AECOM
2 Technology Park Drive
Westford, MA 01886-3140

978.589.3000 tel
978.589.3100 fax

REPORT - HW 130165 - 2010 - 12, FINAL - OWS_CLOSURE_REPORT_PDF

December 10, 2010

Mr. Nick Acampora
New York State Department of Environmental Conservation
One Hunters Point Plaza
47-40 21st Street
Long Island City, New York 11101-6454

Subject: Oil Water Separator Closure Report
Former Gulf Oil PBS Terminal
1 Industrial Place
Oceanside, New York

Dear Mr. Acampora,

AECOM, on behalf of Gulf Oil Limited Partnership (Gulf), is submitting an Oil Water Separator (OWS) Closure Report for the above referenced facility. The report summarizes the actions taken between October 18 and October 21, 2010 to close out one 4,000-gallon OWS, one 8,000-gallon OWS and the associated lift station. The work was done under a Building Permit issued to Gulf on October 5, 2010 by the Town of Hempstead Department of Buildings. If you have any questions, please call me at (978) 589-3078.

Sincerely,

Jennifer Hadden
Project Manager

Attachment

cc: Mr. Donald A. Smith, Cumberland Gulf Group of Companies

J:\Northboro\PST\GULF LP\TERMINALS\Oceanside\OW Seperator Removal\Report\Oceanside OWS Closure Report Cover Letter.docx

AECOM Environment

Prepared for:
Gulf Oil Limited Partnership
Framingham, MA

Prepared by:
AECOM
Westford, MA
60136875
December 10, 2010

Oil Water Separator Closure Report

Former Gulf Oil Terminal
1 Industrial Place
Oceanside, New York

AECOM Environment

Prepared for:
Gulf Oil Limited Partnership
Framingham, MA

Prepared by:
AECOM
Westford, MA
60136875
December 10, 2010

Oil Water Separator Closure Report

Former Gulf Oil Terminal
1 Industrial Place
Oceanside, New York

Prepared By
Joanne Newell
Geologist

Reviewed By
Jennifer Hadden
Project Manager

Reviewed By
David Espy
Department Manager

Date: December 2010

Contents

List of Appendices

1.0 Introduction

On behalf of Gulf Oil Limited Partnership (Gulf), AECOM Environment (AECOM) has completed this Oil Water Separator (OWS) Closure Report for the Former Gulf Oil Corporation Terminal located at 1 Industrial Place, Oceanside, New York. Between October 18 and October 21, 2010, AECOM personnel were on-site to oversee the removal of one 4,000-gallon, one 8,000-gallon OWS, and associated lift station. It should be noted that the work completed during October 2010 was completed under guidance and permitting provided by the Town of Hempstead. Refer to **Appendix A** for a copy of the permits provided by the Town of Hempstead.

Activities involving the removal of the OWSs and lift station were performed by Fenley and Nicol Environmental Inc. (F&N) of Deer Park, New York. The terminal property has documented site-wide historical petroleum and chlorinated impacts in soil and groundwater that are being addressed by Chevron Environmental Management Company (CEMC). In 2009, the Former Gulf Oil Corporation Terminal property was transferred by the New York State Department of Environmental Conservations (NYSDEC) into the Hazardous Waste Program (State Superfund Site). An Order on Consent and Administrative Settlement was executed between the NYSDEC and CEMC on December 23, 2009. ARCADIS U.S. Inc. (ARCADIS) is currently providing environmental consulting services to CEMC for this site. Since the site is currently regulated under the State Superfund program, soil management during the separator removal was discussed with ARCADIS. Based on visual observations and field screening data collected during the OWS removal it appeared that the impacts detected during the removal were consistent with historical impacts identified on this portion of the site.

AECOM and ARCADIS decided to leave the impacted soils on-site to be later addressed during the implementation of the May 2010 Remedial Investigation/Feasibility Study (RI/FS) Work Plan. All findings and opinions made in this report are based upon the work performed and are subject to the service constraints presented in **Appendix B**.

2.0 Site Description and Characteristics

2.1 Site Description

The site is located on an approximately 7.2-acre lot in Oceanside, New York. The site is currently unoccupied and the aboveground storage tanks associated with the former bulk oil distribution terminal have been removed. According to information obtained from ARCADIS's RI/FS Work Plan, dated May 2010, the site consists of Lots 502, 503, and 504. In 1931, Gulf Oil Corporation developed Lot 504 and utilized the property for a petroleum terminal. Subsequently, Gulf Oil Corporation purchased Lot 503 in 1950 and Lot 502 in 1956. In the mid 1980s, CEMC acquired Gulf Oil Corporation and later divested the property in May 1986 to Cumberland Farms, Inc. (CFI). In December 1993, CFI and Catamount Petroleum LP (Catamount), formed Gulf Oil Limited Partnership (Gulf), with CFI and Catamount each own a portion of Gulf as general partners. In September 2005, CFI bought out Catamount and reorganized Gulf under a new general partner. Between the early 1990s and 2005, demolition activities, including the removal of the former petroleum above ground storage tanks (ASTs), the maintenance building, office and other small out buildings.

The property is abutted to the north by the Former Exxon Petroleum Bulk Oil Terminal. Long Island Railroad abuts the property to the east and Barnum Island Channel abuts the property to the south. Hampton Road, beyond which is a junk yard are located to the west of the property. Refer to **Figure 1**, Site Locus, for regional locations of the site and **Figure 2**, for the locations of pertinent site features.

2.2 Release History

Based on previous investigations, soil and groundwater beneath the site is impacted with petroleum and chlorinated volatile organic compounds (CVOCs). In addition, light non-aqueous phase liquid (LNAPL) has been historically identified at the site in the area of the bulkhead, the former turbine pump area, and during the demolition of buildings on the eastern portion of the site. The source of the petroleum and CVOCs detected on-site are the historical operation of the property as a terminal from 1931 until the 1990's.

