained from Region III RBC Table

(1) - Inhalation cancer dose-response values are typically published as unit risk values. Uni
may be converted to slope factors using the following equation (HEAST, 1997):
Adjustment = 70 kg [adult body weight] * 1000 ug/mg [conversion factor] / 20 m3/day
and: Inhalation Slope Factor = Unit Risk * Adjustment

mg = milligram
ug = microgram
kg = kilogram

m^3 = cubic meter
BW = body weight
ND = no data available

Weight of Evidence:
A - Human carcinogen
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen

Table 4-10
Non-Cancer Toxicity Data - Oral/Dermal
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal (1)	Adjusted Dermal RfD (2)		Primary Target Organ or System / Critical Effect	Combined Uncertainty/Modifying Factors	RfD: Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Date(s)
VOLATILES										
Carbon Tetrachloride	chronic	7.0E-04	mg/kg/day	100%	7.0E-04	mg/kg/day	Liver; liver lesions	1,000/1	IRIS	April, 2007
	subchronic	7.0E-04	mg/kg/day	100%	7.0E-04	mg/kg/day	Liver; liver lesions	1,000/1	Chronic	
Chloroform	chronic	1.0E-02	mg/kg/day	100%	1.0E-02	mg/kg/day	Liver; fatty cyst formation in liver	100/1	IRIS	April, 2007
	subchronic	1.0E-01	mg/kg/day	100%	1.0E-01	mg/kg/day	Liver	100	MRL	December, 2006
Trichloroethene	chronic	6.0E-03	mg/kg/day	100%	6.0E-03	mg/kg/day	Liver and kidney		IRIS	Withdrawn
	subchronic	6.0E-03	mg/kg/day	100%	6.0E-03	mg/kg/day	Liver and kidney		Chronic	
INORGANICS/METALS										
Arsenic	chronic	3.0E-04	mg/kg/day	95%	3.0E-04	mg/kg/day	Skin; keratosis and hyperpigmentation	3/1	IRIS	April, 2007
	subchronic	3.0E-04	mg/kg/day	95%	3.0E-04	mg/kg/day	Skin; keratosis and hyperpigmentation	3/1	HEAST	FY 1997
Barium	chronic	2.0E-01	mg/kg/day	7%	1.4E-02	mg/kg/day	Kidney; nephropathy	300/1	IRIS	April, 2007
	subchronic	7.0E-01	mg/kg/day	7%	4.9E-02	mg/kg/day	Kidney	100	MRL	December, 2006

Notes:
In accordance with OSWER 9285.7-53, chronic RfDs are identified from the following heirarchy of sources:
Tier 1:
IRIS = Integrated Risk Information System: April, 2007
Tier 2:
PPRTV = Preliminary Peer-Reviewed Toxicity Value: September, 2004 Obtained from Region IX PRG Table
October, 2006 Obtained from Region III RBC Table
Tier 3:
HEAST= Health Effects Assessment Summary Tables: FY 1997 Verified using Region IX PRG and/or Region III RBC Table
MRL = Minimum Risk Level (ATSDR: chronic MRLs) December, 2006
In addition, provisional RfDs developed by NCEA are presented for informational purposes and to be used on a case-by-case basis:
NCEA = National Center for Environmental Assessmen September, 2004 Obtained from Region IX PRG Table
October, 2006 Obtained from Region III RBC Table

Subchronic RfDs are obtained from:
- ATSDR: Intermitent MRLs
- HEAST: subchronic RfDs (from HEAST FY 1997)
- Equal to chronic RfDs when values are not published in HEAST or by ATSDR

(1) Values obtained from RAGS Volume 1 (Part E, Supplemental Guidance for Dermal Risk Assessment, Interim Guidance) (EPA, 2004)
Per this guidance, a value of 100% is used for analytes without published values.
(2) Adjusted Dermal RfD = Oral RfD x Oral to Dermal Adjustment Factor. Per RAGS Part E (USEPA, 2004), adjustments are only performed for chemicals that have an oral absorption efficiency of less than 50%.

mg = milligram
kg = kilogram
surrogate - a value for a closely related chemical is used as the RfD
BW = body weight
chronic - the chronic value is used as the subchronic RfD
ND = no data available

Table 4-11
Non-Cancer Toxicity Data - Inhalation
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfC (1)		Extrapolated RfD (1)		Primary Target Organ or System / Critical Effect	Combined Uncertainty/Modifying Factors	RfC: Target Organ(s)	
		Value	Units	Value	Units			Source(s)	Date(s)
VOLATILES									
Carbon Tetrachloride	chronic	1.8E-01	mg/m3	5.0E-02	mg/kg/day	Liver	30	MRL	December, 2006
	subchronic	1.8E-01	mg/m3	5.0E-02	mg/kg/day	Liver	30	MRL	December, 2006
Chloroform	chronic	1.0E-01	mg/m3	2.9E-02	mg/kg/day	Liver	300	MRL	December, 2006
	subchronic	2.5E-01	mg/m3	7.1E-02	mg/kg/day	Liver	100	MRL	December, 2006
Trichloroethene	chronic	6.0E-01	mg/m3	1.7E-01	mg/kg/day	Nervous system		REL	February, 2005
	subchronic	6.0E-01	mg/m3	1.7E-01	mg/kg/day	Nervous system		Chronic	
INORGANICS/METALS									
Arsenic	chronic	3.0E-05	mg/m3	8.6E-06	mg/kg/day	Developmental; cardiovascular; CNS		REL	February, 2005
	subchronic	ND		ND					
Barium	chronic	5.0E-04	mg/m3	1.4E-04	mg/kg/day	Developmental; fetotoxicity	1,000	HEAST	FY 1997
	subchronic	5.0E-03	mg/m3	1.4E-03	mg/kg/day	Developmental; fetotoxicity	100	HEAST	FY 1997

Notes:

In accordance with OSWER 9285.7-53, chronic RfDs are identified from the following heirarchy of sources:

Tier 1:
IRIS = Integrated Risk Information System: April, 2007

Tier 2:
PPRTV = Preliminary Peer-Reviewed Toxicity Value: September, 2004 Obtained from Region IX PRG Table
October, 2006 Obtained from Region III RBC Table

Tier 3:
HEAST= Health Effects Assessment Summary Tables: FY 1997 Verified using Region IX PRG and/or Region III RBC Table
MRL = Minimum Risk Level (ATSDR: chronic MRLs): December, 2006
REL - CALEPA February, 2005

In addition, provisional RfDs developed by NCEA are presented for informational purposes and to be used on a case-by-case basis:
NCEA = National Center for Environmental Assessment: September, 2004 Obtained from Region IX PRG Table
October, 2006 Obtained from Region III RBC Table

Subchronic RfDs are obtained from:
- ATSDR: Intermitent MRLs
- HEAST: subchronic RfDs (from HEAST FY 1997)
- Equal to chronic RfDs when values are not published in HEAST or by ATSDR

chronic - the chronic value is used as the subchronic RfD

mg = milligram
kg = kilogram
ug - microgram
m^3 - cubic meter
BW = body weight

(1) - Inhalation non-cancer dose-response values are typically published as RfC values. RfC values may be converted to RfDs using the following equation (HEAST, 1997):
RfD (mg/kg-d) = RfC (mg/m^3) x 20 m^3/d / 70 kg, unless otherwise indicated
For RfDs obtained from NCEA (published in USEPA Region III RBC Table), it is assumed that the value has been converted from a RfC value. Therefore, the RfD is converted back to a RfC value as follows: RfC (mg/m^3) = RfD (mg/kg/day) x 70 kg / 20 m^3/day

Values for petroleum fractions are provided for informational purposes, and are developed by MADEP.

Table 4-12
Calculation Of Chemical Cancer Risks And Non-Cancer Hazards -- Reasonable Maximum Exposure- Current/Future- Commercial / Industrial Worker- Adult
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

SCENARIO TIMEFRAME: CURRENT/FUTURE
RECEPTOR POPULATION: COMMERCIAL/ INDUSTRIAL WORKER
RECEPTOR AGE: ADULT

MEDIUM	EXPOSURE MEDIUM	EXPOSURE POINT	EXPOSURE ROUTE	CHEMICAL	EPC		CANCER RISK CALCULATIONS					NON-CANCER HAZARD CALCULATIONS				
					VALUE	UNITS	INTAKE/EXPOSURE CONCENTRATION		CSF/UNIT RISK		CANCER RISK	INTAKE/EXPOSURE CONCENTRATION		RfD/RfC (1)		HAZARD QUOTIENT
							VALUE	UNITS	VALUE	UNITS		VALUE	UNITS	VALUE	UNITS	
GROUNDWATER TOTAL											**0.E+00**					**0.E+00**
SOIL	SOIL	SITE	INGESTION	Arsenic	4.4	mg/kg	1.4E-06	mg/kg/day	1.5E+00	(mg/kg/day)-1	2.E-06	3.9E-06	mg/kg/day	3.0E-04	mg/kg/day	1.E-02
			EXPOSURE ROUTE TOTAL								2.E-06					1.E-02
			DERMAL	Arsenic	4.4	mg/kg	2.7E-07	mg/kg/day	1.5E+00	(mg/kg/day)-1	4.E-07	7.7E-07 -- --	mg/kg/day	3.0E-04	mg/kg/day	3.E-03
			EXPOSURE ROUTE TOTAL								4.E-07					3.E-03
		EXPOSURE POINT TOTAL									2.E-06					2.E-02
	EXPOSURE MEDIUM TOTAL										2.E-06					2.E-02
	AIR	DUST AT SITE	DUST INHALATION	Arsenic	4.4	mg/kg	2.8E-07	ug/m3	4.3E-03	(ug/m3)-1	1.E-09	7.8E-07	ug/m3	3.0E-02	ug/m3	3.E-05
			EXPOSURE ROUTE TOTAL								1.E-09					3.E-05
		EXPOSURE POINT TOTAL									1.E-09					3.E-05
	EXPOSURE MEDIUM TOTAL										1.E-09					3.E-05
SOIL TOTAL											**2.E-06**					**2.E-02**
										TOTAL RECEPTOR RISK ACROSS ALL MEDIA	**2.E-06**	**TOTAL RECEPTOR HAZARD ACROSS ALL MEDIA**				**2.E-02**

Notes:
(1) - Blank cells indicate that an RfD or RfC is not avalailable from the sources used to obtain dose-response data for this risk assessment.
NC - Not carcinogenic by this exposure route.
NA - Not applicable; exposure route not applicable for this chemical/exposure medium.
NV - Not volatile; exposure route not complete for this chemical.
-- - Not calculated; dose-response data and/or dermal absorption values are not available.

Table 4-13
Calculation Of Chemical Cancer Risks And Non-Cancer Hazards -- Reasonable Maximum Exposure- Current/Future- Commercial/Industrial Worker- Adult
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

SCENARIO TIMEFRAME: CURRENT/FUTURE
RECEPTOR POPULATION: COMMERCIAL/INDUSTRIAL WORKER
RECEPTOR AGE: ADULT

MEDIUM	EXPOSURE MEDIUM	EXPOSURE POINT	EXPOSURE ROUTE	CHEMICAL	EPC		CANCER RISK CALCULATIONS					NON-CANCER HAZARD CALCULATIONS				
					VALUE	UNITS	INTAKE/EXPOSURE CONCENTRATION		CSF/UNIT RISK		CANCER RISK	INTAKE/EXPOSURE CONCENTRATION		RfD/RfC (1)		HAZARD QUOTIENT
							VALUE	UNITS	VALUE	UNITS		VALUE	UNITS	VALUE	UNITS	
GROUND WATER	GROUND WATER	AQUIFER USED AS TAP WATER	INGESTION	Carbon tetrachloride	0.00636	mg/l	2.2E-05	mg/kg/day	1.3E-01	(mg/kg/day)-1	3.E-06	6.2E-05	mg/kg/day	7.0E-04	mg/kg/day	9.E-02
				Chloroform	0.00458	mg/l	1.6E-05	mg/kg/day	NA			4.5E-05	mg/kg/day	1.0E-02	mg/kg/day	4.E-03
				Trichloroethene	0.0385	mg/l	1.3E-04	mg/kg/day	1.3E-02	(mg/kg/day)-1	2.E-06	3.8E-04	mg/kg/day	6.0E-03	mg/kg/day	6.E-02
				Arsenic	0.0011	mg/l	3.8E-06	mg/kg/day	1.5E+00	(mg/kg/day)-1	6.E-06	1.1E-05	mg/kg/day	3.0E-04	mg/kg/day	4.E-02
				Barium	0.31	mg/l	NC		NC			3.0E-03	mg/kg/day	2.0E-01	mg/kg/day	2.E-02
		EXPOSURE POINT TOTAL									1.E-05					2.E-01
	EXPOSURE MEDIUM TOTAL										1.E-05					2.E-01
	AIR	PLUME - INDOOR AIR	INDOOR VAPOR INHALATION	Carbon tetrachloride	0.00636	mg/l	4.4E-03	ug/m3	1.5E-05	(ug/m3)-1	7.E-08	1.2E-02	ug/m3	1.8E+02	ug/m3	7.E-05
				Chloroform	0.00458	mg/l	1.1E-03	ug/m3	2.3E-05	(ug/m3)-1	3.E-08	3.2E-03	ug/m3	1.0E+02	ug/m3	3.E-05
				Trichloroethene	0.0385	mg/l	1.4E-02	ug/m3	2.0E-06	(ug/m3)-1	3.E-08	3.9E-02	ug/m3	6.0E+02	ug/m3	7.E-05
			EXPOSURE ROUTE TOTAL								1.E-07					2.E-04
		EXPOSURE POINT TOTAL									1.E-07					2.E-04
	EXPOSURE MEDIUM TOTAL										1.E-07					2.E-04
GROUNDWATER TOTAL											**1.E-05**					**2.E-01**
										TOTAL RECEPTOR RISK ACROSS ALL MEDIA	**1.E-05**	**TOTAL RECEPTOR HAZARD ACROSS ALL MEDIA**				**2.E-01**

Notes:
(1) - Blank cells indicate that an RfD or RfC is not avalailable from the sources used to obtain dose-response data for this risk assessment.
NC - Not carcinogenic by this exposure route.
NA - Not applicable; exposure route not applicable for this chemical/exposure medium.
NV - Not volatile; exposure route not complete for this chemical.
-- - Not calculated; dose-response data and/or dermal absorption values are not available.

Table 4-14
Risk Summary
Site 08 - Groundwater

U.S. Army Reserve Center, Middletown, Connecticut
MACTEC Engineering and Consulting, Inc.

Exposure Scenario	Exposure Medium and Exposure Point	Receptor	Exposure Route	C/I WORKER HI	C/I WORKER ELCR
Direct Contact with and Dust Inhalation of Soil	All soil	Adult Worker	Ingestion	0.01	2E-06
			Dermal	0.003	4E-07
			Dust inhalation	0.00003	1E-09
			Total Soil	**0.01**	**2E-06**
			Total Receptor Risk - Soil	**0.01**	**2E-06**
Vapor Intrusion from Groundwater	Groundwater Overburden and Bedrock	Adult Worker	Inhalation	0.0002	1E-07
			Total Vapor Inhalation	**0.0002**	**1E-07**
			Total Receptor Risk - Vapor Inhalation	**0.0002**	**1E-07**
Potable Use of Groundwater	Groundwater Overburden and Bedrock	Adult Worker - Potable Use	Ingestion	0.2	1E-05
			Total Groundwater Ingestion	**0.2**	**1E-05**
			Total Receptor Risk - Groundwater Potable Use	**0.2**	**1E-05**
			Total Receptor Risk - Groundwater, Vapor, and Soil	**0.2**	**1E-05**

Section 5.0 Conclusions and Recommendations

This RI Report for Site 08 - Groundwater at the USARC documents the results of investigation activities at the Site, presents the human health risk assessment and ecological risk evaluation, and provides recommendations to achieve site closure under CERCLA for Site 08.

5.1 Conclusions

The facility consists of a 23.7-acre parcel of land which is currently used as a USARC facility. The property currently consists of the USARC building and three former slab on grade foundations located on a multi-tiered hillside. The property was historically used as a NIKE missile launching facility, furnished with three launch silos.

Groundwater contamination, specifically TCE, has historically been noted at well location M8 on the property. This RI was performed to attempt to determine the source of the TCE, its extent, and the potential impacts to human health and the environment.

AOCs which could be potential source areas of the TCE were determined and soil borings were performed adjacent to or downgradient of the AOCs. Soil sampling and analysis were performed adjacent or downgradient of four AOCs and a source area for the TCE was not determined.

Overburden wells and bedrock wells were installed at select locations to determine the extent of the TCE groundwater plume. It was determined that a small plume of TCE impacted groundwater is located within the overburden aquifer and appears to extend from the M8/MW-16 area to the northeast just beyond MW-18 and potentially to BR-4 and just beyond it . Concentrations of TCE in wells M8 and MW-16 exceed the MCL with a similar concentration detected in BR-4. MCLs are used only as screening values for the site data. The horizontal extent of groundwater contamination is limited and the downgradient extent has been bounded. The well locations and screened intervals are appropriately located as downgradient monitoring points based upon interpreted direction of groundwater flow and screen elevations.

The low dissolved concentrations of TCE in the overburden groundwater, and the limited downgradient extent suggest that residual TCE mass in the aquifer would be largely retained as sorbed and diffused TCE within the aquifer matrix. The groundwater plume is expected to remain stable in this configuration with no further downgradient migration. With time, the plume will be expected to shrink as dissolved TCE concentrations are reduced by advective dispersion and chemical diffusion.

Based on data obtained from this RI and the existing distribution and concentrations of dissolved TCE in overburden and bedrock groundwater, the TCE plume has not, and is not, expected to migrate to or beyond the site boundary, and as a result of data interpretation, the nature and extent of groundwater contamination has been appropriately delineated.

A HHRA was performed in accordance with CERCLA, the NCP, and applicable USEPA guidance to evaluate potential risks to receptors. The HHRA was based on current and reasonably foreseeable future land use, which has been identified as non-residential (i.e., military or industrial/commercial). The HHRA evaluated receptor exposure to soil, groundwater, and vapor intrusion from groundwater.

Arsenic was the only COPC for soil that was retained for evaluation in the risk assessment. The COPCs identified for groundwater were carbon tetrachloride, chloroform, TCE, arsenic, and barium. The risk characterization for the commercial/industrial worker resulted in an ELCR of $2x10^{-6}$ for soil, $1x10^{-7}$ for

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vapors that may migrate from groundwater to indoor air, and $1x10^{-5}$ for potable use of groundwater, with a cumulative ELCR among all exposure media of $1x10^{-5}$. All of these values are within the USEPA cancer risk range of $1x10^{-4}$ to $1x10^{-6}$. The non-cancer HI values were 0.01 for soil, 0.0002 for indoor air, and 0.2 for potable use of groundwater, with a cumulative non-cancer HI among all exposure media of 0.2. All of these values are below the USEPA non-cancer threshold value of 1.

Therefore, the HHRA, performed in accordance with CERCLA, the NCP, and applicable USEPA guidance, concluded that there is no unacceptable risk to receptors based on current or reasonably foreseeable future land use.

Ecological risks associated with Site 08 are negligible due to the limited habitat at the USARC and absence of exposure pathways to affected media. Specifically, the contaminants detected at Site 08 are primarily associated with subsurface soils and groundwater. Exposures of ecological receptors to subsurface soils are presumed to be negligible. Likewise, contaminated groundwater beneath the facility is not discharging to any surface water bodies. Therefore, there are no mechanisms by which ecological receptors could be exposed to groundwater.

Therefore, it is unlikely that Site 08 would pose any significant risk to resident or migratory species.

5.2 Recommendations

Based on the above conclusions, No Action under CERCLA is recommended for Site 08 - Groundwater at the USARC facility in Middletown, Connecticut.

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Section 6.0 References

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APPENDIX A

FIELD DATA RECORDS

SOIL BORING LOG

Client: USARC – Middletown	Project No 36180481 10.02	AOC:	
		Boring No.: SB-01	
		Protection:	
Contractor: ADT	Date Started: 11.7.06	Completed: 11.7.06	
Method: Geoprobe	Casing Size: 5' macro core	PI Meter: Mini Rae	
Ground Elev.:	Soil Drilled:	Total Depth: 19' BGS	
Logged by: JCH	Checked by: JR	Below Ground: 13'?	
Screen: (ft.)	Riser: (ft.) Diam: (ID)	Material:	Page 1 of 1

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID READING (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	CELL DATA
5	S-1		N/A	52"	1.3	0-0.5' = topsoil/Loam 0.5-2' = f-m-c, rusty brown SAND, some f-c gravel, trace asphalt, dry. 2-5' = dense/stiff, rusty brown conglomerate of CLAY/SILT/SAND, trace f. gravel and cobble, dry	GC CL	N/A	
10	S-2		N/A	52"	2.6	v. dense/stiff, rusty brown conglomerate of CLAY/SAND/GRAVEL, trace cobble, dry.	GC CL	N/A	
15	S-3	13'	N/A	60"	3.4	10-14' = v. dense/stiff, rusty brown conglomerate of CLAY/SILT/f. SAND, poorly sorted f-c gravel, trace cobbles, dry. 14-15' = v. stiff-stiff, rusty brown CLAY, damp, trace f. gravel	GC CL	VOC ETPH	Sample ID CTOB-SBSOIL3
20	S-4		N/A	48"	1.9	v. dense/stiff, rusty brown conglomerate of CLAY/SILT/f. SAND, some f-c gravel, pieces of shale, dry-damp; till-like at 19' w/ poorly sorted gravel, clayey sand	GC CL	N/A	
						Macro core refusal at 19' BGS (assumed BR surface)			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

SOIL BORING LOG

Client: USARC - Middletown	Project No 361804811D.02	AOC	
		Boring No.: SB-02	
		Protection:	
Contractor: ADT	Date Started: 11-7-06	Completed: 11-7-06	
Method: Geoprobe	Casing Size: 5' macrocore	PI Meter: Mini Rae 2000	
Ground Elev.:	Soil Driller:	Total Depth: 18'	
Logged by: JKH	Checked by: JTA	Below Ground: 10'?	
Screen: (ft.)	Riser: (ft.)	Diam: (ID)	Material:
		Page 1 of 1	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID FID (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
	S-1		N/A	55"	2.7	0-0.5' = topsoil/Loam 0.5-2' = f-m-c rusty brown SAND, w/ gravel, some clay. 2-5' = v. dense/stiff rusty brown conglomerate of CLAY/SILT/f. SAND, with f-c gravel, dry	GC CL		
5	S-2	7'	N/A	60"	3.3	v. dense/stiff, rusty brown, conglomerate of CLAY/SILT/f. SAND, w/ f-c gravel, cobbles, dry.	GC CL	VOC ETPH	Sample ID CT08-SBS0207
10	S-3		N/A	60"	2.7	v. dense/stiff, rusty brown, Same conglomerate as S-2, but wet/saturated.	GC CL		
15	S-4		N/A	36"	2.9	v. dense/stiff, rusty brown, conglomerate of CLAY/SILT/SAND/GRAVEL, trace cobbles, trace shale.	GC CL		
20						Macrocore refusal at 18' BGS (assumed BR surface)			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
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SOIL BORING LOG

Client: USARC- Middletown	Project No: 361604 8110-02	AOC:	
Contractor: ADT	Date Started: 11.7.06	Boring No.: SB-03	
Method: Geoprobe	Casing Size: 5' Macrocore sampler	Protection:	
Ground Elev.:	Soil Drilled:	Completed: 11.7.06	
Logged by: JRH	Checked by: JRN	PI Meter: Mini Rae 2000	
Screen: (ft.) Riser: (ft.) Diam: (ID) Material:		Total Depth: 23.5' BGS	
		▽ Below Ground: ~ 9'	
		Page 1 of 1	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID PPM	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
	S-1		N/A	44"	1.9	0-0.5' = topsoil / Loam 0.5-1' = f-m-c rusty brown SAND, trace s. gravel, damp 1-5' = v. dense/stiff, rusty brown, conglomerate of CLAY/SILT/F.SAND, w/ poorly sorted f-c gravel, cobble, damp-dry	GC CL		
5	S-2	8'	N/A	60"	2.4	v. dense/stiff, rusty brown, Conglomerate of CLAY/SILT/F.SAND, w/ poorly sorted f-c gravel, damp at 9'. 9.5' = thin lens of f-m SAND, then SILTY CLAY, damp	GC CL	VOC ETPH	Sample ID CT08-SB50308
10	S-3		N/A	54"	3.5	Stiff, rusty brown, silty CLAY (10-13'), wet 13-15' = v. dense/stiff, rusty brown conglomerate of CLAY/SILT/F.SAND w/ poorly sorted gravel, wet	GC CL		
15	S-4		N/A	60"	2.4	v. dense/stiff, rusty brown, wet-damp conglomerate of CLAY/SILT/v.f. SAND w/ poorly sorted f-c gravel; till-like at 19.5'.	GC CL		
20	S-5		N/A	45"	0.2	v. dense/stiff/rusty brown, wet, conglomerate of CLAY/SILT/F. SAND w/ gravel, pieces of shale, till-like.	GC CL		
25						Macrocore refusal at 23.5' BGS (assumed BR surface)			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC Inc.

SOIL BORING LOG

Client: USARC - Middletown	Project No: 36 18 048110.02	AOC:	
Contractor: ADT	Date Started: 11-7-06	Boring No.: SB-04	
Method: Geoprobe	Casing Size: 5' macrocore Sampler	Protection:	
Ground Elev.:	Soil Drilled:	Completed: 11-7-06	
Logged by: JKH	Checked by: JRK	PI Meter: MiniRae 2000	
Screen: (ft.) Riser: (ft.) Diam. (ID) Material:		Total Depth: 20'	
		Below Ground:	
		Page 1 of 1	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID/FID (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
5	S-1		N/A	48"	2.8	0-0.5' = topsoil/Loam 0.5-5' = dense/stiff, rusty brown, dry, conglomerate of CLAY/SILT/f. SAND, w/ f-c gravel, trace cobble.	GC CL		
10	S-2	8'	N/A	60"	2.4	v. dense/stiff, rusty brown, dry, conglomerate of CLAY/SILT/f. SAND, w/ f-c poorly sorted gravel and cobbles	GC CL	VOC ETPH	Sample ID's CT08-SB5040B CT08-SBD040B (duplicate) QA/QC
15	S-3		N/A	60"	2.8	v. dense/ stiff, rusty brown, dry-damp, conglomerate of CLAY/SILT/f. SAND w/ poorly sorted f-c gravel. 13-15' = stiff, rusty brown silty CLAY.	GC CL		
20	S-4		N/A	60"	1.2	stiff, rusty brown, silty CLAY, trace gravel, damp	CL		
						Macrocore refusal at 20' BGS (assumed BR surface)			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

SOIL BORING LOG

Client: USARC - Middletown	Project No. 36180481 10.02	AOC:	
Contractor: ADT	Date Started: 11-7-06	Boring No.: SB-05	
Method: Geoprobe	Casing Size: 5' macrocore sampler	Protection:	
Ground Elev.:	Soil Drilled:	Completed: 11-7-06	
Logged by: JRH	Checked by: JRH	PI Meter: MiniRae 2000	
Screen: (ft.)	Riser: (ft.)	Diam. (ID)	Material:
		Total Depth: 20'	
		▽ Below Ground:	
		Page 1 of: 1	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
	S-1		N/A	52"	1.5	0-1' = asphalt 1-5' = dense/stiff, rusty brown conglomerate of CLAY/SILT/f.SAND, w/ poorly sorted f-c gravel, trace cobble, mostly dry	GC CL		
5	S-2	8'	N/A	60"	2.0	Dense/stiff, rusty brown, conglomerate of CLAY/SILT/SAND, with poorly sorted gravel, trace cobble at 9.5', dampish	GC CL	VOC ETPH	Sample ID's CT08-SB50508 + MS/MSD QA/QC
10	S-3		N/A	60"	1.8	Dense/stiff, rusty brown, damp, conglomerate of CLAY/SILT/vf.SAND, w/ poorly sorted f. gravel.	GC CL		
15	S-4		N/A	54"	1.8	Same as S-3	GC CL		
20						Macrocore refusal at 20' BGS (assumed BR Surface)			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

SOIL BORING LOG

Client: USARC - Middletown	Project No.: 36180481110-02	AOC:	
		Boring No.: SB-06	
		Protection:	
Contractor: ADT	Date Started: 11-7-06	Completed: 11-7-06	
Method: Geoprobe	Casing Size: 5' macrocore sampler	PI Meter: Mini Rae 2000	
Ground Elev.:	Soil Drilled:	Total Depth: 19.5'	
Logged by: JKH	Checked by: JRK	▽ Below Ground:	
Screen: (ft.)	Riser: (ft.) Diam: (ID) Material:	Page 1 of: 1	

DEPTH, FT	SAMPLE NUMBER	SAMPLE LENGTH	BLOW COUNTS	RECOVERY	PID/FID PPM	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
	S-1	3'	N/A	48"	1.8	0-0.5'= topsoil / Loam 0.5-3'= SAND + GRAVEL, rusty brown, cobble, dry 3-5'= dense/stiff, rusty brown conglomerate of CLAY/SILT/f-SAND, w/ gravel, dry.	GC CL	VOC ETPH	Sample ID CT08-SB50603
5	S-2		N/A	48"	2.3	5-8'= soft, dampish, rusty red brown CLAY/SILT/f-SAND, w/ poorly sorted f-c gravel 8-10'= stiff/dense, dry-damp, rusty brown CLAY/SILT/f-SAND w/ poorly sorted gravel.	GC CL		
10	S-3		N/A	58"	2.6	10-13'= dense/stiff, rusty brown conglomerate of CLAY/SILT/SAND, with gravel, damp. 13-15'= m-stiff, fine sandy SILT, dry-dampish	GC CL		
15	S-4		N/A	54"	1.5	15-18'= stiff, rusty brown, v.f. sandy SILT, dry-damp 18-19.5'= stiff/dense, rusty brown, conglomerate of CLAY/SILT/SAND, w/ poorly sorted gravel, trace shale in macro tip	GC CL		
20						Macrocore refusal at 19.5' BGS (assumed BR surface)			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

SOIL BORING LOG

Client USARC- Middletown	Project No 561804 B110.02	AOC.	Boring No. SB-07
Contractor ADT	Date Started. 11-7-06	Protection.	Completed: 11-7-06
Method Geoprobe	Casing Size: 5' macrocore sampler	PI Meter: Mini Rae 2000	
Ground Elev	Soil Drilled:	Total Depth: 20'	
Logged by: JKH	Checked by: JAK	▽ Below Ground:	
Screen: (ft.) Riser: (ft.) Diam: (ID) Material.		Page 1 of 1	

DEPTH (ft)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID RID (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
	S-1		N/A	44"	1.4	0-0.5' = asphalt 0.5-5' = dense/stiff, rusty brown conglomerate of CLAY/SILT/f.SAND, w/ f-c gravel, dry	GC CL		
5	S-2	7'	N/A	52"	2.1	Dense/stiff, rusty brown, conglomerate of CLAY/SILT/f-SAND, w/ poorly sorted f-c gravel, damp-ish.	GC CL	VOC ETPH	Sample ID CTOB-SBS0707
10	S-3		N/A	60"	2.1	10-13' = same as S-2 13-15' = stiff, rusty red, v.f. sandy SILT.	GC CL		
15	S-4		N/A	57"	1.8	15-17' = stiff, rusty red, v.f. sandy SILT 17-20' = dense/stiff, rusty brown, conglomerate of CLAY/SILT/SAND w/ gravel, trace shale at 19.5'.	GC CL		
20						Macrocore refusal at 20' BGS (assumed BR surface)			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC Inc.

SOIL BORING LOG

Client: USARC - Middletown	Project No. 36180X8110.02	AOC	
		Boring No.: SB-08	
		Protection:	
Contractor: ADT	Date Started: 11-9-06	Completed: 11-9-06	
Method: Geoprobe	Casing Size: 5' macrocore sampling	PI Meter: Mini Rae 2000	
Ground Elev:	Soil Drilled:	Total Depth: 24' BGS	
Logged by: JXH	Checked by: JPK	Below Ground:	
Screen: (ft.)	Riser: (ft.) Diam: (ID) Material:	Page 1 of 1	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID RID (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
	S-1		N/A	52"	0.4	0-0.5' = Concrete slab 0.5-5' = v. dense/stiff, rusty brown, dry, conglomerate of CLAY/SILT/v.f. SAND, w/ f-c poorly sorted gravel	GC CL		
5	S-2	7'	N/A	56"	50	Dense/stiff, rusty brown conglomerate of CLAY/SILT/v.f. SAND w/ f-c poorly sorted gravel,	GC CL	VOC ETPH	Sample ID CTOB-SBS0807
10	S-3		N/A	60	6.0	Dense/stiff, rusty brown, wet at 10-11', conglomerate of CLAY/SILT/v.f. SAND, w/ poorly sorted f. gravel, trace broken shale fragment.	GC CL		
15	S-4		N/A	60	1.8	stiff, damp-wet, rusty brown v.f. sandy SILT, trace f. gravel, poorly sorted.	CL		
20	S-5		N/A	48"	0.7	Dense/stiff, rusty brown, conglomerate of CLAY/SILT/v.f. SAND, w/ poorly sorted f. gravel, wet.	GC CL		
25						Macrocore refusal at 24' BGS (assumed Bedrock surface)			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

SOIL BORING LOG

Client: USARC - Middletown	Project No. 36180488110.02	AOC.	
		Boring No.: SB-09	
		Production.	
Contractor: ADT	Date Started: 11-9-06	Completed: 11-9-06	
Method: Geoprobe	Casing Size: 5" macrocore sampler	PI Meter: Mini Rae 2000	
Ground Elev.	Soil Drilled:	Total Depth: 19'	
Logged by: JXH	Checked by: JRY	Below Ground:	
Screen: (ft.)	Riser (ft.)	Diam: (ID)	Material.
		Page 1 of 1	

DEPTH (FT)	SAMPLE MARKER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID RID (ppm)	SOIL DESCRIPTION	SOIL CLASS	EXCAVATION SAMPLE COLLECTED	WELL DATA
5	S-1	5	N/A	38"	0.6	0-0.5'= asphalt 0.5-1'= grey SAND + GRAVEL 1-5'= dense/stiff, rusty brown, conglomerate of CLAY/SILT/v.f. SAND, w/ poorly sorted f-c gravel, dry.	GC CL	VOC ETPH	Sample ID C708-SB50905
10	S-2		N/A	60"	1.4	Dense/stiff, rusty brown, wet from 5-7' (perched?), then damp-dry, conglomerate of CLAY/SILT/v.f. SAND, w/ poorly sorted f-c gravel.	GC CL		
15	S-3		N/A	60"	2.0	Dense/stiff, rusty brown, wet at 10-11', conglomerate of CLAY/SILT/v.f. SAND, w/ poorly sorted f-c gravel	GC CL		
20	S-4		N/A	48"	1.9	15-17'= wet conglomerate of CLAY/SILT/v.f. SAND w/ gravel 17-19'= stiff, rusty brown, wet v.f. sandy SILT.	GC CL		
						Macrocore refusal at 19' BGS (assume BR surface)			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

2004005b L 7

SOIL BORING LOG

Client: USARC-Middletown	Project No. 36180488110.02	AOC.	
		Boring No.: SB-10	
		Protection:	
Contractor: ADT	Date Started: 11-9-06	Completed: 11-9-06	
Method: Geoprobe	Casing Size: 5' macrocore sampler	PI Meter: Mini Rae 2000	
Ground Elev.:	Soil Drilled	Total Depth: 18.5'	
Logged by: JKH	Checked by: JRK	Below Ground:	
Screen: (ft.)	Riser: (ft.) Diam (ID) Material:	Page 1 of 1	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
	S-1		N/A	28"	0.8	0-0.5'= topsoil / Loam 0.5-3'= dense/stiff conglomerate of CLAY/SILT/v.f. SAND, w/ poorly sorted f-c gravel 3-4'= grey cobble 4-5'= rusty brown conglomerate	GC CL		
5	S-2	8'	N/A	60"	2.1	Dense/stiff, rusty brown, conglomerate of CLAY/SILT/ v.f. SAND, w/ poorly sorted f-c gravel, trace cobble, damp at 9'.	GC CL	VOC ETPH	Sample ID CT08-SB51008
10	S-3		N/A	60"	1.5	Dense/stiff, rusty brown, conglomerate of CLAY/SILT/ v.f. SAND, w/ poorly sorted f-c gravel, cobble at 11', damp-ish.	GC CL		
15	S-4		N/A	40"	2.4	15-17'= dense/stiff rusty brown conglomerate 17-18.5'= m-stiff, rusty brown, v.f. sandy SILT, damp-wet	GC CL		
20						Macrocore refusal at 18.5' BGS (assumed BR surface)			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC Inc.

SOIL BORING LOG

Client: USARC- Middletown	Project No.	AOC:	
Contractor: ADT	Date Started: 11.9.06	Boring No.: MW-14	
Method: HSA (4.25")	Casing Size: 4.25"	Protection: Flushmount	
Ground Elev.:	Soil Drilled:	Completed: 11.9.06	
Logged by: JKH	Checked by: JRL	PI Meter: MiRae 2000	
Screen: (ft.)	Riser: (ft.)	Diam: (ID)	Material:
		Total Depth: 17'	
		▽ Below Ground:	
		Page 1 of 1	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID/FID (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
5						HSA's used to drill to 17' BGS and install shallow overburden well MW-14. See boring logs SB-06 and SB-07 for geologic conditions.			
10									
15									
						Bottom of monitoring well at 17' BGS			
20									

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC Inc.

MONITORING WELL CONSTRUCTION DIAGRAM

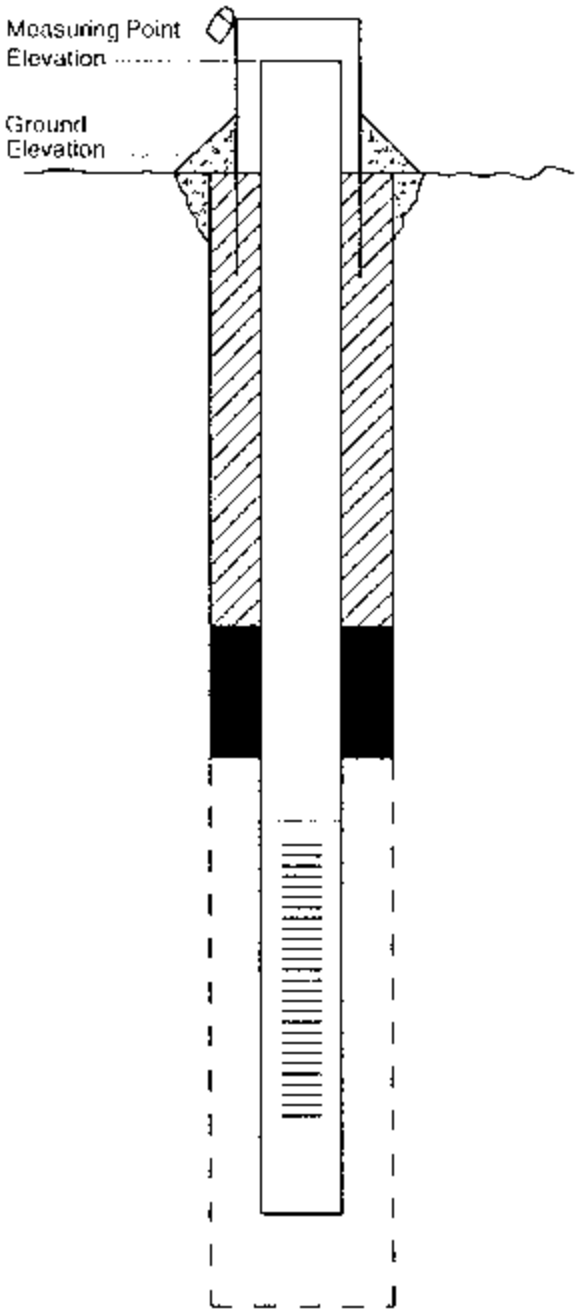
Project: USARC-Middletown AOC: Driller: ADT

Project No. 36180481 10.02 Boring No.: MW-14 Drilling Method: HSA's

Date Installed: 11.9.06 Development Method: Surge and Pump

Field Technician: JKH Latitude: Longitude:

Checked By: JM



Stick-up of Casing Above Ground Surface: N/A

Type of Surface Seal/Other Protection: Cement

Type of Surface Casing: Flushmount Road Box

ID of Surface Casing:

Diameter of Borehole: 4"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch. 40 PVC

Type of Backfill: Drill cuttings

Depth of Top of Seal: 3'

Type of Seal: Bentonite chips

Depth of Top of Sand: 5'

Depth of Top of Screen: 7'

Type of Screen: Sch. 40 PVC

Slot Size x Length: 10 slot x 10'

ID of Screen: 2"

Type of Sandpack: #1 Silica Sand

Depth of Bottom of Screen: 17'

Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 17'

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC Inc.

2004005b L 16

WELL DEVELOPMENT RECORD

Project: USARC- Middletown	Well Installation Date: 11-9-06		Project No: 36180408110
Client: USARC- Kemron	Well Development Date: 11-15-06	Logged by: JRH	Checked by: JRY
Well/Site ID: MW-14	Weather: Clouds + Sunny low 60s, 60's	Start Date: 11-9-06	Finish Date: 11/15/06
		Start Time: 1100	Finish Time:

Well Construction Record Data:

Well Diameter: 2 in.

Bottom of Screen: 16.38 ft.

Sediment Sump/Plug: N/A ft. ☐ From Ground Surface ☐ From Top of Riser ☒

Screen Length: 10 ft.

Fluids Lost during Drilling: gal.

Protective Casing Stick up: N/A ft. Protective Casing/Well Diff.: N/A ft. PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

Flush mount roadbox

Well Levels: PVC

Initial	7.32 ft.	Well Depth before Development	16.38 ft. (from top of PVC)
End of Development	DRY ft.	Well Depth after Development	16.38 ft.
24 Hours after Development	ft.	Sediment Depth Removed	0.00 ft.
HT of Water Column	9.06 ft.	☐ 1.68" gal./ft. × 0.174	1.57 gal./vol. *for 1/2" HSA Installed Wells

well seemed sound - no silt on bottom

Equipment: whale Pump

☒ Dedicated Submersible Pump
☐ Surge Block
☐ Bailer ☐ 2" ☐
☐ Grundfos Pump 2" ___ 4" ___

Approximate ~~Recharge~~ Pump Rate: 1 gpm — 0.5 GPM; 0.25 GPM

Total Gallons Removed: 10 gal.

Well Development Criteria Met:

Notes: start at 1GPM - considerable drawdown - lower/reduce pump rate to 0.5 GPM 1200 - well went dry: 10 gals removed

	Yes	No
■ Well water clear to unaided eye	☐	☒
■ Sediment thickness remaining in well is <1.0% of screen length	☐	☒
■ Total water removed = a minimum of 5x calculated well volume plus 5x drilling fluid lost	☒	☐
■ Turbidity < 5NTUs	☐	☒
■ 10% change in field parameters	☐	☒

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☒

Water Parameter Measurements

Record at start, twice during and at the end of development (maximum)

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate	W.L.
1112	3	3	5.68	18.4	0.623	>1000	1GPM	14.45
1123	3	6	6.79	19.0	0.439	>1000	0.5-0.25	14.62
1140	2	8	7.03	20.0	0.420	>1000	0.25GPM	15.20
1157	2	10	7.00	19.2	0.407	>1000	0.25	16.12

Well Developer's Signature: Jeffrey H. Harkins

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

SOIL BORING LOG

Client: USARC - Middletown	Project No 361804 8110.02	AOC	
		Boring No	MW-15
		Protection	Standpipe
Contractor: ADT	Date Started: 11.9.06	Completed	11.9.06
Method: HSA	Casing Size 4.25"	PI Meter.	MiniRae 2000
Ground Elev..	Soil Drilled.	Total Depth.	18'
Logged by: JRH	Checked by: JRH	▽ Below Ground:	
Screen: (ft.) Riser: (ft.) Diam: (ID) Material:		Page 1 of 1	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID/FID (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
5						HSA's used to drill to 18' BGS (auger refusal) and install shallow overburden well MW-15. See SB-10 boring log for geologic conditions			
10									
15									
20						Bottom of well set at 18' BGS			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

MONITORING WELL CONSTRUCTION DIAGRAM

Project USARC-Middletown OC

Driller ADT

Project No 361804 8110.02

Boring No. MW-15

Drilling Method HSA's

Date Installed 11-9-06

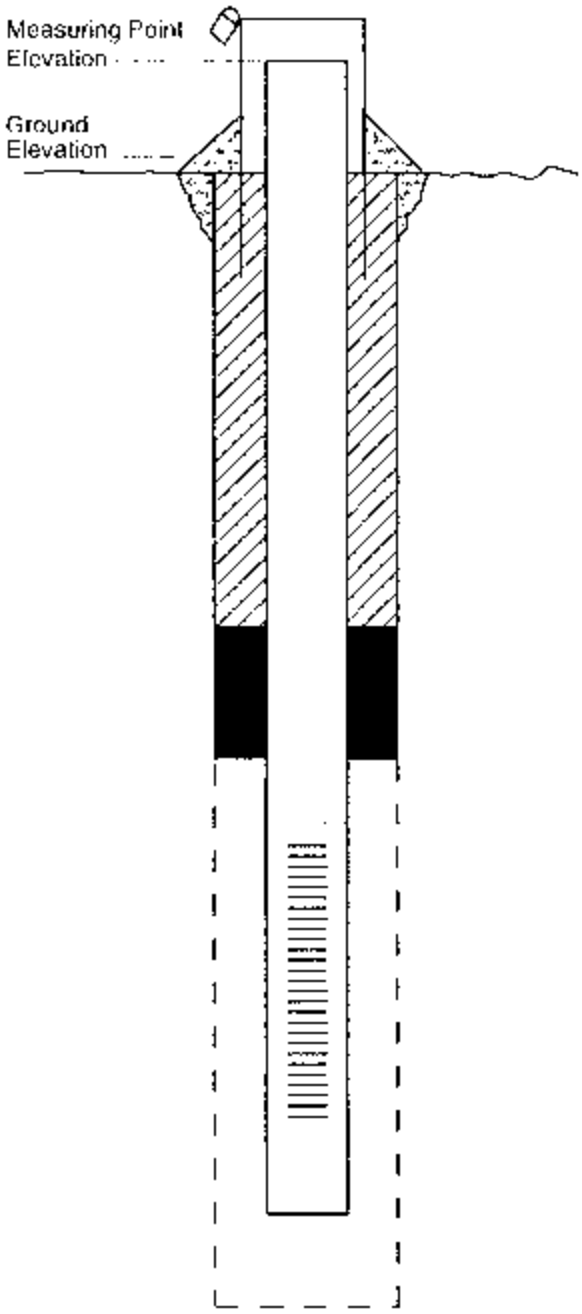
Development Method Surge and Pump

Field Technician: JKH

Latitude:

Longitude:

Checked By JAK



Stick-up of Casing Above Ground Surface: Standpipe

Type of Surface Seal/Other Protection: cement

Type of Surface Casing: Protective Stickup

ID of Surface Casing.

Diameter of Borehole: 4"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch. 40 PVC

Type of Backfill: Drill Cuttings

Depth of Top of Seal: 4'

Type of Seal: Bentonite chips

Depth of Top of Sand: 6'

Depth of Top of Screen: 8'

Type of Screen: Sch. 40 PVC

Slot Size x Length: 10-slot x 10'

ID of Screen: 2"

Type of Sandpack: #1 Silica Sand

Depth of Bottom of Screen: 18'

Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 18'

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

WELL DEVELOPMENT RECORD

Project: USARC-Middletown	Well Installation Date: 11-9-06		Project No. 36804810
Client: USARC- Kemron	Well Development Date: 11-15-06	Logged by: JRH	Checked by: JR
Well/Site I.D.: MW-15	Weather: Cloudy, 60's	Start Date: 11-15-06	Finish Date: 11/15/06

Well Construction Record Data:

Well Diameter: 2 in. Start Time: 1300 Finish Time:

Bottom of Screen: 19.65 ft.] From Ground Surface ☐ From Top of Riser ☒

Sediment Sump/Plug: N/A ft.

Screen Length: 10 ft.

Fluids Lost during Drilling: gal.

Protective Casing Stick-up: 33" ~~ft~~ Protective Casing/Well Diff.: 1" ~~ft~~ PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

Well Levels: PVC

Initial: 7.72 ft.

End of Development: DRY ft.

24 Hours after Development: ft.

Sediment:

Well Depth before Development: 19.65 ft. (from top of PVC)

Well Depth after Development: 19.65 ft.

Sediment Depth Removed: — ft

HT of Water Column: 11.93 ft. × ☐ 1.68" gal./ft. ☒ 0.174 = 2.07 gal./vol. *for 2" HSA Installed Wells

Equipment: whale Pumps

☒ Dedicated Submersible Pump

☐ Surge Block

☐ Bailer ☐ 2" ☐

☐ Grundfos Pump 2" ___ 4" ___

Approximate ~~Recharge~~ pump rate Rate: 0.25 gpm

Total Gallons Removed: 10 gal

Well Development Criteria Met:

Notes: 1255 Begin purging at 0.25 GPM

	Yes	No
■ Well water clear to unaided eye	☒	☐
■ Sediment thickness remaining in well is <10% of screen length	☒	☐
■ Total water removed = a minimum of 5x calculated well volume plus 5x drilling fluid lost	☒	☐
■ Turbidity < 5NTUs	☐	☒
■ 10% change in field parameters	☐	☒

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☒

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum):

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate	W.L.
1325	6	6	6.65	16.6	0.344	>1000	0.25	15.96
1340	2	8	6.74	17.2	0.336	280	0.25	16.80
1350	1	9	6.99	17.2	0.332	51.6	0.25	17.60
1400	1	10	7.10	17.1	0.354	44.7	0.25	

Well Developer's Signature: Jeffrey R. Hartman

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC Inc.

SOIL BORING LOG

Client: USARC - Middletown	Project No. 36/80498110.02	AOC:
Contractor: ADT	Date Started: 11.10.06	Boring No.: MW-16
Method: HSA's	Casing Size: 4.25"	Protection: Standpipe
Ground Elev.:	Soil Drilled	Completed: 11.10.06
Logged by: JCH	Checked by: JDL	PI Meter: MiniRae 2000
Screen: (ft.) Riser: (ft.) Diam: (ID) Material:		Total Depth:
		Below Ground: ~2-3'
		Page 1 of 1

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID READING	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
5						HSA's used to drill to 12' BGS and install shallow overburden well MW-16 See SB-03 Boring Log for geologic conditions			
10									
						Bottom of well set at 12' BGS			

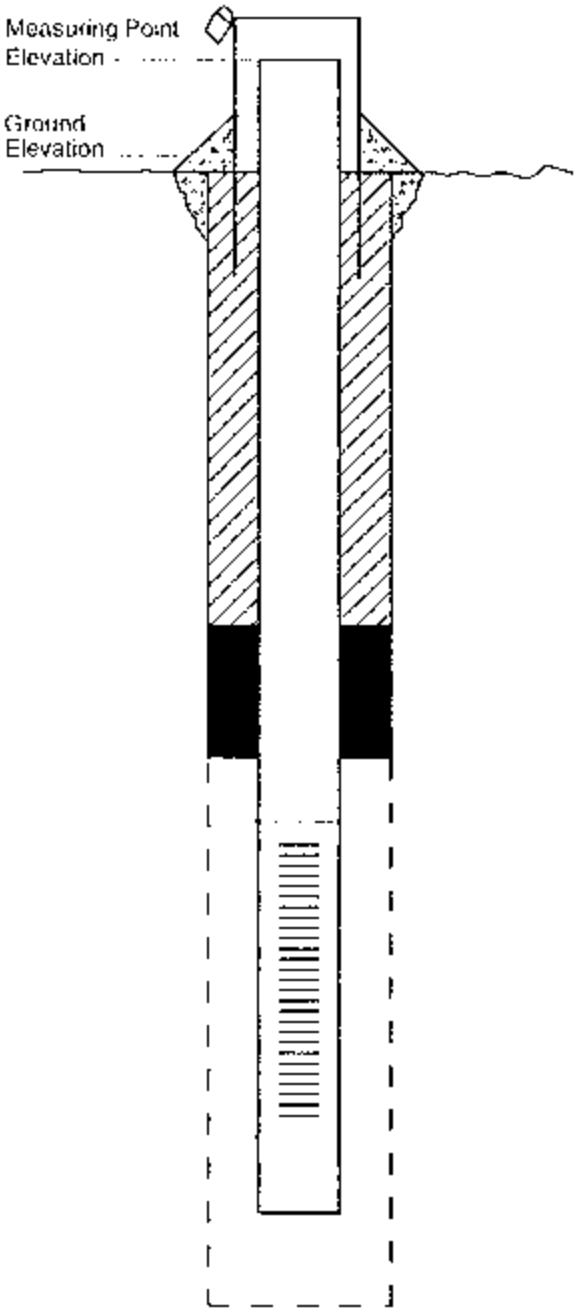
SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

MONITORING WELL CONSTRUCTION DIAGRAM

Project USARC-Middletown
Project No 361804 8110.02
Field Technician: JRH
Checked By: JPX

AOC
Boring No. MW-16
Date Installed 11-10-06
Latitude:

Driller ADT
Drilling Method HSA's
Development Method Surge and Pump
Longitude:



Stick-up of Casing Above Ground Surface: Standpipe

Type of Surface Seal/Other Protection: Cement

Type of Surface Casing: Standpipe

ID of Surface Casing:

Diameter of Borehole: 4"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch. 40 PVC

Type of Backfill: NONE

Depth of Top of Seal: 4"

Type of Seal: Bentonite chips

Depth of Top of Sand: 1'

Depth of Top of Screen: 2'

Type of Screen: Sch. 40 PVC

Slot Size x Length: 10-slot x 10'

ID of Screen: 2"

Type of Sandpack: #1 Silica Sand

Depth of Bottom of Screen: 12'

Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 12'

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

2004005b L 16

WELL DEVELOPMENT RECORD

Project: USARC – Middletown	Well Installation Date: 11-10-06		Project No: 36184840
Client: USARC	Well Development Date: 11-10-06	Logged by: JKH	Checked by: JR
Well/Site ID: MW-16	Weather: Sunny, windy, 50's	Start Date: 11-10-06	Finish Date: 11-10-06

Well Construction Record Data:

Well Diameter: 2 in. Start Time: 1240 Finish Time:

Bottom of Screen: 12 ft.