Subsurface investigations were completed in June 2000 and May 2001 on behalf of Gulf. The investigations were completed as part of due diligence efforts for the potential sale of the facility. Following the submittal of the findings of the 2000 and 2001 subsurface investigations, Chevron, as the responsible party for the site, initiated a series of investigation and corrective action plans under approval from the NYSDEC. Chevron submitted a Corrective Action Plan in 2002 and a Remedial Investigation and modified Corrective Action Plan in 2005.

In February 2006, the NYSDEC gave Chevron the option of managing the site as a State Superfund Site or to submit an application to the Brownfields Cleanup Program (BCP Program). A BCP application was submitted to the NYSDEC by Lowe's on behalf of Chevron in August 2006 as a "Volunteer" under the program.

According to the May 2010 Remedial Investigation / Feasibility Study Work Plan, submitted by ARCADIS, the NYSDEC accepted Lowe's as a volunteer under the BCP – Site No. C130165.

Subsequently, Lowe's withdrew from the BCP and in 2009 the NYSDEC transferred the site from the BCP to the Hazardous Waste Program (State Superfund Site).

3.0 Site Characteristics

3.1 Geology

According to information obtained from previous environmental reports, the subsurface soils consist of a shallow sandy fill up to ten feet thick. Underlying the sandy silt is a meadow mat, consisting of tight silt, clay, and organics. The thickness of the meadow mat ranges, but has been observed to be up to eight feet thick. Beneath the meadow mat is a sandy layer measuring up to thirty-five feet thick.

3.2 Hydrology

Based on the information obtain from ARCADIS May 2010 Remedial Investigation/Feasibility Study (RI/FS) Work Plan, groundwater at the site ranges from one to three feet below surface grade (bsg). Groundwater flow is in a semi-radial direction, with the flow on western portion of the site in a westerly direction towards Hog Island (west). Groundwater on the southern portion of the site flows in a southerly direction towards Barnum's Channel, and groundwater flow on the eastern portion of the site in an easterly direction toward an unnamed channel. In addition, the site is tidally influenced.

4.0 Health and Safety

Since the OWS removal work may have involved hazardous substances and potentially dangerous conditions, AECOM developed a Health and Safety Plan in accordance with the Occupational Safety and Health Administration (OSHA) under Hazardous Waste Operations & Emergency Response 29 CFR 1910.120. The trained AECOM field personnel had a Health and Safety Plan on-site during field activities and a copy of the Health and Safety Plan is on file at AECOM.

5.0 Excavation and Removal Activities

In October 2010, AECOM oversaw the removal of one 8,000-gallon fiberglass OWS (South Tank), one 4,000-gallon double-walled fiberglass OWS (North Tank), and the lift station which included two lift pumps. In addition, AECOM oversaw the advancement of six test pits. Refer to **Figure 2**, Site Plan for the location of pertinent site features and **Appendix C** for site photographs.

5.1 South OWS Excavation and Removal

On October 18, 2010, AECOM observed the removal of one 8,000-gallon OWS. For the purpose of this report the 8,000-gallon OWS will be referred to as the South Tank or South OWS. The South OWS was constructed of fiberglass and prior to its removal, the OWS was observed to be in good condition with no evidence of holes of cracks.

Prior to the removal of the South OWS, soil was excavated from around the OWS and temporarily stockpiled on poly sheeting. A Photoionization Detector (PID) was used to field screen soil excavated from around the OWS. PID readings ranged from 2 parts-per-million (ppm) along the west wall, 4 ppm along the north wall, 6 ppm along the south wall, and10 ppm along the east wall. Based on the PID readings one soil composite sample (South O/W) of the north, east, south, and west walls was submitted for laboratory analysis to Groundwater Analytical of Buzzards Bay, Massachusetts under proper chain of custody for analysis of volatile organic compounds (VOCs) by 8260B, semi volatile organic compounds (SVOCs) by 8270C, and 5 RCRA Metals.

During the excavation, groundwater was observed to be approximately 1.5 feet bsg. In addition, AECOM observed groundwater in the OWS prior to its removal. AECOM attempted to vacuum out the inside of the tank but the tank continually recharged as the water was removed. Due to the high groundwater table and quick recharge rate, it was not feasible to pump out the tank using a vacuum truck prior to removal. AECOM observed no visible sheen on the surface of the water contained within the OWS. F&N personnel stuck the bottom of the tank to ensure no sludge was present. Based on the lack of any sludgeon the tank bottom, no visual impacts to the water within the OWS and lack of feasibility to pump out the tank, AECOM did not pump out the OWS prior to its removal.

Upon removal of the OWS, AECOM observed a sheen on the surface of the groundwater within the grave of the South OWS. Based on the sheen observed on the surface of the groundwater AECOM submitted a groundwater sample for laboratory analysis to Groundwater Analytical under proper chain of custody for analysis of VOCs by 8260B, SVOCs by 8270C, and 5 RCRA Metals.

5.2 North OWS Excavation and Removal

On October 19, 2010, AECOM observed the removal of one 4,000-gallon OWS. For the purpose of this report the 4,000-gallon OWS will be referred to as the North Tank or North OWS. The North OWS was a double walled fiberglass OWS with a blue brine interstitial layer, which is used to verify the integrity of the OWS. AECOM observed the OWS and brine layer to be in good condition with no evidence of integrity loss.

During the assessment of the North OWS, groundwater was observed to be approximately 2.5 feet bsg. On October 19, 2010, United Industrial Services (United) of Bridgeport, Connecticut was on-site with a vacuum truck to attempt to pump out liquids within the North OWS and lift station. United vacuumed water from the North OWS and lift station and was unable to drawdown the water table. Based on the lack of drawdown, the piping system for the OWS tank is compromised and allowing groundwater to enter the tank. The groundwater was recharging in the tank faster than the truck could vacuum it out. In addition, AECOM attempted to drawdown the water table from the pump station but was unsuccessful. United removed 1,322 gallons of liquid from the North OWS and lift station. AECOM observed no visible sheen on the surface of the water contained within the OWS. F&N personnel stuck the bottom of the tank to ensure no sludge was present. Based on the vacuum trucks inability to depress the water table, AECOM decided to remove the tank in sections within the North OWS excavation. Refer to **Appendix D** for a copy of the Non Hazardous Waste Manifest.

Prior to the removal of the North OWS, soil was excavated from around the OWS and temporarily stockpiled on poly sheeting. Field screening along each of the side walls was conducted. PID readings ranged from 128 ppm along the north wall, 75.8 ppm along the east wall, 309 ppm along the south wall, and 238 ppm along the west wall of the excavation. Based on the elevated PID readings, a discreet soil sample was collected from the north wall (North O/W North), east wall (North O/W East), south wall (North O/W South), and along the west wall (North O/W West) for laboratory analysis of VOCs by 8260B, SVOCs by 8270C, and 5 RCRA Metals.

During the removal of the North OWS, AECOM observed gray/black soil staining and odor in the soil from the groundwater interface. In addition, a sheen was observed on the groundwater within the gravel of the OWS. Based on the visual sheen and staining observed within the grave of the North OWS, AECOM submitted a groundwater grab sample for laboratory analysis to Groundwater Analytical under proper chain of custody for analysis of VOCs by 8260B, SVOCs by 8270C, and 5 RCRA Metals

5.3 Test Pits

Based on the impacts observed during the excavation of the North and South OWS, AECOM excavated several test pits on October 19, 2010 around each excavation in an attempt to determine if the impacts were localized around the OWS's or more widespread. The test pits were excavated approximately ten feet north, south and west of the footprint of the North OWS excavation. AECOM excavated to approximately three feet bsg in each of the test pits. Based on the proximity of the Long Island Railroad, AECOM did not excavate or complete test pits to the east of the North OWS. AECOM observed a gray/black soil staining and a sheen on the water within each of the test pits surrounding the North OWS, consistent to the observations made at the North OWS. PID readings ranged from 300 and 400 ppm within the test pits.

Additionally, on October 19, 2010, AECOM excavated three test pits approximately 10 feet north, east, and west of the South OWS. AECOM excavated to approximately three feet bsg in each of the test pits. Based on the proximity of the wetland conditions to the south, AECOM did not excavate or complete test pits to the south of the South OWS. AECOM observed gray/black soil staining and a sheen on the water within each of the test pits surrounding the South OWS, consistent to the observations made at the South OWS. PID readings ranged from 30 to 40 ppm within the test pits.

5.4 Lift Pump Removal

On October 20, 2010, AECOM oversaw the removal of the lift station which included two lift pumps (Lift Pump #1 and Lift Pump #2). During the removal of the lift station, AECOM used a PID to screen representative soil samples. Soil associated with the removal of Lift Pump #1 exhibited PID readings of 29.8 ppm at a depth of 2.5 feet bsg along the east wall and 450 ppm at a depth of 2.5 feet bsg along the west wall. A sheen was observed on the groundwater within the footprint of the excavation for Lift Pump #1.

Based on the proximity of Lift Pump #2 to Lift Pump #1, the two excavations merged together to create one larger excavation. PID readings ranged from 430 ppm along the north wall, 115 ppm along the east wall, 89 ppm along the south wall, and 328 ppm along the west wall. Based on comparable PID readings, AECOM collected one composite soil of the sidewalls and one groundwater sample (LP) within the excavation for laboratory analysis. Samples were submitted under proper chain of custody to Groundwater Analytical for analysis of VOCs by 8260B, SVOCs by 8270C, and 5 RCRA Metals.

5.5 Pipe Capping

On October 20, 2010, prior to back filling the excavation areas associated with the North OWS, South OWS, and lift station, AECOM oversaw F&N cap the abandoned inlet and outlet pipes All visible pipes were capped with exception of the pipe connecting the former North OWS and the Lift Station. The Lift Station pipe was underwater and appeared to be a health and safety concern and was therefore not capped. The pipe between the North OWS and the Lift Station was left in-place.

6.0 Waste Management

6.1 Water

On October 19, 2010, approximately 1,322 gallons of groundwater were removed from the North OWS and lift station. Groundwater was removed from the OWS and lift station using a vactor truck. The groundwater removed from the OWS and lift station were transported off-site under a Non Hazardous Waste Manifest to Bridgeport United in Bridgeport, Connecticut for disposal. Refer to **Appendix D** for a copy of the Waste Manifests.

6.2 Soil

During the OWS removal and advancement of the test pits, headspace screening of soil was conducted, using a PID Model MiniRiae 2000 to determine the presence of petroleum contamination in the soil. The PID was calibrated each day using 100 ppm isobutylene, using a correction factor of 1.0. During the excavation and advancement of test pits at the North OWS, PID readings ranged from 75.8 ppm to 400 ppm. PID readings during the removal of the South OWS and completion of test pits ranged from 2 ppm to 40 ppm. PID readings during the removal of the Lift Station ranged from 29.8 ppm to 450 ppm. Since the site is currently regulated under the State Superfund program, soil management during the separator removal was discussed with ARCADIS. Based on visual observations and field screening data collected during the OWS removal it appeared that the impacts detected during the removal were consistent with historical impacts identified on this portion of the site. Therfore, AECOM and ARCADIS decided to leave the impacted soils on-site to be later addressed during the implementation of the May 2010 RI/FS Work Plan.

AECOM placed all soil segregated during the removal of the OWS and lift station back into the excavation before using RCA grade fill to backfill to grade. It should be noted that the excavations associated with the North O/W Separator, South O/W Separator and Lift Pump Removals were backfilled on October 21, 2010.

6.3 O/W Separator Removal

On October 20, 2010, the 110 Sand. Co.of West Babylon, New York disposed of the two O/W Separators. Refer to **Appendix E** for a copy of the tank disposal certificates.

7.0 Laboratory Analytical Methods and Results

7.1 Soil

Between October 18 and October 21, 2010, soil samples were collected in association with the removal of the North and South OWS and the lift pumps. A composite soil sample was collected for laboratory analysis from the north, east, south, and west walls of the South OWS (South OWS). In addition, a soil sample was collected from the north wall of the North OWS (North OWS North), east wall of the North OWS (North OWS East), the south wall of the North OWS (North OWS South), and along the west wall of the North OWS (North OWS West). One composite soil was collected for laboratory analysis for the north, east, south and west walls of the lift station (LP). Refer to Table 1 for a summary of the soil analytical data. All soil samples were submitted to Groundwater Analytical for VOC analysis using 8260B, SVOCs using 8270C, and 5 RCRA Metals.