Sediment Sump/Plug: ft.

Screen Length: 10 ft.

From Ground Surface ☒ From Top of Riser ☐

Fluids Lost during Drilling: gal.

Protective Casing Stick-up: ft. Protective Casing/Well Diff.: ft. PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

Well Levels:

Initial	4.84 ft.
End of Development	10.40 ft.
24 Hours after Development	ft.
HT of Water Column	9.19 ft.

Sediment:

Well Depth before Development	14.03 ft.	(from top of PVC)
Well Depth after Development	14.03 ft.	
Sediment Depth Removed	0.0 ft.	

x ☐ 1.68" gal./ft. ☒ 0.174 = 1.6 gal./vol. *Top of HSA Installed Wells 2

Equipment:

☒ Dedicated Submersible Pump
☒ Surge Block
☐ Bailer ☐ 2" ☐
☐ Grundfos Pump 2" 4"

Approximate ~~Recharge Rate~~ Pumping rate: 2 gpm

Total Gallons Removed: 8 gal.

Well Development Criteria Met:

Notes: surge block used than whale pump

	Yes	No
Well water clear to unaided eye	☒	☐
Sediment thickness remaining in well is < 1.0% of screen length	☒	☐
Total water removed – a minimum of 5x calculated well volume plus 5x drilling fluid lost	☐	☐
Turbidity < 5NTUs	☐	☐
10% change in field parameters	☐	☐

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☒

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum):

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate
1248	2 gals	2 gal	6.20	17.1°C	0.695 mS/cm	>1000 NTU	2 gal/min
1306	2	4	6.37	16.4	0.684	>1000	~~0.25~~ 0.25
1314	2	6	6.32	16.1	0.704	70.4	0.25
1324	2	8	6.30	16.5	0.691	41.1	0.25

Well Developer's Signature: Jeff Harthum

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC Inc

SOIL BORING LOG

Client: USARC		Project No. 36180481 10.02	AOC:
Contractor: ADT	Date Started: 11-6-06		Boring No: RR-1
Method: Geoprobe	Casing Size: 5' macro core		Protection: Standpipe
Ground Elev:	Soil Drilled:		Completed: 11/06/06
Logged by: JKH	Checked by: JDL		PI Meter: Mini Rae 2000
			Total Depth:
			▽ Below Ground: ~9'
Screen: (ft.)	Riser: (ft.)	Diam: (ID) Material:	Page 1 of 1

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID READING	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
	S-1	0-5	NA	42"	0	M-dense - m-stiff, rusty brown, CLAY/SILT/v-fine SAND, trace poorly sorted gravel, pebbles, cobble, dry.	GC-CL	NA	
5	S-2	5-10	NA	41"	0.3	M-dense - dense - stiff, rusty brown, silty CLAY, w/ v-fine sand, trace large cobble, pebbles, gravel, damp-sh.	GC-CL	NA	
10	S-3	10-15	NA	58"	0.7	Same as S-2	GC-CL	NA	
15	S-4	15-20	NA	60"	0.7	Stiff - rusty brown, CLAY, w/ silt and v-fine sand, trace pebbles/gravel, slightly moist.	CL	NA	
20	S-5	20-24	NA	48"	0.7	Stiff, rusty brown CLAY, trace silt + grey shale; till-like at 24' w/ poorly sorted gravel.	CL	NA	
25						Refusal at ~24' BGS w/ macro core Bedrock Rock Core conducted (see Bedrock Core Log) from 24-38'			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC Inc.

ROCK CORING LOG

Project: USARC - Middletown, CT		AOC: BR-1	Project No.: 36180481 10
Client: US Army	Driller's Name: Mark	Logged by: JKH	Checked by: / Ground Elev:
Drilling Contractor: ADT	Protection Level:	Rig Type: Geoprobe	Start Date: 11·6·06 / Finish Date: 11·8·06
Drilling Method: 4 3/4" casing with NX core barrel		PID (eV): 11.8	Casing Size: 8" / Auger Size:
Bit type/size: NX core barrel	Bit Use:	Core Interval (to/from)(ft): 24' BGS - 38' BGS (14' total)	

Depth (feet) Below GRD Surf.	Sample No. & Penetration/Recovery (feet)	Graphic Log	Natural Core Breaks (✓ Natural, X = Mechanical): Type Dip	Surface Condition	Weathered Condition	Rock Quality: Total 4" Core	RQD (%)	Rock Quality Description	Drilling Rate min/ft	Color	Rock Description and Comments on Drilling.
24–28	RUN 1: 10, 7, 6, 3	Highly fractured	✓ ✓ X ✓ ✓ ✓	med - moderate hard	slight - mod. weathering	NONE	0	All horizontal fractures	10, 7, 6, 3	grey/rusty brown	highly fractured shale, with traces of silt and clay between close fractures (2-3" apart), brittle (can be broken by hand, coarse grained. Ø PID
28–33	RUN 2: 10, 4, 6, 2, 2	Highly fractured	✓ ✓ ✓ X ✓ ✓	med - moderately hard	moderate	3 totaling 17"	28.3	All horizontal fractures	10, 4, 6, 2, 2	grey/rusty brown	highly fractured shale - sandstone possible at 31-33'; traces silt + clay between fractures (close; 2-3" apart) med - coarse grained. Ø PID
33–38	RUN 3: 3, 2, 6, 7, 5	Highly fractured	✓ ✓ ✓ X ✓ ✓ ✓	moderately hard	moderate	2 totaling 12"	20	Mostly horizontal fractures, 1 vertical	3, 2, 6, 7, 5	grey/rusty brown	highly fractured shale - traces of silt and clay between horizontal fractures (close: 1-2" apart) med - coarse grained. Ø PID

By: Jeff Hershman

Checked: JJK

ROCK CORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

MONITORING WELL CONSTRUCTION DIAGRAM

Project USARC - Middletown AOC

Project No. 3618048110

Boring No. BR-1

Date Installed 11-6-06

Field Technician: JKH

Checked By:

Driller: ADT

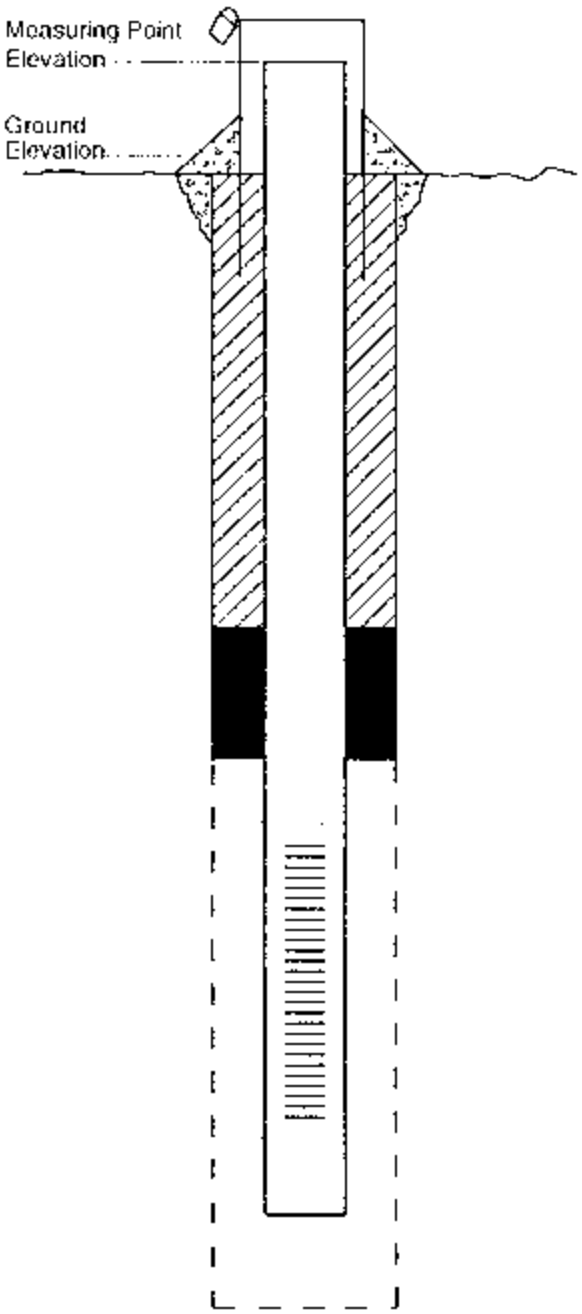
Drilling Method Geoprobe - 4" casing

Development Method Surge and Pump

Latitude:

Longitude:

BR-1



Stick-up of Casing Above Ground Surface: Standpipe

Type of Surface Seal/Other Protection: Cement

Type of Surface Casing: Protective stickup

ID of Surface Casing:

Diameter of Borehole: 4"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch. 40 PVC

Type of Backfill: Grout (Portland Cement + Bentonite)

Depth of Top of Seal: 22' (2' above BR surface)

Type of Seal: Bentonite chips

Depth of Top of Sand: 26'

Depth of Top of Screen: 28'

Type of Screen: Sch. 40 PVC

Slot Size x Length: 10-slot, 10' long

ID of Screen: 2"

Type of Sandpack: #1 Sand

Depth of Bottom of Screen: 38'

Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 38'

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, inc.

WELL DEVELOPMENT RECORD

Project: USARC - Middletown	Well Installation Date: 11-6-06		Project No: 361804810
Client: USARC	Well Development Date: 11-10-06	Logged by: JLH	Checked by: JPK
Well/Site I.D.: BR-1	Weather: Sunny, windy, 50's	Start Date: 11/10/06	Finish Date: 11/10/06

Well Construction Record Data:

Well Diameter: 2 in. Start Time: Finish Time:

Bottom of Screen: 38 ft. ├ From Ground Surface ☒ From Top of Riser ☐

Sediment Sump/Plug: ft.

Screen Length: 10 ft. Fluids Lost during Drilling: gal

Protective Casing Stick-up: 38.5" Protective Casing/Well Diff.: 4" PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

Well Levels:

Initial	36.58 ft. PVC	Well Depth before Development	40.25 ft. (from top of PVC)
End of Development	Dry ft.	Well Depth after Development	40.25 ft.
24 Hours after Development	ft.	Sediment Depth Removed	ft.
HT of Water Column	3.67 ft.	× ☐ 1.68" gal./ft. ☒ 0.174 2" well	0.64 gal./vol. *for 4" HSA Installed Wells

Equipment:

☒ Dedicated Submersible Pump whale pump
☒ Surge Block
☐ Bailer ☐ 2" ☐
☐ Grundfos Pump 2" ___ 4"

Approximate Recharge Rate: gpm

Total Gallons Removed: 2 gal

Well Development Criteria Met:

Notes: · use surge block method first
· then use whale pumps
V. poor recharge on BR-1 - v. silty brown. Allow to recharge then pump dry

	Yes	No
■ Well water clear to unaided eye	☐	☒
■ Sediment thickness remaining in well is < 1.0% of screen length	☒	☐
■ Total water removed ≥ a minimum of 5x calculated well volume plus 5x drilling fluid lost	☐	☒
■ Turbidity < 50 NTUs	☐	☒
■ 10% change in field parameters	☐	☐

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☒

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum).

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate
1150	0.5	0.5	5.71	14.8°C	0.371	71000	well goes dry
1200	1.0	~~0.5~~ 1.5	5.83	16.7	0.371	71000	well goes dry
1236	0.5	~~0.5~~ 2.0	DEL ~~5.82~~ 7.14	13.7	0.370	71000	well goes dry

Well Developer's Signature: Jeff Hardiman

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

20040056 L 6

WELL DEVELOPMENT RECORD

Project: USARC - Middletown	Well Installation Date: 11.6.06		Project No. 36180491110
Client: USARC - Kemron	Well Development Date 11.15.06	Logged by: JRH	Checked by: JPK
Well/S to FD: BR-1	Weather: cloudy	Start Date: 11.10.06	Finish Date: 11/15/06

Well Construction Record Data:

Well Diameter: 2 in | Start Time: | Finish Time:

Bottom of Screen: 40.25 ft. ☐ From Ground Surface ☐ From Top of Riser ☒ PVC

Sediment Sump/Plug: ft.

Screen Length: 10 ft

Fluids Lost during Drilling: gal

Protective Casing Stick up: 37" ~~ft~~ Protective Casing/Well Diff.: 2.5' ~~ft~~ PID Readings: Ambient Air Ø ppm; Well Mouth Ø ppm

Well Levels: PVC

Initial	39.75 ft.	**Sediment:** Well Depth before Development	40.25 ft.	(from top of PVC)
End of Development	Dry ft.	Well Depth after Development	40.25 ft	
24 Hours after Development	ft.	Sediment Depth Removed	ft.	
HT of Water Column	0.5 ft.	x ☐ 1.68" gal./ft. ☒ 0.174	= 0.087	gal./vol. for ~~1~~ 2 HSA Installed Wells

Equipment:

☒ Dedicated Submersible Pump whale pumps (2)
☐ Surge Block
☐ Bailer ☐ 2" ☐
☐ Grundfos Pump 2" 4"

Approximate Recharge Rate: gpm

Total Gallons Removed: gal

Well Development Criteria Met:

Notes: bottom of well feels sound - no silt - deployed 2 whale pumps in-line and attempted to purge - no luck - not enough water in well and too much head for pumps

	Yes	No
End of Well Development Sample (1 pint) Collected?	☐	☐
■ Well water clear to unaided eye	☐	☐
■ Sediment thickness remaining in well is < 1.0% of screen length	☐	☐
■ Total water removed = a minimum of 5x calculated well volume plus 5x drilling fluid lost	☐	☐
■ Turbidity < 5NTUs	☐	☐
■ 10% change in field parameters	☐	☐

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum):

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate
	See p. 1 of 2						

Well Developer's Signature

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

SOIL BORING LOG

Client: USARC - Middletown	Project No.	AOC.	
		Boring No.: BR-2	
Contractor: ADT	Date Started: 11-8-06	Protection: Flushmount R.B.	
Method: Geoprobe/casing	Casing Size: 4"	Completed: 11.8.06	
		PI Meter: Mini Rae 2000	
Ground Elev.:	Soil Driller:	Total Depth: 34.5'	
Logged by: JCH	Checked by: JRL	▽ Below Ground:	
Screen: (ft.) Riser: (ft.) Diam: (ID) Material:		Page of:	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID/FID (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
5						See Boring Logs of SB-06 and SB-07 for overburden descriptions	GC		
10	N/A						CL	NONE	
15						Advanced 4" to BR surface - no sampling			
20						Bedrock surface at 20' BGS			
25						Hammer Drill into Shale Bedrock			
30									
35						End of boring: 34.5' (hammer drilled 14.5' into BR)			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

MONITORING WELL CONSTRUCTION DIAGRAM

Project USARC-Middletown AOC

Driller ADT

Project No. 36B04 8110

Boring No. BR-2

Drilling Method Geoprobe - 4" casing

Date Installed 11-8-06

Development Method Pump and Surge

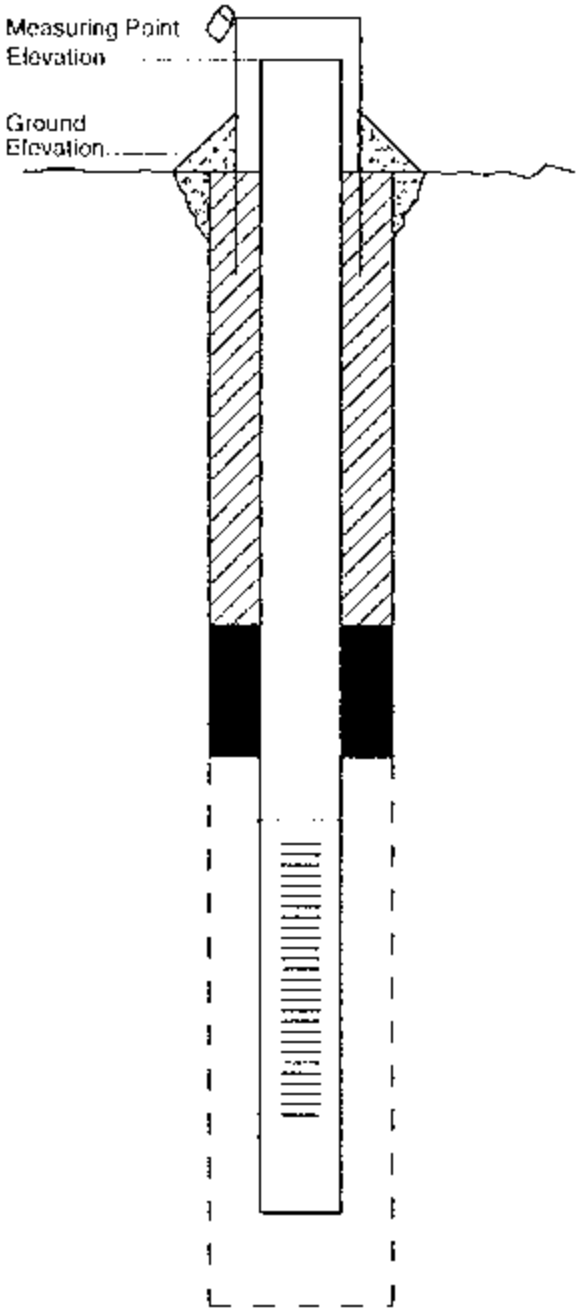
Field Technician: JKH

Latitude:

Longitude:

Checked By: JDK

BR-2



Stick-up of Casing Above Ground Surface: N/A

Type of Surface Seal/Other Protection: cement

Type of Surface Casing: Flushmount Road Box

ID of Surface Casing:

Diameter of Borehole: 4"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch-40 PVC

Type of Backfill: Grout (Portland Cement + Bentonite)

Depth of Top of Seal: 19'

Type of Seal: Bentonite chips

Depth of Top of Sand: 22

Depth of Top of Screen: 24.5

Type of Screen: Sch-40 PVC

Slot Size x Length: 10-slot, 10' long

ID of Screen: 2"

Type of Sandpack: #1 Silica Sand

Depth of Bottom of Screen: 34.5'

Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 34.5'

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC Inc

2004005b L 16

WELL DEVELOPMENT RECORD

Project: USARC-Middletown	Well Installation Date: 11-8-06		Project No: 36B0Y011C
Client: USARC	Well Development Date: 11/10/06	Logged by: JRH	Checked by: JRC
Well/Site ID: BR-2	Weather: Sunny, 60s	Start Date: 11/10/06	Finish Date: 11/10/06
		Start Time: 1410	Finish Time:

Well Construction Record Data:

Bottom of Screen: 34.5 ft.

Sediment Sump/Plug: ft.

Screen Length: 10 ft.

Well Diameter: 2 in.

From Ground Surface ☒ From Top of Riser ☐

Fluids Lost during Drilling: gal

Protective Casing Stick-up: ft. Protective Casing/Well Diff: ft. PID Readings: Ambient Air 0 ppm; Well Mouth ppm

Well Levels:

Initial: 14.25 ft. (pvc)

End of Development: ft.

24 Hours after Development: ft.

HT of Water Column: 17.50 ft × ☐ 1.68" gal/ft. ☒ 0.174 gal/ft. = 3.04 gal/vol *for 4" HSA Installed Wells

Sediment:

Well Depth before Development: 31.75 ft. (from top of PVC)

Well Depth after Development: 32.88 ft.

Sediment Depth Removed: 1.13 ft

Equipment:

☒ Dedicated Submersible Pump whale pump

☒ Surge Block

☐ Bailer ☐ 2" ☐

☐ Grundfos Pump 2" 4"

Approximate Recharge Rate: gpm

Total Gallons Removed: gal

Well Development Criteria Met:

Notes: · use surge block method
· than whale pumps

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☒

	Yes	No
■ Well water clear to unaided eye	☐	☒
■ Sediment thickness remaining in well is <1.0% of screen length	☒	☐
■ Total water removed = a minimum of 5x calculated well volume plus 5x drilling fluid lost	☐	☒
■ Turbidity < 5NTUs	☐	☒
■ 10% change in field parameters	☐	☐

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum):

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate
1415	0.5	0.5	7.29	15.2°C	0.500 mm	>1000 NTU	0.08 gpm
1434	2.5	3	7.27	15.9	0.510	>1000	0.1 gpm
1446	3	6	7.18	14.7	0.524	>1000	0.25
1454	2	8	7.01	14.8	0.490	>1000	0.25

Well Developer's Signature: Jeff Harshman

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
941h RRC 2004

MACTEC Inc.

2004005b L 6

SOIL BORING LOG

Client: USARC - Middletown	Project No. 361804 8110.02	AOC:	
Contractor: ADT	Date Started: 11-10-06	Boring No.: BR-3	
Method: Geoprobe + casing	Casing Size: 5' macrocore sampler	Protection: Flushmount Roadbox	
Ground Elev.:	~~Soil Drilled~~: 4" casing	Completed: 11-16-06	
Logged by: JKH	Checked by: JMP	PI Meter: MiniRae 2000	
Screen: (ft.)	Riser: (ft.) Diam: (ID) Material:	Total Depth: 34' BGS	
		▽ Below Ground:	
		Page 1 of 1	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID READING	SOIL DESCRIPTION	SOIL CLASS	SAMPLE COLLECTED	WELL DATA
	S-1		N/A	28"	0.6	0-0.5' = asphalt 0.5-1' = grey SAND+GRAVEL 1-5' = v.dense/stiff, rusty brown conglomerate of CLAY/SILT/vf. SAND, w/ poorly sorted f-c gravel, damp.	GC CL		
5	S-2		N/A	49"	1.7	dense/stiff, rusty brown, conglomerate of CLAY/SILT/vf. SAND w/ poorly sorted f-c gravel, damp.	GC CL		
10	S-3		N/A	60	3.3	Same as S-2	GC CL		
15	S-4		N/A	36"	0.0	stiff, rusty brown, v.f. sandy-clayey SILT, damp, trace poorly sorted f. gravel, trace shale.			
19/20						Macrocore refusal at 19' BGS (assumed BR surface) · 4" casing driven to 19' and seated into BR · 4" casing washed out w/ rollerbit · BR drilled 15' w/ rollerbit to 34' BGS.			

· Monitoring well BR-3 constructed (see well log).

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

2004005b L 7

MONITORING WELL CONSTRUCTION DIAGRAM

Project USARC-Middletown AOC

Project No. 361804 8110 Boring No. BR-3

Date Installed 11-16-06

Driller ADT

Drilling Method Drive + wash 4" Casing w/ 15' Rollerbit BR Drilling

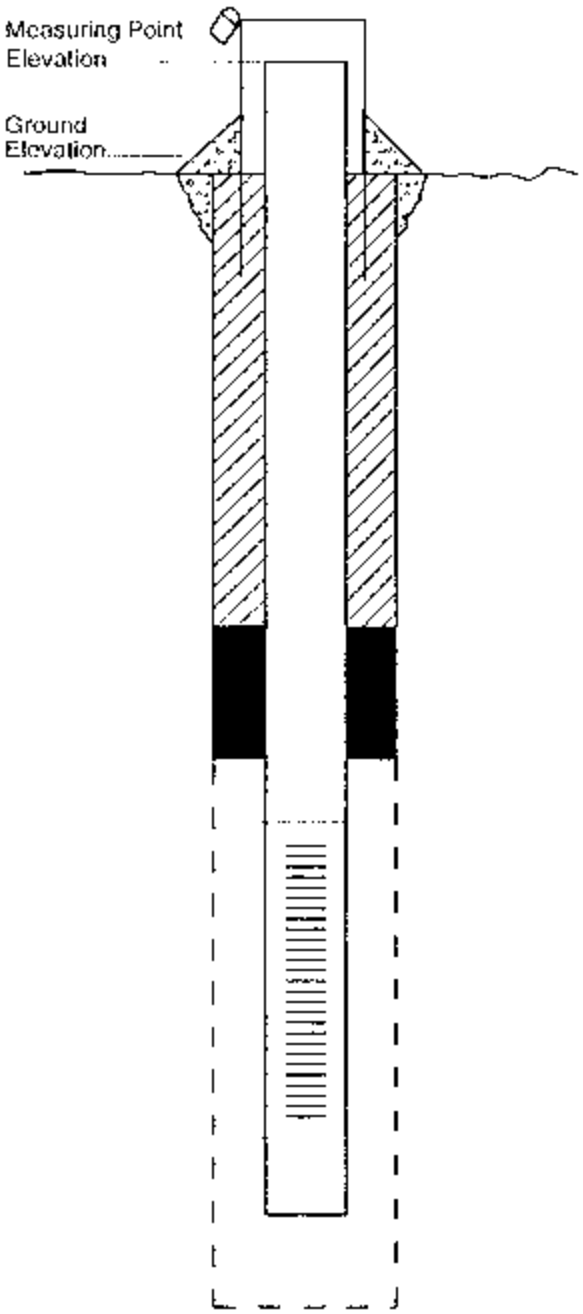
Development Method pump + surge

Field Technician: JZH

Checked By: JDK

Latitude:

Longitude:



Stick-up of Casing Above Ground Surface: N/A

Type of Surface Seal/Other Protection: Cement

Type of Surface Casing: Flush mount Road Box

ID of Surface Casing:

Diameter of Borehole: ~~8"~~ 4"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch. 40 PVC

Type of Backfill: Grout (portland cement + Bentonite powder)

Depth of Top of Seal: 18'

Type of Seal: Bentonite Chips

Depth of Top of Sand: 22'

Depth of Top of Screen: 24'

Type of Screen: Sch. 40 PVC

Slot Size x Length: 10-slot x 10'

ID of Screen: 2"

Type of Sandpack: #2 Silica Sand

Depth of Bottom of Screen: 34'

Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 34'

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, inc.

WELL DEVELOPMENT RECORD

Project: USARC - Middletown	Well Installation Date: 11-16-06		Project No: 36180490
Client: USARC - Kemron	Well Development Date: 11-16-06	Logged by: JRH	Checked by: JDK
Well/Site I.D.: BR-3	Weather: cloudy, rain likely, 60°F	Start Date: 11-16-06	Finish Date: 11/16/06
		Start Time:	Finish Time:

Well Construction Record Data:

Well Diameter: 2 in.

Bottom of Screen: 34.65 ft.

Sediment Sump/Plug: N/A ft. ☐ From Ground Surface ☐ From Top of Riser ☒

Screen Length: 10 ft.

Fluids Lost during Drilling: gal

Protective Casing Stick-up: N/A ft. Protective Casing/Well Diff.: N/A ft. PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

Flush Mount Road Box

Well Levels: PVC

Initial	12.91 ft.
End of Development	DRY ft.
24 Hours after Development	ft.
HT of Water Column	21.74 ft.

Sediment:

Well Depth before Development	34.65 ft. (from top of PVC)
Well Depth after Development	ft.
Sediment Depth Removed	ft.

HT of Water Column 21.74 ft. × ☐ 1.68" gal./ft. ☒ 0.174 = 3.78 gal./vol. (for 2" HSA Installed Wells) ÷ 2

Equipment: whale Pumps

- ☒ Dedicated Submersible Pump
- ☐ Surge Block
- ☐ Bailer ☐ 2" ☐
- ☐ Grundfos Pump 2" ____ 4" ____

Approximate Recharge Rage: gpm

Total Gallons Removed: 5.25 gal

Well Development Criteria Met:

Notes: 11/16/06 - began well development shortly after well installation. Purged dry in ~20mins. Will allow to recharge overnite and cont into Friday 11/17/06

	Yes	No
■ Well water clear to unaided eye	☐	☒
■ Sediment thickness remaining in well is < 1.0% of screen length	☒	☐
■ Total water removed - a minimum of 5x calculated well volume plus 5x drilling fluid lost	☐	☒
■ Turbidity < 5NTUs	☐	☒
■ 10% change in field parameters	☐	☐

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☐

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum): possible sheen??

	Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate	W.L.
11-16-06	1520	2	2	11.31	18.1	17.0	>1000	0.5 GPM	28.40
	1530	2	4	11.33	19.4	14.1	>1000	0.25 "	32.75
	1535	1	5	11.30	~~12.7~~ 19.6	12.7	>1000	"	DRY
11-17-06	0726	0.25	5.25	11.02	14.5	14.4	>1000	purged dry	

Well Developer's Signature: [signature]

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

SOIL BORING LOG

Client: USARE-middletown	Project No. 361804 8110.02	AOC:	
Contractor: ADT	Date Started: 11.16.06	Boring No.: BR-4	
Method: Geoprobe	Casing Size: 5' macrocore sampler	Protection: Flushmount Roadbox	
Ground Elev.:	Soil Drilled: 4" casing	Completed: 11.16.06	
Logged by: JRH	Checked by: JRK	PI Meter: MiniRae 2000	
Screen: 10 (ft.)	Riser: (ft.) Diam: (in) Material:	Total Depth: 35' BGS	
		Below Ground:	
		Page 1 of 1	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID READING	SOIL DESCRIPTION	SOIL CLASS	ANALYSIS SAMPLE COLLECTED	VFC DATA
	S-1		N/A	30"	0.7	0-1' = asphalt 1-5' = m. stiff/m. dense, rusty brown/red conglomerate of CLAY/SILT/ vf. SAND, trace-some poorly sorted f. gravel, dampish, somewhat soft.	GC CL		
5	S-2		N/A	42"	1.1	m. stiff/m. dense, rusty brown/red conglomerate of CLAY (SILT/ vf. SAND, wl poorly sorted gravel, dampish.	GC CL		
10	S-3		N/A	60"	1.0	stiff/dense, rusty brown conglomerate of CLAY/SILT/vf. SAND, wl poorly sorted gravel, trace cobble, damp.	GC CL		
15	S-4		N/A	52"	0.7	v. dense/v. stiff, rusty brown conglomerate of CLAY/SILT/ vf. SAND, wl poorly sorted f-c gravel, till-like at 19', trace shale. macrocore refusal at 19.5' BGS	GC CL		
20						4" casing advanced into BR surface 4" rollerbit used to drill 15' into BR (TD: 35' BGS) monitoring well BR-4 constructed			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC Inc

MONITORING WELL CONSTRUCTION DIAGRAM

Project USARC - Middletown AOC

Project No. 36B04 8110

Boring No. BR-4

Date Installed 11-17-06

Driller ADT

Drilling Method D+W 4" casing w/ Rollebit

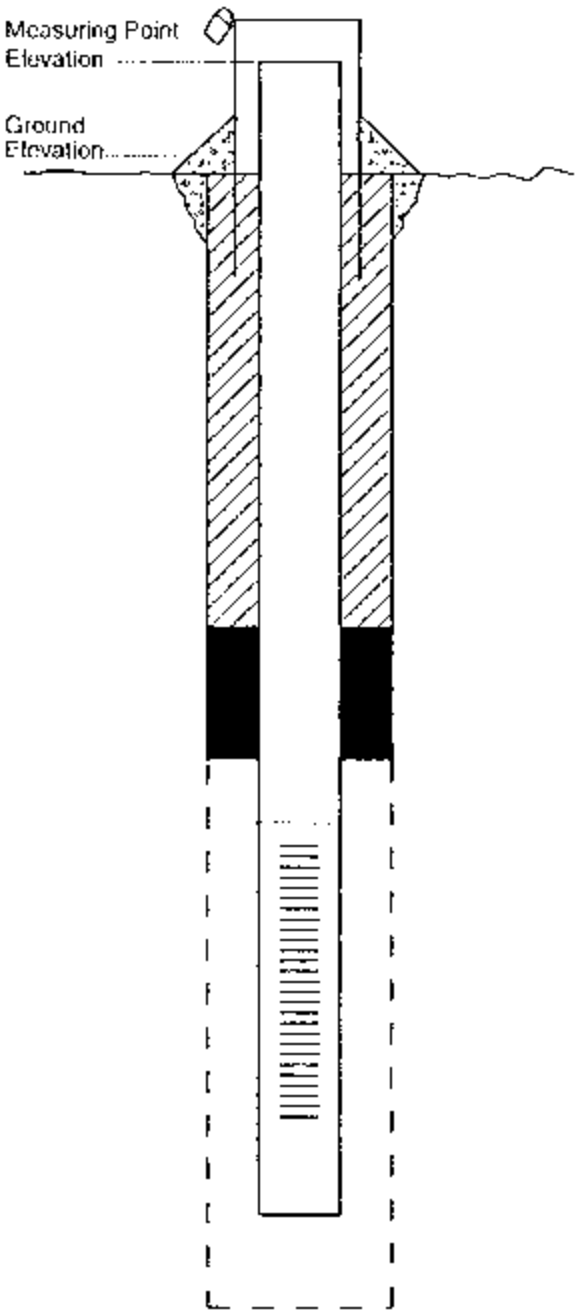
Development Method Surge + Pump BR Drilling

Field Technician: JRH

Checked By: JDC

Latitude:

Longitude:



Stick-up of Casing Above Ground Surface: N/A

Type of Surface Seal/Other Protection: Cement

Type of Surface Casing: Flushmount

ID of Surface Casing:

Diameter of Borehole: 4"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch. 40 PVC

Type of Backfill: Grout (Portland Cement + Bent)

Depth of Top of Seal: 19'

Type of Seal: Bentonite Chips

Depth of Top of Sand: 23'

Depth of Top of Screen: 25'

Type of Screen: Sch. 40 PVC

Slot Size x Length: 10-slot x 10'

ID of Screen: 2"

Type of Sandpack: #2 Silica Sand

Depth of Bottom of Screen: 35'

Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 35'

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

2004005b L 16

WELL DEVELOPMENT RECORD

Project: USARC - Middletown	Well Installation Date: 11-17-06		Project No.: 36180480110
Client: USARC - Kenmore	Well Development Date: 11-17-06	Logged by: JKH	Checked by: JDL
Well/Site ID: BR-4	Weather: Sunny, mild, 60's	Start Date: 11-17-06	Finish Date:
		Start Time: 0950	Finish Time

Well Construction Record Data:

Bottom of Screen: 35.05 ft. — From Ground Surface ☐ From Top of Riser ☒

Sediment Sump/Plug: N/A ft.

Screen Length: 10 ft.

Well Diameter: 2 in.

Fluids Lost during Drilling: ___ gal

Protective Casing Stick-up: N/A ft. Protective Casing/Well Diff.: N/A ft. PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

Flush mount Road Box

Well Levels: PVC

Initial	32.95 ft.	Well Depth before Development	35.05 ft.	(from top of PVC)
End of Development	DRY ft.	Well Depth after Development	35.05 ft.	
24 Hours after Development	___ ft.	Sediment Depth Removed	— ft.	
HT of Water Column	2.10 ft.	☐ 1.68" gal/ft. × ☒ 0.174	0.36	gal/vol (for 4" USA Installed Wells)

Sediment:

Equipment: whale Pumps (2)

☒ Dedicated Submersible Pump
☐ Surge Block
☐ Bailer ☐ 2" ☐ ___
☐ Grundfos Pump 2" ___ 4"

Approximate Recharge Rate: ___ gpm

Total Gallons Removed: 0.5 gal

Well Development Criteria Met:

Notes: 0950: begin development - not much water in well. Able to sustain 100ml/m flow rate for 10mins, then well goes dry - only 0.5gals removed

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☒

	Yes	No
■ Well water clear to unaided eye	☐	☒
■ Sediment thickness remaining in well is < 1.0% of screen length	☒	☐
■ Total water removed = a minimum of 5x calculated well volume plus 5x drilling fluid lost	☐	☒
■ Turbidity < 5NTUs	☐	☒
■ 10% change in field parameters	☒	☐

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum):

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate
1000	0.25 gals	0.25	11.21	18.4	11.3	>1000	0.1 l/m
1010	0.25 gals	0.5	10.81	20.6	5.69	>1000	0.1 l/m

Well Developer's Signature: Jeffrey K. Hardman

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc

SOIL BORING LOG

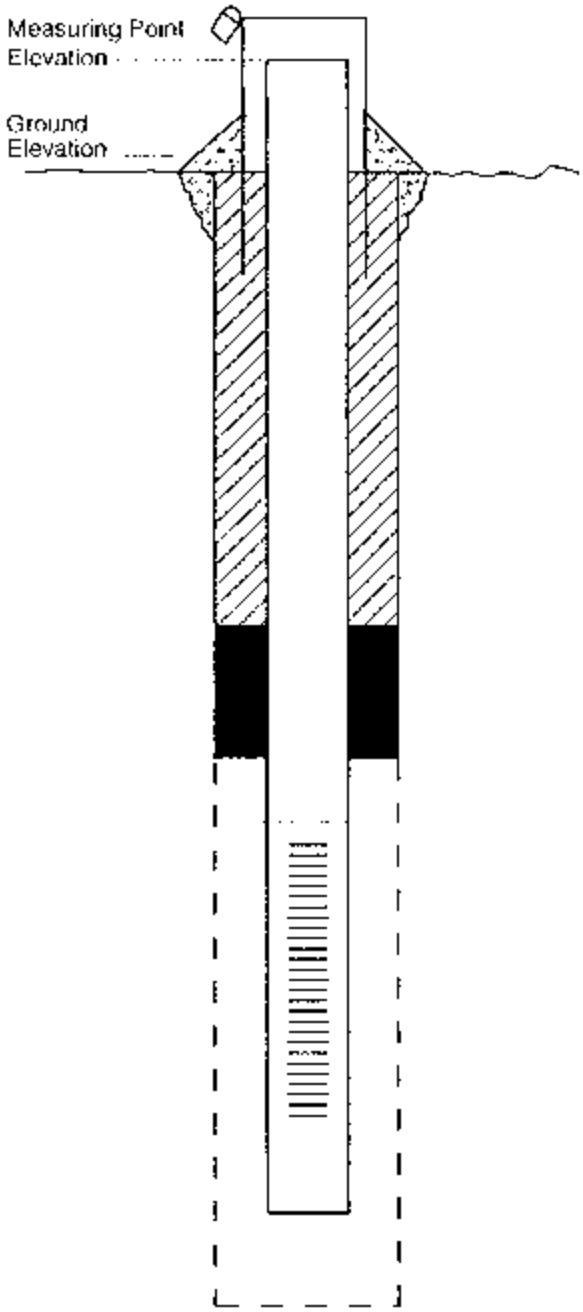
Client: USARC-Middletown	Project No. 36180498110.02	AOC:	
Contractor: ADT	Date Started: 11.16.06	Boring No.: BR-5 standpipe	
Method: Geoprobe	Casing Size: 5' macro core + 4" casing	Protection: ~~Flushmount Manhole~~	
Ground Elev.:	Soil Drilled:	Completed: ~~11.16.06~~ 11.17.06	
Logged by: JCH	Checked by: JPK	PI Meter: MiniRae 2000	
Screen: (ft.) Riser (ft.) Diam. (ID) Material		Total Depth: 35' BGS	
		▽ Below Ground:	
		Page 1 of: 1	

DEPTH (ft)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID/FID (ppm)	SOIL DESCRIPTION	SOIL CLASS	MATERIAL SAMPLE COLLECTED	WELL DATA
5	S-1		N/A	18"	0.1	0-1'= topsoil/Loam 1-5'= soft/m. dense, rusty brown conglomerate of CLAY/SILT/v.f SAND, w/ poorly sorted f. gravel, dampish.	GC CL		
10	S-2		N/A	38"	0.8	5-6'= soft/m. dense, rusty brown conglomerate of CLAY/SILT/v.f. SAND, w/ gravel, dampish-wet. 6-10'= m. stiff/stiff, rusty brown v.f. sandy SILT, trace gravel, wet.	GC CL		
15	S-3		N/A	60"	0.8	10-12'= dense/stiff, rusty brown conglomerate of CLAY/SILT/v.f. SAND, w/ poorly sorted gravel, damp. 12-15'= m. stiff, damp, rusty brown SILT, trace gravel.			
20	S-4		N/A	60	1.0	v. dense/stiff, rusty brown conglomerate of CLAY/SILT/v.f. SAND, w/ f-c poorly sorted gravel, damp-wet. macrocore refusal at 20' BGS (assumed BR surface)			
						· 4" casing advanced into BR surface · 4" casing washed out w/ 4" rollerbit · 4" rollerbit used to drill 15' into BR (TD: 35' BGS · monitoring well BR-5 constructed			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC Inc.

MONITORING WELL CONSTRUCTION DIAGRAM

Project USARC- Middletown PC
Project No. 36180488110
Boring No. BR-5
Date Installed 11-17-06
Driller ADT
Drilling Method D+W 4", Rollerbit
Development Method Surge 15' into BR
Field Technician: JKH
Latitude:
Longitude:
Checked By:



Stick-up of Casing Above Ground Surface: Standpipe
Type of Surface Seal/Other Protection: Cement
Type of Surface Casing: Standpipe
ID of Surface Casing:
Diameter of Borehole: 4"
Riser Pipe ID: 2"
Type of Riser Pipe: Sch. 40 PVC
Type of Backfill: Grout
Depth of Top of Seal: 18'
Type of Seal: Bent. chips
Depth of Top of Sand: 23'
Depth of Top of Screen: 25'
Type of Screen: Sch. 40 PVC
Slot Size x Length: 10 slot x 10'
ID of Screen: 2"
Type of Sandpack: #2 Silica Sand
Depth of Bottom of Screen: 35'
Depth of Sediment Sump with Plug: N/A
Depth of Bottom of Borehole: 35'

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

2004005b L 16

WELL DEVELOPMENT RECORD

Project: USARC - Middletown	Well Installation Date: 11-17-06		Project No. 6190048110
Client: USARC	Well Development Date: 11-17-06	Logged by: J. Hartman	Checked by: JDB
Well/Site I.D.: BR-5	Weather: Sunclouds, 60°	Start Date: 11/17/06	Finish Date: 11/17/06
		Start Time:	Finish Time:

Well Construction Record Data: PVC

Well Diameter: 2 in.

Bottom of Screen: 38.15 ft.

Sediment Sump/Plug: N/A ft.

Screen Length: 10 ft.

From Ground Surface ☐ From Top of Riser ☒

Fluids Lost during Drilling: gal

Protective Casing Stick-up: ft

Protective Casing/Well Diff: ft

PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

needs to be installed

Well Levels: PVC

Initial: 35.91 ft.

End of Development: Dry ft.

24 Hours after Development: ft.

HT of Water Column: 2.24 ft. × ☒ 0.17 ☐ 1.68" gal./ft. = 0.38 gal./vol. *for 4" HSA Installed Wells

Sediment:

Well Depth before Development: 38.15 ft. (from top of PVC)

Well Depth after Development: 38.15 ft.

Sediment Depth Removed: ft.

Equipment: Whale Pumps

- ☒ Dedicated Submersible Pump
- ☐ Surge Block
- ☐ Bailer ☐ 2" ☐
- ☐ Grundfos Pump 2" ____ 4" ____

Approximate Recharge Rate: gpm

Total Gallons Removed: 0.5 gal

Well Development Criteria Met:

Notes: 1400 - start purging, but well goes dry in 5-10 mins at 100ml/m

	Yes	No
■ Well water clear to unaided eye	☐	☒
■ Sediment thickness remaining in well is <1.0% of screen length	☐	☐
■ Total water removed = a minimum of 5x calculated well volume plus 5x drilling fluid lost	☐	☐
■ Turbidity < 5NTUs	☐	☐
■ 10% change in field parameters	☐	☐

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☒

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum):

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate
1405	0.25	0.25	9.09	16.4	0.362	>1000	well went dry
1415	0.25	0.5	8.83	17.1	0.349	>1000	" "
	purged dry 2 X's						

Well Developer's Signature: Jeff Hartman

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 36180N110

PROJECT USARC-Middletown

FIELD SAMPLE NUMBER 24 MW50103

EVENT NO. 03

SITE ID CT-08

SITE TYPE —

DATE 11/28/06

ACTIVITY START 13:45 END

SAMPLE TIME 14:25

FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [X] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER 12.31 FT

PROTECTIVE CASING STICKUP (FROM GROUND) 2.01 FT

CASING / WELL DIFFERENCE 6.40 FT

FINAL DEPTH TO WATER 13.44 FT

HISTORICAL WELL DEPTH (TOR) — FT

PID AMBIENT AIR NA PPM

WELL DIAMETER PVC IN

SCREEN LENGTH 10 FT

PRESSURE TO PUMP NA PS

PID WELL MOUTH NA PPM

TOTAL VOL PURGED 0.98 GAL

REFILL SETTING NA

DISCHARGE SETTING NA

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		✓
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
13:55	12.48	125	11.68	0.273	8.50	3.45	21.6	126		
14:00	12.75	125	11.68	0.272	8.35	3.40	8.67	127		
14:05	12.97	125	11.70	0.272	8.31	3.21	5.86	125		
14:10	13.14	125	11.71	0.272	8.29	2.81	5.87	124		
14:15	13.29	125	11.73	0.267	8.28	2.60	6.64	123		
14:20	13.44	125	11.72	0.271	8.26	2.30	5.63	122		
14:25	—Sample Sample time									

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [✓] PERISTALTIC
- [ ] OTHER

TYPE OF TUBING
- [X] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [ ] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl/4c	(2) 40ml	✓	MW50103

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES NO

NOTES:

SIGNATURE

CHECKED BY JRK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W20040370.xls

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER: 36809810

PROJECT: USARC - Middletown
FIELD SAMPLE NUMBER: MW5-03-03
EVENT NO: 03
SITE ID: M3
SITE TYPE:
DATE: 11/28/06
ACTIVITY: START 1335 END 1451
SAMPLE TIME: 1440
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	20.74 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	— FT	CASING / WELL DIFFERENCE	— FT
FINAL DEPTH TO WATER	21.25 FT	~~HISTORICAL~~ WELL DEPTH (TOR)	30.27 FT	PID AMBIENT AIR	— PPM
SCREEN LENGTH	10 FT	PRESSURE TO PUMP	— PSI	PID WELL MOUTH	PPM
TOTAL VOL. PURGED	1.34 GAL	REFILL SETTING	—	DISCHARGE SETTING	—
				WELL DIAMETER	2 IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			✓

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- 0.05 C)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1335	Begin Purging									
1340	20.90	70	11.9	0.648	7.30	4.10	335	73		
1345	21.01	70	12.2	0.662	7.23	0.34	284	68		
1350	21.11	70	12.5	0.659	7.22	0.00	203	52		
1355	21.16	100	12.7	0.656	7.21	0.00	174	24		
1400	21.20	100	12.8	0.655	7.20	0.00	140	-4		
1405	Empties flow-through cell to clean it out									
1410	21.17	100	12.6	0.648	7.22	0.00	84.4	14		
1415	21.18	100	12.6	0.652	7.21	0.00	67.4	11		
1420	21.23	80	12.7	0.654	7.21	0.00	58.9	1		
1425	21.25	80	12.7	0.658	7.20	0.00	58.5	-4		
1430	21.25	80	12.7	0.657	7.20	0.00	59.5	-15		
1435	21.25	80	12.7	0.660	7.20	0.00	55.0	-19		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [x] PERISTALTIC
- [ ] OTHER

TYPE OF TUBING
- [x] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [ ] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl	(2) 40 ml	✓	MW5-03-03

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

SIGNATURE: David Powell

CHECKED BY: DK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W2004037c.xls

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER: 36184948

PROJECT: USARC - Middletown

FIELD SAMPLE NUMBER: MWS 0603

EVENT NO: 03

SITE ID: M6

SITE TYPE:

DATE: 11/29/06

ACTIVITY: START 0828 END 0915

SAMPLE TIME: 0905

FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☑ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER: 16.17 FT

FINAL DEPTH TO WATER: 16.03 FT

SCREEN LENGTH: 10 FT

TOTAL VOL PURGED: 0.90 GAL

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/mL factor)

HISTORICAL WELL DEPTH (TOR): 30.24 FT

PRESSURE TO PUMP: – PSI

REFILL SETTING: –

PROTECTIVE CASING STICKUP (FROM GROUND): – FT

PID AMBIENT AIR: – PPM

PID WELL MOUTH: – PPM

DISCHARGE SETTING: –

CASING / WELL DIFFERENCE: – FT

WELL DIAMETER: 2 IN

WELL INTERGRITY:

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			✓

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mV)	PUMP INTAKE DEPTH (ft)	COMMENTS
0828	Begin purging									
0835	17.43	140	13.0	0.697	7.13	0.00	7.66	19		
0840	17.54	100	12.8	0.695	7.30	0.00	3.92	3		
0845	17.71	100	12.9	0.687	7.37	0.00	2.12	1		
0850	17.93	100	13.0	0.682	7.40	0.00	1.42	4		
0855	17.90	100	12.8	0.681	7.42	0.00	2.12	7		
0900	18.03	100	12.9	0.678	7.44	0.00	0.82	9		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☐ BLADDER ☑ PERISTALTIC ☐ OTHER

TYPE OF TUBING: ☑ HIGH DENSITY POLYETHYLENE ☐ OTHER

TYPE OF PUMP MATERIAL: ☐ STAINLESS STEEL ☐ OTHER

TYPE OF BLADDER MATERIAL: ☐ TEFLON ☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl	(2) 40 mL	✓	MWS 0603

PURGE OBSERVATIONS Lowest possible purge rate.

PURGE WATER CONTAINERIZED: (YES) NO

NOTES:

SIGNATURE: [signature]

CHECKED BY: JRY

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W2004037c.xls

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 36190481/10

PROJECT USARC - Middletown

FIELD SAMPLE NUMBER M-7MW50703

EVENT NO 07

SITE ID CT-07

SITE TYPE ---

DATE 11/2/06

ACTIVITY START 09:56 END

SAMPLE TIME 10:45

FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
[X] TOP OF WELL RISER
[ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER 15.86 FT

PROTECTIVE CASING STICKUP (FROM GROUND) 1.85 FT

CASING / WELL DIFFERENCE 0.82 FT

FINAL DEPTH TO WATER 17.60 FT

HISTORICAL WELL DEPTH (TOR) ? FT

PID AMBIENT AIR NA PPM

WELL DIAMETER IN

SCREEN LENGTH 10 FT

PRESSURE TO PUMP NA PSI

PID WELL MOUTH NA PPM

WELL INTERGRITY.

INTEGRITY.	YES	NO	N/A
CAP	Y		
CASING	Y		
LOCKED	X		X
COLLAR			X

TOTAL VOL. PURGED 1.1375 GAL

REFILL SETTING NA

DISCHARGE SETTING NA

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. C)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
10:05	16.49	100	12.28	0.293	6.65	1.40	16.9	119		
10:10	16.62	100	12.63	0.289	7.07	0.50	11.6	91		
10:15	16.76	125	12.36	0.287	7.35	0.39	8.74	74		
10:20	17.02	125	12.74	0.282	7.55	0.00	7.41	60		
10:25	17.19	125	12.52	0.281	7.73	0.00	5.82	51		
10:30	17.34	125	12.68	0.280	7.79	0.00	4.12	45		
10:35	17.40	125	12.46	0.279	7.97	0.00	3.37	41		
10:40	17.60	125	12.51	0.278	8.06	0.00	3.37	36		
Sample @ 10:45										

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
[ ] BLADDER
[X] PERISTALTIC [ ] OTHER

TYPE OF TUBING
[X] HIGH DENSITY POLYETHYLENE
[ ] OTHER

TYPE OF PUMP MATERIAL
[ ] STAINLESS STEEL
[ ] OTHER

TYPE OF BLADDER MATERIAL
[ ] TEFLON
[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl 4°C	(2) 40ml	✓	MW50703

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

SIGNATURE

CHECKED BY JRA

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W20040370.xls

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 36180440

PROJECT USARC - Mississippi

FIELD SAMPLE NUMBER M-8

EVENT NO.