No VOC compounds were detected in the soil above the TAGM Recommended Soil Cleanup Objectives. SVOC and Metal compounds were detected in the soil above the TAGM Recommended Soil Cleanup Objectives. Laboratory analytical results indicated concentrations of Benzo(a)anthracene, Benzo(a)pyrene, and Chrysene detect in the composite soil sample collected from the South OWS above the TAGM Recommended Soil Cleanup Objective. In addition, 2-Methylnaphthalene was detected at concentrations above the TAGM Recommended Soil Cleanup Objective in the soil samples North O/W and North O/W North. Chromium was observed at concentrations above the TAGM Recommended Soil Cleanup Objective in the soil collected from North O/W East. No other compounds were detected in the soil above the TAGM Recommended Soil Cleanup Objective. There is no data presented in the RI/FS Work Plan in the same area of the North OWS excavation and limited data for the South OWS and Lift Station excavation areas. Figure 3 of the RI/FS Work Plan indicates TAGM soil exceedances of BTEX compounds in the area of the Former Lift Station, at boring locations GP-7, GP-28 and GP-19. Figure 4 of the RI/FS Work Plan indicates TAGM soil exceedances of Benzo(a)pyrene, Benzo(b)fluoranthene, and Benzo(k)flouranthene in the area of the South OWS excavation, at well location MW-17. The compounds detected above TAGM standards in soil at the North OWS excavation and/or the South OWS excavation and are not listed as compounds of concern (COC) above Commercial Restricted Use in Table 1 of the Work Plan include 2-Methylnaphthalene, Benzo(a)anthracene, Chrysene and Chromium. Refer to **Table 1**, Soil Analytical Results, for more information. Copies of the laboratory analytical reports are included in **Appendix F**.

7.2 Groundwater

Between October 18 and October 21, 2010, groundwater samples were collected in association of the removal of the North OWS (North O/W), South OWS (South O/W), and the lift pumps (LP). Groundwater samples were submitted to Groundwater Analytical for analysis of VOC analysis using 8260B, SVOCs using 8270C, and 5 RCRA Metals. Based on the ARCADIS RI/FS Work Plan, VOC-impacted groundwater was found in the northeastern, northwestern, central and southern portions of the property. Based on Figure 8 of the RI/FS Work Plan, the North OWS and Lift Station excavation areas are located within the VOC plume which exceeds applicable standards.

VOC and SVOC compounds were detected in the groundwater above the TAGM 4046 groundwater standards. Benzene, n-Propylbenzene, and 2-Methylnaphthalene were detected above the TAGM 4046 standards in the groundwater samples collected from the North OWS and the lift pumps. In addition, n-Butylbenzene, sec-Butylbenzene, Isopropylbenzene, 2-Butanone (MEK), Acenaphthene, fluorine and Phenanthrene were detected in the groundwater sample collected from the North OWS. Toluene, ethylbenzene and Trichlorofluoromethane were detected above the TAGM 4046 standard in the groundwater sample collected from the South OWS. Naphthalene, 1,3,5 - trimethylbenzene, 1,2,4-trimethylebenzene, ethylbenzene, and total xylenes were detected at concentrations above the TAGM 4046 in groundwater sample collected by the lift pumps. Multiple VOC compounds in the LP sample were below laboratory detection limits but the detection limits were above TAGM 4046 standards. Other than those discussed above, no other compounds were detected in the groundwater above the TAGM Groundwater Standards. Please note that six VOCs and five SVOCs were detected above TAGM 4046 standards in the separator removals endpoint samples but not listed as a COC for this site in Table 2 of the RI/FS Work Plan. Refer to **Table 2**, Groundwater Analytical Results, for more information. Copies of the laboratory analytical reports are included in **Appendix E**.

8.0 Summary and Recommendations

Between October 18 and October 21, 2010, AECOM observed the removal of one 4,000 gallon OWS, one 8,000-gallon OWS, and the lift station at the Former Gulf Oil Terminal located at 1 Industrial Place, Oceanside, New York. Prior to their removal, both fiberglass OWS appeared to be competent. The North OWS was double-walled construction and the brine in-between the primary and secondary wall was in-place at the time of removal. Both OWS's contained groundwater that did not exhibit a sheen or evidence of petroleum impact. A petroleum sheen, staining and PID readings were detected in both OWS excavations. Soil samples collected from the northern excavation exhibited SVOC and chromium above the TAGM Recommended Soil Cleanup Objectives. Soil samples collected from the southern excavation exhibited SVOC above the TAGM Recommended Soil Cleanup Objectives. VOC and SVOC compounds were detected in the groundwater above the TAGM 4046 groundwater standards. Based on test pitting completed around each excavation the impacts appeared to be widespread and not localized around the OWS's. Approximately 1,322 gallons of groundwater was removed from the site for disposal. Any soil excavated during the removal of OWS's was returned to the excavation.

The terminal property has documented site-wide historical petroleum and chlorinated impacts in soil and groundwater that are being addressed by CEMC under the NYSDEC Hazardous Waste Program. Based on AECOM's review of historical reports for the terminal, the soil and groundwater impacts detected during the removal of the OWS's are consistent with the historical contaminates detected at the site.

Since the groundwater and soil impacts will be addressed during the proposed investigation and remediation under the State Superfund program by ARCADIS, on behalf of CEMC, AECOM does not recommend any further work.

9.0 References

ARCADIS U.S. Inc., Remedial Investigation/ Feasibility Study Work Plan, May 2010.

Blasland, Bouck and Lee, Inc. 2002, Corrective Action Plan.

Blasland, Bouck and Lee, Inc. 2002, Corrective Action Plan Addendum.

Blasland, Bouck and Lee, Inc. 2005, Remedial Investigation Report and Corrective Action Plan.

Lowe's Home Center, Inc. 2006. Brownfield Cleanup Program Application.

New York State Department of Environmental Conservation, Memorandum: Determination of Soil Cleanup Levels, December 20, 2000.

New York State Department of Environmental Conservation, Memorandum: Soil Cleanup Consolidation – Further Clarifications, July 10, 2001.

New York State Department of Environmental Conservation, Recommended Soil Cleanup Objectives for Gasoline Contaminated and Fuel Oil Contaminated Soils, August 22, 2001.

New York State Department of Environmental Conservation, Spills Technology and Remediation Series (STARS) Petroleum-Contaminated Soil Guidance Policy Memo #1, August 1992 (last revised).

New York State Department of Environmental Conservation, DER-10 Technical Guidance for Site Investigation and Remediation, Draft, November 4, 2009.

U.S. Environmental Protection Agency. 1988. Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA.

Figures

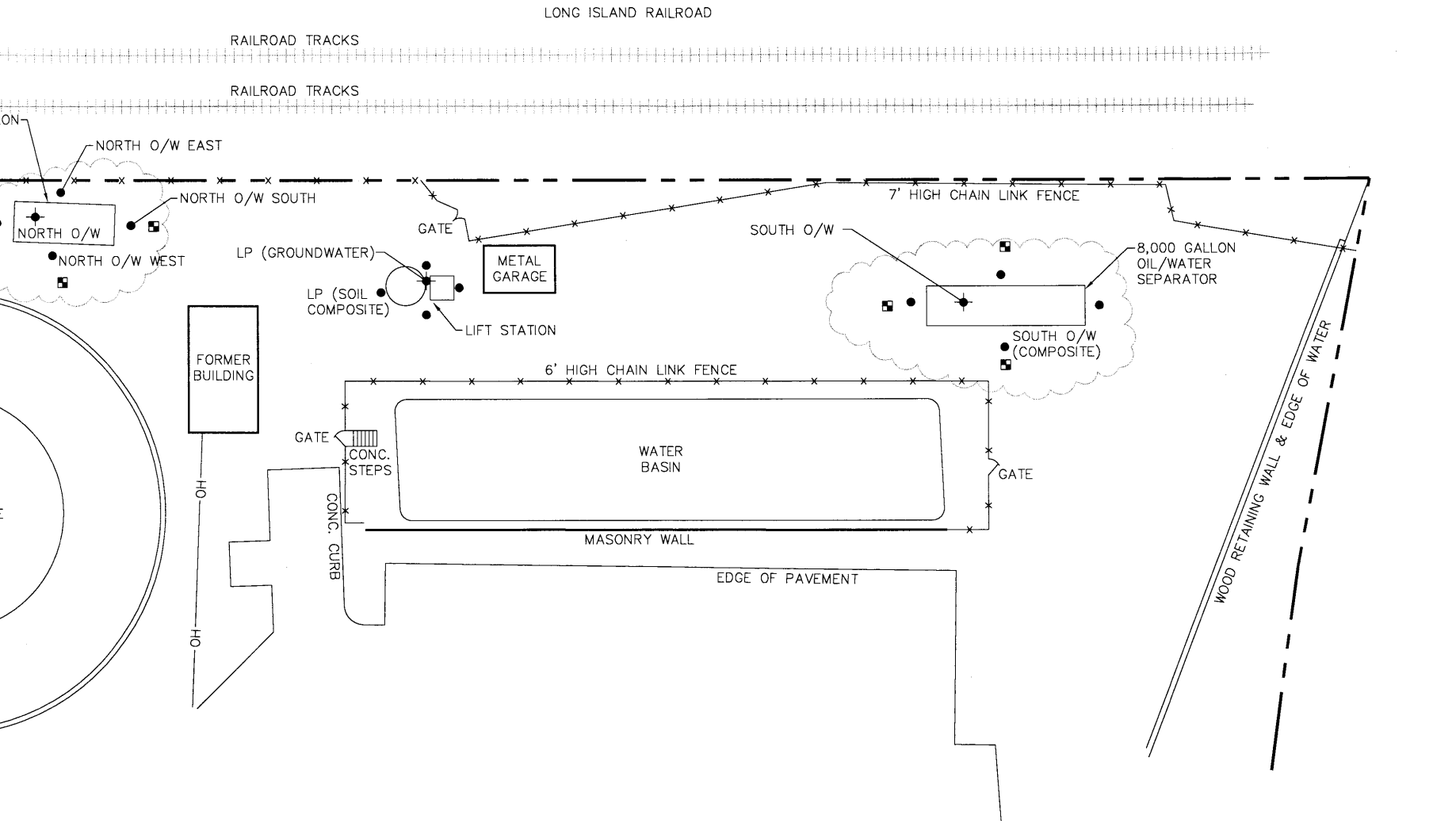
AECOM

Cumberland Oil Limited Partnership
100 Crossing Boulevard
Framingham, Massachusetts

Site Location Map

1 Industrial Place
Oceanside, New York

Job no. 60136875 **Figure 1**



REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
X	K.P.B.	J.N	X

AECOM

AECOM Environment
2 TECHNOLOGY PARK DRIVE
WESTFORD, MASSACHUSETTS 01886
PHONE: (978) 589-3000
FAX: (978) 589-3100
www.aecom.com

SITE PLAN
FORMER GULF OIL TERMINAL
1 INDUSTRIAL PLACE
OCEANSIDE, TOWN OF HEMPSTEAD
NASSAU COUNTY, NEW YORK

SCALE:	DATE:	PROJECT NUMBER:
1" = 30'	12/10	60136875

FIGURE NUMBER:
2

SHEET NUMBER:
1

Tables

Table 1
Endpoint Soil Analytical Results
Former Gulf Oil Terminal
1 Industrial Place
Oceanside, New York
October 21, 2010