SITE ID CT-08

SITE TYPE

DATE 11/17/06

ACTIVITY START 12:30 END

SAMPLE TIME ~~36180440~~ 13:35

FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [X] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER 5.40 ft FT

PROTECTIVE CASING STICKUP (FROM GROUND) 2.61 FT

CASING / WELL DIFFERENCE 0.81 FT

FINAL DEPTH TO WATER 6.13 FT

HISTORICAL WELL DEPTH (TOR) NA FT

PID AMBIENT AIR NA PPM

WELL DIAMETER PVC IN

SCREEN LENGTH NA FT

PRESSURE TO PUMP NA PS

PID WELL MOUTH NA PPM

WELL INTEGRITY:

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING		✓	
LOCKED	✓		
COLLAR	✓		

TOTAL VOL. PURGED 3 ~~0.03354~~ / 2.25 GAL

REFILL SETTING NA

DISCHARGE SETTING NA

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. c)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
13:08	5.90	256	14.61	0.513	7.85	0.39	81.1	69	3ft from bottom	
13:13	6.00	250	14.66	0.514	7.87	0.00	42.1	65		
13:18	6.08	250	14.52	0.513	7.40	0.00	31.8	59		
13:23	6.09	250	14.75	0.512	7.412	0.00	22.9	56		
13:28	6.09	200	14.73	0.513	7.42	0.0	19.0	53		
13:33	6.12	200	14.60	0.512	7.42	0.0	16.2	52		
13:38	6.13	200	14.52	0.511	7.43	0.0	13.9	53		
13:43	6.13	200	14.53	0.510	7.43	0.0	12.4	53		
13:48	6.13	200	14.53	0.510	7.44	0.0	11.1	54		
13:51	6.13	200	14.55	0.509	7.43	0.0	11.2	54		
Sample time 13:55										

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [ ] BLADDER [✓] PERISTALTIC [ ] OTHER

TYPE OF TUBING: [✓] HIGH DENSITY POLYETHYLENE [ ] OTHER

TYPE OF PUMP MATERIAL: [ ] STAINLESS STEEL [ ] OTHER

TYPE OF BLADDER MATERIAL: [ ] TEFLON [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl 4°C	(2) 40ml	✓	~~MW08M~~ MW08203
ETPH	or CT ETPH	4°C	(2)	✓	MW08203

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

SIGNATURE

CHECKED BY JR

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER: 3615048113

PROJECT: USARC - Middletown

FIELD SAMPLE NUMBER: MW3 0903

EVENT NO.: 03

SITE ID: M9

SITE TYPE:

DATE: 11/29/06

ACTIVITY: START 0930 END 1028

SAMPLE TIME: 1008

FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [✓] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER: 8.12 FT

FINAL DEPTH TO WATER: 9.63 FT

SCREEN LENGTH: 10 FT

TOTAL VOL. PURGED: 1.46 GAL

~~HISTORICAL~~ WELL DEPTH (TOR): 14.94 FT

PRESSURE TO PUMP: - PSI

REFILL SETTING: -

PROTECTIVE CASING STICKUP (FROM GROUND): - FT

PID AMBIENT AIR: - PPM

PID WELL MOUTH: - PPM

DISCHARGE SETTING: -

CASING / WELL DIFFERENCE: - FT

WELL DIAMETER: 2 IN

WELL INTERGRITY

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			✓

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal./milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0930	Begin Purging									
0935	8.61	200	12.9	0.435	7.11	2.43	24.0	92		
0940	8.79	160	13.2	0.435	7.00	1.85	21.5	93		
0945	8.97	160	13.3	0.435	6.95	1.46	12.5	92		
0950	9.15	150	13.4	0.435	6.93	1.27	11.3	90		
0955	9.34	150	13.5	0.432	6.92	1.14	7.15	88		
1000	9.51	150	13.6	0.431	6.91	0.93	6.39	85		
1005	9.63	150	13.6	0.430	6.91	0.90	5.03	83		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [ ] BLADDER [✓] PERISTALTIC [ ] OTHER

TYPE OF TUBING: [✓] HIGH DENSITY POLYETHYLENE [ ] OTHER

TYPE OF PUMP MATERIAL: [ ] STAINLESS STEEL [ ] OTHER

TYPE OF BLADDER MATERIAL: [ ] TEFLON [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCL	(7) 40 ML	✓	MW3 0903
ETPH	CT ETPH	none	(2) 1 L	✓	MW3 0903

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: (YES) NO

NOTES:

SIGNATURE: [signature]

CHECKED BY: JRK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W20040376.xls

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 36/P04110

PROJECT USARC - Middletown

FIELD SAMPLE NUMBER MIC

EVENT NO.

SITE ID MW CT-02

SITE TYPE

DATE 11/2/06

ACTIVITY START 15:00 END

SAMPLE TIME 16:45

FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
[X] TOP OF WELL RISER
[ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER 16.99 FT

PROTECTIVE CASING STICKUP (FROM GROUND) 1.5 FT

CASING / WELL DIFFERENCE 0.25 FT

FINAL DEPTH TO WATER NA FT

HISTORICAL WELL DEPTH (TOR) NA FT

PID AMBIENT AIR NA PPM

WELL DIAMETER 2 IN

SCREEN LENGTH NA FT

PRESSURE TO PUMP NA PSI

PID WELL MOUTH NA PPM

WELL INTERGRITY

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING		✓	
LOCKED	✓		
COLLAR	✓		

TOTAL VOL. PURGED 0.286 GAL

REFILL SETTING NA

DISCHARGE SETTING NA

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/ml liter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
15:15	17.40	100	15.68	0.273	7.25	16.38	21.5	160		
15:20	17.30	100	15.47	0.273	7.74	14.97	15.6	152		
15:25	17.75	100	15.40	0.274	7.03	14.97	12.6	146		
16:26	stop pump; let it recharge									

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
[ ] BLADDER
[X] PERISTALTIC [ ] OTHER

TYPE OF TUBING
[X] HIGH DENSITY POLYETHYLENE
[ ] OTHER

TYPE OF PUMP MATERIAL
[ ] STAINLESS STEEL
[ ] OTHER

TYPE OF BLADDER MATERIAL
[ ] TEFLON
[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl		✓	MWS 1003
ETPH	CA	NA		✓	MWS 1003

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES: Sampled recharge @ 16:45

SIGNATURE

CHECKED BY JRV

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W2004037c.xls

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER: 36180481.02

PROJECT: USAEC - Middletown

FIELD SAMPLE NUMBER: ~~MW5-11-03~~ MW3-11-03

EVENT NO.: 03

SITE ID: ~~MW-3~~ MW11

SITE TYPE:

DATE: 11/27/06

ACTIVITY: START 1542 END 1638

SAMPLE TIME: 1618

FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER: 5.85 FT

FINAL DEPTH TO WATER: 6.44 FT

SCREEN LENGTH: 10 FT

TOTAL VOL. PURGED: 1.52 GAL

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

~~HISTORICAL~~ WELL DEPTH (TOR): 13.26 FT

PRESSURE TO PUMP: -- PSI

REFILL SETTING: --

PROTECTIVE CASING STICKUP (FROM GROUND): -- FT

PID AMBIENT AIR: -- PPM

PID WELL MOUTH: -- PPM

DISCHARGE SETTING: --

CASING / WELL DIFFERENCE: - FT

WELL DIAMETER: 2 IN

WELL INTERGRITY

INTEGRITY	YES	NO	N/A
CAP		✓	
CASING	✓		
LOCKED	✓		
COLLAR			✓

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1542	Begin Purging									
1547	6.14	~~[illegible]~~ 190	14.1	0.275	6.91	5.61	9.26	109		
1552	6.26	190	14.0	0.274	6.79	5.23	7.24	113		
1557	6.33	190	14.0	0.273	6.76	5.13	10.5	115		
1602	Missed reading because Horiba battery died									
1607	6.41	190	13.7	0.275	6.76	4.93	9.47	116		
1610	6.43	180	13.7	0.274	6.75	4.84	6.68	117		
1613	6.44	180	13.6	0.275	6.75	4.77	3.18	118		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [x] PERISTALTIC
- [ ] OTHER

TYPE OF TUBING
- [x] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [ ] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl	(2) 40 mL	✓	~~MW5-11-03~~ DUP MW3HO
ETPH	CT ETPH	none	(2) 1 L	✓	~~MW5-11-03~~ MW3HO

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES NO

NOTES:

SIGNATURE: [signature]

CHECKED BY: JK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

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FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 36187481.3

PROJECT: USARC - Middletown
FIELD SAMPLE NUMBER: MWS1203
EVENT NO.: 03
SITE ID: M12
SITE TYPE:
DATE: 11/27/06
ACTIVITY: START 1510 END 1716
SAMPLE TIME: 1643
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [✓] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	14.87 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	- FT	CASING / WELL DIFFERENCE	- FT
FINAL DEPTH TO WATER	15.99 FT	HISTORICAL WELL DEPTH (TOB)	18.10 FT	PID AMBIENT AIR	-- PPM
SCREEN LENGTH	10 FT	PRESSURE TO PUMP	-- PS	PID WELL MOUTH	-- PPM
TOTAL VOL PURGED	0.34 GAL	REFILL SETTING	—	DISCHARGE SETTING	--
				WELL DIAMETER	2 IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. C)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1510	Begin	purging								
1515	15.78	150	14.8	0.331	7.22	4.60	34.1	108		
1520	15.99	110	14.8	0.267	6.88	3.90	26.1	110		
1522	Well pumped dry. Shut off pump, let well recharge									
1643	Restart pump, collect samples									

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [ ] BLADDER [✓] PERISTALTIC [ ] OTHER

TYPE OF TUBING: [✓] HIGH DENSITY POLYETHYLENE [ ] OTHER

TYPE OF PUMP MATERIAL: [ ] STAINLESS STEEL [ ] OTHER

TYPE OF BLADDER MATERIAL: [ ] TEFLON [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl	(2) 40 ml	✓	MWS1203
ETPH	CT ETPH	none	(2) 1 L	✓	MWS1203

PURGE OBSERVATIONS

Lowest possible purge rate

PURGE WATER CONTAINERIZED: (YES) NO

NOTES:

SIGNATURE: [signature]

CHECKED BY: JRX

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 36 1804810

PROJECT USARC-Middletown, CT

FIELD SAMPLE NUMBER MWS1303-MW3

EVENT NO.

SITE ID CT-08

SITE TYPE

DATE 11/21/06

ACTIVITY START 08:00 END 09:15

SAMPLE TIME 08:55

FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [X] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER 5.56 FT

PROTECTIVE CASING STICKUP (FROM GROUND) 3.74 FT

CASING / WELL DIFFERENCE 1.32 FT

FINAL DEPTH TO WATER 5.66 FT

HISTORICAL WELL DEPTH (TOR) FT

PID AMBIENT AIR NA PPM

WELL DIAMETER PVC IN

SCREEN LENGTH 10 FT

PRESSURE TO PUMP NA PSI

PID WELL MOUTH NA PPM

TOTAL VOL. PURGED 1.56 GAL

REFILL SETTING N

DISCHARGE SETTING NA

(purge volume (milliliters per minute) x time duration (minutes) x 0.00020 gal/milliliter)

WELL INTEGRITY

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
8:10	5.60	100	11.74	0.056	5.54	1.60	33.5	169		
8:15	5.61	150	11.53	0.055	5.66	1.37	32.1	154		
8:20	5.65	150	11.64	0.052	5.71	1.25	30.7	154		
8:25	5.65	150	11.92	0.050	5.72	1.15	28.8	153		
8:30	5.65	150	11.84	0.049	5.74	1.11	29.3	151		
8:35	5.65	150	11.71	0.048	5.76	1.13	24.9	149		
8:40	5.65	150	11.74	0.048	5.76	1.01	19.2	147		
8:43	5.66	150	11.87	0.048	5.76	1.04	15.8	147		
8:47	5.66	150	11.95	0.048	5.76	1.01	15.1	146		
8:50	5.66	150	11.91	0.048	5.77	0.99	13.9	146		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [ ] BLADDER [✓] PERISTALTIC [ ] OTHER

TYPE OF TUBING: [✓] HIGH DENSITY POLYETHYLENE [ ] OTHER

TYPE OF PUMP MATERIAL: [ ] STAINLESS STEEL [ ] OTHER

TYPE OF BLADDER MATERIAL: [ ] TEFLON [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl 4°C	2(40ml)	✓	MWS1303
B+pH	CT etpH	4°C	2-1L	✓	↓

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES / NO

NOTES:

SIGNATURE: [signature]

CHECKED BY JDK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W2004037b.xls

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER: 36180-1840

PROJECT: USARC - Middletown
FIELD SAMPLE NUMBER: MW5140 3
EVENT NO: 03
SITE ID: MW-14
SITE TYPE:
DATE: 11/28/06
ACTIVITY: START 1131 END 1307
SAMPLE TIME: 1247
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☑ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER: 7.64 FT
FINAL DEPTH TO WATER: 9.38 FT
SCREEN LENGTH: 10 FT
TOTAL VOL PURGED: 2.24 GAL
(purge volume (ml liters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

HISTORICAL WELL DEPTH (TOR): 16.37 FT
PRESSURE TO PUMP: -- PSI
REFILL SETTING: --

PROTECTIVE CASING STICKUP (FROM GROUND): -- FT
PID AMBIENT AIR: -- PPM
PID WELL MOUTH: -- PPM
DISCHARGE SETTING: --

CASING / WELL DIFFERENCE: -- FT
WELL DIAMETER: 2 IN

WELL INTERGRITY

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED		✓	
COLLAR			✓

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1131	Begin purging									
1135	7.90	150	14.9	0.574	7.55	3.84	356	78		
1140	8.09	150	15.5	0.564	7.50	3.18	258	81		
1145	8.26	150	15.7	0.559	7.47	2.41	174	83		
1150	8.40	150	15.7	0.561	7.42	2.80	169	83		
1155	8.52	150	15.6	0.560	7.42	2.80	149	84		
1200	Emptied flow-through cell to clean out sediment									
1205	8.72	100	15.2	0.571	7.42	3.63	72.2	84		
1210	8.82	100	15.3	0.576	7.43	3.23	47.3	84		
1215	8.91	100	15.5	0.578	7.41	3.15	29.4	85		
1220	9.00	100	15.6	0.580	7.42	3.24	24.5	85		
1225	9.10	100	15.7	0.577	7.42	3.19	19.4	85		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☐ BLADDER ☑ PERISTALTIC ☐ OTHER
TYPE OF TUBING: ☑ HIGH DENSITY POLYETHYLENE ☐ OTHER
TYPE OF PUMP MATERIAL: ☐ STAINLESS STEEL ☐ OTHER
TYPE OF BLADDER MATERIAL: ☐ TEFLON ☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl	(2) 40 mL	✓	MW5140 3
ETPH	CT ETPH	none	(2) 1 L	✓	MW5140 3

PURGE OBSERVATIONS

Lowest possible purge rate

PURGE WATER CONTAINERIZED: (YES) NO

NOTES:

SIGNATURE: [signature]

CHECKED BY: JK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER: 3618048A0

PROJECT: USARC - Middletown
FIELD SAMPLE NUMBER: MW1405
EVENT NO.: 03
SITE ID: MW-14
SITE TYPE:
DATE: 11/28/06
ACTIVITY: START 1151 END 1307
SAMPLE TIME: 1247
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	7.64 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	- FT	CASING / WELL DIFFERENCE	-- FT
FINAL DEPTH TO WATER	9.38 FT	HISTORICAL WELL DEPTH (TOR)	16.37 FT	PID AMBIENT AIR	-- PPM
SCREEN LENGTH	10 FT	PRESSURE TO PUMP	-- PSI	PID WELL MOUTH	-- PPM
TOTAL VOL. PURGED	2.24 GAL	REFILL SETTING	--	DISCHARGE SETTING	--

WELL DIAMETER: 2 IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY	YES	NO	N/A
CAP			
CASING			
LOCKED			
COLLAR			

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1230	9.18	100	15.7	0.576	7.42	3.12	18.1	85		
1235	9.25	100	15.7	0.575	7.42	3.04	15.1	85		
1240	9.31	100	15.7	0.570	7.42	3.00	14.3	84		
1245	9.38	100	15.7	0.569	7.42	2.97	14.8	84		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [x] PERISTALTIC
- [ ] OTHER

TYPE OF TUBING
- [x] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [ ] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl	(2) 40 ml	✓	MW1405
ETPH	CT ETPH	none	(2) 1 L	✓	MW1405

PURGE OBSERVATIONS: Lowest possible purge rate

PURGE WATER CONTAINERIZED: YES NO

NOTES:

SIGNATURE: [signature]

CHECKED BY: DRK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W2K0427a.wb

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 56/5045111

PROJECT USARC - Middletown

FIELD SAMPLE NUMBER MW51503

EVENT NO 05

SITE ID MW-15

SITE TYPE

DATE 11/28/06

ACTIVITY START 0956 END 1103

SAMPLE TIME 1043

FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER 8.06 FT

PROTECTIVE CASING STICKUP (FROM GROUND) - FT

CASING / WELL DIFFERENCE FT

FINAL DEPTH TO WATER 10.78 FT

~~HISTORICAL~~ WELL DEPTH (TOR) 19.63 FT

PID AMBIENT AIR - PPM

WELL DIAMETER 2 IN

SCREEN LENGTH 10 FT

PRESSURE TO PUMP - PSI

PID WELL MOUTH - PPM

WELL INTERGRITY:

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			

TOTAL VOL. PURGED 1.43 GAL

REFILL SETTING -

DISCHARGE SETTING -

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/ml/liter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. C)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0956	Begin Purging									
1000	8.85	160	13.2	0.421	6.87	1.19	44.6	76		
1005	9.32	130	13.3	0.414	7.18	0.57	42.7	60		
1010	9.87	120	13.4	0.407	7.41	0.29	30.6	49		
1015	10.24	120	13.5	0.405	7.59	0.16	29.0	43		
1020	10.38	120	13.5	0.409	7.71	0.09	29.4	39		
1025	10.50	120	13.4	0.406	7.80	0.10	29.0	37		
1030	10.50	120	13.1	0.404	7.88	0.06	26.8	34		
1035	10.65	120	13.2	0.401	7.91	0.02	25.2	32		
1040	10.78	120	13.3	0.399	7.92	0.00	24.0	30		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [x] PERISTALTIC
- [ ] OTHER

TYPE OF TUBING
- [x] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [ ] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl	(2) 40 ml	✓	MW51503
ETPH	CT ETPH	none	(2) 1 L	✓	MW51503

PURGE OBSERVATIONS

Lowest possible purge rate

PURGE WATER CONTAINERIZED YES NO

NOTES:

SIGNATURE

CHECKED BY JDC

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W20060376.xls

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER: 3618078810

PROJECT: USARC - Middletown

FIELD SAMPLE NUMBER: MWS1605

EVENT NO: 05

SITE ID: MW-16

SITE TYPE:

DATE: 11/27/06

ACTIVITY: START 1238 END 1450

SAMPLE TIME: 1338

FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER: 4.29 FT

PROTECTIVE CASING STICKUP (FROM GROUND): FT

CASING / WELL DIFFERENCE: FT

FINAL DEPTH TO WATER: 6.12 FT

HISTORICAL WELL DEPTH (TOR): 15.20 FT

PID AMBIENT AIR: PPM

WELL DIAMETER: 2 IN

SCREEN LENGTH: 10 FT

PRESSURE TO PUMP: PS

PID WELL MOUTH: PPM

WELL INTERGRITY:

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			✓

TOTAL VOL PURGED: 2.81 GAL

REFILL SETTING:

DISCHARGE SETTING:

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1238	Begin	Purging								
1245	5.28	200	14.5	0.882	7.06	1.04	59.6	91		
1250	5.56	200	14.4	0.857	7.13	0.42	52.6	98		
1255	5.49	200	14.4	0.839	7.17	1.04	43.8	101		
1300	5.82	200	14.4	0.828	7.20	0.97	34.7	103		
1305	5.68	200	14.4	0.819	7.22	0.75	24.6	103		
1310	5.82	200	14.7	0.816	7.22	0.74	19.9	102		
1315	5.93	200	14.8	0.819	7.23	0.57	16.7	99		
1320	6.01	180	14.8	0.820	7.23	0.58	14.3	97		
1325	6.11	180	14.8	0.819	7.23	0.61	12.4	96		
1330	6.12	160	14.8	0.822	7.23	0.59	12.6	94		
1335	6.12	160	14.8	0.819	7.24	0.63	11.8	92		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [x] PERISTALTIC
- [ ] OTHER

TYPE OF TUBING
- [x] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [ ] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl	(2) 40 mL	✓	MWS1605
CTGTPH	CTGTPH	none	(2) 1 L	✓	MWS1605

PURGE OBSERVATIONS

DUP/MS/MSD samples collected

PURGE WATER CONTAINERIZED: YES NO

NOTES:

SIGNATURE: David Paul

CHECKED BY: JRL

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 36180481 10

PROJECT USARC - Middletown

FIELD SAMPLE NUMBER ~~BR5~~ DEP BR50103

EVENT NO 03

SITE ID BR - 1

SITE TYPE

DATE 12/1/06

ACTIVITY START 1148 END

SAMPLE TIME 1212

FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER 39.55 FT

FINAL DEPTH TO WATER 40.24 FT

SCREEN LENGTH 10 FT

TOTAL VOL. PURGED 0.11 GAL

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

~~HISTORICAL~~ WELL DEPTH (TOR) 40.24 FT

PRESSURE TO PUMP — PSI

REFILL SETTING —

PROTECTIVE CASING STICKUP (FROM GROUND) — FT

PID AMBIENT AIR — PPM

PID WELL MOUTH — PPM

DISCHARGE SETTING —

CASING / WELL DIFFERENCE — FT

WELL DIAMETER 2 IN

WELL INTEGRITY

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			✓

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. C)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1148	39.55	Not enough water in well to purge using low flow methods; lower bailer to bottom								
~~1236~~	DEP									
1212	—	—	15.7	0.637	7.70	7.36	71000	48		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [ ] PERISTALTIC
- [x] OTHER bailer

TYPE OF TUBING
- [ ] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [ ] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCL	(2) 40 ml	✓	BR50103

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES NO

NOTES:

SIGNATURE [signature]

CHECKED BY JRK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 361204210

PROJECT USARC Middletown, CT

FIELD SAMPLE NUMBER MW5 BR50203

EVENT NO. 03

SITE ID CT-8

SITE TYPE

DATE 11/30/06

ACTIVITY START 11:15 END

SAMPLE TIME 12:30

FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [ ] TOP OF WELL RISER
- [x] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER 15.08 FT

PROTECTIVE CASING STICKUP (FROM GROUND) 1 FT

CASING / WELL DIFFERENCE 7 FT

FINAL DEPTH TO WATER 17.07 FT

HISTORICAL WELL DEPTH (TOR) 7 FT

PID AMBIENT AIR NA PPM

WELL DIAMETER PVC IN

SCREEN LENGTH 10 FT

PRESSURE TO PUMP NA PSI

PID WELL MOUTH NA PPM

WELL INTERGRITY

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			✓

TOTAL VOL PURGED 1.6 GAL

REFILL SETTING NA

DISCHARGE SETTING NA

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
11:36	15.80	100	14.02	0.366	8.34	2.44	41000	44		
11:41	16.00	100	14.10	0.366	8.43	1.73	41000	78		
11:46	16.15	100	14.09	0.366	8.41	1.28	41000	62		
11:51	16.35	100	14.06	0.364	8.54	0.13	766	43		
11:55	- clean Nordson			~~0.363~~	~~8.72~~	~~0.43~~				
12:00	16.50	100	13.88	0.363	8.72	0.43	396	34		
12:05	16.60	100	14.01	0.359	8.77	0.07	406	21		
12:10	16.69	100	14.00	0.361	8.80	0.00	310	12		
12:15	17.71	100	13.85	0.360	8.83	0.00	286	4		
12:20	17.73	100	13.91	0.359	8.84	0.00	273	-2		
12:25	17.81	100	14.03	0.358	8.85	0.00	249	-3		
12:30	- Sample									

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [x] PERISTALTIC
- [ ] OTHER

TYPE OF TUBING
- [ ] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [ ] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	Y260	HCl 4°C	(2) 40ml	C	BR50203

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES NO

NOTES:

SIGNATURE

CHECKED BY JRA

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 3618048110

PROJECT USARC - Middletown

FIELD SAMPLE NUMBER BR50303

EVENT NO 03

SITE ID BR-3

SITE TYPE

DATE 11/29/04

ACTIVITY START 0943 END 1117

SAMPLE TIME 1110

FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER 34.13 FT

PROTECTIVE CASING STICKUP (FROM GROUND) — FT

CASING / WELL DIFFERENCE — FT

FINAL DEPTH TO WATER 34.62 FT

~~HISTORICAL~~ WELL DEPTH (TOR) 34.62 FT

PID AMBIENT AIR — PPM

WELL DIAMETER 2 IN

SCREEN LENGTH 10 FT

PRESSURE TO PUMP — PSI

PID WELL MOUTH — PPM

WELL INTERGRITY:

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED		✓	
COLLAR			✓

TOTAL VOL. PURGED 0.08 GAL

REFILL SETTING —

DISCHARGE SETTING —

(purge volume (milliliters per minute) x time duration (minutes) x 0.00025 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0943	34.13	Not enough water in well to purge using low flow methods;								
		lower bailer to bottom								
1110	—	—	11.6	5.88	12.96	8.22	>1000	-121		
	Samples collected									

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [ ] PERISTALTIC
- [x] OTHER bailer

TYPE OF TUBING
- [ ] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [ ] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl	(2) 40 ml	✓	BR50303

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

SIGNATURE: [signature]

CHECKED BY: JRK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 36185484

PROJECT USARC - Middletown

FIELD SAMPLE NUMBER BR50403

EVENT NO 03

SITE ID BR-4

SITE TYPE

DATE 11/29/06

ACTIVITY START 0939 END 1045

SAMPLE TIME 1036

FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER 34.08 FT

PROTECTIVE CASING STICKUP (FROM GROUND) - FT

CASING / WELL DIFFERENCE — FT

FINAL DEPTH TO WATER 34.81 FT

~~HISTORICAL~~ WELL DEPTH (TOR) 34.81 FT

PID AMBIENT AIR - PPM

WELL DIAMETER 2 IN

SCREEN LENGTH 10 FT

PRESSURE TO PUMP - PSI

PID WELL MOUTH - PPM

TOTAL VOL. PURGED 0.12 GAL

REFILL SETTING -

DISCHARGE SETTING -

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED		✓	
COLLAR			✓

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. C)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0939	34.08	Not	enough	water in	well to	purge	using	low	flow	methods
		lower	bailer	to	bottom					
1036	-	-	12.1	2.09	12.54	8.17	239	-95		
	Samples	collected								

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [ ] PERISTALTIC
- [x] OTHER bailer

TYPE OF TUBING
- [ ] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [ ] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCl	(2) 40 ml	✓	BR50403

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES NO

NOTES:

SIGNATURE

CHECKED BY

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

SOIL BORING LOG

Client: USARC - Middletown, CT	Project No 361804 8110.02	AOC:	
		Boring No.: MW-17	
		Protection: Standpipe	
Contractor: ADT	Date Started: 3.5.07	Completed: 3.5.07	
Method: Geoprobe	Casing Size: 5' macro core	PI Meter: Thermo 580 B	
Ground Elev.:	Soil Drilled:	Total Depth: 25'	
Logged by: JKH	Checked by: JRY	▽ Below Ground: 8'	
Screen: 10 (ft.)	Riser: 8 (ft.) Diam: 2" (ID) Material: PVC	Page 1 of: 1	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
5	S-1		N/A	50"	Ø	0-1' = topsoil / Loam, dry 1-3' = v. fine, dense, rusty brown SAND, some silt, some gravel, trace cobble, damp. 3-5' = v. fine, rusty brown SAND / SILT, trace gravel, damp.	GC CL		
5.5 8	S-2		N/A	~~50"~~ 55"	Ø	5-6' = v. fine rusty brown SILTY SAND, damp. 6-10' = stiff / dense, rusty brown conglomerate of CLAY / SILT / vf. SAND, w/ poorly sorted gravel, damp.	GC CL	VOC	Sample ID CTOB-MWS1706
10	S-3		N/A	~~60"~~ 58"	Ø	v. stiff / dense, rusty brown conglomerate of CLAY / SILT / SAND, w/ poorly sorted gravel, wet-damp.	GC CL		
15	S-4		N/A	60"	Ø	v. stiff / dense, rusty brown-red conglomerate of CLAY / SILT / SAND w/ trace poorly sorted gravel, damp.	GC CL		
20	S-5		N/A	60"	Ø	stiff, rusty brown red SILT + CLAY trace gravel, dampish.	GC CL		
25						End of Geoprobe boring at 25'			

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

MONITORING WELL CONSTRUCTION DIAGRAM

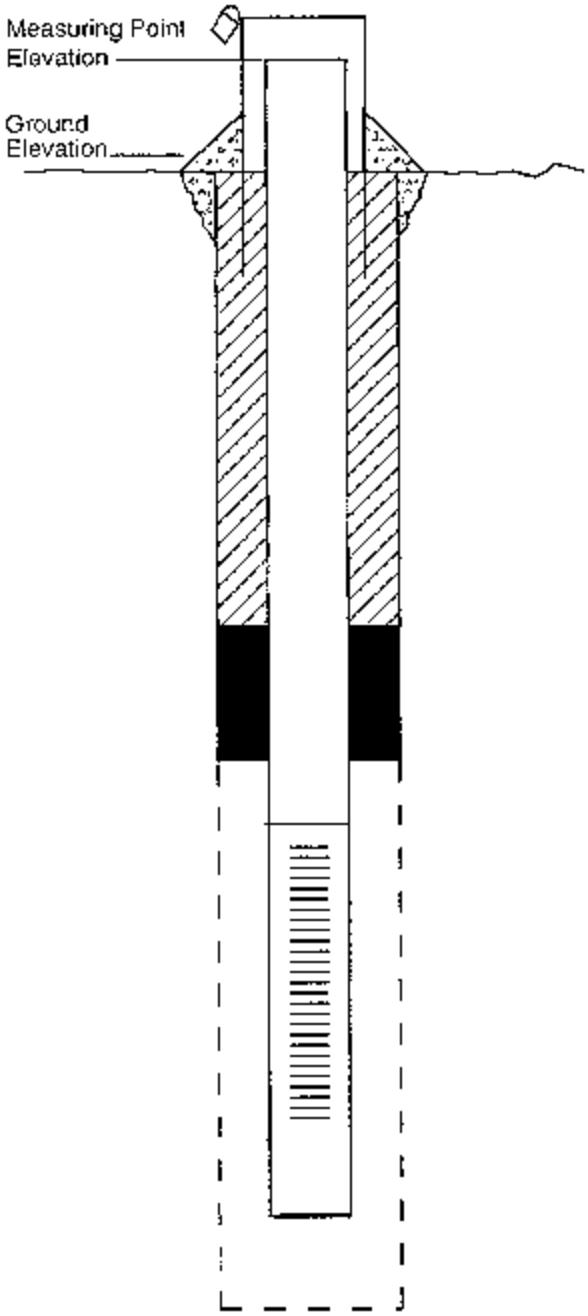
Project USARC-Middletown AOC ____ Driller ADT

Project No. 36804811 0.02 Boring No. MW-17 Drilling Method HSA's w/ Geoprobe

Date Installed 3-5-07 Development Method Over Pumping

Field Technician: JKH Latitude: ____ Longitude: ____

Checked By: JAK



Stick-up of Casing Above Ground Surface: Protective standpipe +2.5'

Type of Surface Seal/Other Protection: cement

Type of Surface Casing: protective standpipe

ID of Surface Casing: ____

Diameter of Borehole: 4"

Riser Pipe ID: 2"

Type of Riser Pipe: PVC Sch. 40

Type of Backfill: Drill cuttings

Depth of Top of Seal: 2.5'

Type of Seal: Bentonite Chips

Depth of Top of Sand: 4'

Depth of Top of Screen: 6'

Type of Screen: Sch. 40 PVC

Slot Size x Length: 10-slot x 10'

ID of Screen: 2"

Type of Sandpack: #1 Silica Sand

Depth of Bottom of Screen: 16'

Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 25'

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

WELL DEVELOPMENT RECORD

Project: USARC Middletown, CT	Well Installation Date: 3-5-07		Project No. 36160481 10-02
Client: US Army / Kemron	Well Development Date: 3-7-07	Logged by: JKH	Checked by: JRK
Well/Site I.D.: MW-17	Weather: Light snow, cold 15°F	Start Date: 3-7-07	Finish Date: 3-7-07
		Start Time: 1435	Finish Time: 1515

Well Construction Record Data:

Well Diameter: 2 in.

Bottom of Screen: 16 ft.

Sediment Sump/Plug: N/A ft.

Screen Length: 10 ft.

From Ground Surface ☒ From Top of Riser ☐

Fluids Lost during Drilling: N/A gal.

Protective Casing Stick-up: 32" ft.

Protective Casing/Well Diff.: 2.5" ft.

PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

Well Levels:

Initial: 9.61 ft. PVC

End of Development: Dry ft.

24 Hours after Development: ft.

HT of Water Column: 9.03 ft.

Sediment:

Well Depth before Development: 18.64 ft. (from top of PVC)

Well Depth after Development: 18.64 ft.

Sediment Depth Removed: — ft.

☐ 1.68* gal./ft. x ☒ 0.174 = 1.57 gal./vol. *for ~~4" NSA~~ Installed Wells 2" well

Equipment:

☒ Dedicated Submersible Pump whale pump

☐ Surge Block

☐ Bailer ☐ 2" ☐

☐ Grundfos Pump 2" ____ 4" ____

Approximate Recharge Rate: gpm

Total Gallons Removed: 8 gal. ### 111

Well Development Criteria Met:

Notes: well stable at 900ml/m. Increase flow rate to 3.5l/m for 10 mins until well goes dry - surged well screen - fair recharge

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☒

	Yes	No
■ Well water clear to unaided eye	☐	☒
■ Sediment thickness remaining in well is <1.0% of screen length	☒	☐
■ Total water removed = a minimum of 5x calculated well volume plus 5x drilling fluid lost	☒	☐
■ Turbidity < 5NTUs	☐	☒
■ 10% change in field parameters	☐	☐

Water Parameter Measurements

Record at start (twice during and at the end of development (minimum):

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate
1440	0.5	0.5	7.31	9.6°C	0.194	>1000	900ml/m
1445	1.0	1.5	7.19	8.4°C	0.188	574	"
1450	1.0	2.5	7.16	7.8°C	0.165	245	"
1455	1.0	3.5	7.08	8.1°C	0.167	256	"

PVC
10.05'
10.72'
11.30'
11.81

Well Developer's Signature: Jeff Hardman

1456 increase flow rate to 3.5 l/m

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

2004005b L 6

SOIL BORING LOG

Client: USARC - Middletown, CT		Project No. 36180481 10.02	AOC:
			Boring No.: MW-1B
			Protection: Road Box
Contractor: AOT	Date Started: 3-5-07		Completed: 3-5-07
Method: Geoprobe	Casing Size: 5' Macrocore		PI Meter: Thermo 580B
Ground Elev.:	Soil Drilled:		Total Depth: 18'
Logged by: JKH	Checked by: TRY		▽ Below Ground: ~5'
Screen: 10 (ft.)	Riser: 3 (ft.)	Diam: 2 (ID) Material: PVC	Page 1 of: 1

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
						Asphalt pavement			
	S-1		N/A	38"	Ø	Brown - rusty red, dense conglomerate of CLAY/SILT/v.f. SAND, w/ trace - little poorly sorted/well graded gravel, dry-damp ish.	GC CL		
5									
	S-2		N/A	60"	Ø	5-6' = soft, wet, brown-rusty red, v.f. SILTY SAND, w/ poorly sorted gravel. 6-10' = v. stiff/v. dense, rusty brown conglomerate of CLAY/SILT/v.f. SAND, w/ poorly sorted gravel, damp.	GC CL		
10									
	S-3		N/A	50"	Ø	v. stiff/v. dense, rusty brown-red conglomerate of CLAY/SILT/v.f. SAND w/ poorly sorted gravel, trace cobbles, dry - damp.	GC CL		
15									
	S-4		N/A	32"	Ø	Same as S-3, with trace shale in top of macro.	GC CL		
						Macrocore refusal at 18' BGS			
20									

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc

MONITORING WELL CONSTRUCTION DIAGRAM

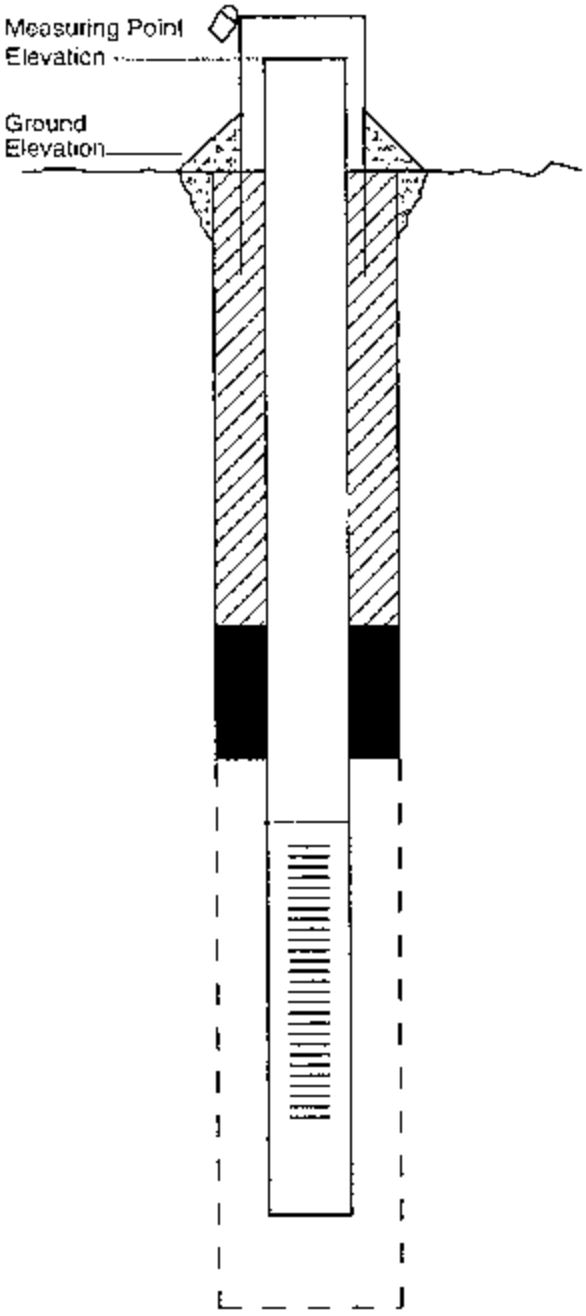
Project USARC-Middletown AOC _____ Driller ADT

Project No. 36180981 10.02 Boring No. MW-18 Drilling Method HSAs w/ Geoprobe

Date Installed 3.5.07 Development Method over pumping

Field Technician: JKH Latitude: _____ Longitude: _____

Checked By: JPK



Stick-up of Casing Above Ground Surface: N/A

Type of Surface Seal/Other Protection: Cement ~~Bentonite~~

Type of Surface Casing: Road Box

ID of Surface Casing: 6"

Diameter of Borehole: 4"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch. 40 PVC

Type of Backfill: cuttings

Depth of Top of Seal: 1'

Type of Seal: Bentonite chips

Depth of Top of Sand: 2'

Depth of Top of Screen: 3'

Type of Screen: Sch. 40 PVC

Slot Size x Length: 10 slot x 10'

ID of Screen: 2"

Type of Sandpack: #1 Silica Sand

Depth of Bottom of Screen: 13'

Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 18'

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

WELL DEVELOPMENT RECORD

Project: USARC Middletown, CT	Well Installation Date: 3·5·07		Project No. 36180480110.02
Client: USA/KEMRON	Well Development Date: 3·7·07	Logged by: JKH	Checked by: JRY
Well/Site I.D.: MW-18	Weather: Lightrain, 10°F, light wind	Start Date: 3·7·07	Finish Date: 3·7·07

Well Construction Record Data:

Well Diameter: 2 in. Start Time: 1010 Finish Time:

Bottom of Screen: 13' ft. — From Ground Surface ☒ From Top of Riser ☐

Sediment Sump/Plug: N/A ft.

Screen Length: 10 ft. Fluids Lost during Drilling: N/A gal.

Protective Casing Stick-up: Flush mount Roadbox ft. Protective Casing/Well Diff.: ft. PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

Well Levels:

Initial: 7.38' ft. PVC

End of Development: Dry ft.

24 Hours after Development: ft.

HT of Water Column: 5.14 ft. x ☐ 1.66" gal./ft. ☒ 0.17" = 0.89 gal./vol. *for 2" HSA Installed Wells

Sediment:

Well Depth before Development: 12.52' ft. (from top of PVC)

Well Depth after Development: 12.52 ft.

Sediment Depth Removed: — ft.

Equipment: whale Pump

☒ Dedicated Submersible Pump

☐ Surge Block

☐ Bailer ☐ 2" ☐ _____

☐ Grundfos Pump 2" _____ 4" _____

Approximate Recharge Rage: _____ gpm

Total Gallons Removed: 4.5 gal. 1111

Well Development Criteria Met:

Notes: Water level dropping w/ 500ml/m pump rate. Drawdown con'ts at low pump rate. Well goes dry at 1045 – will allow to recharge and try to pump again

	Yes	No
■ Well water clear to unaided eye	☒	☐
■ Sediment thickness remaining in well is <1.0% of screen length	☒	☐
■ Total water removed = a minimum of 5x calculated well volume plus 5x drilling fluid lost	☒	☐
■ Turbidity < 5NTUs	☐	☒
■ 10% change in field parameters	☒	☐

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☒

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum):

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate
1020	0.5 gals	0.5	7.21	10.0°C	0.164	604	700ml/m
1028	1 gal	1.5	7.23	10.5°C	0.187	367	500ml/m
1035	0.5	2	7.04	11.0°C	0.175	191	250ml/m
1040	0.5	2.5-3	6.95	10.8°C	0.168	149	250ml/m

Well Developer's Signature: [signature]

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

MONITORING WELL CONSTRUCTION DIAGRAM

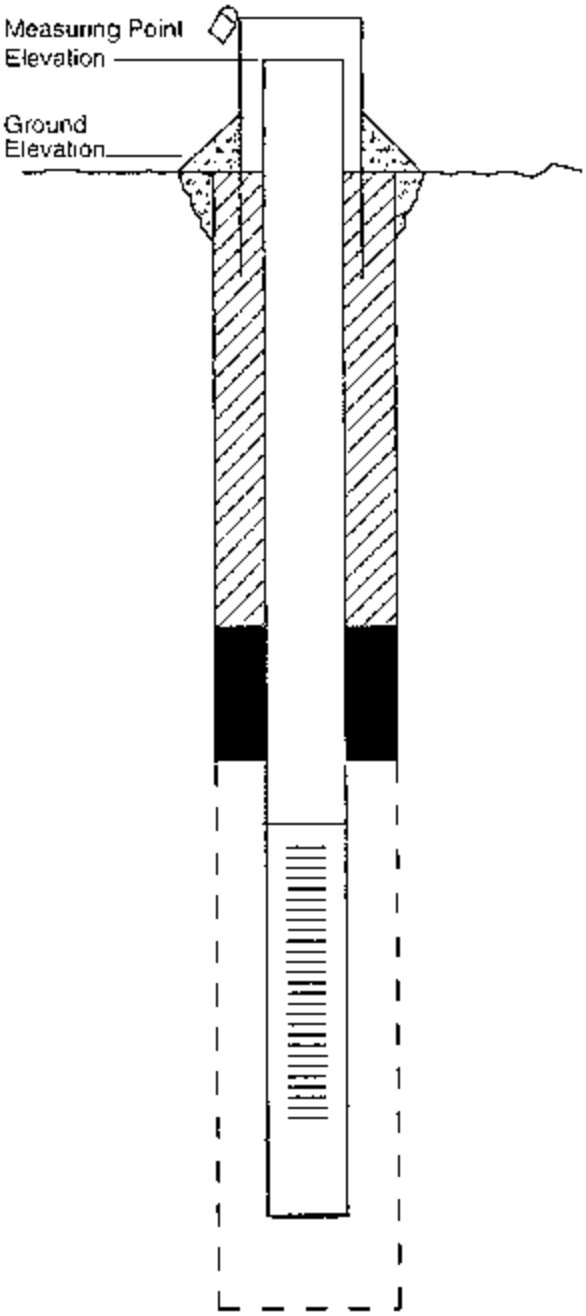
Project USARC Middletown AOC _____ Driller AOT

Project No. 36180481 10 Boring No. MW-19 (Re-Drill) Drilling Method HSA

Date Installed 3-8-07 Development Method NA

Field Technician: JKH Latitude: _____ Longitude: _____

Checked By: JRY



Stick-up of Casing Above Ground Surface: N/A

Type of Surface Seal/Other Protection: Cement

Type of Surface Casing: Road Box

ID of Surface Casing: 6"

Diameter of Borehole: 4"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch. 40 PVC

Type of Backfill: Cuttings

Depth of Top of Seal: 5'

Type of Seal: Bent. chips

Depth of Top of Sand: 7.5'

Depth of Top of Screen: 9.5'

Type of Screen: Sch. 40 PVC

Slot Size x Length: 10 slot x 10'

ID of Screen: 2"

Type of Sandpack: #1 Sand

Depth of Bottom of Screen: 19.5

Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 19.5

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

MONITORING WELL CONSTRUCTION DIAGRAM

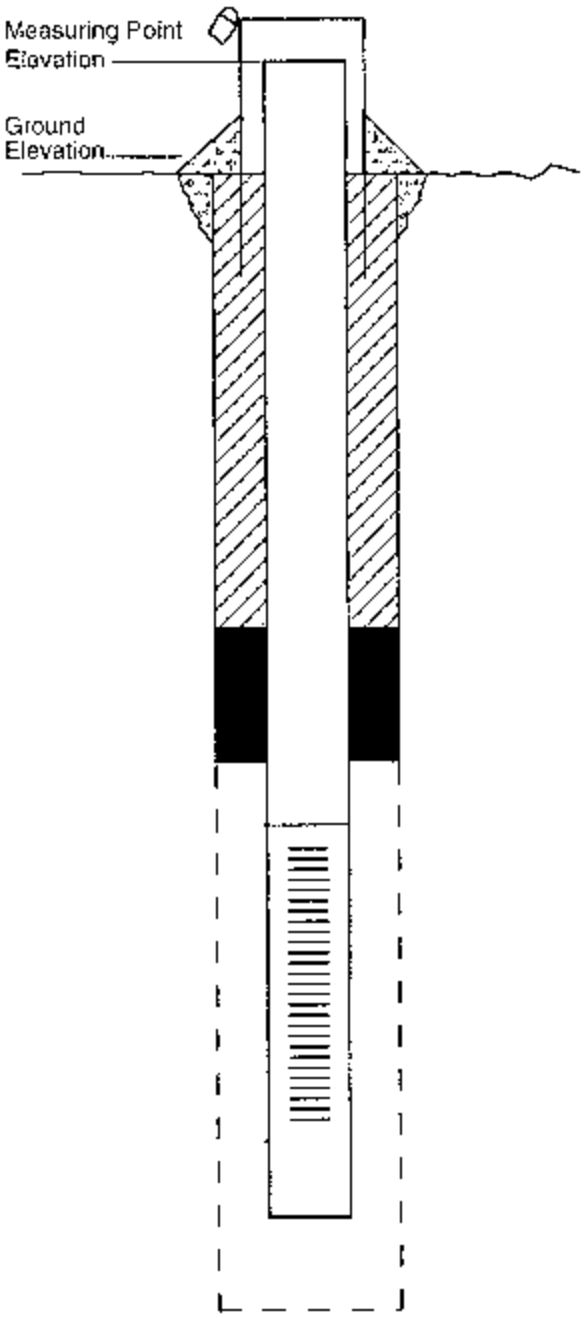
Project USARC Middletown AOC _____ Driller AOT

Project No. 36184811.0 Boring No. BR-4A Drilling Method Air hammer + Rollabit

Date Installed 3-7-07 Development Method Over pumping

Field Technician: JRH Latitude: _____ Longitude: _____

Checked By: JRK



Stick-up of Casing Above Ground Surface: N/A

Type of Surface Seal/Other Protection: Cement

Type of Surface Casing: Road Box

ID of Surface Casing: 6"

Diameter of Borehole: 4"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch. 40 PVC

Type of Backfill: Portland Cement Grout

Depth of Top of Seal: 33'

Type of Seal: Bentonite Chips

Depth of Top of Sand: 35'

Depth of Top of Screen: 38'

Type of Screen: Sch. 40 PVC

Slot Size x Length: 10 slot x 30'

ID of Screen: 2"

Type of Sandpack: #1 Silica Sand

Depth of Bottom of Screen: 68'

Depth of Sediment Sump with Plug: 68'

Depth of Bottom of Borehole: 68'

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

WELL DEVELOPMENT RECORD

Project: USARC Middletown, CT	Well Installation Date: 3.7.07		Project No. 36180458110
Client: USARC / KEMRON	Well Development Date: 3.8.07	Logged by: JXH	Checked by: JRV
Well/Site I.D.: BR-4A	Weather: Sunny, cold (15°F)	Start Date: 3.8.07	Finish Date: 3.8.07

Well Construction Record Data:

Well Diameter: 2 in. | Start Time: 0840 | Finish Time: 0945

Bottom of Screen: 68 ft.] From Ground Surface ☒ From Top of Riser ☐

Sediment Sump/Plug: 4" sump

Screen Length: 30 ft.

Fluids Lost during Drilling: gal.

Protective Casing Stick-up: N/A ft. | Protective Casing/Well Diff.: ft. | PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

Well Levels:

Initial: 45.90 ft. PVC

End of Development: 45.92 ft.

24 Hours after Development: ft.

HT of Water Column: 21.5 ft. × ☐ 1.68* gal/ft. ☒ 0.174 = 3.74 gal vol.

*for 4" HSA Installed Wells 2" well

Sediment:

Well Depth before Development: 67.40 ft. (from top of PVC)

Well Depth after Development: 67.50 ft.

Sediment Depth Removed: 0.10 ft.

Equipment:

☒ Dedicated Submersible Pump 2 whale pumps

☐ Surge Block

☐ Bailer ☐ 2" ☐ _____

☐ Grundfos Pump 2" 4"

Approximate Recharge Rate: 1 GPM gpm

Total Gallons Removed: 50 gal.

Well Development Criteria Met:

Notes: BR-4A has excellent recharge at 1 GPM - well clearly nicely. After 30 gals removed well is stable. Reduce flow rate to 200 ml/m and collect grab VOC sample.