Sample ID	South O/W	North O/W	North O/W East	North O/W South	North O/W /West	North O/W North	LP	TAGM Recommended Soil Cleanup Objective µg/kg
Sample Depth (feet)								
EPA 8260B Volatile Organics (µg/Kg)								
Isopropylbenzene	<5	NA	1,200	930	540	<250	<250	2,300
n-butylbenzene	<5	NA	5,400	3,700	3,200	640	<250	10,000
sec-butylbenzene	<5	NA	3,200	2,200	1,900	400	<250	10,000
tert-Butylbenzene	<5	NA	390	<500	270	<250	<250	10,000
Ethylbenzene	<5	NA	<320	<500	<250	<250	330	5,500
Naphthalene	<5	NA	5,100	<500	<250	<250	860	13,000
n-propylbenzene	<5	NA	2,500	1,900	1,700	490	<250	3,700
1,2,4-trimethylbenzene	<5	NA	<320	<500	<250	<250	2,000	10,000
1,3,5-trimethylbenzene	<5	NA	<320	<500	<250	<250	470	3,300
Toluene	<5	NA	440	<500	<250	<250	<250	1,500
Total Xylenes	<10	NA	410	<1,000	<500	<500	<500	1,200
EPA 8270C SemiVolatile Organics (µg/Kg)								
Acenaphthene	480	<3900	<1800	<3800	<3800	<3700	<390	50,000
2-Methylnaphthalene	<410	**45,000**	21,000	31,000	36,000	**58,000**	<390	36,400
Dibenzofuran	<410	<3900	<1800	3,800	<3800	<3700	<390	--
Fluorene	440	5,900	5,400	7,000	6,000	6,900	<390	50,000
Fluoranthene	1,600	<3900	<1800	<3800	<3800	<3700	<390	50,000
Phenanthrene	1,200	14,000	13,000	16,000	14,000	17,000	<390	50,000
Pyrene	1,500	<3900	<1800	<3800	<3800	<3700	<390	50,000
Benzo(a)anthracene	**490**	<3900	<1800	<3800	<3800	<3700	<390	224
Chrysene	**450**	<3900	<1800	<3800	<3800	<3700	<390	400
Benzo(b)fluoranthene	640	<3900	<1800	<3800	<3800	<3700	<390	1,100
Benzo(a)pyrene	**500**	<3900	<1800	<3800	<3800	<3700	<390	61
Trace Metals (mg/Kg)								
Arsenic	<3.9	<3.8	<3.3	<3.6	<3.5	<3.3	<3.9	7.5 or SB
Cadmium	<0.65	<0.63	<0.56	<0.60	<0.59	<0.55	<0.64	1 or SB
Chromium	6.1	4.8	**12**	5.2	5.9	4.1	8.4	10 or SB
Lead	20	28	96	32	38	29	44	SB*
Mercury	<0.021	<0.021	<0.019	0.024	<0.020	<0.018	0.022	0.1

NOTES:
Objective
mg/Kg = milligrams per kilogram, equivalent to parts-per-million (ppm)
µg/Kg = micrograms per kilogram, equivalent to parts-per-billion (ppb)
Bold and underlined indicates concentrations above NYSDEC Recommended Soil Cleanup Objectives
-- No standards per NYSDEC exist for this compound
< = Below Laboratory Reporting Limit
< and Bold = Laboratory Reporting Limit above cleanup objectives
NA = Not Analyzed
SB = Site Background
* = Background levels for lead vary widely. Average levels in undeveloped, rural areas range from 4 - 61 mg/Kg. Average background levels in metropolitan or surburban areas or near highways are much higher and typically

TABLE 2

Groundwater Analytical Results
Former Gulf Oil Terminal
1 Industrial Place
Oceanside, New York
October 21, 2010

Well ID	South O/W	North O/W	LP	Groundwater Standards (TAGM 4046)
Depth to Groundwater (feet)				
EPA 8260B Volatile Organics ug/L				
Acetone	<100	63	<500	--
Benzene	**<5**	**4**	**97**	1
n-Butylbenzene	<5	**6**	**<25**	5
sec-Butylbenzene	<5	**5**	**<25**	5
Isopropylbenzene	<5	**5**	**<25**	5
MTBE	<5	3	**<25**	10
2-Butanone (MEK)	<50	**77**	**<250**	50
Naphthalene	<5	<3	**120**	10
n-Propylbenzene	<5	**8**	**38**	5
Toluene	**39**	<3	**<25**	5
Trichlorofluoromethane	**430**	<3	**<25**	5
1,3,5-trimethylbenzene	<5	<3	**36**	5
1,2,4-Trimethylbenzene	<5	<3	**240**	5
Ethylbenzene	**6**	<3	**130**	5
Total Xylenes	**<10**	**<6**	**76**	5
EPA 8270C SemiVolatile Organics (ug/L)				
Acenaphthene	**<25**	**57**	6	20
Bis(2-ethylhexyl)phthalate	26	<25	<5	50
Fluorene	<25	**85**	8	50
2-Methylnaphthalene	<25	**450**	**73**	50
Naphthalene	**<25**	**<25**	**75**	10
Phenanthrene	<25	**150**	13	50
Phenol	28	<25	49	--
3 and 4-Methylphenol	28	<25	7	--
Pyrene	<25	<25	<5	50
Trace Metals (mg/L)				
Arsenic	0.02	0.02	NA	0.025
Cadmium	0.007	<0.004	NA	0.005
Chromium	**0.05**	0.02	NA	0.05
Lead	0.21	0.24	NA	0.025
Mercury	<0.0002	<0.0002	NA	0.0007

NOTES:
Groundwater Standards - Technical and Operational Guidance Series (TOGS)
No. 1.1.1 Table 5: New York State Groundwater Effluent Limitations Groundwater
Standards/Criteria per NYSDEC
< = below laboratory detection limits
-- No standards per NYSDEC exist for this compound
Bold and underlined indicates concentrations detected at or above NYSDEC Recommended Soil Cleanup Objectives
NS = standard or guideline not available or not established
NA = compound not analyzed
ug/L = micrograms-per-liter, equivalent to parts-per-billion
MTBE = methyl-tertiary-butyl-ether

Appendix A

Town of Hempstead Permits

Town of Hempstead
Department of Buildings
1 Washington Street
Hempstead, N.Y. 11550-4923

Building Permit

Printed 10/05/2010

This permit issued under the Town of Hempstead Building Zone Ordinance and the State Building Code.