End of Well Development Sample (VOC pH) Collected? Yes ☒ No ☐

	Yes	No
■ Well water clear to unaided eye	☒	☐
■ Sediment thickness remaining in well is <1.0% of screen length	☒	☐
■ Total water removed = a minimum of 5x calculated well volume plus 5x drilling fluid lost	☒	☐
■ Turbidity < 5NTUs	☒	☐
■ 10% change in field parameters	☐	☒

well is stable

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum):

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate	▽
0845	5 gals	5 gals	7.58	12.7°C	0.170	362	3.5 l/m (1 GPM)	46.30'
0850	5 gals	10 gals	7.58	12.8°C	0.168	31.1	"	46.35'
0900	10 gals	20 gals	7.47	12.7°C	0.168	14.1	1 GPM	46.35'
0910	10 gals	30 gals	7.42	12.9°C	0.168	5.76	1 GPM	46.36'
0915	5 gals	35 gals	7.39	12.7	0.169	4.87	1 GPM	46.36'

Well Developer's Signature: Jeffrey H. Hartman

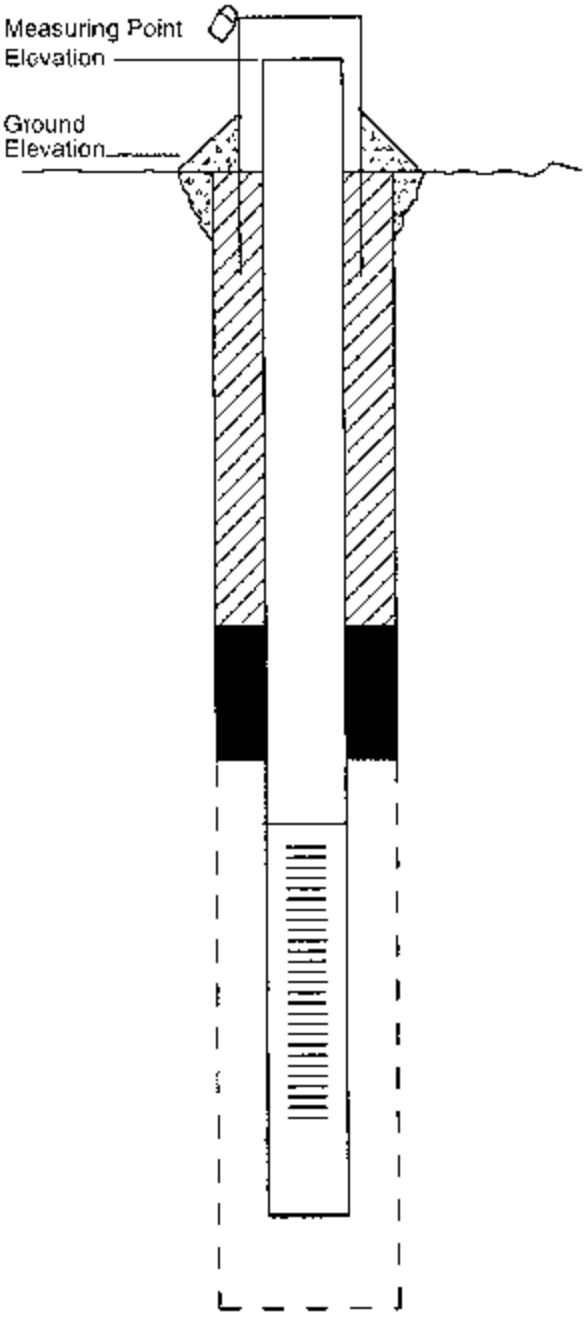
Note: pumped ~15 gals more after sample collection to surge well screen. Total removed: 50 gals

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

2004005b L 6

MONITORING WELL CONSTRUCTION DIAGRAM

Project USARC Middleton
Project No. 36180481.0
AOC
Boring No. BR-5A
Date Installed 3-8-07
Driller ADT
Drilling Method Airhammer
Development Method Over pumping
Field Technician: JKH
Latitude:
Longitude:
Checked By: JRY



Stick-up of Casing Above Ground Surface: N/A

Type of Surface Seal/Other Protection: Cement

Type of Surface Casing: Flushmount Road Box

ID of Surface Casing: 6"

Diameter of Borehole: 4"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch. 40 PVC

Type of Backfill: Portland Cement Grout

Depth of Top of Seal: 45'

Type of Seal: Bentonite chips

Depth of Top of Sand: 47'

Depth of Top of Screen: 50'

Type of Screen: Sch. 40 PVC

Slot Size x Length: 10slot x 20'

ID of Screen: 2"

Type of Sandpack: #1 Silica Sand

Depth of Bottom of Screen: 70'

Depth of Sediment Sump with Plug: 4" Sump

Depth of Bottom of Borehole: 70' BGS

WELL DEVELOPMENT RECORD

Project: USARC Middletown, CT	Well Installation Date: 3-8-07		Project No. 36180481/10
Client: USAR/KEMRON	Well Development Date: 3-8-07	Logged by: JKH	Checked by: JRK
Well/Site I.D.: BR-5A	Weather: V. windy, bitter cold (15°F)	Start Date: 3-8-07	Finish Date: 3-8-07
		Start Time: 1555	Finish Time:

Well Construction Record Data:

Well Diameter: 2 in.

Bottom of Screen: 70' ft.

Sediment Sump/Plug: 4" ft.

Screen Length: 20' ft.

From Ground Surface ☒ From Top of Riser ☐

Fluids Lost during Drilling: gal.

Protective Casing Stick-up: N/A ft.

Protective Casing/Well Diff.: ft.

PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

Well Levels:

Initial: 48.00 ft.

End of Development: 48.22 ft.

24 Hours after Development: ft.

HT of Water Column: 22.15 ft. × ☐ 1.69" gal./ft. ☒ 0.174 = 3.85 gal./vol. for 4" HSA Installed Wells 2" well

Sediment:

Well Depth before Development: 70.15 ft. (from top of PVC)

Well Depth after Development: 70.15 ft.

Sediment Depth Removed: — ft.

Equipment:

☒ Dedicated Submersible Pump 2 whale pumps

☐ Surge Block

☐ Bailer ☐ 2" ☐

☐ Grundfos Pump 2" ____ 4" ____

Approximate Recharge Rage: 16PM gpm

Total Gallons Removed: 40 gal.

Well Development Criteria Met:

Notes: Pumping 16PM w/ little/no drawdown - v. good recharge on this well - cleaning nicely. Surged water screen.

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☒

	Yes	No
■ Well water clear to unaided eye	☒	☐
■ Sediment thickness remaining in well is <1.0% of screen length	☒	☐
■ Total water removed = a minimum of 5x calculated well volume plus 5x drilling fluid lost	☒	☐
■ Turbidity < 5NTUs	☐	☒
■ 10% change in field parameters	☒	☐

only turbidity

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum):

▽	Time	Volume	Total Gallons	pH	Temp	Conductance	Turbidity	Pumping Rate
49.98	1605	10gals	10gals	7.49	11.9°C	0.168	750	3.2l/m
49.93	1615	10gals	20gals	7.55	12.0°C	0.175	197	16PM
49.51	1625	10gals	30gals	7.57	11.9°C	0.185	50.2	16PM
49.02	1635	10gals	40gals	7.36	12.2°C	0.191	28.4	16PM

16PM ↓

Well Developer's Signature: Jeffrey K Hawkins

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, inc.

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 36180 48110

PROJECT: USARC Middletown, CT
FIELD SAMPLE NUMBER: M8
EVENT NO: 04
SITE ID: CT-08
SITE TYPE:
DATE: 3-12-07
ACTIVITY: START 1130 END 1225
SAMPLE TIME: 1220
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [X] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	8.22 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	38" FT	CASING / WELL DIFFERENCE	9.5" FT
FINAL DEPTH TO WATER	8.73 FT	HISTORICAL WELL DEPTH (TOR)	20.82 FT	PID AMBIENT AIR	0 PPM
SCREEN LENGTH	? FT	PRESSURE TO PUMP	— PSI	PID WELL MOUTH	0 PPM
TOTAL VOL. PURGED	3 GAL	REPL. SETTING	—	DISCHARGE SETTING	—
				WELL DIAMETER	2 IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. C)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1135	8.22	240	Begin purging				26.5		15'	
1144	8.24	240					26.2		15'	Hookup to Horiba
1148	8.42	240	8.13	0.591	7.30	4.11	11.0	99	"	
1155	8.51	240	8.02	0.587	7.15	0.75	12.3	91	"	
1203	8.56	240	8.12	0.585	7.12	0.00	9.98	82	"	
1207	8.57	240	8.09	0.586	7.11	0.00	9.99	81	"	
1211	8.58	240	8.01	0.586	7.10	0.00	8.91	80	"	
1215	8.59	240	8.09	0.586	7.12	0.00	8.73	79	"	
1219	8.73	240	8.08	0.586	7.13	0.00	8.65	78	"	Parameters stable
1220	Collect Samples [CT08-MWSM804] + [CT08-MWDM804]									

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [ ] BLADDER [X] PERISTALTIC [ ] OTHER

TYPE OF TUBING: [X] HIGH DENSITY POLYETHYLENE [ ] OTHER

TYPE OF PUMP MATERIAL: [ ] STAINLESS STEEL [ ] OTHER

TYPE OF BLADDER MATERIAL: [ ] TEFLON [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCL	40ml x 2	✓	CT08-MWSM804
VOC	8260	HCL	40ml x 2	+ DUP	CT08-MWDM804

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: (YES) NO

NOTES:

SIGNATURE: Jeffrey K. Harshman

CHECKED BY: JRK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W2004037c.xls

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 36/8048110

PROJECT USARC Middletown, CT | FIELD SAMPLE NUMBER MW-16 | EVENT NO 4

SITE ID ~~MW-16~~ CT-08 | SITE TYPE [redacted] | DATE 3-12-07

CTIVITY START 1010 END 1115 | SAMPLE TIME 1110 | FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [X] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	7.24 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	38" FT	CASING / WELL DIFFERENCE	6'3/4" FT
FINAL DEPTH TO WATER	8.42 FT	HISTORICAL WELL DEPTH (TOR)	FT	PID AMBIENT AIR	0 PPM
SCREEN LENGTH	10 FT	PRESSURE TO PUMP	— PSI	PID WELL MOUTH	0 PPM
TOTAL VOL PURGED	2.5 GAL	REFILL SETTING	—	DISCHARGE SETTING	—

WELL DIAMETER 2 IN

WELL INTERGRITY

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1023	7.24	240	7.51	0.481	8.35	7.27	3.66	72		intake set at pre-mark on tubing
1030	7.72	240	7.40	0.376	7.80	7.81	6.57	80		
1035	8.01	240	7.34	0.474	7.31	5.21	8.99	85		
1040	8.15	240	7.36	0.544	7.15	3.10	11.9	88		
1050	8.30	240	7.46	0.539	7.09	2.40	12.8	94		
1055	8.38	240	7.59	0.552	7.10	1.66	8.97	92		
1100	8.40	240	7.62	0.553	7.10	1.49	8.62	92		
1105	8.41	240	7.63	0.554	7.10	1.43	8.51	92		
1109	8.42	240	7.64	0.554	7.10	1.41	8.50	92		parameters stable
1110	Collect	Samples	CT08-MWS1604							

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [ ] BLADDER [X] PERISTALTIC [ ] OTHER _____

TYPE OF TUBING: [X] HIGH DENSITY POLYETHYLENE [ ] OTHER _____

TYPE OF PUMP MATERIAL: [ ] STAINLESS STEEL [ ] OTHER _____

TYPE OF BLADDER MATERIAL: [ ] TEFLON [ ] OTHER _____

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCL	40ml x 2	✓	~~CT08-MW16~~ CT08-MWS1604

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

SIGNATURE Jeffrey H Dardeman

CHECKED BY JRY

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W2004037c xls

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 6218048110

PROJECT: USARC Middletown, CT
FIELD SAMPLE NUMBER: MW-17
EVENT NO.: 04
SITE ID: CT-08
SITE TYPE:
DATE: 3-12-07
CTIVITY: START 1248 END
SAMPLE TIME: 1345
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [X] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER: 6.45 FT
FINAL DEPTH TO WATER: 8.18 FT
SCREEN LENGTH: 10 FT
TOTAL VOL PURGED: 2.5 GAL
(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

HISTORICAL WELL DEPTH (TOR): 18.64 FT
PRESSURE TO PUMP: — PSI
REFILL SETTING: —

PROTECTIVE CASING STICKUP (FROM GROUND): 32" FT
PID AMBIENT AIR: 0 PPM
PID WELL MOUTH: 0.8 PPM
DISCHARGE SETTING: —

CASING / WELL DIFFERENCE: 2½" FT
WELL DIAMETER: 2 IN

WELL INTERGRITY

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1300	Began	purging					14.7		13.5	mostly clear to start
1303	7.21	248	hook up to Horiba						"	
1306	7.70	200	8.29	0.202	7.49	13.32	11.6	93	"	
1312	7.88	200	8.20	0.195	7.00	8.41	9.77	88	"	
1318	7.96	200	8.04	0.193	6.94	7.36	10.8	85	"	
1324	8.07	200	8.31	0.193	6.88	6.03	11.2	84	"	
1329	8.11	200	8.20	0.194	6.85	5.76	9.96	83	"	
1334	8.14	200	8.15	0.193	6.83	5.79	12.4	81	"	
1338	8.16	200	8.15	0.190	6.82	5.83	12.8	82	"	
1342	8.18	200	8.14	0.191	6.82	5.89	12.9	81	"	Parameters stable
1345	Collect Samples [CT08-MWS1704]									

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [X] PERISTALTIC
- [ ] OTHER

TYPE OF TUBING
- [X] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [ ] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCL	40ml x2	✓	CT08-MWS1704

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

SIGNATURE: Jeffrey K Harshman

CHECKED BY: JRK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

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FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 61B049110

PROJECT USARC Middletown, CT | FIELD SAMPLE NUMBER MW-18 | EVENT NO 04

SITE ID CT-08 | SITE TYPE | DATE 3-12-07

ACTIVITY START 1400 END 1445 | SAMPLE TIME 1445 | FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [X] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER 9.69 FT

FINAL DEPTH TO WATER 10.52 FT

SCREEN LENGTH 10 FT

TOTAL VOL PURGED 1 GAL

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

HISTORICAL WELL DEPTH (TOR) 12.5 FT

PRESSURE TO PUMP — PSI

REFILL SETTING —

PROTECTIVE CASING STICKUP (FROM GROUND) Road Box N/A FT

PID AMBIENT AIR 0 PPM

PID WELL MOUTH 0 PPM

DISCHARGE SETTING —

CASING / WELL DIFFERENCE FT

WELL DIAMETER 2 IN

WELL INTEGRITY

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	Road Box - no lock		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1413	9.69	200	Begin purging				1.02		11'	clear to start
1415	Hookup to Horiba U-22								"	
1419	10.20	200	11.65	0.312	7.26	15.08	2.40	106	"	
1423	10.30	200	11.70	0.311	7.30	12.57	2.46	105	"	
1427	10.39	180	11.65	0.312	7.30	10.92	3.09	104	"	
1431	10.46	180	11.75	0.316	7.50	10.48	3.21	103	"	
1435	10.52	180	11.81	0.317	7.30	10.28	2.42	103	"	parameters stable
1445	Collect Samples CT08-MW S18047									

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [ ] BLADDER [X] PERISTALTIC [ ] OTHER

TYPE OF TUBING: [X] HIGH DENSITY POLYETHYLENE [ ] OTHER

TYPE OF PUMP MATERIAL: [ ] STAINLESS STEEL [ ] OTHER

TYPE OF BLADDER MATERIAL: [ ] TEFLON [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCL	40ml x 2	✓	CT08-MWS1804

PURGE OBSERVATIONS

Well almost went dry - had to lower tubing to just above bottom of well.

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

SIGNATURE Jeffrey K Karshmer

CHECKED BY JRY

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

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FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER: 61804 8110

PROJECT: USARC Middletown, CT | FIELD SAMPLE NUMBER: BR-4A | EVENT NO.: 04

SITE ID: CT-08 | SITE TYPE: | DATE: 5-12-07

ACTIVITY: START 1500 END | SAMPLE TIME: 1635 | FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [X] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

PROTECTIVE CASING STICKUP (FROM GROUND): Road Box N/A FT

CASING / WELL DIFFERENCE: 4.5" FT

INITIAL DEPTH TO WATER: 45.61 FT

HISTORICAL WELL DEPTH (TOR): 67.5 FT

WELL DIAMETER: 2 IN

FINAL DEPTH TO WATER: 45.61 FT

PID AMBIENT AIR: 0 PPM

SCREEN LENGTH: 30 FT

PRESSURE TO PUMP: 40 PSI

PID WELL MOUTH: 0 PPM

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	Road Box - no lock		
COLLAR	✓		

TOTAL VOL PURGED: 2 GAL

REFILL SETTING: 11

DISCHARGE SETTING: 4

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. c)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1550	Begin pumping w/ bladder pump.						79.8		60	little cloudy
1604	45.61	400	12.91	0.294	7.60	7.22	85.4	98	"	
1608	45.61	400	12.93	0.288	7.49	6.03	85.5	96	"	
1610	45.61	400	12.86	0.288	7.46	5.44	78.6	92	"	
1614	45.61	400	12.88	0.288	7.44	5.07	73.7	89	"	
1618	45.61	400	12.86	0.288	7.43	4.57	70.4	86	"	
1622	45.61	400	12.82	0.285	7.43	4.21	63.3	82	"	
1626	45.61	400	12.82	0.282	7.43	4.13	62.4	81	"	
1630	45.61	400	12.81	0.280	7.44	4.07	62.3	80	"	parameters stable
1635	Collect samples [CT08-BRS4A04]									

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] BLADDER [ ] PERISTALTIC [ ] OTHER

TYPE OF TUBING: [X] HIGH DENSITY POLYETHYLENE [ ] OTHER

TYPE OF PUMP MATERIAL: [X] STAINLESS STEEL [ ] OTHER

TYPE OF BLADDER MATERIAL: [ ] TEFLON [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCL	2 x 40ml	✓	CT08-BRS4A04

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: (YES) NO

NOTES:

SIGNATURE: Jeffrey M. Hartman

CHECKED BY: JRK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

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FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 86804B110-02

PROJECT: USARC Middletown, CT | FIELD SAMPLE NUMBER: BR-5A | EVENT NO.: 04

SITE ID: CT-08 | SITE TYPE: | DATE: 3-13-07

ACTIVITY: START 0800 END 1045 | SAMPLE TIME: 1035 | FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [X] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	47.71 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	Road Box N/A FT	CASING / WELL DIFFERENCE	5" FT
FINAL DEPTH TO WATER	47.76 FT	HISTORICAL WELL DEPTH (TOR)	70.15 FT	PID AMBIENT AIR	0 PPM
SCREEN LENGTH	20 FT	PRESSURE TO PUMP	40 PSI	PID WELL MOUTH	0 PPM
TOTAL VOL PURGED	8.5 GAL	REFILL SETTING	10	DISCHARGE SETTING	5
				WELL DIAMETER	2 IN

WELL INTERGRITY

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	Road Box - No lock		
COLLAR	✓		

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. C)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0840	47.71	400	Begin	purging			386		60'	cloudy (red)
0856	47.76	400	11.72	0.482	7.44	4.92	371	124	"	"
0900	47.76	400	12.01	0.483	7.56	4.85	365	120	"	"
0904	47.76	400	12.13	0.483	7.61	4.83	359	116	"	"
0911	47.76	400	12.16	0.483	7.67	4.77	278	111	"	"
0922	47.76	400	11.58	0.485	7.73	4.46	199	108	"	"
0927	47.76	400	11.71	0.487	7.74	4.32	150	107	"	"
0938	47.76	400	11.63	0.489	7.76	4.22	87.0	105	"	clearing
0946	47.76	400	11.56	0.489	7.76	4.07	55.3	102	"	"
1002	47.76	400	11.82	0.492	7.78	4.01	36.3	96	"	"
1015	47.76	400	11.85	0.493	7.79	4.33	25.9	89	"	"
1019	47.76	400	11.75	0.492	7.78	4.28	18.2	89	"	"

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
[X] BLADDER	[X] HIGH DENSITY POLYETHYLENE	[X] STAINLESS STEEL	[ ] TEFLON
[ ] PERISTALTIC [ ] OTHER	[ ] OTHER	[ ] OTHER	[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCL	2x40ml	✓	CT08-BRSSA04

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

SIGNATURE Jeffrey K. Harsha

CHECKED BY JRK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

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FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 261804 3110-02

PROJECT	USARC - Middletown	FIELD SAMPLE NUMBER	BR-5A	EVENT NO.	04
SITE ID	CT-08	SITE TYPE		DATE	3-13-07
ACTIVITY	START 0800 END 1045	SAMPLE TIME	1035	FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [X] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	47.71 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	Roadbox N/A FT	CASING / WELL DIFFERENCE	.5" FT
FINAL DEPTH TO WATER	47.76 FT	HISTORICAL WELL DEPTH (TOR)	70.15 FT	PID AMBIENT AIR	0 PPM	WELL DIAMETER	2 IN
SCREEN LENGTH	20 FT	PRESSURE TO PUMP	40 PSI	PID WELL MOUTH	0 PPM
TOTAL VOL PURGED	9.5 GAL	REFILL SETTING	10	DISCHARGE SETTING	5

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	Road box - no lock		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. C)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1024	47.76	400	12.24	0.494	7.78	4.31	17.3	87	60	clearing
1028	47.76	400	12.42	0.495	7.78	4.32	17.9	85	"	"
1032	47.76	400	12.28	0.495	7.78	4.40	17.5	85	"	clearing
		Parameters		stable						
1035	collect samples			CT08-BR5SA04						

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
[X] BLADDER	[X] HIGH DENSITY POLYETHYLENE	[X] STAINLESS STEEL	[ ] TEFLON
[ ] PERISTALTIC [ ] OTHER	[ ] OTHER	[ ] OTHER	[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOC	8260	HCL	2 x 40 mL	✓	CT08-BR5SA04

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

SIGNATURE:

CHECKED BY: JRY

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

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SOIL BORING LOG

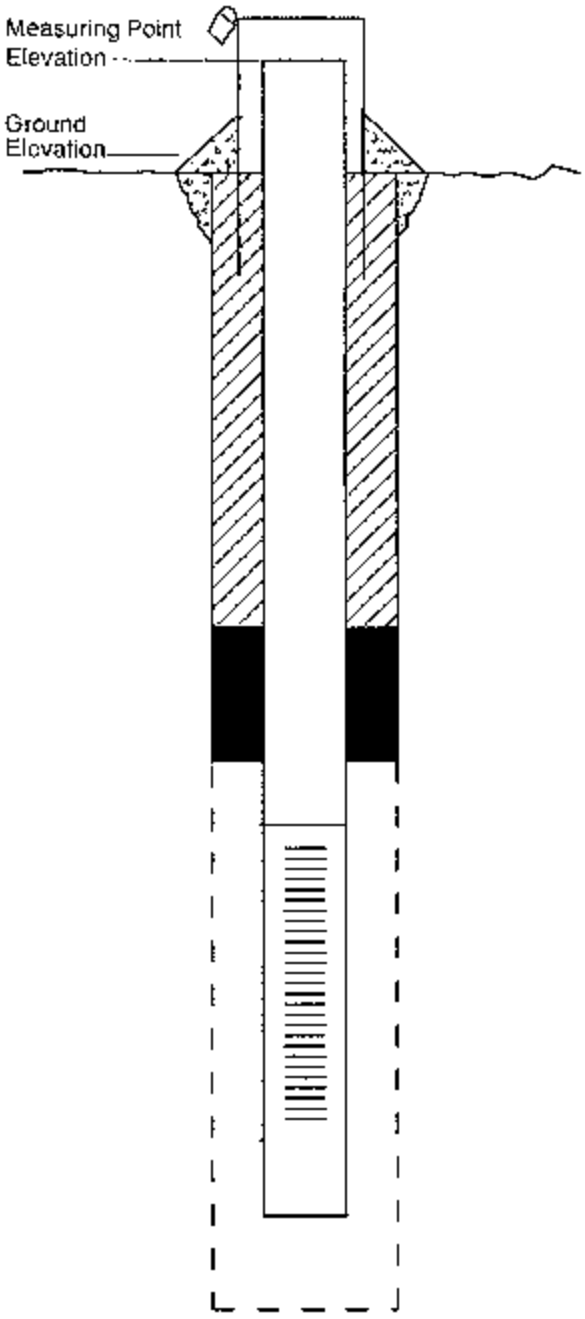
		AOC	
		Boring No.:	MW-20
Client: USARC - Middletown	Project No.: 36180498110	Protection:	Standpipe
Contractor: AGT	Date Started: 10-9-02	Completed:	10-9-02
Method: HSA	Casing Size: 4¼" Augur	PI Meter:	Thermo 580-B
Ground Elev.:	Soil Drilled:	Total Depth:	20 ft bgs
Logged by: MV	Checked by: JRY	▽ Below Ground:	2.55 ft bgs
Screen: 10 (ft.)	Riser: 13 ft (ft.) Diam: 2" (ID) Material: Sch 40 PVC	Page	1 of: 1

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID/FID (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
2	S-1	0-2	2 3 4 6	9"	0	Brown sandy silt, trace organics, damp, no odor	GC CL	N/A	
4	S-2	2-4	6 5 2 12	9"	0	Brown, dense sandy silt, poorly graded, damp, no odor	GC CL	N/A	Cement grout
6	S-3	4-6	17 11 11 9	9"	0	Brown sandy silt, damp, no odor	GC CL	N/A	
8	S-4	6-8	3 2 9 9	15"	0	Brown sandy silt, trace gravel, poorly graded, damp, no odor (6.0-7.5 ft) 7.5-8.5 ft Reddish brown silt, dense, wet, no odor	GC CL	N/A	Bentonite Seal
10	S-5	8-10	8 7 5 9	15"	0	Reddish brown dense sandy silt, wet, no odor	GC CL	N/A	2" Sch 40 PVC
12	S-6	10-12	3 5 5 6	11"	0	Reddish brown dense sandy silt, wet, no odor.	GC CL	N/A	
14	S-7	12-14	19 20 17 18	20"	0	Reddish brown, dense sandy silt, wet, no odor.	GC CL	N/A	
16	S-8	14-16	12 13 20 28	21"	0	Reddish brown dense sandy silt, wet, no odor.	GC CL	N/A	#1 silica sand
18	S-9	16-18	31 61 65 65	22"	0	16-17.5 Reddish brown sandy silt, dense, damp. 17.5-17.7 fill, gravel. 17.7-18 Reddish brown sandy silt, dense, wet	GC CL	N/A	
20	S-10	18-20	19 27 21 50/4	22"	0	Reddish brown sandy silt, dense, damp, no odor	GC CL	N/A	2" 10-slot Sch 40 PVC

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

MONITORING WELL CONSTRUCTION DIAGRAM

Project: USARC Addition
AOC: _____
Driller: ACT
Project No.: 36[illegible]110/02
Boring No.: MW-20
Drilling Method: HSA
Date Installed: 10-9-03
Development Method: bailer pump
Field Technician: M. VanDonkelaar
Latitude: _____
Longitude: _____
Checked By: JTK



Stick-up of Casing Above Ground Surface: 3 ft

Type of Surface Seal/Other Protection: cement grout

Type of Surface Casing: Steel Stanlox

ID of Surface Casing: 4"

Diameter of Borehole: ≈ 5"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch 40 PVC

Type of Backfill: cement grout

Depth of Top of Seal: 6 ft

Type of Seal: Bentonite chips

Depth of Top of Sand: 8 ft

Depth of Top of Screen: 10 ft

Type of Screen: Sch 40 PVC

Slot Size x Length: 10-slot x 10 ft

ID of Screen: 2"

Type of Sandpack: #1 Silica Sand

Depth of Bottom of Screen: 20 ft

Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 20 ft.

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

WELL DEVELOPMENT RECORD

Project: USARC Middletown	Well Installation Date: 10-9-07		Project No. 36[illegible]/02
Client: US Army	Well Development Date: 10-15-07	Logged by: MJ	Checked by: JR
Well/Site I.D.: MW-26	Weather: Cloudy, calm 60°F	Start Date: 10-12-07	Finish Date: 10-15-07
		Start Time: 0955	Finish Time: 1145

Well Construction Record Data:

Well Diameter: 2 in.

Bottom of Screen: 20 ft.

Sediment Sump/Plug: n/a ft.

Screen Length: 10 ft.

From Ground Surface ☒ From Top of Riser ☐

Fluids Lost during Drilling: 0 gal.

Protective Casing Stick-up: 3 ft. Protective Casing/Well Diff.: 0.1 ft. PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

Well Levels:

Initial: 20.15 ft.

End of Development: 0.25 ft.

24 Hours after Development: ft.

HT of Water Column: 3.16 ft.

Sediment:

Well Depth before Development: 23.35 ft. (from top of PVC)

Well Depth after Development: 23.31 ft.

Sediment Depth Removed: 0.06 ft.

☐ 1.68" gal/ft. x ☒ .0 [illegible] 2" well = 0.55 gal /vol. *for 4" HSA Installed Wells

Equipment:

☒ Dedicated Submersible Pump
☐ Surge Block
☐ Bailer ☐ 2" ☐ _____
☐ Grundfos Pump 2" _____ 4" _____

Approximate Recharge Rage: gpm

Total Gallons Removed: 6.70 gal

Well Development Criteria Met:

Notes: Well purged dry 6 times - only took 1.2 minutes to purge

	Yes	No
■ Well water clear to unaided eye	☐	☒
■ Sediment thickness remaining in well is <1.0% of screen length	☒	☐
■ Total water removed = a minimum of 5x calculated well volume plus 5x drilling fluid lost	☒	☐
■ Turbidity < 5NTUs	☐	☒
■ 10% change in field parameters	☐	☐

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☒

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum):

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate
10-12-07 0955	5L	1.32	8.82 su	11.3°C	1.13 mS/cm	2 [illegible]	4L/min
10-12-07 1305	4L	3.44	7.26	18.3	0.337	322	↓
10-12-07 1410	4L	4.49	7.61	12.4	0.514	298	↓
10-15-07 1145	4L	6.70	7.24	14.3	0.313	139	↓

Well Developer's Signature: [signature]

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

SOIL BORING LOG

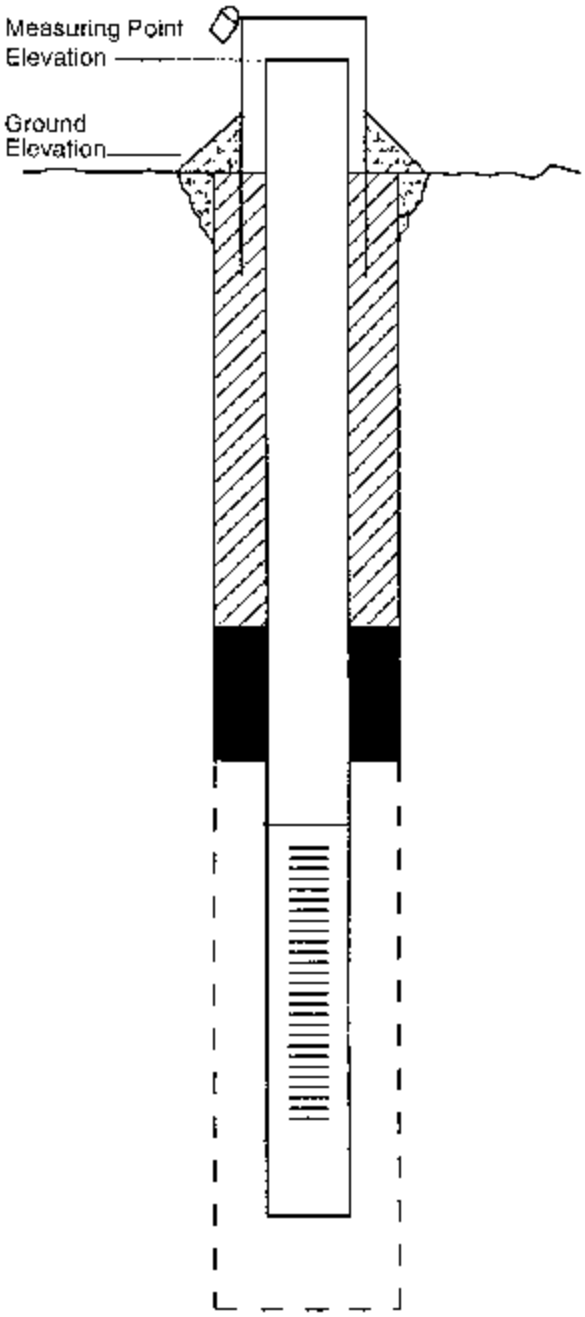
Client: USARC Middletown		Project No. 36-304810	AOC:
			Boring No.: MW 21
			Protection: Stainless
Contractor: AGT	Date Started: 10-11-07		Completed: 10-11-07
Method: HSA	Casing Size: 4 1/4" auger		PI Meter: Thermo 580-B
Ground Elev.:	Soil Drilled:		Total Depth: 20 ft bgs
Logged by: MJ	Checked by: JRK		▽ Below Ground: 6 ft bgs
Screen: 10 (ft.)	Riser: 13 (ft.)	Diam: 2" (ID)	Material: Sch 40 PVC
			Page 1 of 1

DEPTH (ft)	SAMPLE NUMBER	SAMPLE DEPTH	BLOW COUNTS	RECOVERY	PID/FID (ppm)	SOIL DESCRIPTION	SOIL CLASS	ANALYTICAL SAMPLE COLLECTED	WELL DATA
2	S-1	0-2	3 5 5 9	20"	0	0-0.2 ft organics 0.2-2 ft Brown sandy silt, poorly graded, dry, no odor	GC CL	N/A	
4	S-2	2-4	8 8 10 11	11"	0	Brown sandy silt, poorly graded, dry, no odor	GC CL	N/A	
6	S-3	4-6	6 5 6 5	18"	0	4-5 ft Brown sandy silt, poorly graded, dry 5-6 ft Brown dense silt, clay like, wet	GC CL	N/A	
8	S-4	6-8	5 19 9 15	18"	0	Reddish brown sandy silt, clay like, wet, white gravel/rock in sample shoe	GC CL	N/A	
10	S-5	8-10	11 11 19 22	19"	0	Reddish brown sandy silt, clay like, some gravel, wet, no odor	GC CL	N/A	
12	S-6	10-12	22 17 20 19	20"	0	Reddish brown very dense clay like sandy silt, some gravel, damp, no odor	GC CL	N/A	
14	S-7	12-14	50/1	1"	0	1" piece of shale - not bedrock as augers went right through	GC CL	N/A	
16	S-8	14-16	7 12 12 18	19"	0	Reddish brown very dense sandy silt, some gravel, damp	GC CL	N/A	
18	S-9	16-18	21 28 31 36	22"	0	Reddish brown very dense sandy silt, some rock, denser than before	GC CL	N/A	
20	S-10	18-20	29 52 45 100/3	1"	0	Rock in spoon shoe - shale?	GC CL	N/A	

SOIL BORING LOG
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

MONITORING WELL CONSTRUCTION DIAGRAM

Project: L-Site Middletown
AOC: ____
Driller: ACT
Project No.: 36180431010/02
Boring No.: MW-21
Drilling Method: HSA
Date Installed: 10-11-03
Development Method: ~~[illegible]~~
Field Technician: M. VanNoordenmen
Latitude: ____
Longitude: ____
Checked By: JPC



Stick-up of Casing Above Ground Surface: 3 ft

Type of Surface Seal/Other Protection: Cement grout

Type of Surface Casing: Steel Standpipe

ID of Surface Casing: 4"

Diameter of Borehole: ≈ 5"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch 40 PVC

Type of Backfill: Cement grout

Depth of Top of Seal: 6 ft

Type of Seal: Bentonite pellets

Depth of Top of Sand: 8 ft

Depth of Top of Screen: 10 ft

Type of Screen: Sch 40 PVC

Slot Size x Length: 10 slot x 10 ft

ID of Screen: 2"

Type of Sandpack: #1 Silica Sand

Depth of Bottom of Screen: 20 ft

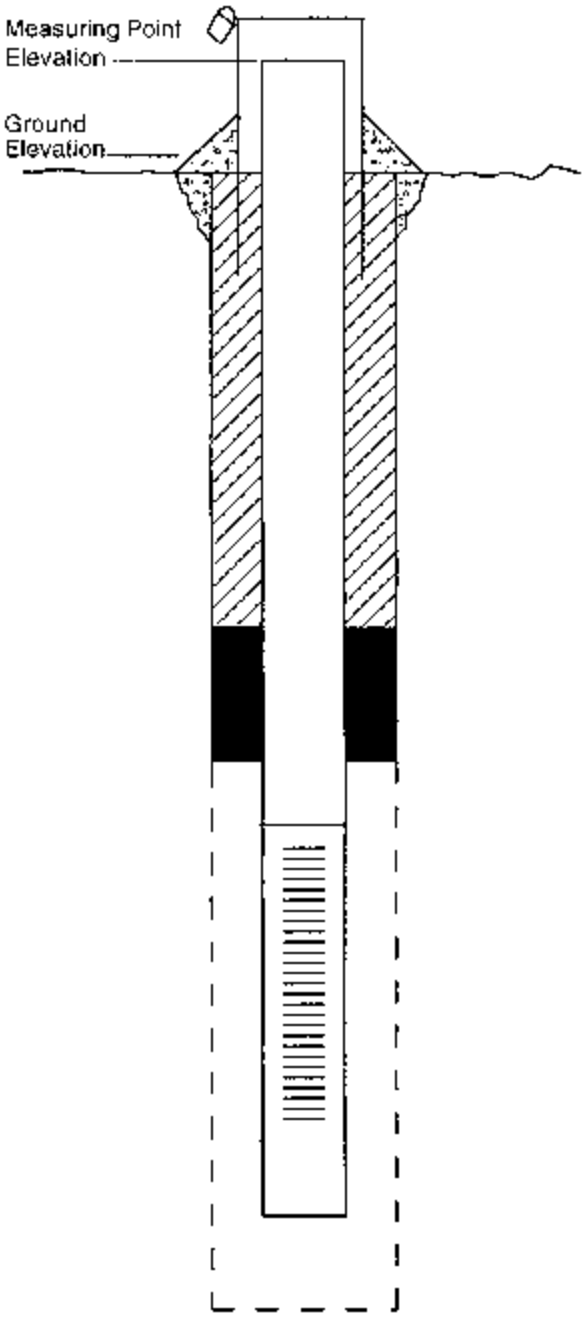
Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 20 ft

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

MONITORING WELL CONSTRUCTION DIAGRAM

Project: USARC-Middletown
AOC: _____
Driller: ADT
Project No.: 36P04810/02
Boring No.: BR-6
Drilling Method: Air rotary/air hammer
Date Installed: 10/10/03
Development Method: Single Pump
Field Technician: M. Vanderkamp
Latitude: _____
Longitude: _____
Checked By: JRK



Stick-up of Casing Above Ground Surface: 2.6 ft

Type of Surface Seal/Other Protection: Cement grout

Type of Surface Casing: Steel Standpipe

ID of Surface Casing: 4"

Diameter of Borehole: 4"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch 40 PVC

Type of Backfill: Cement grout

Depth of Top of Seal: 54 ft

Type of Seal: Bentonite chips

Depth of Top of Sand: 56.5 ft

Depth of Top of Screen: 58.5 ft

Type of Screen: Sch 40 PVC

Slot Size x Length: 10-slot x 20 ft

ID of Screen: 2"

Type of Sandpack: #1 silica sand

Depth of Bottom of Screen: 78.5 ft

Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 78.5 ft

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

WELL DEVELOPMENT RECORD

Project: US ARMY - Middletown	Well Installation Date: 10-10-07		Project No: 36194706/02
Client: US Army	Well Development Date: 10-12-07	Logged by: MJ	Checked by: JRI
Well/Site I.D.: BR-6	Weather: Cloudy calm, 78°F	Start Date: 10-12-07	Finish Date: 10-12-07
		Start Time: 1049	Finish Time: 1225

Well Construction Record Data:

Well Diameter: 2 in

Bottom of Screen: 28.5 ft.

Sediment Sump/Plug: N/A ft.

Screen Length: 20 ft.

From Ground Surface ☒ From Top of Riser ☐

Fluids Lost during Drilling: 0 gal.

Protective Casing Stick-up: 2.7 ft.

Protective Casing/Well Diff.: 0.1 ft.

PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

Well Levels:

Initial: 32.32 ft.

End of Development: 43.96 ft.

24 Hours after Development: ft.

HT of Water Column: 48.18 ft. x ☐ 1.68* gal./ft. ☒ 0.104 for 2" well = 8.38 gal./vol.

*for 4" HSA Installed Wells

Sediment:

Well Depth before Development: 80.50 ft. (from top of PVC)

Well Depth after Development: 80.50 ft.

Sediment Depth Removed: 0 ft.

Equipment:

☒ Dedicated Submersible Pump

☐ Surge Block

☐ Bailer ☐ 2" ☐ _____

☐ Grundfos Pump 2" ____ 4" ____

Approximate Recharge Rage: ____ gpm

Total Gallons Removed: 101.45 gal.

Well Development Criteria Met:

Notes: _____

	Yes	No
■ Well water clear to unaided eye	☒	☐
■ Sediment thickness remaining in well is <1.0% of screen length	☒	☐
■ Total water removed = a minimum of 5x calculated well volume plus 5x drilling fluid lost	☒	☐
■ Turbidity < 5NTUs	☒	☐
■ 10% change in field parameters	☒	☐

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☒

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum):

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate
1049	—	—	7.49su	12.2°C	0.216 mS/cm	>1000 NTU	4 L/min
1110	84 L	22.19	7.54	12.3	0.220	143	/
1125	144	38.04	7.49	11.9	0.222	44.4	/
1225	384	101.45	7.59	12.3	0.223	2.17	/

Well Developer's Signature: [signature]

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

MONITORING WELL CONSTRUCTION DIAGRAM

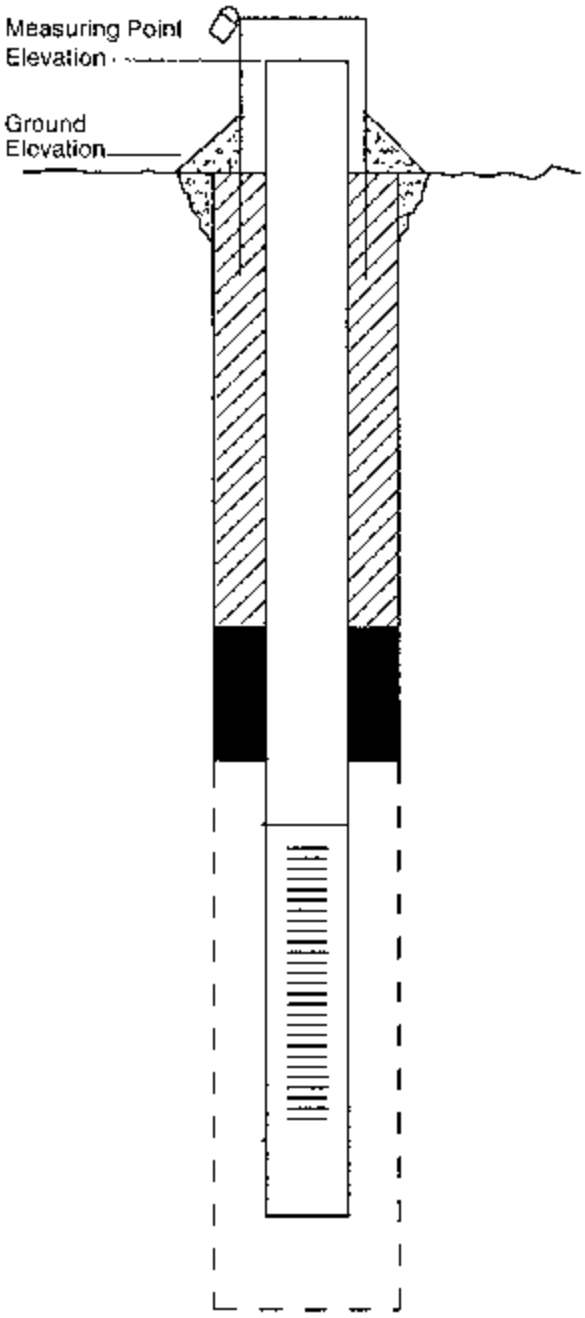
Project: USAFRC Middletown AOC _____ Driller ADT

Project No. 36180478.10/02 Boring No. 6(-) Drilling Method Air rotary/air hammer

Date Installed 10-12-03 Development Method wireline pump

Field Technician: M. [illegible] Latitude: _____ Longitude: _____

Checked By: JPK



Stick-up of Casing Above Ground Surface: 3 ft

Type of Surface Seal/Other Protection: Cement grout

Type of Surface Casing: Steel Stand pipe

ID of Surface Casing: 4"

Diameter of Borehole: 4"

Riser Pipe ID: 2"

Type of Riser Pipe: Sch 40 PVC

Type of Backfill: Cement grout

Depth of Top of Seal: 36 ft

Type of Seal: Bentonite chips

Depth of Top of Sand: 38 ft

Depth of Top of Screen: 40 ft

Type of Screen: Sch 40 PVC

Slot Size x Length: 10 slot x 20 ft

ID of Screen: 2"

Type of Sandpack: #1 Silica Sand

Depth of Bottom of Screen: 60 ft

Depth of Sediment Sump with Plug: N/A

Depth of Bottom of Borehole: 60 ft

MONITORING WELL CONSTRUCTION DIAGRAM
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

WELL DEVELOPMENT RECORD

Project: USARC Middletown	Well Installation Date: 10-12-07		Project No 36[illegible]
Client: US Army	Well Development Date: 10-15-07	Logged by: MV	Checked by: JRV
Well/Site I.D.: BR7	Weather: Overcast, 60°F	Start Date: 10-15-07	Finish Date: 10-15-07
		Start Time: 1100	Finish Time: 1135

Well Construction Record Data:

Well Diameter: 2 in.

Bottom of Screen: 60.7 ft.

Sediment Sump/Plug: N/A ft.

Screen Length: 30 ft.

From Ground Surface ☒ From Top of Riser ☐

Fluids Lost during Drilling: 0 gal.

Protective Casing Stick-up: 3 ft.

Protective Casing/Well Diff.: 0.1 ft.

PID Readings: Ambient Air 0 ppm; Well Mouth 0 ppm

Well Levels:

Initial: 32.47 ft.

End of Development: 38.56 ft.

24 Hours after Development: ft.

HT of Water Column: 26.14 ft. x ☐ 1.68* gal./ft. ☒ 0.24 for 2" well = 4.35 gal./vol.

*for 4" HSA Installed Wells

Sediment:

Well Depth before Development: 63.61 ft. (from top of PVC)

Well Depth after Development: 63.61 ft.

Sediment Depth Removed: 0.01 ft.

Equipment:

☒ Dedicated Submersible Pump

☐ Surge Block

☐ Bailer ☐ 2" ☐ _____

☐ Grundfos Pump 2" _____ 4" _____

Approximate Recharge Rate: _____ gpm

Total Gallons Removed: 36.99 gal.

Well Development Criteria Met:

	Yes	No
■ Well water clear to unaided eye	☒	☐
■ Sediment thickness remaining in well is <1.0% of screen length	☒	☐
■ Total water removed = a minimum of 5x calculated well volume plus 5x drilling fluid lost	☒	☐
■ Turbidity < 5NTUs	☒	☐
■ 10% change in field parameters	☒	☐

Notes: _____

End of Well Development Sample (1 pint) Collected? Yes ☐ No ☒

Water Parameter Measurements

Record at start, twice during and at the end of development (minimum):

Time	Volume	Total Gallons	pH	Temp.	Conductance	Turbidity	Pumping Rate
1100	—	—	7.23 std	14.4°C	0.236 mS/cm	>1000 NTU	4 L/min
1110	40L	10.57	7.64	13.1	0.186	35.4	
1120	80L	21.14	7.69	13.1	0.178	13.7	
1135	140L	36.99	7.66	13.1	0.172	4.90	0

Well Developer's Signature: [signature]

WELL DEVELOPMENT RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004
MACTEC, Inc.

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER: 36180718/10

PROJECT: USARC - Middletown

FIELD SAMPLE NUMBER: CT08-MW20005

EVENT NO.: 5

SITE ID: MW-20

SITE TYPE:

DATE: 10/29/07

ACTIVITY: START 1148 END 1238

SAMPLE TIME: 1228

FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	20.09 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	— FT	CASING / WELL DIFFERENCE	— FT
FINAL DEPTH TO WATER	20.92 FT	~~HISTORICAL~~ WELL DEPTH (TOR)	23.46 FT	PID AMBIENT AIR	— PPM
SCREEN LENGTH	10 FT	PRESSURE TO PUMP	— PSI	WELL DIAMETER	2 IN
TOTAL VOL PURGED	0.88 GAL	P.D WELL MOUTH	— PPM		
		REFILL SETTING	—	DISCHARGE SETTING	—

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	x		
CASING	x		
LOCKED	x		
COLLAR			x

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1148	Begin	purging								
1155	20.37	90	13.9	0.485	7.43	11.62	2.82	24	22	
1200	20.45	90	14.0	0.480	7.41	7.10	2.12	23		
1205	20.53	90	13.9	0.478	7.40	5.26	1.97	23		
1210	20.62	90	13.8	0.478	7.43	4.54	1.83	22		
1215	20.71	90	13.8	0.475	7.45	4.23	1.46	20		
1220	20.81	90	13.8	0.472	7.46	3.95	2.27	19		
1225	20.92	90	13.9	0.467	7.48	3.86	2.37	19		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [x] PERISTALTIC
- [ ] OTHER

TYPE OF TUBING
- [x] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [ ] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOCs	8260	HCl, 4°C	(2) 40 ml Vials		CT08-MW20005

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES NO

NOTES:

SIGNATURE: [signature]

CHECKED BY: JPK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W2004037c.xls

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER: 36180458/10

PROJECT: USARC - Middletown
FIELD SAMPLE NUMBER: CTOS-MW521-05
EVENT NO.: 5
SITE ID: MW-21
SITE TYPE:
DATE: 10/29/05
ACTIVITY: START 0957 END 1128
SAMPLE TIME:
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
[X] TOP OF WELL RISER
[ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	14.11 FT	~~HISTORICAL~~ WELL DEPTH (TOR)	23.00 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	— FT
FINAL DEPTH TO WATER	16.11 FT	PRESSURE TO PUMP	— PSI	PID AMBIENT AIR	— PPM
SCREEN LENGTH	10 FT	REFILL SETTING	—	PID WELL MOUTH	— PPM
TOTAL VOL PURGED	2.25 GAL			DISCHARGE SETTING	—

CASING / WELL DIFFERENCE: — FT
WELL DIAMETER: 2 IN

WELL INTERGRITY

INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR			X

(purge volume (ml liters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0957	Begin	Purging								
1000	14.54	125	13.7	0.735	7.06	7.85	6.24	105	20	
1010	14.70	125	14.6	0.717	7.11	4.81	9.06	92		
1015	14.80	120	14.7	0.712	7.12	4.03	12.8	74		
1020	14.91	100	14.7	0.708	7.12	3.61	17.3	56		
1025	15.03	100	15.1	0.697	7.12	3.24	13.7	19		
1030	15.16	120	15.2	0.687	7.12	3.01	12.2	2		
1035	15.30	120	15.2	0.673	7.12	2.72	8.81	-11		
1040	15.41	120	15.3	0.650	7.11	2.52	6.36	-18		
1045	15.52	120	15.4	0.622	7.08	2.41	5.37	-23		
1050	15.64	120	15.4	0.603	7.07	2.33	4.52	-26		
1055	15.77	120	15.5	0.580	7.06	2.29	3.34	-28		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
[ ] BLADDER
[X] PERISTALTIC [ ] OTHER

TYPE OF TUBING
[X] HIGH DENSITY POLYETHYLENE
[ ] OTHER

TYPE OF PUMP MATERIAL
[ ] STAINLESS STEEL
[ ] OTHER

TYPE OF BLADDER MATERIAL
[ ] TEFLON
[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOCs	8260	HCl, 4°C	(2) 40 ml	Vials	CTOS-MW521-05

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES (YES circled) NO

NOTES:

SIGNATURE: [signature]

CHECKED BY: JRK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W20040370.xls

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 61804811

PROJECT USARC - Middletown

FIELD SAMPLE NUMBER CT08-MWS2105

EVENT NO 5

SITE ID MW - 21

SITE TYPE

DATE 10/29/05

ACTIVITY START 0957 END 1128

SAMPLE TIME 1113

FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [X] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER 14.11 FT

FINAL DEPTH TO WATER 16.11 FT

SCREEN LENGTH 10 FT

TOTAL VOL PURGED 2.25 GAL

~~HISTORICAL~~ WELL DEPTH (TOR) 23.08 FT

PRESSURE TO PUMP — PSI

REFILL SETTING —

PROTECTIVE CASING STICKUP (FROM GROUND) — FT

PID AMBIENT AIR — PPM

PID WELL MOUTH — PPM

DISCHARGE SETTING —

CASING / WELL DIFFERENCE — FT

WELL DIAMETER 2 IN

WELL INTERGRITY:

INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR			X

(purge volume (ml liters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1100	15.87	120	15.5	0.570	7.07	2.27	2.78	-29	20	
1105	15.94	120	15.5	0.562	7.08	2.28	2.66	-28	↓	
1110	16.11	120	15.5	0.557	7.09	2.24	2.37	-28	↓	

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [X] PERISTALTIC
- [ ] OTHER

TYPE OF TUBING
- [X] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [ ] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOCs	8260	HCl, 4°C	(2) 40 ml	Vials	CT08-MWS2105

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

SIGNATURE

CHECKED BY: JK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

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FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 36180484.10

PROJECT USARC - Middletown

FIELD SAMPLE NUMBER CT08-BR50605 ~~CT08-MW1-(DEP)~~

EVENT NO. 5

SITE ID BR-6

SITE TYPE

DATE 10/29/07

ACTIVITY START 1252 END 1358

SAMPLE TIME 1353

FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
[X] TOP OF WELL RISER
[ ] TOP OF PROTECTIVE CASING

PROTECTIVE CASING STICKUP (FROM GROUND) — FT

CASING / WELL DIFFERENCE — FT

INITIAL DEPTH TO WATER 32.05 FT

~~HISTORICAL~~ WELL DEPTH (TOR) 80.77 FT

P.D. AMBIENT AIR — PPM

WELL DIAMETER 2 IN

FINAL DEPTH TO WATER 32.43 FT

SCREEN LENGTH 20 FT

PRESSURE TO PUMP 40 PSI

PID WELL MOUTH — PPM

TOTAL VOL PURGED 1.61 GAL

REFILL SETTING 11.0 sec

DISCHARGE SETTING 40 sec

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY

INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR			X

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1252	Begin	Purging								
1255	32.39	160	13.4	0.336	7.82	10.48	10.4	35	70	
1300	32.43	160	12.9	0.350	7.78	5.30	44.0	-8		
1305	32.43	160	12.9	0.352	7.78	3.33	63.2	-25		
1310	32.43	160	12.9	0.351	7.80	2.70	48.8	-26		
1315	32.43	160	13.0	0.351	7.83	2.34	40.0	-24		
1320	32.43	160	13.0	0.352	7.84	2.23	35.4	-24		
1325	32.43	160	13.1	0.351	7.85	2.10	34.0	-24		
1330	32.43	160	12.9	0.351	7.85	2.07	34.2	-26		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
[X] BLADDER
[ ] PERISTALTIC [ ] OTHER

TYPE OF TUBING
[X] HIGH DENSITY POLYETHYLENE
[ ] OTHER

TYPE OF PUMP MATERIAL
[X] STAINLESS STEEL
[ ] OTHER

TYPE OF BLADDER MATERIAL
[X] TEFLON
[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOCs	8260	HCl, 4°C	(2) 40 ml Vials		CT08-BR50605 CT08-BRDOE05 CT08-BRMS05 CT08-BRMSD05

PURGE OBSERVATIONS DUP/MS/MSD collected

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

SIGNATURE

CHECKED BY JCK

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

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FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

JOB NUMBER 36180445110

PROJECT USARC - Middletown

FIELD SAMPLE NUMBER CT08-BR50705

EVENT NO. 5

SITE ID BK-7

SITE TYPE

DATE 10/29/07

ACTIVITY START 1427 END 1547

SAMPLE TIME 1523

FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
[X] TOP OF WELL RISER
[ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER 37.14 FT

PROTECTIVE CASING STICKUP (FROM GROUND) — FT

CASING / WELL DIFFERENCE — FT

FINAL DEPTH TO WATER 37.02 FT

~~HISTORICAL~~ WELL DEPTH (TOR) 63.88 FT

PID AMBIENT AIR — PPM

WELL DIAMETER 2 IN

SCREEN LENGTH 20 FT

PRESSURE TO PUMP 35 PSI

PID WELL MOUTH — PPM

WELL INTERGRITY

INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR			X

TOTAL VOL PURGED 4.21 GAL

REFILL SETTING 10.0 sec

DISCHARGE SETTING 5.0 sec

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP (+/- deg. C)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1427	Begin	Purging								
1430	37.21	190	14.0	0.323	7.58	16.02	55.1	37	53	
1435	37.21	190	13.8	0.319	7.56	9.08	47.2	34		
1440	37.25	320	13.2	0.313	7.62	7.01	27.7	26		
1445	37.12	320	13.2	0.313	7.66	6.06	62.9	20		
1450	37.08	320	13.1	0.313	7.71	6.51	50.6	18		
1455	36.99	320	13.0	0.311	7.78	6.75	40.8	16		
1500	37.02	320	13.2	0.310	7.83	6.45	34.5	14		
1505	37.02	320	13.0	0.309	7.87	7.13	33.2	13		
1510	37.02	320	13.1	0.307	7.90	7.18	30.1	12		
1515	37.02	320	13.0	0.307	7.92	7.34	30.5	11		
1520	37.02	320	13.1	0.305	7.94	7.35	30.3	11		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
[X] BLADDER
[ ] PERISTALTIC [ ] OTHER

TYPE OF TUBING
[X] HIGH DENSITY POLYETHYLENE
[ ] OTHER

TYPE OF PUMP MATERIAL
[X] STAINLESS STEEL
[ ] OTHER

TYPE OF BLADDER MATERIAL
[X] TEFLON
[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
VOCs	8260	HCl, 4°C	(2) 40 ml	Vials	CT08-BR50705

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

SIGNATURE:

CHECKED BY: JRI

LOW FLOW GROUNDWATER DATA RECORD
QUALITY ASSURANCE PROJECT PLAN
94th RRC 2004

MACTEC, Inc.

W2004037c.xls

APPENDIX B

DATA VALIDATION REPORTS

Data Validation Summary
USARC - Middletown November 2006 Soil Sampling
Middletown, Connecticut
SDGs L0611215 and L0611277

Introduction:

Ten soil samples and a field duplicate were collected on November 7, 2006, and November 9, 2006, at the USARC – Middletown Site, Middletown, Connecticut. Samples were analyzed for the following parameters: volatile organic compounds (VOCs) by USEPA Method 8260B and extracted total petroleum hydrocarbons (ETPH) using the State of Connecticut method (CDOH, 1999). Sample analyses were performed by Kemron Environmental Services, located in Marietta, Ohio.

A Tier III data validation was performed on VOC data for twenty percent of the samples (CT08-SBS0207, CT08-SBS0308, and CT08-SBS0408). A Tier II validation was performed on the remaining VOC samples. A project chemist review was completed on the ETPH data. The data packages were validated using Region I EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (USEPA, 1996), Analysis of Extractable Total Petroleum Hydrocarbons (ETPH) Using Methylene Chloride, Gas Chromatograph/Flame Ionization Detection, (CDPH, 1999), and 94th RRC Quality Assurance Project Plan (MACTEC, 2005).

The following samples collected during November 2006 are included in the data evaluation:

Field Sample ID	KEMRON ID	Sample Date	Comment
CT08-SBS0113	L0611215-01	11/7/06	VOC, ETPH
CT08-SBS0207	L0611215-02	11/7/06	VOC, ETPH
CT08-SBS0308	L0611215-03	11/7/06	VOC, ETPH
CT08-SBS0408	L0611215-04	11/7/06	VOC, ETPH
CT08-SBD0408	L0611215-05	11/7/06	VOC, ETPH
CT08-SBS0508	L0611215-06	11/7/06	VOC, ETPH
CT08-SBS0603	L0611215-09	11/7/06	VOC, ETPH
CT08-SBS0707	L0611215-10	11/7/06	VOC, ETPH
CT08-SBS0807	L0611277-02	11/9/06	VOC, ETPH
CT08-SBS0905	L0611277-03	11/9/06	VOC, ETPH
CT08-SBS1008	L0611277-04	11/9/06	VOC, ETPH

Data were evaluated for the following parameters as applicable to the method:

* Collection and Preservation
* Holding Times
* Data Completeness
* Initial Calibration
* Continuing Calibration
* Surrogate Recoveries
* Internal Standards
  Blank Contamination
* Duplicates
  Laboratory Control Samples
  Matrix Spike/Matrix Spike Duplicates
* Target Compound Quantitation
* Miscellaneous

* - all criteria were met for this parameter

Based on evaluation of all available quality control data, sample results were determined to be usable as reported by the laboratory with the following exceptions. Data validation qualifiers were added to a subset of sample results as summarized in the following subsections. A complete listing of results is provided in Attachment 1.

Blanks

ETPH – ETPH (6.6 mg/kg) was reported in the method blank associated with all samples of SDGs L0611215 and L0611277. An action level was calculated at five times the method blank concentration and compared to sample data. Low level detections of ETPH that were below the action level were qualified as non-detected (U) in samples CT08-SBS0113, CT08-SBS0207, CT08-SBS0308, CT08-SBS0408, CT08-SBS0905, and CT08-SBS1008.

VOC - Methylene chloride was reported in the trip blank associated with SDG L0611277. Methylene chloride was not reported in the field samples in this SDG. No trip blank was analyzed with SDG L0611215. Low concentrations of methylene chloride were reported in samples in this SDG. The methylene chloride in these samples may represent laboratory contamination.

Laboratory Control Samples

VOC – Percent recovery for dichlorodifluoromethane (66) in the LCS associated with SDG L0611215 was below the control limits of 70-130 indicating a potential low bias. Dichlorodifluoromethane was not detected in the samples, and quantitation limits were qualified as estimated (UJ) in samples CT08-SBS0113, CT08-SBS0207, CT08-SBS0308, CT08-SBS0408, CT08-SBD0408, CT08-SBS0508, CT08-SBS0603, and CT08-SBS0707.

Matrix Spike/Matrix Spike Duplicates

VOC – Relative percent differences between percent recoveries for acetone (73) and 1,4-dioxane (38) were above the control limit of 30 in the MS/MSD of sample CT08-SBS0508. Acetone and 1,4-dioxane were not detected in sample CT08-SBS0508, and the quantitation limits were qualified as estimated (UJ).

References:

U.S. Environmental Protection Agency (USEPA), 1996. "Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses, Parts I and II," Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; December, 1996.

State of Connecticut Department of Health, 1999. "Analysis of Extractable Total Petroleum Hydrocarbons (ETPH) Using Methylene Chloride, Gas Chromatograph/Flame Ionization Detection." Prepared by Environmental Research Institute, University of Connecticut, March, 1999.

MACTEC, Inc., 2005. "94th Regional Readiness Command Installation Restoration Program Quality Assurance Project Plan (QAPP)." MACTEC, March, 2005.

Data Validator: Julie Ricardi
December 13, 2006

Senior Chemist: Chris Ricardi, NRCC-EAC

Chris Ricardi

Date: 1/2/07

Data Validation Summary
USARC - Middletown November-December 2006 Groundwater Sampling
Middletown, Connecticut
SDGs L0611636 and L0612047

1.0 INTRODUCTION:

Groundwater samples were collected on November 30, 2006, and December 1, 2006, at the USARC – Middletown Site, Middletown, Connecticut. Samples were analyzed for the following parameters: volatile organic compounds (VOCs) by USEPA Method 8260B and extracted total petroleum hydrocarbons (ETPH) using the State of Connecticut method (CDOH, 1999). Sample analyses were performed by Kemron Environmental Services, located in Marietta, Ohio.

A Tier III data validation was performed on VOC data for twenty percent of the samples. A Tier II validation was performed on the remaining VOC samples. A project chemist review was completed on the ETPH data. The data packages were validated using Region I EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (USEPA, 1996), Analysis of Extractable Total Petroleum Hydrocarbons (ETPH) Using Methylene Chloride, Gas Chromatograph/Flame Ionization Detection, (CDPH, 1999), and 94th RRC Quality Assurance Project Plan (MACTEC, 2005).

The following samples collected during November 2006 are included in the data evaluation:

SDG	Lab ID	Field Sample ID	Sample Date	Analysis	QC Type	validation level
L0611636	L0611636-17	MWD1603	11/27/2006	ETPH	Field Dup	Chemist Review
L0611636	L0611636-11	MWS0803	11/27/2006	ETPH		Chemist Review
L0611636	L0611636-08	MWS0903	11/29/2006	ETPH		Chemist Review
L0611636	L0611636-12	MWS1003	11/27/2006	ETPH		Chemist Review
L0611636	L0611636-03	MWS1103	11/27/2006	ETPH		Chemist Review
L0611636	L0611636-02	MWS1203	11/27/2006	ETPH		Chemist Review
L0611636	L0611636-16	MWS1303	11/29/2006	ETPH		Chemist Review
L0611636	L0611636-05	MWS1403	11/28/2006	ETPH		Chemist Review
L0611636	L0611636-04	MWS1503	11/28/2006	ETPH		Chemist Review
L0611636	L0611636-01	MWS1603	11/27/2006	ETPH	MS/MSD	Chemist Review
L0612047	L0612047-01	BRS0103	12/1/2006	VOCs		Tier_II
L0611636	L0611636-14	BRS0203	11/28/2006	VOCs		Tier_II
L0611636	L0611636-10	BRS0303	11/29/2006	VOCs		Tier_II
L0611636	L0611636-09	BRS0403	11/29/2006	VOCs		Tier_II
L0611636	L0611636-17	MWD1603	11/27/2006	VOCs	Field Dup	Tier_II
L0611636	L0611636-15	MWS0103	11/28/2006	VOCs		Tier_II
L0611636	L0611636-06	MWS0303	11/28/2006	VOCs		Tier_II
L0611636	L0611636-07	MWS0603	11/29/2006	VOCs		Tier_II
L0611636	L0611636-13	MWS0703	11/28/2006	VOCs		Tier_II
L0611636	L0611636-11	MWS0803	11/27/2006	VOCs		Tier_II
L0611636	L0611636-08	MWS0903	11/29/2006	VOCs		Tier_II
L0611636	L0611636-12	MWS1003	11/27/2006	VOCs		Tier_II
L0611636	L0611636-03	MWS1103	11/27/2006	VOCs		Tier_III

L0611636	L0611636-02	MWS1203	11/27/2006	VOCs		Tier_III
L0611636	L0611636-16	MWS1303	11/29/2006	VOCs		Tier_II
L0611636	L0611636-05	MWS1403	11/28/2006	VOCs		Tier_II
L0611636	L0611636-04	MWS1503	11/28/2006	VOCs		Tier_III
L0611636	L0611636-01	MWS1603	11/27/2006	VOCs	MS/MSD	Tier_III
L0611636	L0611636-21	TRIP BLANK/0137	11/29/2006	VOCs	QC Blank	Tier_II
L0611636	L0611636-22	TRIP BLANK/0210	11/29/2006	VOCs	QC Blank	Tier_II
L0611636	L0611636-20	TRIP BLANK/699	11/29/2006	VOCs	QC Blank	Tier_II

Data were evaluated for the following parameters as applicable to the method:

* Collection and Preservation
* Holding Times
* Data Completeness
  Initial Calibration
* Continuing Calibration
  Surrogate Recoveries
* Internal Standards
  Blank Contamination
  Duplicates
  Laboratory Control Samples
  Matrix Spike/Matrix Spike Duplicates
* Target Compound Quantitation
* Miscellaneous

* - all criteria were met for this parameter

2.0 DATA VALDIATION OBSERVATIONS AND ACTIONS

Based on evaluation of all available quality control data, sample results were determined to be usable as reported by the laboratory with the following exceptions. Data validation qualifiers were added to a subset of sample results as summarized in the following subsections. A complete listing of results is provided in Attachment 1.

2.1 VOCs

Instrument Calibration

A subset of target compounds in the initial and continuing calibration standards had relative response factors (RRFs) less than the 0.05 minimum value specified in the USEPA Region I guidelines. Compounds include acrylonitrile, 1,4-dioxane, 2-butanone, 4-methyl-2-pentanone, acetone, propionitrile, tert-butyl alcohol, and tetrahydrofuran. All results for 1,4-dioxane, 4-methyl-2-pentanone, propionitrile, tert-butyl alcohol, and tetrahydrofuran were reported as non-detects and results were qualified rejected (R) in accordance with the validation guidelines. Results for positive detections of acetone and 2-butanone were qualified as estimated (J), and non-detects were qualified rejected (R) in accordance with the guidelines.

QC Blanks

Low concentrations of methylene chloride (0.56 to 0.68 µg/L) were reported in method blanks and trip blanks. Similar concentrations of methylene chloride were reported in samples. Results were qualified as non-detect (U) based on the associated blank results.

A low concentration of naphthalene (0.21 µg/L) was reported in the method blank associated with data set L0611636. Similar concentrations were reported in BRS0403 and BRS0303 and results were qualified as non-detect (U).

Laboratory Control Sample

Recoveries within project limits were reported for all VOCs except tert-butyl alcohol and 1,4-dioxane. Low recoveries of tert-butyl alcohol (54 - 68 %) and 1,4-dioxane (69 %) were reported in laboratory control samples (LCS) indicating a possible low bias. These compounds were previously qualified as rejected during the instrument calibration review discussed above.

Matrix Spike

A matrix spike/matrix spike duplicate (MS/MSD) was run using sample MWS1603. Recoveries within project limits were reported for all VOCs except dichlorodifluoromethane (69%), 1,4-dioxane (39 to 88 % with relative percent difference of 78), and tert-butyl alcohol (57 to 62 %). Dichlorodifluoromethane was not detected in sample MWAS1603 and the reporting limit was qualified as estimated (J). The results for tert-butyl alcohol and 1,4-dioxane were previously qualified as rejected during the instrument calibration review discussed above.

2.2 ETPH

For samples MWS0803 and MWS1303 the reporting limits are slightly elevated above the project reporting limit goal of 100 µg/L. During sample extraction the laboratory used slightly less than the 1 L volume specified in the method and the final reporting limits are adjusted based on the actual extraction volume.

The laboratory reported a positive detection result for samples MWS1103 (441 µg/L) and MWS1403 (72.7 J). During the chromatogram review of sample MWS1103 it was observed that there is a single compound peak that accounts for most of the ETPH concentration that is reported in the sample. There is also a chromatographic pattern that falls within a limited retention time from approximately 16 to 18 minutes. This chromatographic pattern is not typical of fuel hydrocarbons. After discussions with the lab, a GC/MS analysis was completed on the sample extract to identify the compounds observed in the sample. Based on a review of the GC/MS spectra the large peak was identified as bis(2ethylhexyl phthalate). The remaining chromatographic peaks were also identified as phthalates. Phthalates are identified as common laboratory contaminants by the USEPA (USEPA, 1996) and they do not represent petroleum hydrocarbons. A similar chromatographic pattern between a retention time of 16 and 18 minutes was observed in sample MWS1403. The response in these samples is interpreted to be entirely due to field or laboratory introduced contamination. No other evidence of petroleum hydrocarbons were detected in the samples. Based on professional judgment the results for ETPH in sample MWS1103 and MWS1403 were qualified as non-detect (U) at the reporting limit.

QC Blanks

The laboratory reported a result of 100 U for the method blank. A review of the instrument data identified a blank concentration was 46 µg/L [less than lab method detection limit (MDL)] based on a pattern of trace peaks observed in the blank. Low concentrations between the MDL and reporting limit were reported in field samples MWS1003, MWS1503, and MWD1603 ranging from 58 to 78 µg/L. The chromatograms for each sample were reviewed and compared to blanks. Results for MWS1003, MWS1503, and MWD1603 were qualified as non-detect (U) because

peaks observed in the blanks were primary contributors to the ETPH response and no significant hydrocarbon pattern was observed in the samples.

Surrogate

The recovery of surrogate o-terphenyl in sample MWS1303 (39%) fell below the project limits of 40 to 140. No ETPH was detected in MWS1303 and the reporting limit was qualified as estimated (J).

Field Duplicate

A field duplicate (MWD1603) was collected from location MWS1603. ETPH was reported at a concentration of 178 µg/L in the original sample and 65 µg/L in the duplicate. The duplicate result was qualified non-detect during the QC blank review because there was no hydrocarbon pattern evident in the sample and the primary peaks in the sample were also found in the lab blank. In the original sample MWS1603 there is a rise in the chromatographic baseline that is not present in the field duplicate that accounts for the increased concentration that is reported. The chromatographic response does not look like a typical fuel pattern. Because the result for MWS1603 was not confirmed in the field duplicate run it was qualified NJ indicating that the result may be a false positive.

References:

U.S. Environmental Protection Agency (USEPA), 1996. "Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses, Parts I and II," Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; December, 1996.

State of Connecticut Department of Health, 1999. "Analysis of Extractable Total Petroleum Hydrocarbons (ETPH) Using Methylene Chloride, Gas Chromatograph/Flame Ionization Detection." Prepared by Environmental Research Institute, University of Connecticut, March, 1999.

MACTEC, Inc., 2005. "94th Regional Readiness Command Installation Restoration Program Quality Assurance Project Plan (QAPP)." MACTEC, March, 2005.

Senior Chemist: Chris Ricardi, NRCC-EAC

Date: 1/5/07

Data Validation Summary
USARC - Middletown March 2007 Groundwater and Soil Sampling
Middletown, Connecticut
SDGs L0703110 and L0703307

1.0 INTRODUCTION:

A single soil sample was collected on March 5, 2006 at the USARC – Middletown Site, Middletown, Connecticut. Groundwater samples were also collected on March 12 and 13, 2007. Samples were analyzed for volatile organic compounds (VOCs) by USEPA Method 8260B. Sample analyses were performed by Kemron Environmental Services, located in Marietta, Ohio.

A Tier III data validation was performed on VOC data. The data were validated based on Region I EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (USEPA, 1996), the professional judgment of the project chemist, and 94th RRC Quality Assurance Project Plan (MACTEC, 2005).

The following samples collected during March 2007 are included in the data evaluation:

SDG	METHOD	lab_sample_id	field_sample_id	Matrix	sample_date
L0703110	8260B	L0703110-01	CT08-MWS1706	Soil	3/5/2007
L0703307	8260B	L0703307-01	TRIP BLANK	Water	3/12/2007
L0703307	8260B	L0703307-02	CT08-MWS1604	Water	3/12/2007
L0703307	8260B	L0703307-03	CT08-MWSM804	Water	3/12/2007
L0703307	8260B	L0703307-04	CT08-MWDM804	Water	3/12/2007
L0703307	8260B	L0703307-05	CT08-MWS1704	Water	3/12/2007
L0703307	8260B	L0703307-06	CT08-MWS1804	Water	3/12/2007
L0703307	8260B	L0703307-07	CT08-BRS4A04	Water	3/12/2007
L0703307	8260B	L0703307-08	CT08-BRS5A04	Water	3/13/2007

2.0 DATA VALIDATION OBSERVATIONS AND ACTIONS

Based on evaluation of all available quality control data, sample results were determined to be usable as reported by the laboratory with the following exceptions. Data validation qualifiers were added to a subset of sample results as summarized in the following subsections. A complete listing of results is provided in Attachment 1.

2.1 SOIL VOCs

Data were evaluated for the following parameters:

* Collection and Preservation
* Holding Times
* Data Completeness
  Initial Calibration
  Continuing Calibration
* Surrogate Recoveries
* Internal Standards
* Blank Contamination

* Laboratory Control Samples
* Target Compound Quantitation

* - all criteria were met for this parameter

Instrument Calibration

A subset of target compounds in the initial and continuing calibration standards had relative response factors (RRFs) less than the 0.05 minimum value specified in the USEPA Region I guidelines. Compounds include 1,4-dioxane, propionitrile, and tert-butyl alcohol. All results for these compounds were reported as non-detects and results were qualified rejected (R) in accordance with the validation guidelines.

The percent difference in the continuing calibration for trans-1,4-dichloro-2-butene (28) exceeded the validation guidline limit of 25. The result for trans-1,4-dichloro-2-butene was qualified estimated (UJ).

2.2 GROUNDWATER VOCs

Data were evaluated for the following parameters:

* Collection and Preservation
* Holding Times
* Data Completeness
  Initial Calibration
  Continuing Calibration
* Surrogate Recoveries
* Internal Standards
  Blank Contamination
  Duplicates
  Laboratory Control Samples
* Target Compound Quantitation
* Miscellaneous

* - all criteria were met for this parameter

Instrument Calibration

The relative standard deviation (RSD) for bromoform (45) and 1,2,3-trichlorobenzene (38) exceeded the validation guideline limit of 30. All results for bromoform and 1,2,3-trichlorobenzene were qualified estimated (J).

A subset of target compounds in the initial and continuing calibration standards had relative response factors (RRFs) less than the 0.05 minimum value specified in the USEPA Region I guidelines. Compounds include acrylonitrile, 1,4-dioxane, 4-methyl-2-pentanone, acetone, propionitrile, tert-butyl alcohol, and tetrahydrofuran. All results for these compounds were reported as non-detects and results were qualified rejected (R) in accordance with the validation guidelines.

QC Blanks

Low concentrations of the following compounds were reported in the trip blank or method blank. Action limits were calculated and results less than action limits were qualified as non-detect (U) based on the associated blank results.

Compound	Blank	Conc. (µg/L)	Action Limit
Acetone	TB	3.65	36.5
Benzene	TB	0.248	1.24
Carbondisulfide	TB	6.72	33.6
Methylene chloride	TB	0.385	3.85
Toluene	TB	0.336	1.68
Hexachlorobutadiene	MB	0.419	2.095
n-Propylbenzene	MB	0.28	1.4
123-Trichlorobenzene	MB	0.271	1.355

The following results were qualified due to blanks:

field_sample_id	param_name	final_result	final_qual	lab_result	lab_qual	Unit
CT08-MWS1804	Acetone		R	12.1		ug/L
CT08-BRS4A04	Acetone		R	6.25	J	ug/L
CT08-MWS1804	Benzene	1	U	0.198	J	ug/L
CT08-BRS4A04	Carbon disulfide	1.18	U	1.18		ug/L
CT08-BRS4A04	Propylbenzene	1	U	0.264	J	ug/L

Laboratory Control Sample

Laboratory control sample recoveries were within project limits for all VOCs except trans-1,4-dichloro-2-butene. A recovery of 66 percent was reported for trans-1,4-dichloro-2-butene in the LCS and LCSD indicating a possible low bias. Results for this compound were qualified estimated (J) for all samples.

Matrix Spike

No matrix spike was performed in association with this data set.

Field Duplicate

A field duplicate was collected from location MWSM804. With the exception of chloroform, agreement was observed for non-detects and detects. A low concentration of chloroform (1.49 µg/L) was reported in the original sample and not in the duplicate at a reporting limit of 1.0 µg/L. Results for chloroform in both samples were qualified estimated (J/UJ).

References:

U.S. Environmental Protection Agency (USEPA), 1996. "Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses, Parts I and II," Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; December, 1996.

MACTEC, Inc., 2005. "94th Regional Readiness Command Installation Restoration Program Quality Assurance Project Plan (QAPP)." MACTEC, March, 2005.

Senior Chemist: Chris Ricardi, NRCC-EAC

Chris Ricardi

Date: 4/17/07

Data Validation Summary
USARC - Middletown October 2007 Groundwater Sampling
Middletown, Connecticut
SDGs L0710894

1.0 INTRODUCTION:

Four groundwater samples were collected on October 29, 2007 at the USARC – Middletown Site, Middletown, Connecticut. Samples were analyzed for volatile organic compounds (VOCs) by USEPA Method 8260B. Sample analyses were performed by Kemron Environmental Services, located in Marietta, Ohio.

A Tier II data validation was performed on VOC data. The data were validated based on Region I EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (USEPA, 1996), the professional judgment of the project chemist, and 94th RRC Quality Assurance Project Plan (MACTEC, 2005).

The following samples collected during March 2007 are included in the data evaluation:

Sample ID	METHOD	lab_sample_id	Matrix	QC Type	sample_date
CT08-MWS2105	8260B	L0710894-01	Water		10/29/2007
CT08-MWS2005	8260B	L0710894-02	Water		10/29/2007
CT08-BRS0605	8260B	L0710894-03	Water		10/29/2007
CT08-BRD0605	8260B	L0710894-04	Water	Field duplicate	10/29/2007
CT08-BRMS0605	8260B	L0710894-05	Water	Matrix spike	10/29/2007
CT08-BRMSD0605	8260B	L0710894-06	Water	Matrix spike duplicate	10/29/2007
CT08-BRS0705	8260B	L0710894-07	Water		10/29/2007
Trip Blank	8260B	L0710894-08	Water		10/29/2007

2.0 DATA VALIDATION OBSERVATIONS AND ACTIONS

Based on evaluation of all available quality control data, sample results were determined to be usable as reported by the laboratory with the following exceptions. Data validation qualifiers were added to a subset of sample results as summarized in the following subsections. A complete listing of results is provided in Attachment 1.

2.1 VOCs

Data were evaluated for the following parameters:

* Collection and Preservation
* Holding Times
* Data Completeness
  Initial Calibration
* Continuing Calibration
* Surrogate Recoveries
* Internal Standards
  Blank Contamination
* Laboratory Control Samples
* Matrix Spikes

* - all criteria were met for this parameter

Instrument Calibration

The relative standard deviation (RSD) for methylene chloride (56) exceeded the EPA Region validation criteria of 30 percent. Methylene chloride was not detected in samples and all reporting limits were qualified estimated (UJ) in the final data.

The average relative response factors (RRF) for a subset of target compounds in the initial calibration were less than the EPA Region I minimum response of 0.05. Compounds include 1,4-dioxane (0.001), 2-hexanone (0.048), 4-methyl-2-pentanone (0.041), acetone (0.037), acrylonitrile (0.048), propionitrile (0.015), tert-butyl-alcohol (0.0089), and tetrahydrofuran (0.031). RSD for these compounds were less than 15 indicating good linearity of response was obtained on the instrument. These results indicate that these compounds would be detected if present in the samples. However, results were qualified rejected (R) in the final data set in accordance with the guidelines.

QC Blanks

Low concentrations of acetone were reported in the trip blanks collected with these samples. Similar concentrations were reported in samples. Results for acetone in all samples were qualified non-detect (U) in the final data and subsequently qualified rejected (R) based on instrument calibration (see above).

References:

U.S. Environmental Protection Agency (USEPA), 1996. "Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses, Parts I and II," Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; December, 1996.

MACTEC, Inc., 2005. "94th Regional Readiness Command Installation Restoration Program Quality Assurance Project Plan (QAPP)." MACTEC, March, 2005.

Senior Chemist: Chris Ricardi, NRCC-EAC

Date: 12/10/07

APPENDIX C

ANALYTICAL DATA

LABORATORY REPORT

L0611215

12/01/06 16:43

Submitted By

KEMRON Environmental Services
156 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: MACTEC Engineering & Consulting
1080 Elm Street
Suite 202
Rocky Hill, CT 06067
Attention: Mike Spangberg

Account Number: 2756
Work ID: USARC-MIDDLETOWN

P.O. Number: MEC51050340

Sample Summary

Client ID	QC Type	Lab ID	Date Collected	Date Received
CT08-SBS0113		L0611215-01	07-NOV-06	09-NOV-06
CT08-SBS0207		L0611215-02	07-NOV-06	09-NOV-06
CT08-SBS0308		L0611215-03	07-NOV-06	09-NOV-06
CT08-SBS0408		L0611215-04	07-NOV-06	09-NOV-06
CT08-SBD0408		L0611215-05	07-NOV-06	09-NOV-06
CT08-SBS0508		L0611215-06	07-NOV-06	09-NOV-06
CT08-SBS0508	MS	L0611215-07	07-NOV-06	09-NOV-06
CT08-SBS0508	MSD	L0611215-08	07-NOV-06	09-NOV-06
CT08-SBS0603		L0611215-09	07-NOV-06	09-NOV-06
CT08-SBS0707		L0611215-10	07-NOV-06	09-NOV-06

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-01**
Client ID: **CT08-SBS0113**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 09:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 15:58**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 15:58**
File ID: **9M50149**
Percent Solid: **87.9**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	13.2	6.60
Acrylonitrile	107-13-1		U	132	3.30
Benzene	71-43-2		U	6.60	0.660
Bromobenzene	108-86-1		U	6.60	0.660
Bromochloromethane	74-97-5		U	6.60	0.660
Bromodichloromethane	75-27-4		U	6.60	0.660
Bromoform	75-25-2		U	6.60	0.660
Bromomethane	74-83-9		U	13.2	1.32
2-Butanone	78-93-3		U	13.2	3.30
n-Butylbenzene	104-51-8		U	6.60	0.660
sec-Butylbenzene	135-98-8		U	6.60	0.660
tert-Butylbenzene	98-06-6		U	6.60	0.660
Carbon disulfide	75-15-0		U	6.60	0.660
Carbon tetrachloride	56-23-5		U	6.60	0.660
Chlorobenzene	108-90-7		U	6.60	0.660
Chloroethane	75-00-3		U	13.2	1.32
Chloroform	67-66-3		U	6.60	0.660
Chloromethane	74-87-3		U	13.2	2.64
2-Chlorotoluene	95-49-8		U	6.60	0.660
4-Chlorotoluene	106-43-4		U	6.60	0.660
1,2-Dichlorobenzene	95-50-1		U	6.60	0.660
1,3-Dichlorobenzene	541-73-1		U	6.60	0.660
1,4-Dichlorobenzene	106-46-7		U	6.60	0.660
cis-1,2-Dichloroethene	156-59-2		U	6.60	0.660
1,3-Dichloropropane	142-28-9		U	6.60	0.660
Dibromochloromethane	124-48-1		U	6.60	0.660
1,2-Dibromo-3-chloropropane	96-12-8		U	6.60	1.32
1,2-Dibromoethane	106-93-4		U	6.60	0.660
Trans-1,4-Dichloro-2-Butene	110-57-6		U	13.2	0.660
2,2-Dichloropropane	594-20-7		U	6.60	0.660
Dichlorodifluoromethane	75-71-8		U	13.2	1.32
1,1-Dichloroethane	75-34-3		U	6.60	1.32
1,2-Dichloroethane	107-06-2		U	6.60	0.660
1,1-Dichloroethene	75-35-4		U	6.60	0.660
trans-1,2-Dichloroethene	156-60-5		U	6.60	0.660
1,1-Dichloropropene	563-58-6		U	6.60	0.660
1,2-Dichloropropane	78-87-5		U	6.60	0.660
cis-1,3-Dichloropropene	10061-01-5		U	6.60	0.660
trans-1,3-Dichloropropene	10061-02-6		U	6.60	0.660
Diethyl ether	60-29-7		U	13.2	6.60
Diisopropyl ether	108-20-3		U	13.2	6.60
1,4-Dioxane	123-91-1		U	132	66.0
Ethyl benzene	100-41-4		U	6.60	0.660
Ethyl-Tert-Butyl ether	637-92-3		U	13.2	6.60
Hexachlorobutadiene	87-68-3		U	6.60	0.660
2-Hexanone	591-78-6		U	13.2	3.30
Isopropylbenzene	98-82-8		U	6.60	0.660
4-Methyl-2-pentanone	108-10-1		U	13.2	3.30

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-01**
Client ID: **CT08-SBS0113**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 09:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 15:58**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 15:58**
File ID: **9M50149**
Percent Solid: **87.9**

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2		U	6.60	1.32
Methyl tert butyl ether	1634-04-4		U	6.60	0.660
Naphthalene	91-20-3		U	13.2	0.660
n-Propylbenzene	103-65-1		U	6.60	0.660
p-Isopropyltoluene	99-87-6		U	6.60	0.660
Propionitrile	107-12-0		U	6.60	3.30
Styrene	100-42-5		U	6.60	0.660
Tert-Amyl-Methyl ether	994-05-8		U	13.2	6.60
Tert-Butyl Alcohol	75-65-0		U	132	66.0
1,1,1,2-Tetrachloroethane	630-20-6		U	6.60	0.660
1,1,2,2-Tetrachloroethane	79-34-5		U	6.60	0.660
Tetrachloroethene	127-18-4		U	6.60	0.660
Tetrahydrofuran	109-99-9		U	66.0	33.0
Toluene	108-88-3		U	6.60	0.660
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	13.2	2.64
1,2,3-Trichlorobenzene	87-61-6		U	6.60	0.660
1,2,4-Trichlorobenzene	120-82-1		U	6.60	0.660
1,1,1-Trichloroethane	71-55-6		U	6.60	0.660
1,1,2-Trichloroethane	79-00-5		U	6.60	0.660
Trichloroethene	79-01-6		U	6.60	0.660
Trichlorofluoromethane	75-69-4		U	13.2	1.32
1,2,3-Trichloropropane	96-18-4		U	6.60	0.844
1,2,4-Trimethylbenzene	95-63-6		U	6.60	0.660
1,3,5-Trimethylbenzene	108-67-8		U	6.60	0.660
Vinyl chloride	75-01-4		U	13.2	1.32
o-Xylene	95-47-6		U	6.60	0.660
m-,p-Xylene	136777-61-2		U	6.60	0.660

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	102	80	120	
1,2-Dichloroethane-d4	90.5	80	120	
Toluene-d8	114	81	117	
p-Bromofluorobenzene	107	74	121	

U Not detected at or above adjusted sample detection limit

Sample Number: **L0611215-01**
Client ID: **CT08-SBS0113**
Matrix: **Soil**
Workgroup Number: **WG227334**
Collect Date: **11/07/2006 09:40**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **11/10/2006 16:50**
Cal Date:
Run Date: **11/10/2006 16:50**
File ID: **OV.0611101650-03**

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	10-02-6	87.9		1.00	1.00

Sample Number: L0611215-01
Client ID: CT08-SBS0113
Matrix: Soil
Workgroup Number: WG227768
Collect Date: 11/07/2006 09:40
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3550B
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: mg/kg

Instrument: HP14
Prep Date: 11/14/2006 10:00
Cal Date: 09/14/2006 17:02
Run Date: 11/15/2006 11:10
File ID: 14GR1884

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		6.02	J	10.1	5.06

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611215-02
Client ID: CT08-SBS0207
Matrix: Soil
Workgroup Number: WG227334
Collect Date: 11/07/2006 10:30

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: TMM
Dilution: 1
Units: weight %

Instrument: OVEN
Prep Date: 11/10/2006 16:50
Cal Date:
Run Date: 11/10/2006 16:50
File ID: OV.0611101650-04

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	10-02-6	87.9		1.00	1.00

Sample Number: L0611215-02
Client ID: CT08-SBS0207
Matrix: Soil
Workgroup Number: WG227768
Collect Date: 11/07/2006 10:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3550B
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: mg/kg

Instrument: HP14
Prep Date: 11/14/2006 10:00
Cal Date: 09/14/2006 17:02
Run Date: 11/15/2006 11:44
File ID: 14GR1885

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		6.42	J	10.0	5.00

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611215-02
Client ID: CT08-SBS0207
Matrix: Soil
Workgroup Number: WG227272
Collect Date: 11/07/2006 10:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/kg

Instrument: HPMS9
Prep Date: 11/10/2006 16:29
Cal Date: 10/27/2006 19:05
Run Date: 11/10/2006 16:29
File ID: 9M50150
Percent Solid: 87.9

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	12.4		10.2	5.08
Acrylonitrile	107-13-1		U	102	2.54
Benzene	71-43-2		U	5.08	0.508
Bromobenzene	108-86-1		U	5.08	0.508
Bromochloromethane	74-97-5		U	5.08	0.508
Bromodichloromethane	75-27-4		U	5.08	0.508
Bromoform	75-25-2		U	5.08	0.508
Bromomethane	74-83-9		U	10.2	1.02

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-02**
Client ID: **CT08-SBS0207**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 10:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 16:29**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 16:29**
File ID: **9M50150**
Percent Solid: **87.9**

Analyte	CAS. Number	Result	Qual	RL	MDL
2-Butanone	78-93-3		U	10.2	2.54
n-Butylbenzene	104-51-8		U	5.08	0.508
sec-Butylbenzene	135-98-8		U	5.08	0.508
tert-Butylbenzene	98-06-6		U	5.08	0.508
Carbon disulfide	75-15-0		U	5.08	0.508
Carbon tetrachloride	56-23-5		U	5.08	0.508
Chlorobenzene	108-90-7		U	5.08	0.508
Chloroethane	75-00-3		U	10.2	1.02
Chloroform	67-66-3		U	5.08	0.508
Chloromethane	74-87-3		U	10.2	2.03
2-Chlorotoluene	95-49-8		U	5.08	0.508
4-Chlorotoluene	106-43-4		U	5.08	0.508
1,2-Dichlorobenzene	95-50-1		U	5.08	0.508
1,3-Dichlorobenzene	541-73-1		U	5.08	0.508
1,4-Dichlorobenzene	106-46-7		U	5.08	0.508
cis-1,2-Dichloroethene	156-59-2		U	5.08	0.508
1,3-Dichloropropane	142-28-9		U	5.08	0.508
Dibromochloromethane	124-48-1		U	5.08	0.508
1,2-Dibromo-3-chloropropane	96-12-8		U	5.08	1.02
1,2-Dibromoethane	106-93-4		U	5.08	0.508
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.2	0.508
2,2-Dichloropropane	594-20-7		U	5.08	0.508
Dichlorodifluoromethane	75-71-8		U	10.2	1.02
1,1-Dichloroethane	75-34-3		U	5.08	1.02
1,2-Dichloroethane	107-06-2		U	5.08	0.508
1,1-Dichloroethene	75-35-4		U	5.08	0.508
trans-1,2-Dichloroethene	156-60-5		U	5.08	0.508
1,1-Dichloropropene	563-58-6		U	5.08	0.508
1,2-Dichloropropane	78-87-5		U	5.08	0.508
cis-1,3-Dichloropropene	10061-01-5		U	5.08	0.508
trans-1,3-Dichloropropene	10061-02-6		U	5.08	0.508
Diethyl ether	60-29-7		U	10.2	5.08
Diisopropyl ether	108-20-3		U	10.2	5.08
1,4-Dioxane	123-91-1		U	102	50.8
Ethyl benzene	100-41-4		U	5.08	0.508
Ethyl-Tert-Butyl ether	637-92-3		U	10.2	5.08
Hexachlorobutadiene	87-68-3		U	5.08	0.508
2-Hexanone	591-78-6		U	10.2	2.54
Isopropylbenzene	98-82-8		U	5.08	0.508
4-Methyl-2-pentanone	108-10-1		U	10.2	2.54
Methylene chloride	75-09-2	1.45	J	5.08	1.02
Methyl tert butyl ether	1634-04-4		U	5.08	0.508
Naphthalene	91-20-3		U	10.2	0.508
n-Propylbenzene	103-65-1		U	5.08	0.508
p-Isopropyltoluene	99-87-6		U	5.08	0.508
Propionitrile	107-12-0		U	5.08	2.54
Styrene	100-42-5		U	5.08	0.508
Tert-Amyl-Methyl ether	994-05-8		U	10.2	5.08

Sample Number: L0611215-02
Client ID: CT08-SBS0207
Matrix: Soil
Workgroup Number: WG227272
Collect Date: 11/07/2006 10:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/kg

Instrument: HPMS9
Prep Date: 11/10/2006 16:29
Cal Date: 10/27/2006 19:05
Run Date: 11/10/2006 16:29
File ID: 9M50150
Percent Solid: 87.9

Analyte	CAS. Number	Result	Qual	RL	MDL
Tert-Butyl Alcohol	75-65-0		U	102	50.8
1,1,1,2-Tetrachloroethane	630-20-6		U	5.08	0.508
1,1,2,2-Tetrachloroethane	79-34-5		U	5.08	0.508
Tetrachloroethene	127-18-4		U	5.08	0.508
Tetrahydrofuran	109-99-9		U	50.8	25.4
Toluene	108-88-3		U	5.08	0.508
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	10.2	2.03
1,2,3-Trichlorobenzene	87-61-6		U	5.08	0.508
1,2,4-Trichlorobenzene	120-82-1		U	5.08	0.508
1,1,1-Trichloroethane	71-55-6		U	5.08	0.508
1,1,2-Trichloroethane	79-00-5		U	5.08	0.508
Trichloroethene	79-01-6	8.61		5.08	0.508
Trichlorofluoromethane	75-69-4		U	10.2	1.02
1,2,3-Trichloropropane	96-18-4		U	5.08	0.650
1,2,4-Trimethylbenzene	95-63-6		U	5.08	0.508
1,3,5-Trimethylbenzene	108-67-8		U	5.08	0.508
Vinyl chloride	75-01-4		U	10.2	1.02
o-Xylene	95-47-6		U	5.08	0.508
m-,p-Xylene	136777-61-2		U	5.08	0.508

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	105	80	120	
1,2-Dichloroethane-d4	93.7	80	120	
Toluene-d8	113	81	117	
p-Bromofluorobenzene	103	74	121	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611215-03
Client ID: CT08-SBS0308
Matrix: Soil
Workgroup Number: WG227272
Collect Date: 11/07/2006 11:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/kg

Instrument: HPMS9
Prep Date: 11/10/2006 17:01
Cal Date: 10/27/2006 19:05
Run Date: 11/10/2006 17:01
File ID: 9M50151
Percent Solid: 85.8

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	13.9		11.1	5.54
Acrylonitrile	107-13-1		U	111	2.77
Benzene	71-43-2		U	5.54	0.554
Bromobenzene	108-86-1		U	5.54	0.554
Bromochloromethane	74-97-5		U	5.54	0.554
Bromodichloromethane	75-27-4		U	5.54	0.554
Bromoform	75-25-2		U	5.54	0.554
Bromomethane	74-83-9		U	11.1	1.11
2-Butanone	78-93-3		U	11.1	2.77
n-Butylbenzene	104-51-8		U	5.54	0.554
sec-Butylbenzene	135-98-8		U	5.54	0.554
tert-Butylbenzene	98-06-6		U	5.54	0.554
Carbon disulfide	75-15-0		U	5.54	0.554

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-03**
Client ID: **CT08-SBS0308**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 11:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 17:01**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 17:01**
File ID: **9M50151**
Percent Solid: **85.8**

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon tetrachloride	56-23-5		U	5.54	0.554
Chlorobenzene	108-90-7		U	5.54	0.554
Chloroethane	75-00-3		U	11.1	1.11
Chloroform	67-66-3		U	5.54	0.554
Chloromethane	74-87-3		U	11.1	2.22
2-Chlorotoluene	95-49-8		U	5.54	0.554
4-Chlorotoluene	106-43-4		U	5.54	0.554
1,2-Dichlorobenzene	95-50-1		U	5.54	0.554
1,3-Dichlorobenzene	541-73-1		U	5.54	0.554
1,4-Dichlorobenzene	106-46-7		U	5.54	0.554
cis-1,2-Dichloroethene	156-59-2		U	5.54	0.554
1,3-Dichloropropane	142-28-9		U	5.54	0.554
Dibromochloromethane	124-48-1		U	5.54	0.554
1,2-Dibromo-3-chloropropane	96-12-8		U	5.54	1.11
1,2-Dibromoethane	106-93-4		U	5.54	0.554
Trans-1,4-Dichloro-2-Butene	110-57-6		U	11.1	0.554
2,2-Dichloropropane	594-20-7		U	5.54	0.554
Dichlorodifluoromethane	75-71-8		U	11.1	1.11
1,1-Dichloroethane	75-34-3		U	5.54	1.11
1,2-Dichloroethane	107-06-2		U	5.54	0.554
1,1-Dichloroethene	75-35-4		U	5.54	0.554
trans-1,2-Dichloroethene	156-60-5		U	5.54	0.554
1,1-Dichloropropene	563-58-6		U	5.54	0.554
1,2-Dichloropropane	78-87-5		U	5.54	0.554
cis-1,3-Dichloropropene	10061-01-5		U	5.54	0.554
trans-1,3-Dichloropropene	10061-02-6		U	5.54	0.554
Diethyl ether	60-29-7		U	11.1	5.54
Diisopropyl ether	108-20-3		U	11.1	5.54
1,4-Dioxane	123-91-1		U	111	55.4
Ethyl benzene	100-41-4		U	5.54	0.554
Ethyl-Tert-Butyl ether	637-92-3		U	11.1	5.54
Hexachlorobutadiene	87-68-3		U	5.54	0.554
2-Hexanone	591-78-6		U	11.1	2.77
Isopropylbenzene	98-82-8		U	5.54	0.554
4-Methyl-2-pentanone	108-10-1		U	11.1	2.77
Methylene chloride	75-09-2	2.54	J	5.54	1.11
Methyl tert butyl ether	1634-04-4		U	5.54	0.554
Naphthalene	91-20-3		U	11.1	0.554
n-Propylbenzene	103-65-1		U	5.54	0.554
p-Isopropyltoluene	99-87-6		U	5.54	0.554
Propionitrile	107-12-0		U	5.54	2.77
Styrene	100-42-5		U	5.54	0.554
Tert-Amyl-Methyl ether	994-05-8		U	11.1	5.54
Tert-Butyl Alcohol	75-65-0		U	111	55.4
1,1,1,2-Tetrachloroethane	630-20-6		U	5.54	0.554
1,1,2,2-Tetrachloroethane	79-34-5		U	5.54	0.554
Tetrachloroethene	127-18-4		U	5.54	0.554
Tetrahydrofuran	109-99-9		U	55.4	27.7

Sample Number: L0611215-03
Client ID: CT08-SBS0308
Matrix: Soil
Workgroup Number: WG227272
Collect Date: 11/07/2006 11:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/kg

Instrument: HPMS9
Prep Date: 11/10/2006 17:01
Cal Date: 10/27/2006 19:05
Run Date: 11/10/2006 17:01
File ID: 9M50151
Percent Solid: 85.8

Analyte	CAS. Number	Result	Qual	RL	MDL
Toluene	108-88-3		U	5.54	0.554
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	11.1	2.22
1,2,3-Trichlorobenzene	87-61-6		U	5.54	0.554
1,2,4-Trichlorobenzene	120-82-1		U	5.54	0.554
1,1,1-Trichloroethane	71-55-6		U	5.54	0.554
1,1,2-Trichloroethane	79-00-5		U	5.54	0.554
Trichloroethene	79-01-6	12.5		5.54	0.554
Trichlorofluoromethane	75-69-4		U	11.1	1.11
1,2,3-Trichloropropane	96-18-4		U	5.54	0.709
1,2,4-Trimethylbenzene	95-63-6		U	5.54	0.554
1,3,5-Trimethylbenzene	108-67-8		U	5.54	0.554
Vinyl chloride	75-01-4		U	11.1	1.11
o-Xylene	95-47-6		U	5.54	0.554
m-,p-Xylene	136777-61-2		U	5.54	0.554

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	102	80	120	
1,2-Dichloroethane-d4	90.9	80	120	
Toluene-d8	113	81	117	
p-Bromofluorobenzene	105	74	121	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611215-03
Client ID: CT08-SBS0308
Matrix: Soil
Workgroup Number: WG227334
Collect Date: 11/07/2006 11:45

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: TMM
Dilution: 1
Units: weight %

Instrument: OVEN
Prep Date: 11/10/2006 16:50
Cal Date:
Run Date: 11/10/2006 16:50
File ID: OV.0611101650-05

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	10-02-6	85.8		1.00	1.00

Sample Number: L0611215-03
Client ID: CT08-SBS0308
Matrix: Soil
Workgroup Number: WG227768
Collect Date: 11/07/2006 11:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3550B
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: mg/kg

Instrument: HP14
Prep Date: 11/14/2006 10:00
Cal Date: 09/14/2006 17:02
Run Date: 11/15/2006 12:18
File ID: 14GR1886

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		6.75	J	9.90	4.95

J The analyte was positively identified, but the quantitation was below the RL

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-04**
Client ID: **CT08-SBS0408**
Matrix: **Soil**
Workgroup Number: **WG227334**
Collect Date: **11/07/2006 13:30**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **11/10/2006 16:50**
Cal Date:
Run Date: **11/10/2006 16:50**
File ID: **OV.0611101650-06**

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	10-02-6	82.2		1.00	1.00

Sample Number: **L0611215-04**
Client ID: **CT08-SBS0408**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 13:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 17:33**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 17:33**
File ID: **9M50152**
Percent Solid: **82.2**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	8.41	J	11.0	5.49
Acrylonitrile	107-13-1		U	110	2.75
Benzene	71-43-2		U	5.49	0.549
Bromobenzene	108-86-1		U	5.49	0.549
Bromochloromethane	74-97-5		U	5.49	0.549
Bromodichloromethane	75-27-4		U	5.49	0.549
Bromoform	75-25-2		U	5.49	0.549
Bromomethane	74-83-9		U	11.0	1.10
2-Butanone	78-93-3		U	11.0	2.75
n-Butylbenzene	104-51-8		U	5.49	0.549
sec-Butylbenzene	135-98-8		U	5.49	0.549
tert-Butylbenzene	98-06-6		U	5.49	0.549
Carbon disulfide	75-15-0		U	5.49	0.549
Carbon tetrachloride	56-23-5		U	5.49	0.549
Chlorobenzene	108-90-7		U	5.49	0.549
Chloroethane	75-00-3		U	11.0	1.10
Chloroform	67-66-3		U	5.49	0.549
Chloromethane	74-87-3		U	11.0	2.20
2-Chlorotoluene	95-49-8		U	5.49	0.549
4-Chlorotoluene	106-43-4		U	5.49	0.549
1,2-Dichlorobenzene	95-50-1		U	5.49	0.549
1,3-Dichlorobenzene	541-73-1		U	5.49	0.549
1,4-Dichlorobenzene	106-46-7		U	5.49	0.549
cis-1,2-Dichloroethene	156-59-2		U	5.49	0.549
1,3-Dichloropropane	142-28-9		U	5.49	0.549
Dibromochloromethane	124-48-1		U	5.49	0.549
1,2-Dibromo-3-chloropropane	96-12-8		U	5.49	1.10
1,2-Dibromoethane	106-93-4		U	5.49	0.549
Trans-1,4-Dichloro-2-Butene	110-57-6		U	11.0	0.549
2,2-Dichloropropane	594-20-7		U	5.49	0.549
Dichlorodifluoromethane	75-71-8		U	11.0	1.10
1,1-Dichloroethane	75-34-3		U	5.49	1.10
1,2-Dichloroethane	107-06-2		U	5.49	0.549
1,1-Dichloroethene	75-35-4		U	5.49	0.549