THIS PERMIT VOID UNLESS CONSTRUCTION IS COMMENCED WITHIN 3 MONTHS AND COMPLETED WITHIN 1 YEAR EXCEPT THAT DEMOLITION SHALL COMMENCE WITHIN 15 DAYS AND BE COMPLETED WITHIN 30 DAYS FROM DATE HEROF. PLANS AND APPLICATIONS MUST BE KEPT ON PREMISES UNTIL FULL COMPLETION OF WORK. THIS PERMIT MUST BE POSTED CONSPICUOUSLY.

NOTE: The holder of this permit is required to familiarize himself with the ordinances under which said permit is granted. Any violation of the provisions of said ordinances shall render the offender liable for the penalties provided therefore, and in addition thereto may result in the immediate revocation of the permit. This permit is issued subject to the provisions of Section 57 of the Worksmens Compensation Law. Additionally all construction is required to comply with the provisions of NYS Labor Rule #56 (Asbestos) and the EPA Lead RRP Rule (Lead Paint) as applicable.

Permit No: 201008584 **Zone:** IND **Date:** 10/05/2010

Building Address: 1 INDUSTRIAL PL OCEANSIDE, NY 11572

Owner: GULF OIL L.P. **Address:** 100 CROSSING BLVD. FRAMINGHAM, MA 01702

Codes
Use: Alt/Addition **Census:** 437-Commercial Additions **Flood Zone:**

Grants: **Construction Costs:** $20,000.00

Section: 43 **Block:** 400 **Lot(s):** 05020 -504 **Bldg\Unit:**

Location: N/E COR INDUSTRIAL PL & HAMPTON RD

Work Proposed: REMOVE ONE 4K AND ONE 8K UNDERGROUND STORAGE TANKS.

Final Survey Required: N

Related References: PP/CC

Total Permit Fees: $328.00

Commissioner

John E Rottkamp

Appendix B

Service Constraints

AECOM
2 Technology Park Drive
Westford, MA 01886-3140

978.589.3000 tel
978.589.3100 fax

Service Constraints

1. Preliminary Findings

The following limitation is applicable if the report is stamped "DRAFT" or otherwise identified as preliminary: AECOM Inc. dba AECOM Environment (AECOM) has prepared this Preliminary Report at the specific request of the client. Due to Client imposed time, information, and financial restrictions, AECOM has not performed the services necessary for it to render any opinions or reach any conclusions. Accordingly, the studies, data, information, and findings contained in this Preliminary Report are not the final conclusions of AECOM, but merely basic information requested by the client upon which the Client may draw its own conclusions. Client agrees that AECOM shall not be liable for any claims, loss, damage, or expenses incurred by the Client or others arising out of the use of, or reliance on, any information contained in this Preliminary Report.

2. General

- This Report was prepared for the exclusive use of the Client. No other party is entitled to rely on the conclusions, observations, specifications, or data contained therein without the express written consent of AECOM.
- This Report was prepared pursuant to an Agreement between the Client and AECOM. All uses of and reliance upon this Report are subject to, and deemed acceptance of, the conditions and restrictions contained therein.

3. Purpose of Report

It is AECOM's understanding that this Report is to be used for the purpose described in the introduction of the Report. This stated purpose has been a significant factor in determining the scope and level of services provided for in the Agreement. Should the purpose for which the Report is to be used, or the proposed use of the site(s) change, this Report is no longer valid, and use of this Report by Client or others without AECOM's review and written authorization shall be at the user's sole risk. Should AECOM be required to review the Report after its date of submission, AECOM shall be entitled to additional compensation at then existing rates or such other terms as agreed between AECOM and the Client.

4. Scope of Services

The observations and conclusions described in this Report are based solely on the Scope of Services provided pursuant to the Agreement between Client and AECOM and summarized in the introduction of this Report. AECOM has not performed any additional observations, investigations, studies, or testing not specifically stated therein. AECOM shall not be liable for the existence of any condition, the discovery of which required the performance of services not authorized under the Agreement. Unless otherwise specified in the introduction of this Report, AECOM did not evaluate the presence of asbestos, electromagnetic fields, lead paint, lead or copper in water, radon gas or other radioactive or infectious materials.

5. Time

The passage of time may result in changes in technology, economic conditions, site variations, or regulatory provisions which would render the Report inaccurate. Accordingly, neither the Client, nor any other party, shall rely on the information or conclusions contained in this Report after three (3) months from its date of submission without the express written consent of AECOM. Reliance on the Report after such period of time shall be at the user's sole risk. Should AECOM be required to review the Report after three (3) months from its date of submission, AECOM shall be entitled to additional compensation at then existing rates or such other terms as may be agreed upon between AECOM and the Client.

6. Conclusions

The conclusions stated in this Report are based upon: observations of existing physical and/or economic conditions; our interpretation of site history and site usage information; information provided by the Client; and information and/or analyses provided by independent testing and information services or laboratories upon which AECOM is entitled to reasonably rely. AECOM was not authorized and did not attempt to independently verify the accuracy or completeness of information or materials received from third parties during the performance of its services. AECOM shall not be liable for any conditions, information, or conclusion, the discovery of which required information not available or independent investigation of information provided to AECOM unless otherwise indicated. Any site drawing(s) provided within this Report is not meant to be an accurate base plan, but is used to present the general, relative locations of features on, and surrounding, the site.

Appendix C

Photo Log

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Gulf Oil Limited Partnership	1 Industrial Place, Oceanside, New York	60136875

Photo No.	Date:
1	10/20/10

Direction Photo Taken:

NA

Description:

View of excavation associated with removal of the South OWS.

Photo No.	Date:
2	10/18/10

Direction Photo Taken:

Looking North.

Description:

View of excavation associated with the removal of the South OWS. Note high water table observed while excavating.