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-04**
Client ID: **CT08-SBS0408**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 13:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 17:33**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 17:33**
File ID: **9M50152**
Percent Solid: **82.2**

Analyte	CAS. Number	Result	Qual	RL	MDL
trans-1,2-Dichloroethene	156-60-5		U	5.49	0.549
1,1-Dichloropropene	563-58-6		U	5.49	0.549
1,2-Dichloropropane	78-87-5		U	5.49	0.549
cis-1,3-Dichloropropene	10061-01-5		U	5.49	0.549
trans-1,3-Dichloropropene	10061-02-6		U	5.49	0.549
Diethyl ether	60-29-7		U	11.0	5.49
Diisopropyl ether	108-20-3		U	11.0	5.49
1,4-Dioxane	123-91-1		U	110	54.9
Ethyl benzene	100-41-4		U	5.49	0.549
Ethyl-Tert-Butyl ether	637-92-3		U	11.0	5.49
Hexachlorobutadiene	87-68-3		U	5.49	0.549
2-Hexanone	591-78-6		U	11.0	2.75
Isopropylbenzene	98-82-8		U	5.49	0.549
4-Methyl-2-pentanone	108-10-1		U	11.0	2.75
Methylene chloride	75-09-2		U	5.49	1.10
Methyl tert butyl ether	1634-04-4		U	5.49	0.549
Naphthalene	91-20-3		U	11.0	0.549
n-Propylbenzene	103-65-1		U	5.49	0.549
p-Isopropyltoluene	99-87-6		U	5.49	0.549
Propionitrile	107-12-0		U	5.49	2.75
Styrene	100-42-5		U	5.49	0.549
Tert-Amyl-Methyl ether	994-05-8		U	11.0	5.49
Tert-Butyl Alcohol	75-65-0		U	110	54.9
1,1,1,2-Tetrachloroethane	630-20-6		U	5.49	0.549
1,1,2,2-Tetrachloroethane	79-34-5		U	5.49	0.549
Tetrachloroethene	127-18-4		U	5.49	0.549
Tetrahydrofuran	109-99-9		U	54.9	27.5
Toluene	108-88-3		U	5.49	0.549
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	11.0	2.20
1,2,3-Trichlorobenzene	87-61-6		U	5.49	0.549
1,2,4-Trichlorobenzene	120-82-1		U	5.49	0.549
1,1,1-Trichloroethane	71-55-6		U	5.49	0.549
1,1,2-Trichloroethane	79-00-5		U	5.49	0.549
Trichloroethene	79-01-6	6.56		5.49	0.549
Trichlorofluoromethane	75-69-4		U	11.0	1.10
1,2,3-Trichloropropane	96-18-4		U	5.49	0.703
1,2,4-Trimethylbenzene	95-63-6		U	5.49	0.549
1,3,5-Trimethylbenzene	108-67-8		U	5.49	0.549
Vinyl chloride	75-01-4		U	11.0	1.10
o-Xylene	95-47-6		U	5.49	0.549
m-,p-Xylene	136777-61-2		U	5.49	0.549

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	106	80	120	
1,2-Dichloroethane-d4	95.2	80	120	
Toluene-d8	113	81	117	
p-Bromofluorobenzene	105	74	121	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above adjusted sample detection limit

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-04**
Client ID: **CT08-SBS0408**
Matrix: **Soil**
Workgroup Number: **WG227768**
Collect Date: **11/07/2006 13:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3550B**
Analytical Method: **CT ETPH**
Analyst: **HAV**
Dilution: **1**
Units: **mg/kg**

Instrument: **HP14**
Prep Date: **11/14/2006 10:00**
Cal Date: **09/14/2006 17:02**
Run Date: **11/15/2006 12:52**
File ID: **14GR1887**

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		5.51	J	9.87	4.93

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: **L0611215-05**
Client ID: **CT08-SBD0408**
Matrix: **Soil**
Workgroup Number: **WG227768**
Collect Date: **11/07/2006 13:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3550B**
Analytical Method: **CT ETPH**
Analyst: **HAV**
Dilution: **1**
Units: **mg/kg**

Instrument: **HP14**
Prep Date: **11/14/2006 10:00**
Cal Date: **09/14/2006 17:02**
Run Date: **11/15/2006 13:26**
File ID: **14GR1888**

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36			U	9.78	4.89

U Not detected at or above adjusted sample detection limit

Sample Number: **L0611215-05**
Client ID: **CT08-SBD0408**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 13:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 18:05**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 18:05**
File ID: **9M50153**
Percent Solid: **83.9**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	13.1	6.54
Acrylonitrile	107-13-1		U	131	3.27
Benzene	71-43-2		U	6.54	0.654
Bromobenzene	108-86-1		U	6.54	0.654
Bromochloromethane	74-97-5		U	6.54	0.654
Bromodichloromethane	75-27-4		U	6.54	0.654
Bromoform	75-25-2		U	6.54	0.654
Bromomethane	74-83-9		U	13.1	1.31
2-Butanone	78-93-3		U	13.1	3.27
n-Butylbenzene	104-51-8		U	6.54	0.654
sec-Butylbenzene	135-98-8		U	6.54	0.654
tert-Butylbenzene	98-06-6		U	6.54	0.654
Carbon disulfide	75-15-0		U	6.54	0.654
Carbon tetrachloride	56-23-5		U	6.54	0.654
Chlorobenzene	108-90-7		U	6.54	0.654
Chloroethane	75-00-3		U	13.1	1.31
Chloroform	67-66-3		U	6.54	0.654
Chloromethane	74-87-3		U	13.1	2.61
2-Chlorotoluene	95-49-8		U	6.54	0.654
4-Chlorotoluene	106-43-4		U	6.54	0.654
1,2-Dichlorobenzene	95-50-1		U	6.54	0.654
1,3-Dichlorobenzene	541-73-1		U	6.54	0.654

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-05**
Client ID: **CT08-SBD0408**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 13:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 18:05**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 18:05**
File ID: **9M50153**
Percent Solid: **83.9**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,4-Dichlorobenzene	106-46-7		U	6.54	0.654
cis-1,2-Dichloroethene	156-59-2		U	6.54	0.654
1,3-Dichloropropane	142-28-9		U	6.54	0.654
Dibromochloromethane	124-48-1		U	6.54	0.654
1,2-Dibromo-3-chloropropane	96-12-8		U	6.54	1.31
1,2-Dibromoethane	106-93-4		U	6.54	0.654
Trans-1,4-Dichloro-2-Butene	110-57-6		U	13.1	0.654
2,2-Dichloropropane	594-20-7		U	6.54	0.654
Dichlorodifluoromethane	75-71-8		U	13.1	1.31
1,1-Dichloroethane	75-34-3		U	6.54	1.31
1,2-Dichloroethane	107-06-2		U	6.54	0.654
1,1-Dichloroethene	75-35-4		U	6.54	0.654
trans-1,2-Dichloroethene	156-60-5		U	6.54	0.654
1,1-Dichloropropene	563-58-6		U	6.54	0.654
1,2-Dichloropropane	78-87-5		U	6.54	0.654
cis-1,3-Dichloropropene	10061-01-5		U	6.54	0.654
trans-1,3-Dichloropropene	10061-02-6		U	6.54	0.654
Diethyl ether	60-29-7		U	13.1	6.54
Diisopropyl ether	108-20-3		U	13.1	6.54
1,4-Dioxane	123-91-1		U	131	65.4
Ethyl benzene	100-41-4		U	6.54	0.654
Ethyl-Tert-Butyl ether	637-92-3		U	13.1	6.54
Hexachlorobutadiene	87-68-3		U	6.54	0.654
2-Hexanone	591-78-6		U	13.1	3.27
Isopropylbenzene	98-82-8		U	6.54	0.654
4-Methyl-2-pentanone	108-10-1		U	13.1	3.27
Methylene chloride	75-09-2		U	6.54	1.31
Methyl tert butyl ether	1634-04-4		U	6.54	0.654
Naphthalene	91-20-3		U	13.1	0.654
n-Propylbenzene	103-65-1		U	6.54	0.654
p-Isopropyltoluene	99-87-6		U	6.54	0.654
Propionitrile	107-12-0		U	6.54	3.27
Styrene	100-42-5		U	6.54	0.654
Tert-Amyl-Methyl ether	994-05-8		U	13.1	6.54
Tert-Butyl Alcohol	75-65-0		U	131	65.4
1,1,1,2-Tetrachloroethane	630-20-6		U	6.54	0.654
1,1,2,2-Tetrachloroethane	79-34-5		U	6.54	0.654
Tetrachloroethene	127-18-4		U	6.54	0.654
Tetrahydrofuran	109-99-9		U	65.4	32.7
Toluene	108-88-3		U	6.54	0.654
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	13.1	2.61
1,2,3-Trichlorobenzene	87-61-6		U	6.54	0.654
1,2,4-Trichlorobenzene	120-82-1		U	6.54	0.654
1,1,1-Trichloroethane	71-55-6		U	6.54	0.654
1,1,2-Trichloroethane	79-00-5		U	6.54	0.654
Trichloroethene	79-01-6	6.78		6.54	0.654
Trichlorofluoromethane	75-69-4		U	13.1	1.31
1,2,3-Trichloropropane	96-18-4		U	6.54	0.837

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-05**
Client ID: **CT08-SBD0408**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 13:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 18:05**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 18:05**
File ID: **9M50153**
Percent Solid: **83.9**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,2,4-Trimethylbenzene	95-63-6		U	6.54	0.654
1,3,5-Trimethylbenzene	108-67-8		U	6.54	0.654
Vinyl chloride	75-01-4		U	13.1	1.31
o-Xylene	95-47-6		U	6.54	0.654
m-,p-Xylene	136777-61-2		U	6.54	0.654

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	104	80	120	
1,2-Dichloroethane-d4	94.1	80	120	
Toluene-d8	114	81	117	
p-Bromofluorobenzene	107	74	121	

U Not detected at or above adjusted sample detection limit

Sample Number: **L0611215-05**
Client ID: **CT08-SBD0408**
Matrix: **Soil**
Workgroup Number: **WG227334**
Collect Date: **11/07/2006 13:30**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **11/10/2006 16:50**
Cal Date:
Run Date: **11/10/2006 16:50**
File ID: **OV.0611101650-07**

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	10-02-6	83.9		1.00	1.00

Sample Number: **L0611215-06**
Client ID: **CT08-SBS0508**
Matrix: **Soil**
Workgroup Number: **WG227334**
Collect Date: **11/07/2006 14:30**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **11/10/2006 16:50**
Cal Date:
Run Date: **11/10/2006 16:50**
File ID: **OV.0611101650-08**

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	10-02-6	83.6		1.00	1.00

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-06**
Client ID: **CT08-SBS0508**
Matrix: **Soil**
Workgroup Number: **WG227768**
Collect Date: **11/07/2006 14:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3550B**
Analytical Method: **CT ETPH**
Analyst: **HAV**
Dilution: **1**
Units: **mg/kg**

Instrument: **HP14**
Prep Date: **11/14/2006 10:00**
Cal Date: **09/14/2006 17:02**
Run Date: **11/15/2006 14:00**
File ID: **14GR1889**

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36			U	9.95	4.98

U Not detected at or above adjusted sample detection limit

Sample Number: **L0611215-06**
Client ID: **CT08-SBS0508**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 14:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 18:36**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 18:36**
File ID: **9M50154**
Percent Solid: **83.6**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	12.6	6.28
Acrylonitrile	107-13-1		U	126	3.14
Benzene	71-43-2		U	6.28	0.628
Bromobenzene	108-86-1		U	6.28	0.628
Bromochloromethane	74-97-5		U	6.28	0.628
Bromodichloromethane	75-27-4		U	6.28	0.628
Bromoform	75-25-2		U	6.28	0.628
Bromomethane	74-83-9		U	12.6	1.26
2-Butanone	78-93-3		U	12.6	3.14
n-Butylbenzene	104-51-8		U	6.28	0.628
sec-Butylbenzene	135-98-8		U	6.28	0.628
tert-Butylbenzene	98-06-6		U	6.28	0.628
Carbon disulfide	75-15-0		U	6.28	0.628
Carbon tetrachloride	56-23-5		U	6.28	0.628
Chlorobenzene	108-90-7		U	6.28	0.628
Chloroethane	75-00-3		U	12.6	1.26
Chloroform	67-66-3		U	6.28	0.628
Chloromethane	74-87-3		U	12.6	2.51
2-Chlorotoluene	95-49-8		U	6.28	0.628
4-Chlorotoluene	106-43-4		U	6.28	0.628
1,2-Dichlorobenzene	95-50-1		U	6.28	0.628
1,3-Dichlorobenzene	541-73-1		U	6.28	0.628
1,4-Dichlorobenzene	106-46-7		U	6.28	0.628
cis-1,2-Dichloroethene	156-59-2		U	6.28	0.628
1,3-Dichloropropane	142-28-9		U	6.28	0.628
Dibromochloromethane	124-48-1		U	6.28	0.628
1,2-Dibromo-3-chloropropane	96-12-8		U	6.28	1.26
1,2-Dibromoethane	106-93-4		U	6.28	0.628
Trans-1,4-Dichloro-2-Butene	110-57-6		U	12.6	0.628
2,2-Dichloropropane	594-20-7		U	6.28	0.628
Dichlorodifluoromethane	75-71-8		U	12.6	1.26
1,1-Dichloroethane	75-34-3		U	6.28	1.26
1,2-Dichloroethane	107-06-2		U	6.28	0.628
1,1-Dichloroethene	75-35-4		U	6.28	0.628
trans-1,2-Dichloroethene	156-60-5		U	6.28	0.628

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-06**
Client ID: **CT08-SBS0508**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 14:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 18:36**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 18:36**
File ID: **9M50154**
Percent Solid: **83.6**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,1-Dichloropropene	563-58-6		U	6.28	0.628
1,2-Dichloropropane	78-87-5		U	6.28	0.628
cis-1,3-Dichloropropene	10061-01-5		U	6.28	0.628
trans-1,3-Dichloropropene	10061-02-6		U	6.28	0.628
Diethyl ether	60-29-7		U	12.6	6.28
Diisopropyl ether	108-20-3		U	12.6	6.28
1,4-Dioxane	123-91-1		U	126	62.8
Ethyl benzene	100-41-4		U	6.28	0.628
Ethyl-Tert-Butyl ether	637-92-3		U	12.6	6.28
Hexachlorobutadiene	87-68-3		U	6.28	0.628
2-Hexanone	591-78-6		U	12.6	3.14
Isopropylbenzene	98-82-8		U	6.28	0.628
4-Methyl-2-pentanone	108-10-1		U	12.6	3.14
Methylene chloride	75-09-2	1.90	J	6.28	1.26
Methyl tert butyl ether	1634-04-4		U	6.28	0.628
Naphthalene	91-20-3		U	12.6	0.628
n-Propylbenzene	103-65-1		U	6.28	0.628
p-Isopropyltoluene	99-87-6		U	6.28	0.628
Propionitrile	107-12-0		U	6.28	3.14
Styrene	100-42-5		U	6.28	0.628
Tert-Amyl-Methyl ether	994-05-8		U	12.6	6.28
Tert-Butyl Alcohol	75-65-0		U	126	62.8
1,1,1,2-Tetrachloroethane	630-20-6		U	6.28	0.628
1,1,2,2-Tetrachloroethane	79-34-5		U	6.28	0.628
Tetrachloroethene	127-18-4		U	6.28	0.628
Tetrahydrofuran	109-99-9		U	62.8	31.4
Toluene	108-88-3		U	6.28	0.628
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	12.6	2.51
1,2,3-Trichlorobenzene	87-61-6		U	6.28	0.628
1,2,4-Trichlorobenzene	120-82-1		U	6.28	0.628
1,1,1-Trichloroethane	71-55-6		U	6.28	0.628
1,1,2-Trichloroethane	79-00-5		U	6.28	0.628
Trichloroethene	79-01-6	10.2		6.28	0.628
Trichlorofluoromethane	75-69-4		U	12.6	1.26
1,2,3-Trichloropropane	96-18-4		U	6.28	0.804
1,2,4-Trimethylbenzene	95-63-6		U	6.28	0.628
1,3,5-Trimethylbenzene	108-67-8		U	6.28	0.628
Vinyl chloride	75-01-4		U	12.6	1.26
o-Xylene	95-47-6		U	6.28	0.628
m-,p-Xylene	136777-61-2		U	6.28	0.628

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	103	80	120	
1,2-Dichloroethane-d4	92.8	80	120	
Toluene-d8	114	81	117	
p-Bromofluorobenzene	104	74	121	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-07**
Client ID: **CT08-SBS0508**
Matrix: **Soil**
Workgroup Number: **WG227334**
Collect Date: **11/07/2006 14:30**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **11/10/2006 16:50**
Cal Date:
Run Date: **11/10/2006 16:50**
File ID: **OV.0611101650-09**

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	10-02-6	83.6		1.00	1.00

Sample Number: **L0611215-07**
Client ID: **CT08-SBS0508**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 14:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 19:08**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 19:08**
File ID: **9M50155**
Percent Solid: **83.6**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	68.8		13.6	6.78
Acrylonitrile	107-13-1	119	J	136	3.39
Benzene	71-43-2	30.3		6.78	0.678
Bromobenzene	108-86-1	30.6		6.78	0.678
Bromochloromethane	74-97-5	28.8		6.78	0.678
Bromodichloromethane	75-27-4	29.3		6.78	0.678
Bromoform	75-25-2	27.9		6.78	0.678
Bromomethane	74-83-9	23.0		13.6	1.36
2-Butanone	78-93-3	34.3		13.6	3.39
n-Butylbenzene	104-51-8	26.1		6.78	0.678
sec-Butylbenzene	135-98-8	28.2		6.78	0.678
tert-Butylbenzene	98-06-6	29.6		6.78	0.678
Carbon disulfide	75-15-0	24.1		6.78	0.678
Carbon tetrachloride	56-23-5	29.9		6.78	0.678
Chlorobenzene	108-90-7	28.8		6.78	0.678
Chloroethane	75-00-3	24.8		13.6	1.36
Chloroform	67-66-3	27.7		6.78	0.678
Chloromethane	74-87-3	22.0		13.6	2.71
2-Chlorotoluene	95-49-8	28.6		6.78	0.678
4-Chlorotoluene	106-43-4	28.1		6.78	0.678
1,2-Dichlorobenzene	95-50-1	28.0		6.78	0.678
1,3-Dichlorobenzene	541-73-1	27.9		6.78	0.678
1,4-Dichlorobenzene	106-46-7	26.8		6.78	0.678
cis-1,2-Dichloroethene	156-59-2	28.7		6.78	0.678
1,3-Dichloropropane	142-28-9	29.6		6.78	0.678
Dibromochloromethane	124-48-1	29.3		6.78	0.678
1,2-Dibromo-3-chloropropane	96-12-8	27.3		6.78	1.36
1,2-Dibromoethane	106-93-4	28.8		6.78	0.678
Trans-1,4-Dichloro-2-Butene	110-57-6		U	13.6	0.678
2,2-Dichloropropane	594-20-7	26.1		6.78	0.678
Dichlorodifluoromethane	75-71-8	19.0		13.6	1.36
1,1-Dichloroethane	75-34-3	27.4		6.78	1.36
1,2-Dichloroethane	107-06-2	26.3		6.78	0.678
1,1-Dichloroethene	75-35-4	26.3		6.78	0.678

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-07**
Client ID: **CT08-SBS0508**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 14:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 19:08**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 19:08**
File ID: **9M50155**
Percent Solid: **83.6**

Analyte	CAS. Number	Result	Qual	RL	MDL
trans-1,2-Dichloroethene	156-60-5	28.1		6.78	0.678
1,1-Dichloropropene	563-58-6	29.5		6.78	0.678
1,2-Dichloropropane	78-87-5	28.2		6.78	0.678
cis-1,3-Dichloropropene	10061-01-5	28.5		6.78	0.678
trans-1,3-Dichloropropene	10061-02-6	25.4		6.78	0.678
Diethyl ether	60-29-7	140		13.6	6.78
Diisopropyl ether	108-20-3	146		13.6	6.78
1,4-Dioxane	123-91-1	331		136	67.8
Ethyl benzene	100-41-4	31.2		6.78	0.678
Ethyl-Tert-Butyl ether	637-92-3	138		13.6	6.78
Hexachlorobutadiene	87-68-3	30.6		6.78	0.678
2-Hexanone	591-78-6	22.7		13.6	3.39
Isopropylbenzene	98-82-8	25.3		6.78	0.678
4-Methyl-2-pentanone	108-10-1	26.6		13.6	3.39
Methylene chloride	75-09-2	28.7		6.78	1.36
Methyl tert butyl ether	1634-04-4	29.8		6.78	0.678
Naphthalene	91-20-3	26.4		13.6	0.678
n-Propylbenzene	103-65-1	27.1		6.78	0.678
p-Isopropyltoluene	99-87-6	27.3		6.78	0.678
Propionitrile	107-12-0	140		6.78	3.39
Styrene	100-42-5	29.4		6.78	0.678
Tert-Amyl-Methyl ether	994-05-8	136		13.6	6.78
Tert-Butyl Alcohol	75-65-0	324		136	67.8
1,1,1,2-Tetrachloroethane	630-20-6	31.4		6.78	0.678
1,1,2,2-Tetrachloroethane	79-34-5	29.0		6.78	0.678
Tetrachloroethene	127-18-4	32.3		6.78	0.678
Tetrahydrofuran	109-99-9	147		67.8	33.9
Toluene	108-88-3	31.5		6.78	0.678
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	29.6		13.6	2.71
1,2,3-Trichlorobenzene	87-61-6	25.6		6.78	0.678
1,2,4-Trichlorobenzene	120-82-1	24.6		6.78	0.678
1,1,1-Trichloroethane	71-55-6	29.6		6.78	0.678
1,1,2-Trichloroethane	79-00-5	31.4		6.78	0.678
Trichloroethene	79-01-6	40.3		6.78	0.678
Trichlorofluoromethane	75-69-4	22.9		13.6	1.36
1,2,3-Trichloropropane	96-18-4	29.2		6.78	0.868
1,2,4-Trimethylbenzene	95-63-6	29.5		6.78	0.678
1,3,5-Trimethylbenzene	108-67-8	28.5		6.78	0.678
Vinyl chloride	75-01-4	23.0		13.6	1.36
o-Xylene	95-47-6	27.9		6.78	0.678
m-,p-Xylene	136777-61-2	62.7		6.78	0.678

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	105	80	120	
1,2-Dichloroethane-d4	94.2	80	120	
Toluene-d8	115	81	117	
p-Bromofluorobenzene	107	74	121	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above adjusted sample detection limit

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-07**
Client ID: **CT08-SBS0508**
Matrix: **Soil**
Workgroup Number: **WG227768**
Collect Date: **11/07/2006 14:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3550B**
Analytical Method: **CT ETPH**
Analyst: **HAV**
Dilution: **1**
Units: **mg/kg**

Instrument: **HP14**
Prep Date: **11/14/2006 10:00**
Cal Date: **09/14/2006 17:02**
Run Date: **11/15/2006 14:34**
File ID: **14GR1890**

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		91.8		9.95	4.98

Sample Number: **L0611215-08**
Client ID: **CT08-SBS0508**
Matrix: **Soil**
Workgroup Number: **WG227768**
Collect Date: **11/07/2006 14:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3550B**
Analytical Method: **CT ETPH**
Analyst: **HAV**
Dilution: **1**
Units: **mg/kg**

Instrument: **HP14**
Prep Date: **11/14/2006 10:00**
Cal Date: **09/14/2006 17:02**
Run Date: **11/15/2006 15:42**
File ID: **14GR1892**

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		90.3		9.95	4.98

Sample Number: **L0611215-08**
Client ID: **CT08-SBS0508**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 14:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 19:41**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 19:41**
File ID: **9M50156**
Percent Solid: **83.6**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	32.1		14.9	7.46
Acrylonitrile	107-13-1	123	J	149	3.73
Benzene	71-43-2	31.9		7.46	0.746
Bromobenzene	108-86-1	32.2		7.46	0.746
Bromochloromethane	74-97-5	30.3		7.46	0.746
Bromodichloromethane	75-27-4	31.0		7.46	0.746
Bromoform	75-25-2	29.4		7.46	0.746
Bromomethane	74-83-9	25.1		14.9	1.49
2-Butanone	78-93-3	35.2		14.9	3.73
n-Butylbenzene	104-51-8	26.1		7.46	0.746
sec-Butylbenzene	135-98-8	28.6		7.46	0.746
tert-Butylbenzene	98-06-6	31.3		7.46	0.746
Carbon disulfide	75-15-0	26.5		7.46	0.746
Carbon tetrachloride	56-23-5	32.1		7.46	0.746
Chlorobenzene	108-90-7	30.5		7.46	0.746
Chloroethane	75-00-3	26.6		14.9	1.49
Chloroform	67-66-3	29.4		7.46	0.746
Chloromethane	74-87-3	23.9		14.9	2.98
2-Chlorotoluene	95-49-8	30.1		7.46	0.746
4-Chlorotoluene	106-43-4	28.0		7.46	0.746
1,2-Dichlorobenzene	95-50-1	29.4		7.46	0.746
1,3-Dichlorobenzene	541-73-1	28.8		7.46	0.746

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-08**
Client ID: **CT08-SBS0508**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 14:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 19:41**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 19:41**
File ID: **9M50156**
Percent Solid: **83.6**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,4-Dichlorobenzene	106-46-7	27.4		7.46	0.746
cis-1,2-Dichloroethene	156-59-2	30.7		7.46	0.746
1,3-Dichloropropane	142-28-9	31.3		7.46	0.746
Dibromochloromethane	124-48-1	31.3		7.46	0.746
1,2-Dibromo-3-chloropropane	96-12-8	25.6		7.46	1.49
1,2-Dibromoethane	106-93-4	30.7		7.46	0.746
Trans-1,4-Dichloro-2-Butene	110-57-6		U	14.9	0.746
2,2-Dichloropropane	594-20-7	28.3		7.46	0.746
Dichlorodifluoromethane	75-71-8	21.0		14.9	1.49
1,1-Dichloroethane	75-34-3	29.4		7.46	1.49
1,2-Dichloroethane	107-06-2	27.6		7.46	0.746
1,1-Dichloroethene	75-35-4	28.4		7.46	0.746
trans-1,2-Dichloroethene	156-60-5	30.3		7.46	0.746
1,1-Dichloropropene	563-58-6	31.1		7.46	0.746
1,2-Dichloropropane	78-87-5	30.2		7.46	0.746
cis-1,3-Dichloropropene	10061-01-5	30.1		7.46	0.746
trans-1,3-Dichloropropene	10061-02-6	27.2		7.46	0.746
Diethyl ether	60-29-7	149		14.9	7.46
Diisopropyl ether	108-20-3	158		14.9	7.46
1,4-Dioxane	123-91-1	226		149	74.6
Ethyl benzene	100-41-4	33.0		7.46	0.746
Ethyl-Tert-Butyl ether	637-92-3	147		14.9	7.46
Hexachlorobutadiene	87-68-3	30.7		7.46	0.746
2-Hexanone	591-78-6	23.7		14.9	3.73
Isopropylbenzene	98-82-8	26.6		7.46	0.746
4-Methyl-2-pentanone	108-10-1	28.2		14.9	3.73
Methylene chloride	75-09-2	28.0		7.46	1.49
Methyl tert butyl ether	1634-04-4	31.3		7.46	0.746
Naphthalene	91-20-3	28.0		14.9	0.746
n-Propylbenzene	103-65-1	27.7		7.46	0.746
p-Isopropyltoluene	99-87-6	27.3		7.46	0.746
Propionitrile	107-12-0	147		7.46	3.73
Styrene	100-42-5	30.5		7.46	0.746
Tert-Amyl-Methyl ether	994-05-8	146		14.9	7.46
Tert-Butyl Alcohol	75-65-0	341		149	74.6
1,1,1,2-Tetrachloroethane	630-20-6	33.5		7.46	0.746
1,1,2,2-Tetrachloroethane	79-34-5	30.1		7.46	0.746
Tetrachloroethene	127-18-4	34.4		7.46	0.746
Tetrahydrofuran	109-99-9	150		74.6	37.3
Toluene	108-88-3	33.4		7.46	0.746
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	22.1		14.9	2.98
1,2,3-Trichlorobenzene	87-61-6	26.5		7.46	0.746
1,2,4-Trichlorobenzene	120-82-1	26.0		7.46	0.746
1,1,1-Trichloroethane	71-55-6	31.9		7.46	0.746
1,1,2-Trichloroethane	79-00-5	32.5		7.46	0.746
Trichloroethene	79-01-6	43.0		7.46	0.746
Trichlorofluoromethane	75-69-4	24.6		14.9	1.49
1,2,3-Trichloropropane	96-18-4	30.0		7.46	0.954

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-08**
Client ID: **CT08-SBS0508**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 14:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 19:41**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 19:41**
File ID: **9M50156**
Percent Solid: **83.6**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,2,4-Trimethylbenzene	95-63-6	30.4		7.46	0.746
1,3,5-Trimethylbenzene	108-67-8	29.2		7.46	0.746
Vinyl chloride	75-01-4	24.5		14.9	1.49
o-Xylene	95-47-6	29.2		7.46	0.746
m-,p-Xylene	136777-61-2	66.0		7.46	0.746

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	102	80	120	
1,2-Dichloroethane-d4	91.3	80	120	
Toluene-d8	113	81	117	
p-Bromofluorobenzene	106	74	121	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above adjusted sample detection limit

Sample Number: **L0611215-08**
Client ID: **CT08-SBS0508**
Matrix: **Soil**
Workgroup Number: **WG227334**
Collect Date: **11/07/2006 14:30**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **11/10/2006 16:50**
Cal Date:
Run Date: **11/10/2006 16:50**
File ID: **OV.0611101650-10**

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	10-02-6	83.6		1.00	1.00

Sample Number: **L0611215-09**
Client ID: **CT08-SBS0603**
Matrix: **Soil**
Workgroup Number: **WG227334**
Collect Date: **11/07/2006 15:45**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **11/10/2006 16:50**
Cal Date:
Run Date: **11/10/2006 16:50**
File ID: **OV.0611101650-11**

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	10-02-6	87.9		1.00	1.00

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-09**
Client ID: **CT08-SBS0603**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 15:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 20:12**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 20:12**
File ID: **9M50157**
Percent Solid: **87.9**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	12.6		10.8	5.40
Acrylonitrile	107-13-1		U	108	2.70
Benzene	71-43-2		U	5.40	0.540
Bromobenzene	108-86-1		U	5.40	0.540
Bromochloromethane	74-97-5		U	5.40	0.540
Bromodichloromethane	75-27-4		U	5.40	0.540
Bromoform	75-25-2		U	5.40	0.540
Bromomethane	74-83-9		U	10.8	1.08
2-Butanone	78-93-3		U	10.8	2.70
n-Butylbenzene	104-51-8		U	5.40	0.540
sec-Butylbenzene	135-98-8		U	5.40	0.540
tert-Butylbenzene	98-06-6		U	5.40	0.540
Carbon disulfide	75-15-0		U	5.40	0.540
Carbon tetrachloride	56-23-5		U	5.40	0.540
Chlorobenzene	108-90-7		U	5.40	0.540
Chloroethane	75-00-3		U	10.8	1.08
Chloroform	67-66-3		U	5.40	0.540
Chloromethane	74-87-3		U	10.8	2.16
2-Chlorotoluene	95-49-8		U	5.40	0.540
4-Chlorotoluene	106-43-4		U	5.40	0.540
1,2-Dichlorobenzene	95-50-1		U	5.40	0.540
1,3-Dichlorobenzene	541-73-1		U	5.40	0.540
1,4-Dichlorobenzene	106-46-7		U	5.40	0.540
cis-1,2-Dichloroethene	156-59-2		U	5.40	0.540
1,3-Dichloropropane	142-28-9		U	5.40	0.540
Dibromochloromethane	124-48-1		U	5.40	0.540
1,2-Dibromo-3-chloropropane	96-12-8		U	5.40	1.08
1,2-Dibromoethane	106-93-4		U	5.40	0.540
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.8	0.540
2,2-Dichloropropane	594-20-7		U	5.40	0.540
Dichlorodifluoromethane	75-71-8		U	10.8	1.08
1,1-Dichloroethane	75-34-3		U	5.40	1.08
1,2-Dichloroethane	107-06-2		U	5.40	0.540
1,1-Dichloroethene	75-35-4		U	5.40	0.540
trans-1,2-Dichloroethene	156-60-5		U	5.40	0.540
1,1-Dichloropropene	563-58-6		U	5.40	0.540
1,2-Dichloropropane	78-87-5		U	5.40	0.540
cis-1,3-Dichloropropene	10061-01-5		U	5.40	0.540
trans-1,3-Dichloropropene	10061-02-6		U	5.40	0.540
Diethyl ether	60-29-7		U	10.8	5.40
Diisopropyl ether	108-20-3		U	10.8	5.40
1,4-Dioxane	123-91-1		U	108	54.0
Ethyl benzene	100-41-4		U	5.40	0.540
Ethyl-Tert-Butyl ether	637-92-3		U	10.8	5.40
Hexachlorobutadiene	87-68-3		U	5.40	0.540
2-Hexanone	591-78-6		U	10.8	2.70
Isopropylbenzene	98-82-8		U	5.40	0.540
4-Methyl-2-pentanone	108-10-1		U	10.8	2.70

Sample Number: L0611215-09
Client ID: CT08-SBS0603
Matrix: Soil
Workgroup Number: WG227272
Collect Date: 11/07/2006 15:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/kg

Instrument: HPMS9
Prep Date: 11/10/2006 20:12
Cal Date: 10/27/2006 19:05
Run Date: 11/10/2006 20:12
File ID: 9M50157
Percent Solid: 87.9

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2		U	5.40	1.08
Methyl tert butyl ether	1634-04-4		U	5.40	0.540
Naphthalene	91-20-3		U	10.8	0.540
n-Propylbenzene	103-65-1		U	5.40	0.540
p-Isopropyltoluene	99-87-6		U	5.40	0.540
Propionitrile	107-12-0		U	5.40	2.70
Styrene	100-42-5		U	5.40	0.540
Tert-Amyl-Methyl ether	994-05-8		U	10.8	5.40
Tert-Butyl Alcohol	75-65-0		U	108	54.0
1,1,1,2-Tetrachloroethane	630-20-6		U	5.40	0.540
1,1,2,2-Tetrachloroethane	79-34-5		U	5.40	0.540
Tetrachloroethene	127-18-4		U	5.40	0.540
Tetrahydrofuran	109-99-9		U	54.0	27.0
Toluene	108-88-3		U	5.40	0.540
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	10.8	2.16
1,2,3-Trichlorobenzene	87-61-6		U	5.40	0.540
1,2,4-Trichlorobenzene	120-82-1		U	5.40	0.540
1,1,1-Trichloroethane	71-55-6		U	5.40	0.540
1,1,2-Trichloroethane	79-00-5		U	5.40	0.540
Trichloroethene	79-01-6		U	5.40	0.540
Trichlorofluoromethane	75-69-4		U	10.8	1.08
1,2,3-Trichloropropane	96-18-4		U	5.40	0.691
1,2,4-Trimethylbenzene	95-63-6		U	5.40	0.540
1,3,5-Trimethylbenzene	108-67-8		U	5.40	0.540
Vinyl chloride	75-01-4		U	10.8	1.08
o-Xylene	95-47-6		U	5.40	0.540
m-,p-Xylene	136777-61-2		U	5.40	0.540

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	104	80	120	
1,2-Dichloroethane-d4	94.4	80	120	
Toluene-d8	114	81	117	
p-Bromofluorobenzene	108	74	121	

U Not detected at or above adjusted sample detection limit

Sample Number: L0611215-09
Client ID: CT08-SBS0603
Matrix: Soil
Workgroup Number: WG227768
Collect Date: 11/07/2006 15:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3550B
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: mg/kg

Instrument: HP14
Prep Date: 11/14/2006 10:00
Cal Date: 09/14/2006 17:02
Run Date: 11/15/2006 16:16
File ID: 14GR1893

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36			U	9.94	4.97

U Not detected at or above adjusted sample detection limit

Sample Number: L0611215-10
Client ID: CT08-SBS0707
Matrix: Soil
Workgroup Number: WG227768
Collect Date: 11/07/2006 16:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3550B
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: mg/kg

Instrument: HP14
Prep Date: 11/14/2006 10:00
Cal Date: 09/14/2006 17:02
Run Date: 11/15/2006 16:50
File ID: 14GR1894

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36			U	9.66	4.83

U Not detected at or above adjusted sample detection limit

Sample Number: L0611215-10
Client ID: CT08-SBS0707
Matrix: Soil
Workgroup Number: WG227272
Collect Date: 11/07/2006 16:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/kg

Instrument: HPMS9
Prep Date: 11/10/2006 20:45
Cal Date: 10/27/2006 19:05
Run Date: 11/10/2006 20:45
File ID: 9M50158
Percent Solid: 78.9

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	11.7	5.87
Acrylonitrile	107-13-1		U	117	2.93
Benzene	71-43-2		U	5.87	0.587
Bromobenzene	108-86-1		U	5.87	0.587
Bromochloromethane	74-97-5		U	5.87	0.587
Bromodichloromethane	75-27-4		U	5.87	0.587
Bromoform	75-25-2		U	5.87	0.587
Bromomethane	74-83-9		U	11.7	1.17
2-Butanone	78-93-3		U	11.7	2.93
n-Butylbenzene	104-51-8		U	5.87	0.587
sec-Butylbenzene	135-98-8		U	5.87	0.587
tert-Butylbenzene	98-06-6		U	5.87	0.587
Carbon disulfide	75-15-0		U	5.87	0.587
Carbon tetrachloride	56-23-5		U	5.87	0.587
Chlorobenzene	108-90-7		U	5.87	0.587
Chloroethane	75-00-3		U	11.7	1.17
Chloroform	67-66-3		U	5.87	0.587
Chloromethane	74-87-3		U	11.7	2.35
2-Chlorotoluene	95-49-8		U	5.87	0.587
4-Chlorotoluene	106-43-4		U	5.87	0.587
1,2-Dichlorobenzene	95-50-1		U	5.87	0.587
1,3-Dichlorobenzene	541-73-1		U	5.87	0.587
1,4-Dichlorobenzene	106-46-7		U	5.87	0.587
cis-1,2-Dichloroethene	156-59-2		U	5.87	0.587
1,3-Dichloropropane	142-28-9		U	5.87	0.587
Dibromochloromethane	124-48-1		U	5.87	0.587
1,2-Dibromo-3-chloropropane	96-12-8		U	5.87	1.17
1,2-Dibromoethane	106-93-4		U	5.87	0.587
Trans-1,4-Dichloro-2-Butene	110-57-6		U	11.7	0.587
2,2-Dichloropropane	594-20-7		U	5.87	0.587
Dichlorodifluoromethane	75-71-8		U	11.7	1.17
1,1-Dichloroethane	75-34-3		U	5.87	1.17
1,2-Dichloroethane	107-06-2		U	5.87	0.587
1,1-Dichloroethene	75-35-4		U	5.87	0.587
trans-1,2-Dichloroethene	156-60-5		U	5.87	0.587

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-10**
Client ID: **CT08-SBS0707**
Matrix: **Soil**
Workgroup Number: **WG227272**
Collect Date: **11/07/2006 16:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/10/2006 20:45**
Cal Date: **10/27/2006 19:05**
Run Date: **11/10/2006 20:45**
File ID: **9M50158**
Percent Solid: **78.9**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,1-Dichloropropene	563-58-6		U	5.87	0.587
1,2-Dichloropropane	78-87-5		U	5.87	0.587
cis-1,3-Dichloropropene	10061-01-5		U	5.87	0.587
trans-1,3-Dichloropropene	10061-02-6		U	5.87	0.587
Diethyl ether	60-29-7		U	11.7	5.87
Diisopropyl ether	108-20-3		U	11.7	5.87
1,4-Dioxane	123-91-1		U	117	58.7
Ethyl benzene	100-41-4		U	5.87	0.587
Ethyl-Tert-Butyl ether	637-92-3		U	11.7	5.87
Hexachlorobutadiene	87-68-3		U	5.87	0.587
2-Hexanone	591-78-6		U	11.7	2.93
Isopropylbenzene	98-82-8		U	5.87	0.587
4-Methyl-2-pentanone	108-10-1		U	11.7	2.93
Methylene chloride	75-09-2		U	5.87	1.17
Methyl tert butyl ether	1634-04-4		U	5.87	0.587
Naphthalene	91-20-3		U	11.7	0.587
n-Propylbenzene	103-65-1		U	5.87	0.587
p-Isopropyltoluene	99-87-6		U	5.87	0.587
Propionitrile	107-12-0		U	5.87	2.93
Styrene	100-42-5		U	5.87	0.587
Tert-Amyl-Methyl ether	994-05-8		U	11.7	5.87
Tert-Butyl Alcohol	75-65-0		U	117	58.7
1,1,1,2-Tetrachloroethane	630-20-6		U	5.87	0.587
1,1,2,2-Tetrachloroethane	79-34-5		U	5.87	0.587
Tetrachloroethene	127-18-4		U	5.87	0.587
Tetrahydrofuran	109-99-9		U	58.7	29.3
Toluene	108-88-3		U	5.87	0.587
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	11.7	2.35
1,2,3-Trichlorobenzene	87-61-6		U	5.87	0.587
1,2,4-Trichlorobenzene	120-82-1		U	5.87	0.587
1,1,1-Trichloroethane	71-55-6		U	5.87	0.587
1,1,2-Trichloroethane	79-00-5		U	5.87	0.587
Trichloroethene	79-01-6	3.32	J	5.87	0.587
Trichlorofluoromethane	75-69-4		U	11.7	1.17
1,2,3-Trichloropropane	96-18-4		U	5.87	0.751
1,2,4-Trimethylbenzene	95-63-6		U	5.87	0.587
1,3,5-Trimethylbenzene	108-67-8		U	5.87	0.587
Vinyl chloride	75-01-4		U	11.7	1.17
o-Xylene	95-47-6		U	5.87	0.587
m-,p-Xylene	136777-61-2		U	5.87	0.587

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	104	80	120	
1,2-Dichloroethane-d4	93.9	80	120	
Toluene-d8	114	81	117	
p-Bromofluorobenzene	106	74	121	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611215**
Report Date : **December 1, 2006**

Sample Number: **L0611215-10**
Client ID: **CT08-SBS0707**
Matrix: **Soil**
Workgroup Number: **WG227334**
Collect Date: **11/07/2006 16:30**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **11/10/2006 16:50**
Cal Date:
Run Date: **11/10/2006 16:50**
File ID: **OV.0611101650-12**

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	**10-02-6**	**78.9**		**1.00**	**1.00**

LABORATORY REPORT

L0611277

12/01/06 16:45

Submitted By

KEMRON Environmental Services
156 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: MACTEC Engineering & Consulting
1080 Elm Street
Suite 202
Rocky Hill, CT 06067
Attention: Mike Spangberg

Account Number: 2756
Work ID: USARC-MIDDLETOWN

P.O. Number: MEC51050340

Sample Summary

Client ID	Lab ID	Date Collected	Date Received
TRIP BLANK	L0611277-01	09-NOV-06	10-NOV-06
CT08-SBS0807	L0611277-02	09-NOV-06	10-NOV-06
CT08-SBS0905	L0611277-03	09-NOV-06	10-NOV-06
CT08-SBS1008	L0611277-04	09-NOV-06	10-NOV-06

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611277**
Report Date : **December 1, 2006**

Sample Number: **L0611277-01**
Client ID: **TRIP BLANK**
Matrix: **Water**
Workgroup Number: **WG227712**
Collect Date: **11/09/2006 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **11/16/2006 12:23**
Cal Date: **10/30/2006 17:15**
Run Date: **11/16/2006 12:23**
File ID: **6M61957**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.167	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50

Sample Number: L0611277-01
Client ID: TRIP BLANK
Matrix: Water
Workgroup Number: WG227712
Collect Date: 11/09/2006 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 11/16/2006 12:23
Cal Date: 10/30/2006 17:15
Run Date: 11/16/2006 12:23
File ID: 6M61957

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2	2.44	J	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	109	86	118	
1,2-Dichloroethane-d4	105	80	120	
Toluene-d8	98.2	88	110	
p-Bromofluorobenzene	89.5	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611277-02
Client ID: CT08-SBS0807
Matrix: Soil
Workgroup Number: WG227561
Collect Date: 11/09/2006 08:50

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: FJB
Dilution: 1
Units: weight %

Instrument: OVEN
Prep Date: 11/14/2006 13:45
Cal Date:
Run Date: 11/14/2006 13:45
File ID: OV.0611141345-02

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	10-02-6	85.6		1.00	1.00

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611277**
Report Date : **December 1, 2006**

Sample Number: **L0611277-02**
Client ID: **CT08-SBS0807**
Matrix: **Soil**
Workgroup Number: **WG227509**
Collect Date: **11/09/2006 08:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/14/2006 16:25**
Cal Date: **10/27/2006 19:05**
Run Date: **11/14/2006 16:25**
File ID: **9M50237**
Percent Solid: **85.6**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.7	5.37
Acrylonitrile	107-13-1		U	107	2.68
Benzene	71-43-2		U	5.37	0.537
Bromobenzene	108-86-1		U	5.37	0.537
Bromochloromethane	74-97-5		U	5.37	0.537
Bromodichloromethane	75-27-4		U	5.37	0.537
Bromoform	75-25-2		U	5.37	0.537
Bromomethane	74-83-9		U	10.7	1.07
2-Butanone	78-93-3		U	10.7	2.68
n-Butylbenzene	104-51-8		U	5.37	0.537
sec-Butylbenzene	135-98-8		U	5.37	0.537
tert-Butylbenzene	98-06-6		U	5.37	0.537
Carbon disulfide	75-15-0		U	5.37	0.537
Carbon tetrachloride	56-23-5		U	5.37	0.537
Chlorobenzene	108-90-7		U	5.37	0.537
Chloroethane	75-00-3		U	10.7	1.07
Chloroform	67-66-3		U	5.37	0.537
Chloromethane	74-87-3		U	10.7	2.15
2-Chlorotoluene	95-49-8		U	5.37	0.537
4-Chlorotoluene	106-43-4		U	5.37	0.537
1,2-Dichlorobenzene	95-50-1		U	5.37	0.537
1,3-Dichlorobenzene	541-73-1		U	5.37	0.537
1,4-Dichlorobenzene	106-46-7		U	5.37	0.537
cis-1,2-Dichloroethene	156-59-2		U	5.37	0.537
1,3-Dichloropropane	142-28-9		U	5.37	0.537
Dibromochloromethane	124-48-1		U	5.37	0.537
1,2-Dibromo-3-chloropropane	96-12-8		U	5.37	1.07
1,2-Dibromoethane	106-93-4		U	5.37	0.537
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.7	0.537
2,2-Dichloropropane	594-20-7		U	5.37	0.537
Dichlorodifluoromethane	75-71-8		U	10.7	1.07
1,1-Dichloroethane	75-34-3		U	5.37	1.07
1,2-Dichloroethane	107-06-2		U	5.37	0.537
1,1-Dichloroethene	75-35-4		U	5.37	0.537
trans-1,2-Dichloroethene	156-60-5		U	5.37	0.537
1,1-Dichloropropene	563-58-6		U	5.37	0.537
1,2-Dichloropropane	78-87-5		U	5.37	0.537
cis-1,3-Dichloropropene	10061-01-5		U	5.37	0.537
trans-1,3-Dichloropropene	10061-02-6		U	5.37	0.537
Diethyl ether	60-29-7		U	10.7	5.37
Diisopropyl ether	108-20-3		U	10.7	5.37
1,4-Dioxane	123-91-1		U	107	53.7
Ethyl benzene	100-41-4		U	5.37	0.537
Ethyl-Tert-Butyl ether	637-92-3		U	10.7	5.37
Hexachlorobutadiene	87-68-3		U	5.37	0.537
2-Hexanone	591-78-6		U	10.7	2.68
Isopropylbenzene	98-82-8		U	5.37	0.537
4-Methyl-2-pentanone	108-10-1		U	10.7	2.68

Sample Number: L0611277-02
Client ID: CT08-SBS0807
Matrix: Soil
Workgroup Number: WG227509
Collect Date: 11/09/2006 08:50
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/kg

Instrument: HPMS9
Prep Date: 11/14/2006 16:25
Cal Date: 10/27/2006 19:05
Run Date: 11/14/2006 16:25
File ID: 9M50237
Percent Solid: 85.6

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2		U	5.37	1.07
Methyl tert butyl ether	1634-04-4		U	5.37	0.537
Naphthalene	91-20-3		U	10.7	0.537
n-Propylbenzene	103-65-1		U	5.37	0.537
p-Isopropyltoluene	99-87-6		U	5.37	0.537
Propionitrile	107-12-0		U	5.37	2.68
Styrene	100-42-5		U	5.37	0.537
Tert-Amyl-Methyl ether	994-05-8		U	10.7	5.37
Tert-Butyl Alcohol	75-65-0		U	107	53.7
1,1,1,2-Tetrachloroethane	630-20-6		U	5.37	0.537
1,1,2,2-Tetrachloroethane	79-34-5		U	5.37	0.537
Tetrachloroethene	127-18-4		U	5.37	0.537
Tetrahydrofuran	109-99-9		U	53.7	26.8
Toluene	108-88-3		U	5.37	0.537
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	10.7	2.15
1,2,3-Trichlorobenzene	87-61-6		U	5.37	0.537
1,2,4-Trichlorobenzene	120-82-1		U	5.37	0.537
1,1,1-Trichloroethane	71-55-6		U	5.37	0.537
1,1,2-Trichloroethane	79-00-5		U	5.37	0.537
Trichloroethene	79-01-6		U	5.37	0.537
Trichlorofluoromethane	75-69-4		U	10.7	1.07
1,2,3-Trichloropropane	96-18-4		U	5.37	0.687
1,2,4-Trimethylbenzene	95-63-6		U	5.37	0.537
1,3,5-Trimethylbenzene	108-67-8		U	5.37	0.537
Vinyl chloride	75-01-4		U	10.7	1.07
o-Xylene	95-47-6		U	5.37	0.537
m-,p-Xylene	136777-61-2		U	5.37	0.537

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	109	80	120	
1,2-Dichloroethane-d4	115	80	120	
Toluene-d8	107	81	117	
p-Bromofluorobenzene	103	74	121	

U Not detected at or above adjusted sample detection limit

Sample Number: L0611277-02
Client ID: CT08-SBS0807
Matrix: Soil
Workgroup Number: WG227768
Collect Date: 11/09/2006 08:50
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3550B
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: mg/kg

Instrument: HP14
Prep Date: 11/14/2006 10:00
Cal Date: 09/14/2006 17:02
Run Date: 11/15/2006 17:24
File ID: 14GR1895

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36			U	9.97	4.99

U Not detected at or above adjusted sample detection limit

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611277**
Report Date : **December 1, 2006**

Sample Number: **L0611277-03**
Client ID: **CT08-SBS0905**
Matrix: **Soil**
Workgroup Number: **WG227509**
Collect Date: **11/09/2006 09:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/14/2006 16:57**
Cal Date: **10/27/2006 19:05**
Run Date: **11/14/2006 16:57**
File ID: **9M50238**
Percent Solid: **88.1**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	11.3	5.67
Acrylonitrile	107-13-1		U	113	2.84
Benzene	71-43-2		U	5.67	0.567
Bromobenzene	108-86-1		U	5.67	0.567
Bromochloromethane	74-97-5		U	5.67	0.567
Bromodichloromethane	75-27-4		U	5.67	0.567
Bromoform	75-25-2		U	5.67	0.567
Bromomethane	74-83-9		U	11.3	1.13
2-Butanone	78-93-3		U	11.3	2.84
n-Butylbenzene	104-51-8		U	5.67	0.567
sec-Butylbenzene	135-98-8		U	5.67	0.567
tert-Butylbenzene	98-06-6		U	5.67	0.567
Carbon disulfide	75-15-0		U	5.67	0.567
Carbon tetrachloride	56-23-5		U	5.67	0.567
Chlorobenzene	108-90-7		U	5.67	0.567
Chloroethane	75-00-3		U	11.3	1.13
Chloroform	67-66-3		U	5.67	0.567
Chloromethane	74-87-3		U	11.3	2.27
2-Chlorotoluene	95-49-8		U	5.67	0.567
4-Chlorotoluene	106-43-4		U	5.67	0.567
1,2-Dichlorobenzene	95-50-1		U	5.67	0.567
1,3-Dichlorobenzene	541-73-1		U	5.67	0.567
1,4-Dichlorobenzene	106-46-7		U	5.67	0.567
cis-1,2-Dichloroethene	156-59-2		U	5.67	0.567
1,3-Dichloropropane	142-28-9		U	5.67	0.567
Dibromochloromethane	124-48-1		U	5.67	0.567
1,2-Dibromo-3-chloropropane	96-12-8		U	5.67	1.13
1,2-Dibromoethane	106-93-4		U	5.67	0.567
Trans-1,4-Dichloro-2-Butene	110-57-6		U	11.3	0.567
2,2-Dichloropropane	594-20-7		U	5.67	0.567
Dichlorodifluoromethane	75-71-8		U	11.3	1.13
1,1-Dichloroethane	75-34-3		U	5.67	1.13
1,2-Dichloroethane	107-06-2		U	5.67	0.567
1,1-Dichloroethene	75-35-4		U	5.67	0.567
trans-1,2-Dichloroethene	156-60-5		U	5.67	0.567
1,1-Dichloropropene	563-58-6		U	5.67	0.567
1,2-Dichloropropane	78-87-5		U	5.67	0.567
cis-1,3-Dichloropropene	10061-01-5		U	5.67	0.567
trans-1,3-Dichloropropene	10061-02-6		U	5.67	0.567
Diethyl ether	60-29-7		U	11.3	5.67
Diisopropyl ether	108-20-3		U	11.3	5.67
1,4-Dioxane	123-91-1		U	113	56.7
Ethyl benzene	100-41-4		U	5.67	0.567
Ethyl-Tert-Butyl ether	637-92-3		U	11.3	5.67
Hexachlorobutadiene	87-68-3		U	5.67	0.567
2-Hexanone	591-78-6		U	11.3	2.84
Isopropylbenzene	98-82-8		U	5.67	0.567
4-Methyl-2-pentanone	108-10-1		U	11.3	2.84

Sample Number: L0611277-03
Client ID: CT08-SBS0905
Matrix: Soil
Workgroup Number: WG227509
Collect Date: 11/09/2006 09:50
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/kg

Instrument: HPMS9
Prep Date: 11/14/2006 16:57
Cal Date: 10/27/2006 19:05
Run Date: 11/14/2006 16:57
File ID: 9M50238
Percent Solid: 88.1

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2		U	5.67	1.13
Methyl tert butyl ether	1634-04-4		U	5.67	0.567
Naphthalene	91-20-3		U	11.3	0.567
n-Propylbenzene	103-65-1		U	5.67	0.567
p-Isopropyltoluene	99-87-6		U	5.67	0.567
Propionitrile	107-12-0		U	5.67	2.84
Styrene	100-42-5		U	5.67	0.567
Tert-Amyl-Methyl ether	994-05-8		U	11.3	5.67
Tert-Butyl Alcohol	75-65-0		U	113	56.7
1,1,1,2-Tetrachloroethane	630-20-6		U	5.67	0.567
1,1,2,2-Tetrachloroethane	79-34-5		U	5.67	0.567
Tetrachloroethene	127-18-4		U	5.67	0.567
Tetrahydrofuran	109-99-9		U	56.7	28.4
Toluene	108-88-3		U	5.67	0.567
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	11.3	2.27
1,2,3-Trichlorobenzene	87-61-6		U	5.67	0.567
1,2,4-Trichlorobenzene	120-82-1		U	5.67	0.567
1,1,1-Trichloroethane	71-55-6		U	5.67	0.567
1,1,2-Trichloroethane	79-00-5		U	5.67	0.567
Trichloroethene	79-01-6		U	5.67	0.567
Trichlorofluoromethane	75-69-4		U	11.3	1.13
1,2,3-Trichloropropane	96-18-4		U	5.67	0.726
1,2,4-Trimethylbenzene	95-63-6		U	5.67	0.567
1,3,5-Trimethylbenzene	108-67-8		U	5.67	0.567
Vinyl chloride	75-01-4		U	11.3	1.13
o-Xylene	95-47-6		U	5.67	0.567
m-,p-Xylene	136777-61-2		U	5.67	0.567

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	109	80	120	
1,2-Dichloroethane-d4	109	80	120	
Toluene-d8	111	81	117	
p-Bromofluorobenzene	109	74	121	

U Not detected at or above adjusted sample detection limit

Sample Number: L0611277-03
Client ID: CT08-SBS0905
Matrix: Soil
Workgroup Number: WG227768
Collect Date: 11/09/2006 09:50
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3550B
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: mg/kg

Instrument: HP14
Prep Date: 11/14/2006 10:00
Cal Date: 09/14/2006 17:02
Run Date: 11/15/2006 17:59
File ID: 14GR1896

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		5.40	J	9.89	4.94

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611277-03
Client ID: CT08-SBS0905
Matrix: Soil
Workgroup Number: WG227561
Collect Date: 11/09/2006 09:50

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: FJB
Dilution: 1
Units: weight %

Instrument: OVEN
Prep Date: 11/14/2006 13:45
Cal Date:
Run Date: 11/14/2006 13:45
File ID: OV.0611141345-03

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	10-02-6	88.1		1.00	1.00

Sample Number: L0611277-04
Client ID: CT08-SBS1008
Matrix: Soil
Workgroup Number: WG227768
Collect Date: 11/09/2006 10:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3550B
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: mg/kg

Instrument: HP14
Prep Date: 11/14/2006 10:00
Cal Date: 09/14/2006 17:02
Run Date: 11/15/2006 18:32
File ID: 14GR1897

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		7.41	J	9.77	4.88

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611277-04
Client ID: CT08-SBS1008
Matrix: Soil
Workgroup Number: WG227561
Collect Date: 11/09/2006 10:30

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: FJB
Dilution: 1
Units: weight %

Instrument: OVEN
Prep Date: 11/14/2006 13:45
Cal Date:
Run Date: 11/14/2006 13:45
File ID: OV.0611141345-04

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	10-02-6	90.4		1.00	1.00

Sample Number: L0611277-04
Client ID: CT08-SBS1008
Matrix: Soil
Workgroup Number: WG227509
Collect Date: 11/09/2006 10:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/kg

Instrument: HPMS9
Prep Date: 11/14/2006 17:28
Cal Date: 10/27/2006 19:05
Run Date: 11/14/2006 17:28
File ID: 9M50239
Percent Solid: 90.4

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	11.9	5.95
Acrylonitrile	107-13-1		U	119	2.97
Benzene	71-43-2		U	5.95	0.595
Bromobenzene	108-86-1		U	5.95	0.595
Bromochloromethane	74-97-5		U	5.95	0.595
Bromodichloromethane	75-27-4		U	5.95	0.595
Bromoform	75-25-2		U	5.95	0.595
Bromomethane	74-83-9		U	11.9	1.19

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611277**
Report Date : **December 1, 2006**

Sample Number: **L0611277-04**
Client ID: **CT08-SBS1008**
Matrix: **Soil**
Workgroup Number: **WG227509**
Collect Date: **11/09/2006 10:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/14/2006 17:28**
Cal Date: **10/27/2006 19:05**
Run Date: **11/14/2006 17:28**
File ID: **9M50239**
Percent Solid: **90.4**

Analyte	CAS. Number	Result	Qual	RL	MDL
2-Butanone	78-93-3		U	11.9	2.97
n-Butylbenzene	104-51-8		U	5.95	0.595
sec-Butylbenzene	135-98-8		U	5.95	0.595
tert-Butylbenzene	98-06-6		U	5.95	0.595
Carbon disulfide	75-15-0		U	5.95	0.595
Carbon tetrachloride	56-23-5		U	5.95	0.595
Chlorobenzene	108-90-7		U	5.95	0.595
Chloroethane	75-00-3		U	11.9	1.19
Chloroform	67-66-3		U	5.95	0.595
Chloromethane	74-87-3		U	11.9	2.38
2-Chlorotoluene	95-49-8		U	5.95	0.595
4-Chlorotoluene	106-43-4		U	5.95	0.595
1,2-Dichlorobenzene	95-50-1		U	5.95	0.595
1,3-Dichlorobenzene	541-73-1		U	5.95	0.595
1,4-Dichlorobenzene	106-46-7		U	5.95	0.595
cis-1,2-Dichloroethene	156-59-2		U	5.95	0.595
1,3-Dichloropropane	142-28-9		U	5.95	0.595
Dibromochloromethane	124-48-1		U	5.95	0.595
1,2-Dibromo-3-chloropropane	96-12-8		U	5.95	1.19
1,2-Dibromoethane	106-93-4		U	5.95	0.595
Trans-1,4-Dichloro-2-Butene	110-57-6		U	11.9	0.595
2,2-Dichloropropane	594-20-7		U	5.95	0.595
Dichlorodifluoromethane	75-71-8		U	11.9	1.19
1,1-Dichloroethane	75-34-3		U	5.95	1.19
1,2-Dichloroethane	107-06-2		U	5.95	0.595
1,1-Dichloroethene	75-35-4		U	5.95	0.595
trans-1,2-Dichloroethene	156-60-5		U	5.95	0.595
1,1-Dichloropropene	563-58-6		U	5.95	0.595
1,2-Dichloropropane	78-87-5		U	5.95	0.595
cis-1,3-Dichloropropene	10061-01-5		U	5.95	0.595
trans-1,3-Dichloropropene	10061-02-6		U	5.95	0.595
Diethyl ether	60-29-7		U	11.9	5.95
Diisopropyl ether	108-20-3		U	11.9	5.95
1,4-Dioxane	123-91-1		U	119	59.5
Ethyl benzene	100-41-4		U	5.95	0.595
Ethyl-Tert-Butyl ether	637-92-3		U	11.9	5.95
Hexachlorobutadiene	87-68-3		U	5.95	0.595
2-Hexanone	591-78-6		U	11.9	2.97
Isopropylbenzene	98-82-8		U	5.95	0.595
4-Methyl-2-pentanone	108-10-1		U	11.9	2.97
Methylene chloride	75-09-2		U	5.95	1.19
Methyl tert butyl ether	1634-04-4		U	5.95	0.595
Naphthalene	91-20-3		U	11.9	0.595
n-Propylbenzene	103-65-1		U	5.95	0.595
p-Isopropyltoluene	99-87-6		U	5.95	0.595
Propionitrile	107-12-0		U	5.95	2.97
Styrene	100-42-5		U	5.95	0.595
Tert-Amyl-Methyl ether	994-05-8		U	11.9	5.95

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611277**
Report Date : **December 1, 2006**

Sample Number: **L0611277-04**
Client ID: **CT08-SBS1008**
Matrix: **Soil**
Workgroup Number: **WG227509**
Collect Date: **11/09/2006 10:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **11/14/2006 17:28**
Cal Date: **10/27/2006 19:05**
Run Date: **11/14/2006 17:28**
File ID: **9M50239**
Percent Solid: **90.4**

Analyte	CAS. Number	Result	Qual	RL	MDL
Tert-Butyl Alcohol	75-65-0		U	119	59.5
1,1,1,2-Tetrachloroethane	630-20-6		U	5.95	0.595
1,1,2,2-Tetrachloroethane	79-34-5		U	5.95	0.595
Tetrachloroethene	127-18-4		U	5.95	0.595
Tetrahydrofuran	109-99-9		U	59.5	29.7
Toluene	108-88-3		U	5.95	0.595
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	11.9	2.38
1,2,3-Trichlorobenzene	87-61-6		U	5.95	0.595
1,2,4-Trichlorobenzene	120-82-1		U	5.95	0.595
1,1,1-Trichloroethane	71-55-6		U	5.95	0.595
1,1,2-Trichloroethane	79-00-5		U	5.95	0.595
Trichloroethene	79-01-6		U	5.95	0.595
Trichlorofluoromethane	75-69-4		U	11.9	1.19
1,2,3-Trichloropropane	96-18-4		U	5.95	0.762
1,2,4-Trimethylbenzene	95-63-6		U	5.95	0.595
1,3,5-Trimethylbenzene	108-67-8		U	5.95	0.595
Vinyl chloride	75-01-4		U	11.9	1.19
o-Xylene	95-47-6		U	5.95	0.595
m-,p-Xylene	136777-61-2		U	5.95	0.595

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	110	80	120	
1,2-Dichloroethane-d4	109	80	120	
Toluene-d8	116	81	117	
p-Bromofluorobenzene	119	74	121	

U Not detected at or above adjusted sample detection limit

LABORATORY REPORT

L0611636

12/18/06 15:18

Submitted By

KEMRON Environmental Services
156 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: MACTEC Engineering & Consulting
511 Congress Street
PO Box 7050
Portland, ME 04112-7050
Attention: Christian Ricardi

Account Number: 2756
Work ID: USARC-MIDDLETOWN

P.O. Number: MEC51050340

Sample Summary

Client ID	Lab ID	Date Collected	Date Received
MWS1603	L0611636-01	27-NOV-06	30-NOV-06
MWS1203	L0611636-02	27-NOV-06	30-NOV-06
MWS1103	L0611636-03	27-NOV-06	30-NOV-06
MWS1503	L0611636-04	28-NOV-06	30-NOV-06
MWS1403	L0611636-05	28-NOV-06	30-NOV-06
MWS0303	L0611636-06	28-NOV-06	30-NOV-06
MWS0603	L0611636-07	29-NOV-06	30-NOV-06
MWS0903	L0611636-08	29-NOV-06	30-NOV-06
BRS0403	L0611636-09	29-NOV-06	30-NOV-06
BRS0303	L0611636-10	29-NOV-06	30-NOV-06
MWS0803	L0611636-11	27-NOV-06	30-NOV-06
MWS1003	L0611636-12	27-NOV-06	30-NOV-06
MWS0703	L0611636-13	28-NOV-06	30-NOV-06
BRS0203	L0611636-14	28-NOV-06	30-NOV-06
MWS0103	L0611636-15	28-NOV-06	30-NOV-06
MWS1303	L0611636-16	29-NOV-06	30-NOV-06
MWD1603	L0611636-17	27-NOV-06	30-NOV-06
MWMS1603	L0611636-18	27-NOV-06	30-NOV-06
MWMSD1603	L0611636-19	27-NOV-06	30-NOV-06
TRIP BLANK/699	L0611636-20	29-NOV-06	30-NOV-06
TRIP BLANK/0137	L0611636-21	29-NOV-06	30-NOV-06
TRIP BLANK/0210	L0611636-22	29-NOV-06	30-NOV-06

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-01**
Client ID: **MWS1603**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/27/2006 13:38**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 13:00**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 13:00**
File ID: **6M62332**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5	4.05		1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.62		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-01**
Client ID: **MWS1603**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/27/2006 13:38**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 13:00**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 13:00**
File ID: **6M62332**

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2	0.390	J	5.00	0.250
Methyl tert butyl ether	1634-04-4	0.656	J	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	32.4		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	98.0	86	118	
1,2-Dichloroethane-d4	89.2	80	120	
Toluene-d8	99.3	88	110	
p-Bromofluorobenzene	92.7	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: **L0611636-01**
Client ID: **MWS1603**
Matrix: **Water**
Workgroup Number: **WG228699**
Collect Date: **11/27/2006 13:38**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3510C**
Analytical Method: **CT ETPH**
Analyst: **HAV**
Dilution: **1**
Units: **ug/L**

Instrument: **HP14**
Prep Date: **12/01/2006 08:30**
Cal Date: **09/14/2006 17:02**
Run Date: **12/04/2006 12:15**
File ID: **14GR2028**

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		178		100	50.0

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-02**
Client ID: **MWS1203**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/27/2006 16:43**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 15:44**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 15:44**
File ID: **6M62337**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-02**
Client ID: **MWS1203**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/27/2006 16:43**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 15:44**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 15:44**
File ID: **6M62337**

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2	0.617	J	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	97.3	86	118	
1,2-Dichloroethane-d4	92.1	80	120	
Toluene-d8	97.7	88	110	
p-Bromofluorobenzene	93.6	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: **L0611636-02**
Client ID: **MWS1203**
Matrix: **Water**
Workgroup Number: **WG228699**
Collect Date: **11/27/2006 16:43**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3510C**
Analytical Method: **CT ETPH**
Analyst: **HAV**
Dilution: **1**
Units: **ug/L**

Instrument: **HP14**
Prep Date: **12/01/2006 08:30**
Cal Date: **09/14/2006 17:02**
Run Date: **12/04/2006 12:49**
File ID: **14GR2029**

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36			U	100	50.0

U Not detected at or above adjusted sample detection limit

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-03**
Client ID: **MWS1103**
Matrix: **Water**
Workgroup Number: **WG228699**
Collect Date: **11/27/2006 16:18**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3510C**
Analytical Method: **CT ETPH**
Analyst: **HAV**
Dilution: **1**
Units: **ug/L**

Instrument: **HP14**
Prep Date: **12/01/2006 08:30**
Cal Date: **09/14/2006 17:02**
Run Date: **12/04/2006 13:24**
File ID: **14GR2030**

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		441		100	50.0

Sample Number: **L0611636-03**
Client ID: **MWS1103**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/27/2006 16:18**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 16:16**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 16:16**
File ID: **6M62338**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-03**
Client ID: **MWS1103**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/27/2006 16:18**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 16:16**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 16:16**
File ID: **6M62338**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	98.6	86	118	
1,2-Dichloroethane-d4	94.2	80	120	
Toluene-d8	99.0	88	110	
p-Bromofluorobenzene	93.9	86	115	

U Not detected at or above adjusted sample detection limit

Sample Number: L0611636-04
Client ID: MWS1503
Matrix: Water
Workgroup Number: WG228699
Collect Date: 11/28/2006 10:43
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3510C
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: ug/L

Instrument: HP14
Prep Date: 12/01/2006 08:30
Cal Date: 09/14/2006 17:02
Run Date: 12/04/2006 13:58
File ID: 14GR2031

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		76.3	J	100	50.0

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611636-04
Client ID: MWS1503
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/28/2006 10:43
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 16:49
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 16:49
File ID: 6M62339

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-04**
Client ID: **MWS1503**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/28/2006 10:43**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 16:49**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 16:49**
File ID: **6M62339**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	98.3	86	118	
1,2-Dichloroethane-d4	93.9	80	120	
Toluene-d8	97.1	88	110	
p-Bromofluorobenzene	94.5	86	115	

U Not detected at or above adjusted sample detection limit

Sample Number: L0611636-05
Client ID: MWS1403
Matrix: Water
Workgroup Number: WG228699
Collect Date: 11/28/2006 12:47
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3510C
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: ug/L

Instrument: HP14
Prep Date: 12/01/2006 08:30
Cal Date: 09/14/2006 17:02
Run Date: 12/04/2006 14:32
File ID: 14GR2032

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		72.7	J	102	51.0

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611636-05
Client ID: MWS1403
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/28/2006 12:47
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 17:22
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 17:22
File ID: 6M62340

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5	0.742	J	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.341	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-05**
Client ID: **MWS1403**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/28/2006 12:47**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 17:22**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 17:22**
File ID: **6M62340**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	0.291	J	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	102	86	118	
1,2-Dichloroethane-d4	99.0	80	120	
Toluene-d8	97.7	88	110	
p-Bromofluorobenzene	97.4	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-06**
Client ID: **MWS0303**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/28/2006 14:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 17:54**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 17:54**
File ID: **6M62341**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50

Sample Number: L0611636-06
Client ID: MWS0303
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/28/2006 14:40
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 17:54
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 17:54
File ID: 6M62341

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2	0.366	J	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	100	86	118	
1,2-Dichloroethane-d4	96.8	80	120	
Toluene-d8	99.1	88	110	
p-Bromofluorobenzene	94.3	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611636-07
Client ID: MWS0603
Matrix: Water
Workgroup Number: WG228757
Collect Date: 11/29/2006 09:05
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/05/2006 19:47
Cal Date: 11/20/2006 14:29
Run Date: 12/05/2006 19:47
File ID: 6M62395

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-07**
Client ID: **MWS0603**
Matrix: **Water**
Workgroup Number: **WG228757**
Collect Date: **11/29/2006 09:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/05/2006 19:47**
Cal Date: **11/20/2006 14:29**
Run Date: **12/05/2006 19:47**
File ID: **6M62395**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2	0.816	J	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2	0.888	J	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250

Sample Number: L0611636-07
Client ID: MWS0603
Matrix: Water
Workgroup Number: WG228757
Collect Date: 11/29/2006 09:05
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/05/2006 19:47
Cal Date: 11/20/2006 14:29
Run Date: 12/05/2006 19:47
File ID: 6M62395

Analyte	CAS. Number	Result	Qual	RL	MDL
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	0.255	J	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	99.0	86	118	
1,2-Dichloroethane-d4	98.8	80	120	
Toluene-d8	97.9	88	110	
p-Bromofluorobenzene	100	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611636-08
Client ID: MWS0903
Matrix: Water
Workgroup Number: WG228757
Collect Date: 11/29/2006 10:08
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/05/2006 20:20
Cal Date: 11/20/2006 14:29
Run Date: 12/05/2006 20:20
File ID: 6M62396

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-08**
Client ID: **MWS0903**
Matrix: **Water**
Workgroup Number: **WG228757**
Collect Date: **11/29/2006 10:08**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/05/2006 20:20**
Cal Date: **11/20/2006 14:29**
Run Date: **12/05/2006 20:20**
File ID: **6M62396**

Analyte	CAS. Number	Result	Qual	RL	MDL
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250

Sample Number: L0611636-08
Client ID: MWS0903
Matrix: Water
Workgroup Number: WG228757
Collect Date: 11/29/2006 10:08
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/05/2006 20:20
Cal Date: 11/20/2006 14:29
Run Date: 12/05/2006 20:20
File ID: 6M62396

Analyte	CAS. Number	Result	Qual	RL	MDL
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	102	86	118	
1,2-Dichloroethane-d4	101	80	120	
Toluene-d8	99.9	88	110	
p-Bromofluorobenzene	99.7	86	115	

U Not detected at or above adjusted sample detection limit

Sample Number: L0611636-08
Client ID: MWS0903
Matrix: Water
Workgroup Number: WG228699
Collect Date: 11/29/2006 10:08
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3510C
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: ug/L

Instrument: HP14
Prep Date: 12/01/2006 08:30
Cal Date: 09/14/2006 17:02
Run Date: 12/04/2006 15:05
File ID: 14GR2033

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36			U	100	50.0

U Not detected at or above adjusted sample detection limit

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-09**
Client ID: **BRS0403**
Matrix: **Water**
Workgroup Number: **WG228757**
Collect Date: **11/29/2006 10:36**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/05/2006 20:52**
Cal Date: **11/20/2006 14:29**
Run Date: **12/05/2006 20:52**
File ID: **6M62397**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	37.9		10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0	0.695	J	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3	0.604	J	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2	1.67		1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50

Sample Number: L0611636-09
Client ID: BRS0403
Matrix: Water
Workgroup Number: WG228757
Collect Date: 11/29/2006 10:36
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/05/2006 20:52
Cal Date: 11/20/2006 14:29
Run Date: 12/05/2006 20:52
File ID: 6M62397

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3	0.225	J	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6	1.62		1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	38.5		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	104	86	118	
1,2-Dichloroethane-d4	106	80	120	
Toluene-d8	98.1	88	110	
p-Bromofluorobenzene	102	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611636-10
Client ID: BRS0303
Matrix: Water
Workgroup Number: WG228757
Collect Date: 11/29/2006 11:10
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/05/2006 21:24
Cal Date: 11/20/2006 14:29
Run Date: 12/05/2006 21:24
File ID: 6M62398

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	88.3		10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-10**
Client ID: **BRS0303**
Matrix: **Water**
Workgroup Number: **WG228757**
Collect Date: **11/29/2006 11:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/05/2006 21:24**
Cal Date: **11/20/2006 14:29**
Run Date: **12/05/2006 21:24**
File ID: **6M62398**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3	12.3		10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0	1.20		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	4.58		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2	0.300	J	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3	0.740	J	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250

Sample Number: L0611636-10
Client ID: BRS0303
Matrix: Water
Workgroup Number: WG228757
Collect Date: 11/29/2006 11:10
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/05/2006 21:24
Cal Date: 11/20/2006 14:29
Run Date: 12/05/2006 21:24
File ID: 6M62398

Analyte	CAS. Number	Result	Qual	RL	MDL
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3	0.345	J	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	102	86	118	
1,2-Dichloroethane-d4	107	80	120	
Toluene-d8	98.2	88	110	
p-Bromofluorobenzene	101	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611636-11
Client ID: MWS0803
Matrix: Water
Workgroup Number: WG228699
Collect Date: 11/27/2006 13:55
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3510C
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: ug/L

Instrument: HP14
Prep Date: 12/01/2006 08:30
Cal Date: 09/14/2006 17:02
Run Date: 12/04/2006 15:39
File ID: 14GR2034

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36			U	102	51.0

U Not detected at or above adjusted sample detection limit

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-11**
Client ID: **MWS0803**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/27/2006 13:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 18:27**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 18:27**
File ID: **6M62342**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5	3.87		1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.55		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50

Sample Number: L0611636-11
Client ID: MWS0803
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/27/2006 13:55
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 18:27
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 18:27
File ID: 6M62342

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	35.5		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	99.0	86	118	
1,2-Dichloroethane-d4	99.0	80	120	
Toluene-d8	98.5	88	110	
p-Bromofluorobenzene	95.6	86	115	

U Not detected at or above adjusted sample detection limit

Sample Number: L0611636-12
Client ID: MWS1003
Matrix: Water
Workgroup Number: WG228699
Collect Date: 11/27/2006 16:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3510C
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: ug/L

Instrument: HP14
Prep Date: 12/01/2006 08:30
Cal Date: 09/14/2006 17:02
Run Date: 12/04/2006 16:13
File ID: 14GR2035

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		58.5	J	100	50.0

J The analyte was positively identified, but the quantitation was below the RL

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-12**
Client ID: **MWS1003**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/27/2006 16:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 18:59**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 18:59**
File ID: **6M62343**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50

Sample Number: L0611636-12
Client ID: MWS1003
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/27/2006 16:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 18:59
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 18:59
File ID: 6M62343

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2	0.332	J	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	100	86	118	
1,2-Dichloroethane-d4	101	80	120	
Toluene-d8	99.3	88	110	
p-Bromofluorobenzene	95.7	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611636-13
Client ID: MWS0703
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/28/2006 10:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 19:32
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 19:32
File ID: 6M62344

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-13**
Client ID: **MWS0703**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/28/2006 10:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 19:32**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 19:32**
File ID: **6M62344**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250

Sample Number: L0611636-13
Client ID: MWS0703
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/28/2006 10:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 19:32
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 19:32
File ID: 6M62344

Analyte	CAS. Number	Result	Qual	RL	MDL
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	103	86	118	
1,2-Dichloroethane-d4	103	80	120	
Toluene-d8	99.9	88	110	
p-Bromofluorobenzene	95.2	86	115	

U Not detected at or above adjusted sample detection limit

Sample Number: L0611636-14
Client ID: BRS0203
Matrix: Water
Workgroup Number: WG228757
Collect Date: 11/28/2006 12:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/05/2006 18:42
Cal Date: 11/20/2006 14:29
Run Date: 12/05/2006 18:42
File ID: 6M62393

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-14**
Client ID: **BRS0203**
Matrix: **Water**
Workgroup Number: **WG228757**
Collect Date: **11/28/2006 12:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/05/2006 18:42**
Cal Date: **11/20/2006 14:29**
Run Date: **12/05/2006 18:42**
File ID: **6M62393**

Analyte	CAS. Number	Result	Qual	RL	MDL
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0	1.02		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2	0.499	J	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125

Sample Number: L0611636-14
Client ID: BRS0203
Matrix: Water
Workgroup Number: WG228757
Collect Date: 11/28/2006 12:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/05/2006 18:42
Cal Date: 11/20/2006 14:29
Run Date: 12/05/2006 18:42
File ID: 6M62393

Analyte	CAS. Number	Result	Qual	RL	MDL
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	96.9	86	118	
1,2-Dichloroethane-d4	96.3	80	120	
Toluene-d8	100	88	110	
p-Bromofluorobenzene	99.1	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611636-15
Client ID: MWS0103
Matrix: Water
Workgroup Number: WG228757
Collect Date: 11/28/2006 14:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/05/2006 19:15
Cal Date: 11/20/2006 14:29
Run Date: 12/05/2006 19:15
File ID: 6M62394

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5	6.36		1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-15**
Client ID: **MWS0103**
Matrix: **Water**
Workgroup Number: **WG228757**
Collect Date: **11/28/2006 14:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/05/2006 19:15**
Cal Date: **11/20/2006 14:29**
Run Date: **12/05/2006 19:15**
File ID: **6M62394**

Analyte	CAS. Number	Result	Qual	RL	MDL
Chloroform	67-66-3	0.615	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2	0.436	J	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125

Sample Number: L0611636-15
Client ID: MWS0103
Matrix: Water
Workgroup Number: WG228757
Collect Date: 11/28/2006 14:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/05/2006 19:15
Cal Date: 11/20/2006 14:29
Run Date: 12/05/2006 19:15
File ID: 6M62394

Analyte	CAS. Number	Result	Qual	RL	MDL
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	98.6	86	118	
1,2-Dichloroethane-d4	97.0	80	120	
Toluene-d8	99.9	88	110	
p-Bromofluorobenzene	98.3	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611636-16
Client ID: MWS1303
Matrix: Water
Workgroup Number: WG228814
Collect Date: 11/29/2006 08:55
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/06/2006 14:49
Cal Date: 11/20/2006 14:29
Run Date: 12/06/2006 14:49
File ID: 6M62416

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-16**
Client ID: **MWS1303**
Matrix: **Water**
Workgroup Number: **WG228814**
Collect Date: **11/29/2006 08:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/06/2006 14:49**
Cal Date: **11/20/2006 14:29**
Run Date: **12/06/2006 14:49**
File ID: **6M62416**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2	0.753	J	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: L0611636-16
Client ID: MWS1303
Matrix: Water
Workgroup Number: WG228814
Collect Date: 11/29/2006 08:55
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/06/2006 14:49
Cal Date: 11/20/2006 14:29
Run Date: 12/06/2006 14:49
File ID: 6M62416

Analyte	CAS. Number	Result	Qual	RL	MDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	99.9	86	118	
1,2-Dichloroethane-d4	93.9	80	120	
Toluene-d8	102	88	110	
p-Bromofluorobenzene	93.3	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611636-16
Client ID: MWS1303
Matrix: Water
Workgroup Number: WG228699
Collect Date: 11/29/2006 08:55
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3510C
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: ug/L

Instrument: HP14
Prep Date: 12/01/2006 08:30
Cal Date: 09/14/2006 17:02
Run Date: 12/04/2006 17:55
File ID: 14GR2038

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36			U	104	52.1

U Not detected at or above adjusted sample detection limit

Sample Number: L0611636-17
Client ID: MWD1603
Matrix: Water
Workgroup Number: WG228699
Collect Date: 11/27/2006 13:38
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3510C
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: ug/L

Instrument: HP14
Prep Date: 12/01/2006 08:30
Cal Date: 09/14/2006 17:02
Run Date: 12/04/2006 18:29
File ID: 14GR2039

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		64.8	J	100	50.0

J The analyte was positively identified, but the quantitation was below the RL

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-17**
Client ID: **MWD1603**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/27/2006 13:38**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 15:11**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 15:11**
File ID: **6M62336**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5	3.94		1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.68		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50

Sample Number: L0611636-17
Client ID: MWD1603
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/27/2006 13:38
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 15:11
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 15:11
File ID: 6M62336

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2	0.430	J	5.00	0.250
Methyl tert butyl ether	1634-04-4	0.671	J	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	31.9		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	97.8	86	118	
1,2-Dichloroethane-d4	92.4	80	120	
Toluene-d8	98.2	88	110	
p-Bromofluorobenzene	93.0	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611636-18
Client ID: MWMS1603
Matrix: Water
Workgroup Number: WG228699
Collect Date: 11/27/2006 13:38
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3510C
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: ug/L

Instrument: HP14
Prep Date: 12/01/2006 08:30
Cal Date: 09/14/2006 17:02
Run Date: 12/04/2006 19:03
File ID: 14GR2040

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		3410		100	50.0

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-18**
Client ID: **MWMS1603**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/27/2006 13:38**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 13:32**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 13:32**
File ID: **6M62333**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	20.2		10.0	2.50
Acrylonitrile	107-13-1	87.2	J	100	2.50
Benzene	71-43-2	19.6		1.00	0.125
Bromobenzene	108-86-1	20.0		1.00	0.125
Bromochloromethane	74-97-5	20.7		1.00	0.200
Bromodichloromethane	75-27-4	21.6		1.00	0.250
Bromoform	75-25-2	19.9		1.00	0.540
Bromomethane	74-83-9	15.1		1.00	0.500
2-Butanone	78-93-3	22.0		10.0	2.50
n-Butylbenzene	104-51-8	20.3		1.00	0.250
sec-Butylbenzene	135-98-8	19.9		1.00	0.250
tert-Butylbenzene	98-06-6	20.1		1.00	0.250
Carbon disulfide	75-15-0	20.1		1.00	0.500
Carbon tetrachloride	56-23-5	23.5		1.00	0.250
Chlorobenzene	108-90-7	19.6		1.00	0.125
Chloroethane	75-00-3	17.5		1.00	0.500
Chloroform	67-66-3	21.4		1.00	0.125
Chloromethane	74-87-3	16.8		1.00	0.250
2-Chlorotoluene	95-49-8	19.3		1.00	0.125
4-Chlorotoluene	106-43-4	19.7		1.00	0.250
1,2-Dichlorobenzene	95-50-1	19.9		1.00	0.125
1,3-Dichlorobenzene	541-73-1	19.7		1.00	0.250
1,4-Dichlorobenzene	106-46-7	19.3		1.00	0.125
cis-1,2-Dichloroethene	156-59-2	20.6		1.00	0.250
1,3-Dichloropropane	142-28-9	20.1		1.00	0.200
Dibromochloromethane	124-48-1	20.8		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.0		5.00	1.00
1,2-Dibromoethane	106-93-4	20.4		1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7	20.1		1.00	0.250
Dichlorodifluoromethane	75-71-8	13.8		1.00	0.250
1,1-Dichloroethane	75-34-3	20.1		1.00	0.125
1,2-Dichloroethane	107-06-2	19.7		1.00	0.250
1,1-Dichloroethene	75-35-4	18.9		1.00	0.500
trans-1,2-Dichloroethene	156-60-5	19.4		1.00	0.250
1,1-Dichloropropene	563-58-6	19.8		1.00	0.250
1,2-Dichloropropane	78-87-5	19.9		1.00	0.125
cis-1,3-Dichloropropene	10061-01-5	20.3		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	18.9		1.00	0.500
Diethyl ether	60-29-7	113		10.0	5.00
Diisopropyl ether	108-20-3	105		10.0	5.00
1,4-Dioxane	123-91-1	77.9	J	100	50.0
Ethyl benzene	100-41-4	20.1		1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3	105		10.0	5.00
Hexachlorobutadiene	87-68-3	22.8		1.00	0.250
2-Hexanone	591-78-6	17.0		10.0	2.50
Isopropylbenzene	98-82-8	18.2		1.00	0.250
4-Methyl-2-pentanone	108-10-1	17.7		10.0	2.50

Sample Number: L0611636-18
Client ID: MWMS1603
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/27/2006 13:38
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 13:32
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 13:32
File ID: 6M62333

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2	18.6		5.00	0.250
Methyl tert butyl ether	1634-04-4	21.0		5.00	0.500
Naphthalene	91-20-3	20.5		1.00	0.200
n-Propylbenzene	103-65-1	19.6		1.00	0.125
p-Isopropyltoluene	99-87-6	19.6		1.00	0.250
Propionitrile	107-12-0	86.9		5.00	2.50
Styrene	100-42-5	20.1		1.00	0.125
Tert-Amyl-Methyl ether	994-05-8	104		10.0	5.00
Tert-Butyl Alcohol	75-65-0	114		100	50.0
1,1,1,2-Tetrachloroethane	630-20-6	20.3		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.4		1.00	0.125
Tetrachloroethene	127-18-4	19.7		1.00	0.250
Tetrahydrofuran	109-99-9	84.0		50.0	25.0
Toluene	108-88-3	19.3		1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	19.0		5.00	2.00
1,2,3-Trichlorobenzene	87-61-6	20.7		1.00	0.125
1,2,4-Trichlorobenzene	120-82-1	20.6		1.00	0.200
1,1,1-Trichloroethane	71-55-6	20.5		1.00	0.250
1,1,2-Trichloroethane	79-00-5	20.2		1.00	0.250
Trichloroethene	79-01-6	46.7		1.00	0.250
Trichlorofluoromethane	75-69-4	16.5		1.00	0.250
1,2,3-Trichloropropane	96-18-4	19.0		1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.6		1.00	0.250
1,3,5-Trimethylbenzene	108-67-8	20.1		1.00	0.250
Vinyl chloride	75-01-4	20.3		1.00	0.250
o-Xylene	95-47-6	19.3		1.00	0.500
m-,p-Xylene	136777-61-2	39.0		1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	97.3	86	118	
1,2-Dichloroethane-d4	89.9	80	120	
Toluene-d8	97.8	88	110	
p-Bromofluorobenzene	93.0	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above adjusted sample detection limit

Sample Number: L0611636-19
Client ID: MWMSD1603
Matrix: Water
Workgroup Number: WG228699
Collect Date: 11/27/2006 13:38
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3510C
Analytical Method: CT ETPH
Analyst: HAV
Dilution: 1
Units: ug/L

Instrument: HP14
Prep Date: 12/01/2006 08:30
Cal Date: 09/14/2006 17:02
Run Date: 12/04/2006 19:38
File ID: 14GR2041

Analyte	CAS. Number	Result	Qual	RL	MDL
Carbon Range C9-C36		3070		100	50.0

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-19**
Client ID: **MWMSD1603**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/27/2006 13:38**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 14:05**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 14:05**
File ID: **6M62334**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	20.2		10.0	2.50
Acrylonitrile	107-13-1	87.3	J	100	2.50
Benzene	71-43-2	20.3		1.00	0.125
Bromobenzene	108-86-1	20.5		1.00	0.125
Bromochloromethane	74-97-5	21.7		1.00	0.200
Bromodichloromethane	75-27-4	21.5		1.00	0.250
Bromoform	75-25-2	20.3		1.00	0.540
Bromomethane	74-83-9	16.0		1.00	0.500
2-Butanone	78-93-3	22.7		10.0	2.50
n-Butylbenzene	104-51-8	21.2		1.00	0.250
sec-Butylbenzene	135-98-8	20.9		1.00	0.250
tert-Butylbenzene	98-06-6	20.3		1.00	0.250
Carbon disulfide	75-15-0	19.9		1.00	0.500
Carbon tetrachloride	56-23-5	24.6		1.00	0.250
Chlorobenzene	108-90-7	20.4		1.00	0.125
Chloroethane	75-00-3	18.1		1.00	0.500
Chloroform	67-66-3	21.6		1.00	0.125
Chloromethane	74-87-3	17.3		1.00	0.250
2-Chlorotoluene	95-49-8	20.0		1.00	0.125
4-Chlorotoluene	106-43-4	20.5		1.00	0.250
1,2-Dichlorobenzene	95-50-1	20.3		1.00	0.125
1,3-Dichlorobenzene	541-73-1	20.4		1.00	0.250
1,4-Dichlorobenzene	106-46-7	20.1		1.00	0.125
cis-1,2-Dichloroethene	156-59-2	21.0		1.00	0.250
1,3-Dichloropropane	142-28-9	20.4		1.00	0.200
Dibromochloromethane	124-48-1	21.4		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	20.8		5.00	1.00
1,2-Dibromoethane	106-93-4	20.4		1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7	20.5		1.00	0.250
Dichlorodifluoromethane	75-71-8	14.2		1.00	0.250
1,1-Dichloroethane	75-34-3	20.9		1.00	0.125
1,2-Dichloroethane	107-06-2	20.6		1.00	0.250
1,1-Dichloroethene	75-35-4	20.1		1.00	0.500
trans-1,2-Dichloroethene	156-60-5	20.0		1.00	0.250
1,1-Dichloropropene	563-58-6	20.6		1.00	0.250
1,2-Dichloropropane	78-87-5	20.7		1.00	0.125
cis-1,3-Dichloropropene	10061-01-5	21.3		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	19.4		1.00	0.500
Diethyl ether	60-29-7	111		10.0	5.00
Diisopropyl ether	108-20-3	103		10.0	5.00
1,4-Dioxane	123-91-1	177		100	50.0
Ethyl benzene	100-41-4	20.9		1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3	104		10.0	5.00
Hexachlorobutadiene	87-68-3	23.6		1.00	0.250
2-Hexanone	591-78-6	17.9		10.0	2.50
Isopropylbenzene	98-82-8	18.9		1.00	0.250
4-Methyl-2-pentanone	108-10-1	18.7		10.0	2.50

Sample Number: L0611636-19
Client ID: MWMSD1603
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/27/2006 13:38
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 14:05
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 14:05
File ID: 6M62334

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2	19.8		5.00	0.250
Methyl tert butyl ether	1634-04-4	21.6		5.00	0.500
Naphthalene	91-20-3	21.4		1.00	0.200
n-Propylbenzene	103-65-1	20.5		1.00	0.125
p-Isopropyltoluene	99-87-6	20.2		1.00	0.250
Propionitrile	107-12-0	89.8		5.00	2.50
Styrene	100-42-5	21.1		1.00	0.125
Tert-Amyl-Methyl ether	994-05-8	101		10.0	5.00
Tert-Butyl Alcohol	75-65-0	123		100	50.0
1,1,1,2-Tetrachloroethane	630-20-6	21.3		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.8		1.00	0.125
Tetrachloroethene	127-18-4	20.4		1.00	0.250
Tetrahydrofuran	109-99-9	84.1		50.0	25.0
Toluene	108-88-3	20.0		1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	19.2		5.00	2.00
1,2,3-Trichlorobenzene	87-61-6	21.5		1.00	0.125
1,2,4-Trichlorobenzene	120-82-1	21.3		1.00	0.200
1,1,1-Trichloroethane	71-55-6	21.2		1.00	0.250
1,1,2-Trichloroethane	79-00-5	21.3		1.00	0.250
Trichloroethene	79-01-6	47.2		1.00	0.250
Trichlorofluoromethane	75-69-4	17.1		1.00	0.250
1,2,3-Trichloropropane	96-18-4	20.0		1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	20.1		1.00	0.250
1,3,5-Trimethylbenzene	108-67-8	20.5		1.00	0.250
Vinyl chloride	75-01-4	20.6		1.00	0.250
o-Xylene	95-47-6	20.1		1.00	0.500
m-,p-Xylene	136777-61-2	40.9		1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	96.4	86	118	
1,2-Dichloroethane-d4	89.9	80	120	
Toluene-d8	98.5	88	110	
p-Bromofluorobenzene	94.2	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above adjusted sample detection limit

Sample Number: L0611636-20
Client ID: TRIP BLANK/699
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/29/2006 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 11:22
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 11:22
File ID: 6M62329

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-20**
Client ID: **TRIP BLANK/699**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/29/2006 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 11:22**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 11:22**
File ID: **6M62329**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2	0.582	J	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250

Sample Number: L0611636-20
Client ID: TRIP BLANK/699
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/29/2006 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 11:22
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 11:22
File ID: 6M62329

Analyte	CAS. Number	Result	Qual	RL	MDL
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	93.7	86	118	
1,2-Dichloroethane-d4	83.3	80	120	
Toluene-d8	99.0	88	110	
p-Bromofluorobenzene	93.3	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611636-21
Client ID: TRIP BLANK/0137
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/29/2006 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 11:54
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 11:54
File ID: 6M62330

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-21**
Client ID: **TRIP BLANK/0137**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/29/2006 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 11:54**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 11:54**
File ID: **6M62330**

Analyte	CAS. Number	Result	Qual	RL	MDL
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2	0.679	J	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250

Sample Number: L0611636-21
Client ID: TRIP BLANK/0137
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/29/2006 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 11:54
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 11:54
File ID: 6M62330

Analyte	CAS. Number	Result	Qual	RL	MDL
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	94.9	86	118	
1,2-Dichloroethane-d4	87.6	80	120	
Toluene-d8	96.7	88	110	
p-Bromofluorobenzene	93.3	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0611636-22
Client ID: TRIP BLANK/0210
Matrix: Water
Workgroup Number: WG228582
Collect Date: 11/29/2006 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 12/01/2006 12:27
Cal Date: 11/20/2006 14:29
Run Date: 12/01/2006 12:27
File ID: 6M62331

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-22**
Client ID: **TRIP BLANK/0210**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/29/2006 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 12:27**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 12:27**
File ID: **6M62331**

Analyte	CAS. Number	Result	Qual	RL	MDL
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2	0.526	J	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0611636**
Report Date : **December 18, 2006**

Sample Number: **L0611636-22**
Client ID: **TRIP BLANK/0210**
Matrix: **Water**
Workgroup Number: **WG228582**
Collect Date: **11/29/2006 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/01/2006 12:27**
Cal Date: **11/20/2006 14:29**
Run Date: **12/01/2006 12:27**
File ID: **6M62331**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	96.8	86	118	
1,2-Dichloroethane-d4	88.9	80	120	
Toluene-d8	99.5	88	110	
p-Bromofluorobenzene	95.1	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

LABORATORY REPORT

L0612047

12/18/06 14:16

Submitted By

KEMRON Environmental Services
156 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: MACTEC Engineering & Consulting
511 Congress Street
PO Box 7050
Portland, ME 04112-7050
Attention: Christian Ricardi

Account Number: 2756
Work ID: USARC-MIDDLETOWN

P.O. Number: MEC51050340

Sample Summary

Client ID	Lab ID	Date Collected	Date Received
BRS0103	L0612047-01	01-DEC-06	02-DEC-06

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0612047**
Report Date : **December 18, 2006**

Sample Number: **L0612047-01**
Client ID: **BRS0103**
Matrix: **Water**
Workgroup Number: **WG228915**
Collect Date: **12/01/2006 12:12**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/07/2006 11:43**
Cal Date: **11/20/2006 14:29**
Run Date: **12/07/2006 11:43**
File ID: **6M62438**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5	0.673	J	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.52		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2	0.664	J	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5	10.6		1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0612047**
Report Date : **December 18, 2006**

Sample Number: **L0612047-01**
Client ID: **BRS0103**
Matrix: **Water**
Workgroup Number: **WG228915**
Collect Date: **12/01/2006 12:12**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **12/07/2006 11:43**
Cal Date: **11/20/2006 14:29**
Run Date: **12/07/2006 11:43**
File ID: **6M62438**

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	2.09		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	101	86	118	
1,2-Dichloroethane-d4	94.3	80	120	
Toluene-d8	101	88	110	
p-Bromofluorobenzene	92.9	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

LABORATORY REPORT

L0703110

03/22/07 16:26

Submitted By

KEMRON Environmental Services
156 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: MACTEC Engineering & Consulting
511 Congress Street
PO Box 7050
Portland, ME 04112-7050
Attention: Christian Ricardi

Account Number: 2756
Work ID: USARC-MIDDLETOWN
Invoice Number: 585624
P.O. Number: MEC51050340

Sample Summary

Client ID	Lab ID	Date Collected	Date Received
CT08-MWS1706	L0703110-01	03/05/2007 10:00	03/06/2007

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0703110**
Report Date : **March 22, 2007**

Sample Number: **L0703110-01**
Client ID: **CT08-MWS1706**
Matrix: **Soil**
Workgroup Number: **WG235312**
Collect Date: **03/05/2007 10:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **03/14/2007 19:13**
Cal Date: **02/13/2007 14:40**
Run Date: **03/14/2007 19:13**
File ID: **9M52041**
Percent Solid: **86.0**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	38.9		9.74	4.87
Acrylonitrile	107-13-1		U	97.4	2.43
Benzene	71-43-2		U	4.87	0.487
Bromobenzene	108-86-1		U	4.87	0.487
Bromochloromethane	74-97-5		U	4.87	0.487
Bromodichloromethane	75-27-4		U	4.87	0.487
Bromoform	75-25-2		U	4.87	0.487
Bromomethane	74-83-9		U	9.74	0.974
2-Butanone	78-93-3		U	9.74	2.43
n-Butylbenzene	104-51-8		U	4.87	0.487
sec-Butylbenzene	135-98-8		U	4.87	0.487
tert-Butylbenzene	98-06-6		U	4.87	0.487
Carbon disulfide	75-15-0		U	4.87	0.487
Carbon tetrachloride	56-23-5		U	4.87	0.487
Chlorobenzene	108-90-7		U	4.87	0.487
Chloroethane	75-00-3		U	9.74	0.974
Chloroform	67-66-3		U	4.87	0.487
Chloromethane	74-87-3		U	9.74	1.95
2-Chlorotoluene	95-49-8		U	4.87	0.487
4-Chlorotoluene	106-43-4		U	4.87	0.487
1,2-Dichlorobenzene	95-50-1		U	4.87	0.487
1,3-Dichlorobenzene	541-73-1		U	4.87	0.487
1,4-Dichlorobenzene	106-46-7		U	4.87	0.487
cis-1,2-Dichloroethene	156-59-2		U	4.87	0.487
1,3-Dichloropropane	142-28-9		U	4.87	0.487
Dibromochloromethane	124-48-1		U	4.87	0.487
1,2-Dibromo-3-chloropropane	96-12-8		U	4.87	0.974
1,2-Dibromoethane	106-93-4		U	4.87	0.487
Trans-1,4-Dichloro-2-Butene	110-57-6		U	9.74	0.487
2,2-Dichloropropane	594-20-7		U	4.87	0.487
Dichlorodifluoromethane	75-71-8		U	9.74	0.974
1,1-Dichloroethane	75-34-3		U	4.87	0.974
1,2-Dichloroethane	107-06-2		U	4.87	0.487
1,1-Dichloroethene	75-35-4		U	4.87	0.487
trans-1,2-Dichloroethene	156-60-5		U	4.87	0.487
1,1-Dichloropropene	563-58-6		U	4.87	0.487
1,2-Dichloropropane	78-87-5		U	4.87	0.487
cis-1,3-Dichloropropene	10061-01-5		U	4.87	0.487
trans-1,3-Dichloropropene	10061-02-6		U	4.87	0.487
Diethyl ether	60-29-7		U	9.74	4.87
Diisopropyl ether	108-20-3		U	9.74	4.87
1,4-Dioxane	123-91-1		U	97.4	48.7
Ethyl benzene	100-41-4		U	4.87	0.487
Ethyl-Tert-Butyl ether	637-92-3		U	9.74	4.87
Hexachlorobutadiene	87-68-3		U	4.87	0.487
2-Hexanone	591-78-6		U	9.74	2.43
Isopropylbenzene	98-82-8		U	4.87	0.487
4-Methyl-2-pentanone	108-10-1		U	9.74	2.43

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0703110**
Report Date : **March 22, 2007**

Sample Number: **L0703110-01**
Client ID: **CT08-MWS1706**
Matrix: **Soil**
Workgroup Number: **WG235312**
Collect Date: **03/05/2007 10:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS9**
Prep Date: **03/14/2007 19:13**
Cal Date: **02/13/2007 14:40**
Run Date: **03/14/2007 19:13**
File ID: **9M52041**
Percent Solid: **86.0**

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2		U	4.87	0.974
Methyl tert butyl ether	1634-04-4		U	4.87	0.487
Naphthalene	91-20-3		U	9.74	0.487
n-Propylbenzene	103-65-1		U	4.87	0.487
p-Isopropyltoluene	99-87-6		U	4.87	0.487
Propionitrile	107-12-0		U	4.87	2.43
Styrene	100-42-5		U	4.87	0.487
Tert-Amyl-Methyl ether	994-05-8		U	9.74	4.87
Tert-Butyl Alcohol	75-65-0		U	97.4	48.7
1,1,1,2-Tetrachloroethane	630-20-6		U	4.87	0.487
1,1,2,2-Tetrachloroethane	79-34-5		U	4.87	0.487
Tetrachloroethene	127-18-4		U	4.87	0.487
Tetrahydrofuran	109-99-9		U	48.7	24.3
Toluene	108-88-3		U	4.87	0.487
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	9.74	1.95
1,2,3-Trichlorobenzene	87-61-6		U	4.87	0.487
1,2,4-Trichlorobenzene	120-82-1		U	4.87	0.487
1,1,1-Trichloroethane	71-55-6		U	4.87	0.487
1,1,2-Trichloroethane	79-00-5		U	4.87	0.487
Trichloroethene	79-01-6		U	4.87	0.487
Trichlorofluoromethane	75-69-4		U	9.74	0.974
1,2,3-Trichloropropane	96-18-4		U	4.87	0.623
1,2,4-Trimethylbenzene	95-63-6		U	4.87	0.487
1,3,5-Trimethylbenzene	108-67-8		U	4.87	0.487
Vinyl chloride	75-01-4		U	9.74	0.974
o-Xylene	95-47-6		U	4.87	0.487
m-,p-Xylene	136777-61-2		U	4.87	0.487

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	104	80	120	
1,2-Dichloroethane-d4	124	80	120	*
Toluene-d8	101	81	117	
p-Bromofluorobenzene	97.2	74	121	

U Not detected at or above adjusted sample detection limit
***** Surrogate or spike compound out of range

Sample Number: **L0703110-01**
Client ID: **CT08-MWS1706**
Matrix: **Soil**
Workgroup Number: **WG234708**
Collect Date: **03/05/2007 10:00**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMB**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **03/06/2007 15:03**
Cal Date:
Run Date: **03/06/2007 15:03**
File ID: **OV.0703061504-21**

Analyte	CAS. Number	Result	Qual	RL	MDL
Percent Solids	10-02-6	86.0		1.00	1.00

LABORATORY REPORT

L0703307

04/04/07 09:47

Submitted By

KEMRON Environmental Services
156 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: MACTEC Engineering & Consulting
511 Congress Street
PO Box 7050
Portland, ME 04112-7050
Attention: Christian Ricardi

Account Number: 2756
Work ID: USARC MIDDLETOWN, CT
Invoice Number: 585808
P.O. Number: MEC51050340

Sample Summary

Client ID	Lab ID	Date Collected	Date Received
TRIP BLANK	L0703307-01	03/12/2007	03/14/2007
CT08-MWS1604	L0703307-02	03/12/2007 11:10	03/14/2007
CT08-MWSM804	L0703307-03	03/12/2007 12:25	03/14/2007
CT08-MWDM804	L0703307-04	03/12/2007 12:25	03/14/2007
CT08-MWS1704	L0703307-05	03/12/2007 13:45	03/14/2007
CT08-MWS1804	L0703307-06	03/12/2007 14:45	03/14/2007
CT08-BRS4A04	L0703307-07	03/12/2007 16:35	03/14/2007
CT08-BRS5A04	L0703307-08	03/13/2007 10:35	03/14/2007

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0703307**
Report Date : **April 4, 2007**

Sample Number: **L0703307-01**
Client ID: **TRIP BLANK**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/12/2007 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 01:22**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 01:22**
File ID: **6M64544**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	3.65	J	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2	0.248	J	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0	6.72		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50

Report Number: **L0703307**
Report Date : **April 4, 2007**

Sample Number: **L0703307-01**
Client ID: **TRIP BLANK**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/12/2007 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 01:22**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 01:22**
File ID: **6M64544**

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2	0.385	J	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3	0.336	J	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	100	86	118	
1,2-Dichloroethane-d4	106	80	120	
Toluene-d8	97.1	88	110	
p-Bromofluorobenzene	97.5	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above adjusted sample detection limit

Sample Number: **L0703307-02**
Client ID: **CT08-MWS1604**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/12/2007 11:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 02:29**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 02:29**
File ID: **6M64546**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0703307**
Report Date : **April 4, 2007**

Sample Number: **L0703307-02**
Client ID: **CT08-MWS1604**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/12/2007 11:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 02:29**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 02:29**
File ID: **6M64546**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5	3.92		1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.63		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4	0.578	J	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250

Sample Number: L0703307-02
Client ID: CT08-MWS1604
Matrix: Water
Workgroup Number: WG235732
Collect Date: 03/12/2007 11:10
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 03/19/2007 02:29
Cal Date: 03/14/2007 21:05
Run Date: 03/19/2007 02:29
File ID: 6M64546

Analyte	CAS. Number	Result	Qual	RL	MDL
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	25.1		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	103	86	118	
1,2-Dichloroethane-d4	109	80	120	
Toluene-d8	98.7	88	110	
p-Bromofluorobenzene	101	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0703307-03
Client ID: CT08-MWSM804
Matrix: Water
Workgroup Number: WG235732
Collect Date: 03/12/2007 12:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 03/19/2007 03:01
Cal Date: 03/14/2007 21:05
Run Date: 03/19/2007 03:01
File ID: 6M64547

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0703307**
Report Date : **April 4, 2007**

Sample Number: **L0703307-03**
Client ID: **CT08-MWSM804**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/12/2007 12:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 03:01**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 03:01**
File ID: **6M64547**

Analyte	CAS. Number	Result	Qual	RL	MDL
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5	3.61		1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.49		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4	0.619	J	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250

Sample Number: L0703307-03
Client ID: CT08-MWSM804
Matrix: Water
Workgroup Number: WG235732
Collect Date: 03/12/2007 12:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 03/19/2007 03:01
Cal Date: 03/14/2007 21:05
Run Date: 03/19/2007 03:01
File ID: 6M64547

Analyte	CAS. Number	Result	Qual	RL	MDL
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6	0.290	J	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	28.2		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	105	86	118	
1,2-Dichloroethane-d4	113	80	120	
Toluene-d8	99.0	88	110	
p-Bromofluorobenzene	99.2	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0703307-04
Client ID: CT08-MWDM804
Matrix: Water
Workgroup Number: WG235732
Collect Date: 03/12/2007 12:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 03/19/2007 03:35
Cal Date: 03/14/2007 21:05
Run Date: 03/19/2007 03:35
File ID: 6M64548

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5	3.56		1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0703307**
Report Date : **April 4, 2007**

Sample Number: **L0703307-04**
Client ID: **CT08-MWDM804**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/12/2007 12:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 03:35**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 03:35**
File ID: **6M64548**

Analyte	CAS. Number	Result	Qual	RL	MDL
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4	0.619	J	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00

Sample Number: L0703307-04
Client ID: CT08-MWDM804
Matrix: Water
Workgroup Number: WG235732
Collect Date: 03/12/2007 12:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 03/19/2007 03:35
Cal Date: 03/14/2007 21:05
Run Date: 03/19/2007 03:35
File ID: 6M64548

Analyte	CAS. Number	Result	Qual	RL	MDL
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6	0.280	J	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	27.7		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	106	86	118	
1,2-Dichloroethane-d4	113	80	120	
Toluene-d8	98.8	88	110	
p-Bromofluorobenzene	99.3	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0703307-05
Client ID: CT08-MWS1704
Matrix: Water
Workgroup Number: WG235732
Collect Date: 03/12/2007 13:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 03/19/2007 04:08
Cal Date: 03/14/2007 21:05
Run Date: 03/19/2007 04:08
File ID: 6M64549

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.724	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250

Report Number: **L0703307**
Report Date : **April 4, 2007**

Sample Number: **L0703307-05**
Client ID: **CT08-MWS1704**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/12/2007 13:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 04:08**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 04:08**
File ID: **6M64549**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	0.343	J	1.00	0.250

Report Number: **L0703307**
Report Date : **April 4, 2007**

Sample Number: **L0703307-05**
Client ID: **CT08-MWS1704**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/12/2007 13:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 04:08**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 04:08**
File ID: **6M64549**

Analyte	CAS. Number	Result	Qual	RL	MDL
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	105	86	118	
1,2-Dichloroethane-d4	112	80	120	
Toluene-d8	98.3	88	110	
p-Bromofluorobenzene	102	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: **L0703307-06**
Client ID: **CT08-MWS1804**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/12/2007 14:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 04:41**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 04:41**
File ID: **6M64550**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	12.1		10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2	0.198	J	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5	0.910	J	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.297	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0703307**
Report Date : **April 4, 2007**

Sample Number: **L0703307-06**
Client ID: **CT08-MWS1804**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/12/2007 14:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 04:41**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 04:41**
File ID: **6M64550**

Analyte	CAS. Number	Result	Qual	RL	MDL
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4	0.532	J	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3	0.361	J	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	3.59		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8	0.268	J	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250

Report Number: **L0703307**
Report Date : **April 4, 2007**

Sample Number: **L0703307-06**
Client ID: **CT08-MWS1804**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/12/2007 14:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 04:41**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 04:41**
File ID: **6M64550**

Analyte	CAS. Number	Result	Qual	RL	MDL
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	105	86	118	
1,2-Dichloroethane-d4	114	80	120	
Toluene-d8	98.2	88	110	
p-Bromofluorobenzene	98.9	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above adjusted sample detection limit

Sample Number: **L0703307-07**
Client ID: **CT08-BRS4A04**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/12/2007 16:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 05:14**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 05:14**
File ID: **6M64551**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	6.25	J	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0	1.18		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.947	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0703307**
Report Date : **April 4, 2007**

Sample Number: **L0703307-07**
Client ID: **CT08-BRS4A04**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/12/2007 16:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 05:14**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 05:14**
File ID: **6M64551**

Analyte	CAS. Number	Result	Qual	RL	MDL
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4	0.456	J	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1	0.264	J	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3	0.261	J	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	0.340	J	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Sample Number: L0703307-07
Client ID: CT08-BRS4A04
Matrix: Water
Workgroup Number: WG235732
Collect Date: 03/12/2007 16:35
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 03/19/2007 05:14
Cal Date: 03/14/2007 21:05
Run Date: 03/19/2007 05:14
File ID: 6M64551

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	104	86	118	
1,2-Dichloroethane-d4	113	80	120	
Toluene-d8	98.0	88	110	
p-Bromofluorobenzene	103	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above adjusted sample detection limit

Sample Number: L0703307-08
Client ID: CT08-BRS5A04
Matrix: Water
Workgroup Number: WG235732
Collect Date: 03/13/2007 10:35
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 03/19/2007 05:46
Cal Date: 03/14/2007 21:05
Run Date: 03/19/2007 05:46
File ID: 6M64552

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.251	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0703307**
Report Date : **April 4, 2007**

Sample Number: **L0703307-08**
Client ID: **CT08-BRS5A04**
Matrix: **Water**
Workgroup Number: **WG235732**
Collect Date: **03/13/2007 10:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **03/19/2007 05:46**
Cal Date: **03/14/2007 21:05**
Run Date: **03/19/2007 05:46**
File ID: **6M64552**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	103	86	118	
1,2-Dichloroethane-d4	115	80	120	
Toluene-d8	98.3	88	110	
p-Bromofluorobenzene	101	86	115	

U Not detected at or above adjusted sample detection limit

Report Number: **L0703307**
Report Date : **April 4, 2007**

Sample Number:	**L0703307-08**	PrePrep Method:	**NONE**	Instrument:	**HPMS6**
Client ID:	**CT08-BRS5A04**	Prep Method:	**5030B**	Prep Date:	**03/19/2007 05:46**
Matrix:	**Water**	Analytical Method:	**8260B**	Cal Date:	**03/14/2007 21:05**
Workgroup Number:	**WG235732**	Analyst:	**MES**	Run Date:	**03/19/2007 05:46**
Collect Date:	**03/13/2007 10:35**	Dilution:	**1**	File ID:	**6M64552**
Sample Tag:	**01**	Units:	**ug/L**		

J The analyte was positively identified, but the quantitation was below the RL

LABORATORY REPORT

L0710894

11/19/07 14:05

Submitted By

KEMRON Environmental Services
156 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: MACTEC Engineering & Consulting
511 Congress Street
PO Box 7050
Portland, ME 04112-7050
Attention: Christian Ricardi

Account Number: 2756
Work ID:

P.O. Number: MEC51050340

Sample Summary

Client ID	Lab ID	Date Collected	Date Received
CT08-MWS2105	L0710894-01	10/29/2007 11:13	10/31/2007
CT08-MWS2005	L0710894-02	10/29/2007 12:28	10/31/2007
CT08-BRS0605	L0710894-03	10/29/2007 13:33	10/31/2007
CT08-BRD0605	L0710894-04	10/29/2007 13:33	10/31/2007
CT08-BRMS0605	L0710894-05	10/29/2007 13:33	10/31/2007
CT08-BRMSD0605	L0710894-06	10/29/2007 13:33	10/31/2007
CT08-BRS0705	L0710894-07	10/29/2007 15:23	10/31/2007
TRIP BLANK	L0710894-08	10/29/2007	10/31/2007

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0710894**
Report Date : **November 19, 2007**

Sample Number: **L0710894-01**
Client ID: **CT08-MWS2105**
Matrix: **Water**
Workgroup Number: **WG254825**
Collect Date: **10/29/2007 11:13**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS8**
Prep Date: **11/06/2007 13:34**
Cal Date: **10/22/2007 15:58**
Run Date: **11/06/2007 13:34**
File ID: **8M341354**

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	6.77	J	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0	2.29		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50

Sample Number: L0710894-01
Client ID: CT08-MWS2105
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 11:13
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 13:34
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 13:34
File ID: 8M341354

Analyte	CAS. Number	Result	Qual	RL	MDL
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	97.6	86	118	
1,2-Dichloroethane-d4	96.8	80	120	
Toluene-d8	101	88	110	
p-Bromofluorobenzene	105	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0710894-02
Client ID: CT08-MWS2005
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 12:28
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 14:05
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 14:05
File ID: 8M341355

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	5.50	J	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0710894**
Report Date : **November 19, 2007**

Sample Number: **L0710894-02**
Client ID: **CT08-MWS2005**
Matrix: **Water**
Workgroup Number: **WG254825**
Collect Date: **10/29/2007 12:28**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS8**
Prep Date: **11/06/2007 14:05**
Cal Date: **10/22/2007 15:58**
Run Date: **11/06/2007 14:05**
File ID: **8M341355**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0	1.58		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250

Sample Number: L0710894-02
Client ID: CT08-MWS2005
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 12:28
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 14:05
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 14:05
File ID: 8M341355

Analyte	CAS. Number	Result	Qual	RL	MDL
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	96.2	86	118	
1,2-Dichloroethane-d4	93.3	80	120	
Toluene-d8	102	88	110	
p-Bromofluorobenzene	103	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0710894-03
Client ID: CT08-BRS0605
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 13:33
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 11:32
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 11:32
File ID: 8M341350

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	5.11	J	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0710894**
Report Date : **November 19, 2007**

Sample Number: **L0710894-03**
Client ID: **CT08-BRS0605**
Matrix: **Water**
Workgroup Number: **WG254825**
Collect Date: **10/29/2007 13:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS8**
Prep Date: **11/06/2007 11:32**
Cal Date: **10/22/2007 15:58**
Run Date: **11/06/2007 11:32**
File ID: **8M341350**

Analyte	CAS. Number	Result	Qual	RL	MDL
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250

Sample Number: L0710894-03
Client ID: CT08-BRS0605
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 13:33
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 11:32
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 11:32
File ID: 8M341350

Analyte	CAS. Number	Result	Qual	RL	MDL
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	98.1	86	118	
1,2-Dichloroethane-d4	92.9	80	120	
Toluene-d8	102	88	110	
p-Bromofluorobenzene	101	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0710894-04
Client ID: CT08-BRD0605
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 13:33
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 13:04
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 13:04
File ID: 8M341353

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	2.62	J	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0710894**
Report Date : **November 19, 2007**

Sample Number: **L0710894-04**
Client ID: **CT08-BRD0605**
Matrix: **Water**
Workgroup Number: **WG254825**
Collect Date: **10/29/2007 13:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS8**
Prep Date: **11/06/2007 13:04**
Cal Date: **10/22/2007 15:58**
Run Date: **11/06/2007 13:04**
File ID: **8M341353**

Analyte	CAS. Number	Result	Qual	RL	MDL
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00

Sample Number: L0710894-04
Client ID: CT08-BRD0605
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 13:33
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 13:04
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 13:04
File ID: 8M341353

Analyte	CAS. Number	Result	Qual	RL	MDL
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	96.9	86	118	
1,2-Dichloroethane-d4	94.1	80	120	
Toluene-d8	101	88	110	
p-Bromofluorobenzene	103	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0710894-05
Client ID: CT08-BRMS0605
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 13:33
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 12:03
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 12:03
File ID: 8M341351

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	25.4		10.0	2.50
Acrylonitrile	107-13-1	21.6	J	100	2.50
Benzene	71-43-2	19.6		1.00	0.125
Bromobenzene	108-86-1	21.7		1.00	0.125
Bromochloromethane	74-97-5	22.0		1.00	0.200
Bromodichloromethane	75-27-4	21.4		1.00	0.250
Bromoform	75-25-2	21.6		1.00	0.540
Bromomethane	74-83-9	19.2		1.00	0.500
2-Butanone	78-93-3	22.9		10.0	2.50
n-Butylbenzene	104-51-8	21.3		1.00	0.250
sec-Butylbenzene	135-98-8	21.4		1.00	0.250
tert-Butylbenzene	98-06-6	20.6		1.00	0.250
Carbon disulfide	75-15-0	18.6		1.00	0.500
Carbon tetrachloride	56-23-5	19.6		1.00	0.250
Chlorobenzene	108-90-7	20.5		1.00	0.125
Chloroethane	75-00-3	21.6		1.00	0.500
Chloroform	67-66-3	19.9		1.00	0.125
Chloromethane	74-87-3	19.2		1.00	0.250
2-Chlorotoluene	95-49-8	21.4		1.00	0.125
4-Chlorotoluene	106-43-4	20.9		1.00	0.250

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0710894**
Report Date : **November 19, 2007**

Sample Number: **L0710894-05**
Client ID: **CT08-BRMS0605**
Matrix: **Water**
Workgroup Number: **WG254825**
Collect Date: **10/29/2007 13:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS8**
Prep Date: **11/06/2007 12:03**
Cal Date: **10/22/2007 15:58**
Run Date: **11/06/2007 12:03**
File ID: **8M341351**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,2-Dichlorobenzene	95-50-1	20.4		1.00	0.125
1,3-Dichlorobenzene	541-73-1	20.6		1.00	0.250
1,4-Dichlorobenzene	106-46-7	19.9		1.00	0.125
cis-1,2-Dichloroethene	156-59-2	22.4		1.00	0.250
1,3-Dichloropropane	142-28-9	22.4		1.00	0.200
Dibromochloromethane	124-48-1	21.3		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	20.7		5.00	1.00
1,2-Dibromoethane	106-93-4	22.2		1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6	17.2		10.0	1.02
2,2-Dichloropropane	594-20-7	18.2		1.00	0.250
Dichlorodifluoromethane	75-71-8	21.6		1.00	0.250
1,1-Dichloroethane	75-34-3	20.5		1.00	0.125
1,2-Dichloroethane	107-06-2	20.2		1.00	0.250
1,1-Dichloroethene	75-35-4	20.8		1.00	0.500
trans-1,2-Dichloroethene	156-60-5	20.4		1.00	0.250
1,1-Dichloropropene	563-58-6	20.7		1.00	0.250
1,2-Dichloropropane	78-87-5	21.8		1.00	0.125
cis-1,3-Dichloropropene	10061-01-5	21.1		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	19.6		1.00	0.500
Diethyl ether	60-29-7	115		10.0	5.00
Diisopropyl ether	108-20-3	112		10.0	5.00
1,4-Dioxane	123-91-1	166		100	50.0
Ethyl benzene	100-41-4	21.9		1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3	110		10.0	5.00
Hexachlorobutadiene	87-68-3	18.6		1.00	0.250
2-Hexanone	591-78-6	19.8		10.0	2.50
Isopropylbenzene	98-82-8	19.7		1.00	0.250
4-Methyl-2-pentanone	108-10-1	19.1		10.0	2.50
Methylene chloride	75-09-2	20.4		5.00	0.250
Methyl tert butyl ether	1634-04-4	23.8		5.00	0.500
Naphthalene	91-20-3	21.7		1.00	0.200
n-Propylbenzene	103-65-1	21.8		1.00	0.125
p-Isopropyltoluene	99-87-6	20.5		1.00	0.250
Propionitrile	107-12-0	110		5.00	2.50
Styrene	100-42-5	23.5		1.00	0.125
Tert-Amyl-Methyl ether	994-05-8	110		10.0	5.00
Tert-Butyl Alcohol	75-65-0	205		100	50.0
1,1,1,2-Tetrachloroethane	630-20-6	21.6		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	23.4		1.00	0.125
Tetrachloroethene	127-18-4	20.7		1.00	0.250
Tetrahydrofuran	109-99-9	110		50.0	25.0
Toluene	108-88-3	21.7		1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	19.4		5.00	2.00
1,2,3-Trichlorobenzene	87-61-6	20.3		1.00	0.125
1,2,4-Trichlorobenzene	120-82-1	20.6		1.00	0.200
1,1,1-Trichloroethane	71-55-6	19.7		1.00	0.250
1,1,2-Trichloroethane	79-00-5	23.3		1.00	0.250
Trichloroethene	79-01-6	21.1		1.00	0.250

Sample Number: L0710894-05
Client ID: CT08-BRMS0605
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 13:33
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 12:03
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 12:03
File ID: 8M341351

Analyte	CAS. Number	Result	Qual	RL	MDL
Trichlorofluoromethane	75-69-4	14.8		1.00	0.250
1,2,3-Trichloropropane	96-18-4	23.1		1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	22.4		1.00	0.250
1,3,5-Trimethylbenzene	108-67-8	21.7		1.00	0.250
Vinyl chloride	75-01-4	22.8		1.00	0.250
o-Xylene	95-47-6	22.2		1.00	0.500
m-,p-Xylene	136777-61-2	43.1		1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	95.9	86	118	
1,2-Dichloroethane-d4	89.5	80	120	
Toluene-d8	101	88	110	
p-Bromofluorobenzene	102	86	115	

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0710894-06
Client ID: CT08-BRMSD0605
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 13:33
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 12:33
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 12:33
File ID: 8M341352

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	27.8		10.0	2.50
Acrylonitrile	107-13-1	22.5	J	100	2.50
Benzene	71-43-2	19.7		1.00	0.125
Bromobenzene	108-86-1	21.6		1.00	0.125
Bromochloromethane	74-97-5	21.9		1.00	0.200
Bromodichloromethane	75-27-4	21.9		1.00	0.250
Bromoform	75-25-2	22.1		1.00	0.540
Bromomethane	74-83-9	19.5		1.00	0.500
2-Butanone	78-93-3	24.2		10.0	2.50
n-Butylbenzene	104-51-8	21.2		1.00	0.250
sec-Butylbenzene	135-98-8	21.4		1.00	0.250
tert-Butylbenzene	98-06-6	20.8		1.00	0.250
Carbon disulfide	75-15-0	18.6		1.00	0.500
Carbon tetrachloride	56-23-5	20.0		1.00	0.250
Chlorobenzene	108-90-7	20.4		1.00	0.125
Chloroethane	75-00-3	22.0		1.00	0.500
Chloroform	67-66-3	19.8		1.00	0.125
Chloromethane	74-87-3	19.6		1.00	0.250
2-Chlorotoluene	95-49-8	22.0		1.00	0.125
4-Chlorotoluene	106-43-4	20.2		1.00	0.250
1,2-Dichlorobenzene	95-50-1	20.5		1.00	0.125
1,3-Dichlorobenzene	541-73-1	20.5		1.00	0.250
1,4-Dichlorobenzene	106-46-7	19.8		1.00	0.125
cis-1,2-Dichloroethene	156-59-2	21.9		1.00	0.250
1,3-Dichloropropane	142-28-9	23.0		1.00	0.200
Dibromochloromethane	124-48-1	21.7		1.00	0.250

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0710894**
Report Date : **November 19, 2007**

Sample Number: **L0710894-06**
Client ID: **CT08-BRMSD0605**
Matrix: **Water**
Workgroup Number: **WG254825**
Collect Date: **10/29/2007 13:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS8**
Prep Date: **11/06/2007 12:33**
Cal Date: **10/22/2007 15:58**
Run Date: **11/06/2007 12:33**
File ID: **8M341352**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,2-Dibromo-3-chloropropane	96-12-8	22.3		5.00	1.00
1,2-Dibromoethane	106-93-4	23.0		1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6	18.1		10.0	1.02
2,2-Dichloropropane	594-20-7	18.5		1.00	0.250
Dichlorodifluoromethane	75-71-8	21.4		1.00	0.250
1,1-Dichloroethane	75-34-3	20.4		1.00	0.125
1,2-Dichloroethane	107-06-2	21.0		1.00	0.250
1,1-Dichloroethene	75-35-4	20.6		1.00	0.500
trans-1,2-Dichloroethene	156-60-5	20.1		1.00	0.250
1,1-Dichloropropene	563-58-6	20.8		1.00	0.250
1,2-Dichloropropane	78-87-5	21.8		1.00	0.125
cis-1,3-Dichloropropene	10061-01-5	21.6		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	20.5		1.00	0.500
Diethyl ether	60-29-7	118		10.0	5.00
Diisopropyl ether	108-20-3	113		10.0	5.00
1,4-Dioxane	123-91-1	208		100	50.0
Ethyl benzene	100-41-4	21.3		1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3	114		10.0	5.00
Hexachlorobutadiene	87-68-3	18.8		1.00	0.250
2-Hexanone	591-78-6	22.4		10.0	2.50
Isopropylbenzene	98-82-8	19.9		1.00	0.250
4-Methyl-2-pentanone	108-10-1	21.3		10.0	2.50
Methylene chloride	75-09-2	20.3		5.00	0.250
Methyl tert butyl ether	1634-04-4	26.2		5.00	0.500
Naphthalene	91-20-3	22.8		1.00	0.200
n-Propylbenzene	103-65-1	21.6		1.00	0.125
p-Isopropyltoluene	99-87-6	20.5		1.00	0.250
Propionitrile	107-12-0	117		5.00	2.50
Styrene	100-42-5	23.6		1.00	0.125
Tert-Amyl-Methyl ether	994-05-8	116		10.0	5.00
Tert-Butyl Alcohol	75-65-0	242		100	50.0
1,1,1,2-Tetrachloroethane	630-20-6	21.7		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	24.8		1.00	0.125
Tetrachloroethene	127-18-4	20.4		1.00	0.250
Tetrahydrofuran	109-99-9	116		50.0	25.0
Toluene	108-88-3	21.6		1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	19.3		5.00	2.00
1,2,3-Trichlorobenzene	87-61-6	20.9		1.00	0.125
1,2,4-Trichlorobenzene	120-82-1	20.8		1.00	0.200
1,1,1-Trichloroethane	71-55-6	20.2		1.00	0.250
1,1,2-Trichloroethane	79-00-5	23.8		1.00	0.250
Trichloroethene	79-01-6	21.0		1.00	0.250
Trichlorofluoromethane	75-69-4	15.5		1.00	0.250
1,2,3-Trichloropropane	96-18-4	24.4		1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	22.1		1.00	0.250
1,3,5-Trimethylbenzene	108-67-8	21.8		1.00	0.250
Vinyl chloride	75-01-4	22.3		1.00	0.250
o-Xylene	95-47-6	22.4		1.00	0.500

Sample Number: L0710894-06
Client ID: CT08-BRMSD0605
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 13:33
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 12:33
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 12:33
File ID: 8M341352

Analyte	CAS. Number	Result	Qual	RL	MDL
m-,p-Xylene	136777-61-2	43.1		1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	95.8	86	118	
1,2-Dichloroethane-d4	92.8	80	120	
Toluene-d8	101	88	110	
p-Bromofluorobenzene	102	86	115	

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0710894-07
Client ID: CT08-BRS0705
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 15:23
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 14:35
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 14:35
File ID: 8M341356

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0710894**
Report Date : **November 19, 2007**

Sample Number: **L0710894-07**
Client ID: **CT08-BRS0705**
Matrix: **Water**
Workgroup Number: **WG254825**
Collect Date: **10/29/2007 15:23**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS8**
Prep Date: **11/06/2007 14:35**
Cal Date: **10/22/2007 15:58**
Run Date: **11/06/2007 14:35**
File ID: **8M341356**

Analyte	CAS. Number	Result	Qual	RL	MDL
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Sample Number: L0710894-07
Client ID: CT08-BRS0705
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 15:23
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 14:35
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 14:35
File ID: 8M341356

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	97.1	86	118	
1,2-Dichloroethane-d4	91.6	80	120	
Toluene-d8	101	88	110	
p-Bromofluorobenzene	103	86	115	

U Not detected at or above adjusted sample detection limit

Sample Number: L0710894-08
Client ID: TRIP BLANK
Matrix: Water
Workgroup Number: WG254825
Collect Date: 10/29/2007 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: CMS
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 11/06/2007 10:31
Cal Date: 10/22/2007 15:58
Run Date: 11/06/2007 10:31
File ID: 8M341348

Analyte	CAS. Number	Result	Qual	RL	MDL
Acetone	67-64-1	6.56	J	10.0	2.50
Acrylonitrile	107-13-1		U	100	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.540
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
Dibromochloromethane	124-48-1		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Trans-1,4-Dichloro-2-Butene	110-57-6		U	10.0	1.02
2,2-Dichloropropane	594-20-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500

KEMRON ENVIRONMENTAL SERVICES

Report Number: **L0710894**
Report Date : **November 19, 2007**

Sample Number: **L0710894-08**
Client ID: **TRIP BLANK**
Matrix: **Water**
Workgroup Number: **WG254825**
Collect Date: **10/29/2007 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS8**
Prep Date: **11/06/2007 10:31**
Cal Date: **10/22/2007 15:58**
Run Date: **11/06/2007 10:31**
File ID: **8M341348**

Analyte	CAS. Number	Result	Qual	RL	MDL
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.125
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Diethyl ether	60-29-7		U	10.0	5.00
Diisopropyl ether	108-20-3		U	10.0	5.00
1,4-Dioxane	123-91-1		U	100	50.0
Ethyl benzene	100-41-4		U	1.00	0.250
Ethyl-Tert-Butyl ether	637-92-3		U	10.0	5.00
Hexachlorobutadiene	87-68-3		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Isopropylbenzene	98-82-8		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	5.00	0.500
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
p-Isopropyltoluene	99-87-6		U	1.00	0.250
Propionitrile	107-12-0		U	5.00	2.50
Styrene	100-42-5		U	1.00	0.125
Tert-Amyl-Methyl ether	994-05-8		U	10.0	5.00
Tert-Butyl Alcohol	75-65-0		U	100	50.0
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Tetrahydrofuran	109-99-9		U	50.0	25.0
Toluene	108-88-3		U	1.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.125
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.500
m-,p-Xylene	136777-61-2		U	1.00	0.500

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	99.0	86	118	
1,2-Dichloroethane-d4	95.2	80	120	
Toluene-d8	102	88	110	
p-Bromofluorobenzene	101	86	115	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

APPENDIX D

EXPOSURE POINT CONCENTRATION CALCULATIONS

Soil Data Used in Risk Assessment

param_name	CT08-MWS1706 3/5/2007 6-8 ft	CT08-SBS0113 11/7/2006 13-15 ft	CT08-SBS0207 11/7/2006 7-9 ft	CT08-SBS0308 11/7/2006 8-10 ft	CT08-SBS0408 11/7/2006 8-10 ft	CT08-SBS0508 11/7/2006 8-10 ft	CT08-SBS0603 11/7/2006 3-5 ft	CT08-SBS0707 11/7/2006 7-9 ft	CT08-SBS0807 11/9/2006 7-9 ft	CT08-SBS0905 11/9/2006 5-7 ft	CT08-SBS1008 11/9/2006 8-10 ft
Acetone	0.0389	0.0132 U	0.0124 J	0.0139 J	0.00841 J	0.0126 UJ	0.0126 J	0.0117 U	0.0107 U	0.0113 U	0.0119 U
Methylene chloride	0.00487 U	0.0066 U	0.00145 J	0.00254 J	0.00549 U	0.0019 J	0.0054 U	0.00587 U	0.00537 U	0.00567 U	0.00595 U
Trichloroethene	0.00487 U	0.0066 U	0.00861	0.0125	0.00656	0.0102	0.0054 U	0.00332 J	0.00537 U	0.00567 U	0.00595 U
Naphthalene											
Phenanthrene											
2-Methylnaphthalene											
Arsenic											
Barium											
Cadmium											
Chromium											
Lead											
Mercury											
Selenium											
Silver											
Extractable Total Petroleum Hydrocarbons		11.5 U	11.4 U	11.5 U	12 U	11.9 U	11.3 U	12.2 U	11.6 U	11.2 U	10.8 U

U - not detected, value is the detection limit
J - value is estimated

Soil Data Used in Risk Assessment

param_name	CHI-1 04/02/90 5-7'	CHI-2 04/02/90 5-7'	M1 06/02/92 4-20"	M2 06/02/92 2-8"	M6 06/04/92 1-6"	M7 06/04/92 3-18"	M7 06/04/92 60-78"	M7 06/04/92 114-126"	M10 06/06/92 2-38"	M10 06/06/92 40-63"	SS-1 06/06/92 2-16"
Acetone											
Methylene chloride											
Trichloroethene											
Naphthalene											
Phenanthrene											
2-Methylnaphthalene											
Arsenic			4.8	1.8	3.2	3.2	7.7	3.5	1.6	0.65	3.8
Barium			82	61	96	92	180	110	78	26	120
Cadmium			0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.28	0.25 U	0.25 U	0.26
Chromium			16	9.5	19	19	24	20	20	6.5	24
Lead			73.9	7	15	10	8	5.1	15	4.2	6.4
Mercury			0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Selenium			0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Silver			0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Extractable Total Petroleum Hydrocarbons	10 U	10 U	10 U	103	22	26	10 U	10 U	10 U	10 U	10 U

U - not detected, value is the detection limit
J - value is estimated

Soil Data Used in Risk Assessment

param_name	PE-1 11/16/93 7'	PE-2 11/16/93 7'	PE-3 11/16/93 7'	PE-4 11/16/93 7'	PE-5 11/16/93 7'	PE-6 11/16/93 7'	PE-7 11/16/93 7'	PE-8 11/16/93 7'	PE-9 11/16/93 7'	PE-10 11/16/93 7'	LRS-1 11/16/93 7'
Acetone											
Methylene chloride											
Trichloroethene											
Naphthalene											1.78
Phenanthrene											0.74
2-Methylnaphthalene											1.9
Arsenic											
Barium											
Cadmium											
Chromium											
Lead											
Mercury											
Selenium											
Silver											
Extractable Total Petroleum Hydrocarbons	24.4	33.2	34.5	41.3	28.1	38.7	26.7	28.9	36.9	48.3	20 U

U - not detected, value is the detection limit
J - value is estimated

Soil Data Used in Risk Assessment

param_name	LRS-2 11/16/93 7'	BDSC009 08/09/96 0-10'	S1 08/19/97 3-12"	S2 08/19/97 3-12"	S3 08/19/97 3-12"	S4 08/19/97 3-12"
Acetone						
Methylene chloride						
Trichloroethene						
Naphthalene	0.33 U					
Phenanthrene	0.33 U					
2-Methylnaphthalene	0.33 U					
Arsenic		1.96				
Barium						
Cadmium		0.265				
Chromium		9.88				
Lead		11.6				
Mercury						
Selenium						
Silver						
Extractable Total Petroleum Hydrocarbons	52		50 U	50 U	70	72

U - not detected, value is the detection limit
J - value is estimated

Groundwater Data Used in Risk Assessment

casno	param_name	BRS0103 12/1/2006	BRS0203 11/28/2006	BRS0303 11/29/2006	BRS0403 11/29/2006	CT08-BRS4A04 3/12/2007	CT08-BRS5A04 3/13/2007	CT08-GWS0126 8/16/2005	CT08-GWS0128 2/21/2006
71-55-6	1,1,1-Trichloroethane	0.001 U	0.001 U	0.001 U	0.00162	0.001 U	0.001 U		0.001 U
108-67-8	1,3,5-Trimethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U
78-93-3	2-Butanone	R	R	0.0123 J	R	0.01 U	0.01 U		R
67-64-1	Acetone	R	R	0.0883 J	0.0379 J	R	R		R
75-15-0	Carbon disulfide	0.001 U	0.00102	0.0012	0.000695 J	0.00118 U	0.001 U		0.001 U
56-23-5	Carbon tetrachloride	0.000673 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U
67-66-3	Chloroform	0.00152	0.001 U	0.00458	0.001 U	0.000947 J	0.000251 J		0.001 U
74-87-3	Chloromethane	0.001 U	0.001 U	0.001 U	0.000604 J	0.001 U	0.001 U		0.001 U
156-59-2	Cis-1,2-Dichloroethene	0.000664 J	0.001 U	0.001 U	0.00167	0.001 U	0.001 U		0.001 U
100-41-4	Ethyl benzene	0.001 U	0.001 U	0.001 U	0.001 U	0.000456 J	0.001 U		0.001 U
1634-04-4	Methyl Tertbutyl Ether	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		0.005 U
108-88-3	Toluene	0.001 U	0.001 U	0.000345 J	0.001 U	0.000261 J	0.001 U		0.001 U
156-60-5	trans-1,2-Dichloroethene	0.0106	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U
79-01-6	Trichloroethene	0.00209	0.001 U	0.001 U	0.0385	0.00034 J	0.001 U		0.001 U
7440-38-2	Arsenic								0.000347 J
7440-39-3	Barium								0.226
7782-49-2	Selenium								0.001 U
7440-38-2	Arsenic								0.001 U
7440-39-3	Barium								0.219
7439-92-1	Lead								0.005 U
7782-49-2	Selenium								0.001 U

HLA0101	Extractable Total Petroleum Hydrocarbons							0.278 U	0.1 U

Groundwater Data Used in Risk Assessment

casno	param_name	CT08-GWS0325 2/23/2006	CT08-GWS0327 8/19/2005	CT08-GWS0627 8/17/2005	CT08-GWS0628 2/22/2006	CT08-GWS0715 2/22/2006	CT08-GWS0724 8/16/2005	CT08-GWS0819 2/22/2006	CT08-GWS0913 2/22/2006
71-55-6	1,1,1-Trichloroethane	0.001 U			0.001 U	0.001 U		0.001 U	0.001 U
108-67-8	1,3,5-Trimethylbenzene	0.001 U			0.001 U	0.001 U		0.001 U	0.001 U
78-93-3	2-Butanone	R			R	R		R	R
67-64-1	Acetone	R			R	R		0.00416 J	R
75-15-0	Carbon disulfide	0.001 U			0.001 U	0.001 U		0.001 U	0.001 U
56-23-5	Carbon tetrachloride	0.001 U			0.001 U	0.001 U		0.00354	0.001 U
67-66-3	Chloroform	0.001 U			0.001 U	0.001 U		0.00114	0.001 U
74-87-3	Chloromethane	0.001 U			0.001 U	0.001 U		0.001 U	0.001 U
156-59-2	Cis-1,2-Dichloroethene	0.001 U			0.000578 J	0.001 U		0.001 U	0.001 U
100-41-4	Ethyl benzene	0.001 U			0.001 U	0.001 U		0.001 U	0.001 U
1634-04-4	Methyl Tertbutyl Ether	0.005 U			0.005 U	0.005 U		0.005 U	0.005 U
108-88-3	Toluene	0.001 U			0.000282 J	0.000693 J		0.001 U	0.001 U
156-60-5	trans-1,2-Dichloroethene	0.001 U			0.001 U	0.001 U		0.001 U	0.001 U
79-01-6	Trichloroethene	0.001 U			0.001 U	0.001 U		0.0278	0.001 U
7440-38-2	Arsenic	0.00156 J			0.00072 J	0.00138 J		0.00523 J	0.000316 J
7440-39-3	Barium	0.267			0.285	0.19		0.35	0.0543
7782-49-2	Selenium	0.00457			0.00128	0.000648 J		0.000933 J	0.000908 J
7440-38-2	Arsenic	0.00071 J			0.000501 J	0.0011		0.000775 J	0.000299 J
7440-39-3	Barium	0.257			0.262	0.173		0.31	0.057
7439-92-1	Lead	0.00304 J			0.005 U	0.005 U		0.00515	0.005 U
7782-49-2	Selenium	0.000949 J			0.00068 J	0.001 U		0.000506 J	0.000631 J

HLA0101	Extractable Total Petroleum Hydrocarbons	0.1 U	0.299 U	0.325 U	0.102 U	0.102 U	0.281 U	0.0546 J	0.1 U

Groundwater Data Used in Risk Assessment

casno	param_name	CT08-GWS1110 8/16/2005	CT08-GWS1111 2/21/2006	CT08-GWS1218 2/23/2006	CT08-GWS1313 2/23/2006	CT08-MWS1604 3/12/2007	CT08-MWS1704 3/12/2007	CT08-MWS1804 3/12/2007	CT08-MWSM804 3/12/2007
71-55-6	1,1,1-Trichloroethane		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00029 J
108-67-8	1,3,5-Trimethylbenzene		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.000268 J	0.001 U
78-93-3	2-Butanone		R	R	R	0.01 U	0.01 U	0.01 U	0.01 U
67-64-1	Acetone		R	0.00404 J	R	R	R	R	R
75-15-0	Carbon disulfide		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
56-23-5	Carbon tetrachloride		0.001 U	0.001 U	0.001 U	0.00392	0.001 U	0.00091 J	0.00361
67-66-3	Chloroform		0.001 U	0.001 U	0.001 U	0.00163	0.000724 J	0.000297 J	0.00149 J
74-87-3	Chloromethane		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
156-59-2	Cis-1,2-Dichloroethene		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
100-41-4	Ethyl benzene		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.000532 J	0.001 U
1634-04-4	Methyl Tertbutyl Ether		0.005 U	0.005 U	0.005 U	0.000578 J	0.005 U	0.005 U	0.000619 J
108-88-3	Toluene		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.000361 J	0.001 U
156-60-5	trans-1,2-Dichloroethene		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
79-01-6	Trichloroethene		0.001 U	0.001 U	0.001 U	0.0251	0.000343 J	0.00359	0.0282
7440-38-2	Arsenic		0.001 UJ		0.001 UJ				
7440-39-3	Barium		0.0325		0.0278				
7782-49-2	Selenium		0.001 U		0.000691 J				
7440-38-2	Arsenic		0.001 U	0.001 U	0.001 U				
7440-39-3	Barium		0.0342	0.0263	0.0214				
7439-92-1	Lead		0.005 U	0.005 U	0.005 U				
7782-49-2	Selenium		0.001 U	0.001 U	0.001 U				

HLA0101	Extractable Total Petroleum Hydrocarbons		0.106 U	0.118 U	0.102 U				

Groundwater Data Used in Risk Assessment

casno	param_name	MWS0103 11/28/2006	MWS0303 11/28/2006	MWS0603 11/29/2006	MWS0703 11/28/2006	MWS0803 11/27/2006	MWS0903 11/29/2006	MWS1003 11/27/2006	MWS1103 11/27/2006
71-55-6	1,1,1-Trichloroethane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
108-67-8	1,3,5-Trimethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
78-93-3	2-Butanone	R	R	R	R	R	R	R	R
67-64-1	Acetone	R	R	R	R	R	R	R	R
75-15-0	Carbon disulfide	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
56-23-5	Carbon tetrachloride	0.00636	0.001 U	0.001 U	0.001 U	0.00387	0.001 U	0.001 U	0.001 U
67-66-3	Chloroform	0.000615 J	0.001 U	0.001 U	0.001 U	0.00155	0.001 U	0.001 U	0.001 U
74-87-3	Chloromethane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
156-59-2	Cis-1,2-Dichloroethene	0.001 U	0.001 U	0.000816 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
100-41-4	Ethyl benzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1634-04-4	Methyl Tertbutyl Ether	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
108-88-3	Toluene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
156-60-5	trans-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
79-01-6	Trichloroethene	0.001 U	0.001 U	0.000255 J	0.001 U	0.0355	0.001 U	0.001 U	0.001 U
7440-38-2	Arsenic								
7440-39-3	Barium								
7782-49-2	Selenium								
7440-38-2	Arsenic								
7440-39-3	Barium								
7439-92-1	Lead								
7782-49-2	Selenium								

HLA0101	Extractable Total Petroleum Hydrocarbons					0.102 U	0.1 U	0.1 U	0.1 U

Groundwater Data Used in Risk Assessment

casno	param_name	MWS1203 11/27/2006	MWS1303 11/29/2006	MWS1403 11/28/2006	MWS1503 11/28/2006	MWS1603 11/27/2006
71-55-6	1,1,1-Trichloroethane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
108-67-8	1,3,5-Trimethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
78-93-3	2-Butanone	R	R	R	R	R
67-64-1	Acetone	R	R	R	R	R
75-15-0	Carbon disulfide	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
56-23-5	Carbon tetrachloride	0.001 U	0.001 U	0.000742 J	0.001 U	0.00405
67-66-3	Chloroform	0.001 U	0.001 U	0.000341 J	0.001 U	0.00162
74-87-3	Chloromethane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
156-59-2	Cis-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
100-41-4	Ethyl benzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1634-04-4	Methyl Tertbutyl Ether	0.005 U	0.005 U	0.005 U	0.005 U	0.000656 J
108-88-3	Toluene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
156-60-5	trans-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
79-01-6	Trichloroethene	0.001 U	0.001 U	0.000291 J	0.001 U	0.0324
7440-38-2	Arsenic					
7440-39-3	Barium					
7782-49-2	Selenium					
7440-38-2	Arsenic					
7440-39-3	Barium					
7439-92-1	Lead					
7782-49-2	Selenium					

HLA0101	Extractable Total Petroleum Hydrocarbons	0.1 U	0.104 UJ	0.1 U	0.1 U	0.178 NJ

Data File	P:\KEMRON USARC\0004 CT Sites\0010 Mic	Variable:	Arsenic
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	10	Shapiro-Wilk Test Statisitic	0.912184
Number of Unique Samples	9	Shapiro-Wilk 5% Critical Value	0.842
Minimum	0.65	Data are normal at 5% significance level	
Maximum	7.7		
Mean	3.221	95% UCL (Assuming Normal Distribution)	
Median	3.2	Student's-t UCL	4.377391
Standard Deviation	1.994874		
Variance	3.979521	Gamma Distribution Test	
Coefficient of Variation	0.619334	A-D Test Statistic	0.233324
Skewness	1.187572	A-D 5% Critical Value	0.732775
		K-S Test Statistic	0.174888
Gamma Statistics		K-S 5% Critical Value	0.268688
k hat	2.825039	Data follow gamma distribution	
k star (bias corrected)	2.044194	at 5% significance level	
Theta hat	1.140161		
Theta star	1.575682	95% UCLs (Assuming Gamma Distribution)	
nu hat	56.50078	Approximate Gamma UCL	4.836407
nu star	40.88388	Adjusted Gamma UCL	5.203915
Approx.Chi Square Value (.05)	27.22826		
Adjusted Level of Significance	0.0267	Lognormal Distribution Test	
Adjusted Chi Square Value	25.30537	Shapiro-Wilk Test Statisitic	0.954285
		Shapiro-Wilk 5% Critical Value	0.842
Log-transformed Statistics		Data are lognormal at 5% significance level	
Minimum of log data	-0.430783		
Maximum of log data	2.04122	95% UCLs (Assuming Lognormal Distribution)	
Mean of log data	0.982385	95% H-UCL	5.999659
Standard Deviation of log data	0.686265	95% Chebyshev (MVUE) UCL	6.492578
Variance of log data	0.470959	97.5% Chebyshev (MVUE) UCL	7.879027
		99% Chebyshev (MVUE) UCL	10.60244
		95% Non-parametric UCLs	
		CLT UCL	4.25863
		Adj-CLT UCL (Adjusted for skewness)	4.511767
		Mod-t UCL (Adjusted for skewness)	4.416875
		Jackknife UCL	4.377391
		Standard Bootstrap UCL	4.234242
		Bootstrap-t UCL	4.802318
RECOMMENDATION		Hall's Bootstrap UCL	6.63388
Data are normal (0.05)		Percentile Bootstrap UCL	4.196
		BCA Bootstrap UCL	4.58
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	5.970744
		97.5% Chebyshev (Mean, Sd) UCL	7.16056
		99% Chebyshev (Mean, Sd) UCL	9.497724

DATA ENTRY SHEET

GW-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_{gw} (µg/L)	Chemical
56235	6.36E+00	Carbon tetrachloride

MORE ↓

ENTER Average soil/ groundwater temperature, T_s (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_f (cm)	ENTER Depth below grade to water table, L_{wT} (cm)	ENTER Totals must add up to value of L_{wT} (cell G28) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
10	15	91	91			A	SC	SC		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
SC	1.63	0.385	0.197	C	1.43	0.459	0.215	C	1.43	0.459	0.215

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	1000	1000	244	0.1	0.25	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	-1
				Used to calculate risk-based groundwater concentration	

END

INTERMEDIATE CALCULATIONS SHEET

Carbon Tetrachloride

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Thickness of capillary zone, L_{cz} (cm)	Total porosity in capillary zone, n_{cz} (cm^3/cm^3)	Air-filled porosity in capillary zone, $\theta_{a,cz}$ (cm^3/cm^3)	Water-filled porosity in capillary zone, $\theta_{w,cz}$ (cm^3/cm^3)	Floor-wall seam perimeter, X_{crack} (cm)
7.88E+08	76	0.188	0.244	0.244	0.299	1.74E-09	0.837	1.46E-09	30.00	0.385	0.030	0.355	4.000

Bldg. ventilation rate, $Q_{building}$ (cm^3/s)	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. groundwater temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.69E+04	1.06E+06	3.77E-04	15	7,859	1.50E-02	6.46E-01	1.75E-04	2.01E-03	0.00E+00	0.00E+00	7.46E-06	1.88E-05	76

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
15	4.11E+03	0.10	1.47E+00	2.01E-03	4.00E+02	7.89E+07	1.31E-05	5.39E-02	1.5E-05	1.8E-01

END

DATA ENTRY SHEET

GW-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
67663	4.58E+00	Chloroform

MORE ↓

ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER Totals must add up to value of L_{WT} (cell G28) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
10	15	91	91			A	SC	SC		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)
SC	1.63	0.385	0.197	C	1.43	0.459	0.215	C	1.43	0.459	0.215

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg OR Leave blank to calculate Q_{soil} (L/m)
10	40	1000	1000	244	0.1	0.25	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based groundwater concentration.	

END

INTERMEDIATE CALCULATIONS SHEET

Chloroform

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{ro} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Thickness of capillary zone, L_{cz} (cm)	Total porosity in capillary zone, n_{cz} (cm^3/cm^3)	Air-filled porosity in capillary zone, $\theta_{a,cz}$ (cm^3/cm^3)	Water-filled porosity in capillary zone, $\theta_{w,cz}$ (cm^3/cm^3)	Floor-wall seam perimeter, X_{crack} (cm)
7.88E+08	76	0.188	0.244	0.244	0.299	1.74E-09	0.837	1.46E-09	30.00	0.385	0.030	0.355	4.000

Bldg. ventilation rate, $Q_{building}$ (cm^3/s)	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. groundwater temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.69E+04	1.06E+06	3.77E-04	15	7.554	1.86E-03	8.02E-02	1.75E-04	2.69E-03	0.00E+00	0.00E+00	3.28E-05	8.15E-05	76

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
15	3.67E+02	0.10	1.47E+00	2.69E-03	4.00E+02	8.23E+05	3.78E-05	1.39E-02	2.3E-05	1.0E-01

END

DATA ENTRY SHEET

GW-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

ENTER Chemical CAS No (numbers only, no dashes)	ENTER Initial groundwater conc., C_{iw} (µg/L)	Chemical
79016	3.85E+01	Trichloroethylene

MORE ↓

ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER Totals must add up to value of L_{WT} (cell G28) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
10	15	91	91			A	SC	SC		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)
SC	1.63	0.385	0.197	C	1.43	0.459	0.215	C	1.43	0.459	0.215

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	1000	1000	244	0.1	0.25	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based groundwater concentration	

END

INTERMEDIATE CALCULATIONS SHEET

Trichloroethene

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Thickness of capillary zone, L_{cz} (cm)	Total porosity in capillary zone, n_{cz} (cm^3/cm^3)	Air-filled porosity in capillary zone, $\theta_{a,cz}$ (cm^3/cm^3)	Water-filled porosity in capillary zone, $\theta_{w,cz}$ (cm^3/cm^3)	Floor-wall seam perimeter, X_{crack} (cm)
7.88E+08	76	0.188	0.244	0.244	0.299	1.74E-09	0.837	1.46E-09	30.00	0.385	0.030	0.355	4.000

Bldg. ventilation rate, $Q_{building}$ (cm^3/s)	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. groundwater temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.69E+04	1.06E+06	3.77E-04	15	8.557	4.78E-03	2.06E-01	1.75E-04	2.04E-03	0.00E+00	0.00E+00	1.41E-05	3.53E-05	76

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
15	7.92E+03	0.10	1.47E+00	2.04E-03	4.00E+02	6.21E+07	2.17E-05	1.72E-01	2.0E-06	6.0E-01

END