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Gulf Oil Limited Partnership	1 Industrial Place, Oceanside, New York	60136875

Photo No.	Date:
3	10/19/10

Direction Photo Taken:

Looking West

Description:

View of the western side wall of the North OWS. Note dark stained material and soil in excavation.

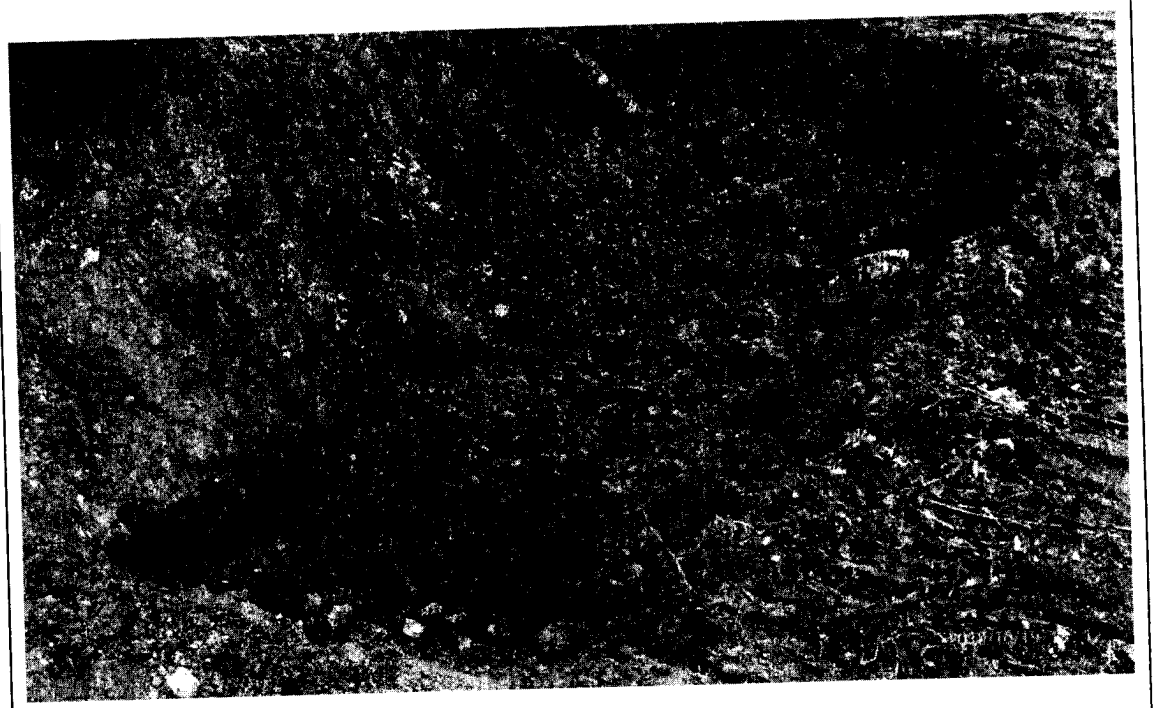
Photo No.	Date:
4	10/19/10

Direction Photo Taken:

Looking South

Description:

View of the southern side wall associated with the removal of the North OWS. Note dark stained soils.



AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Gulf Oil Limited Partnership	1 Industrial Place, Oceanside, New York	60136875

Photo No.	Date:
5	10/26/10

Direction Photo Taken:

Looking North

Description:

View of backfilled excavation associated with the North OWS excavation.

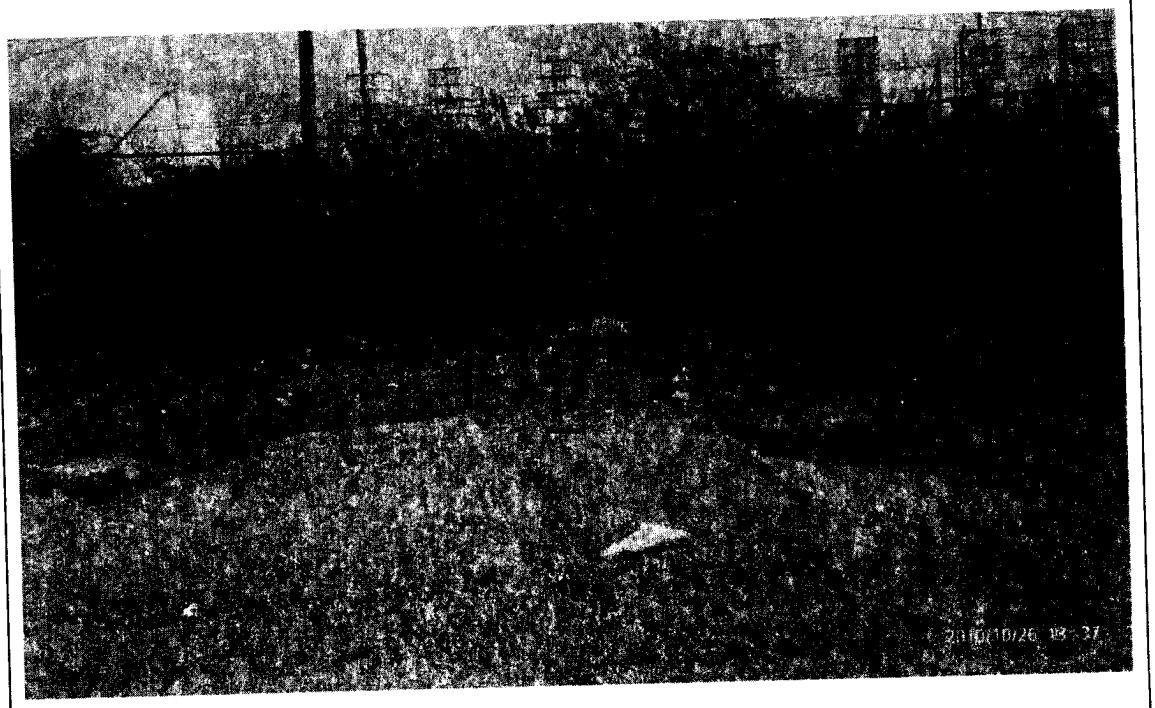


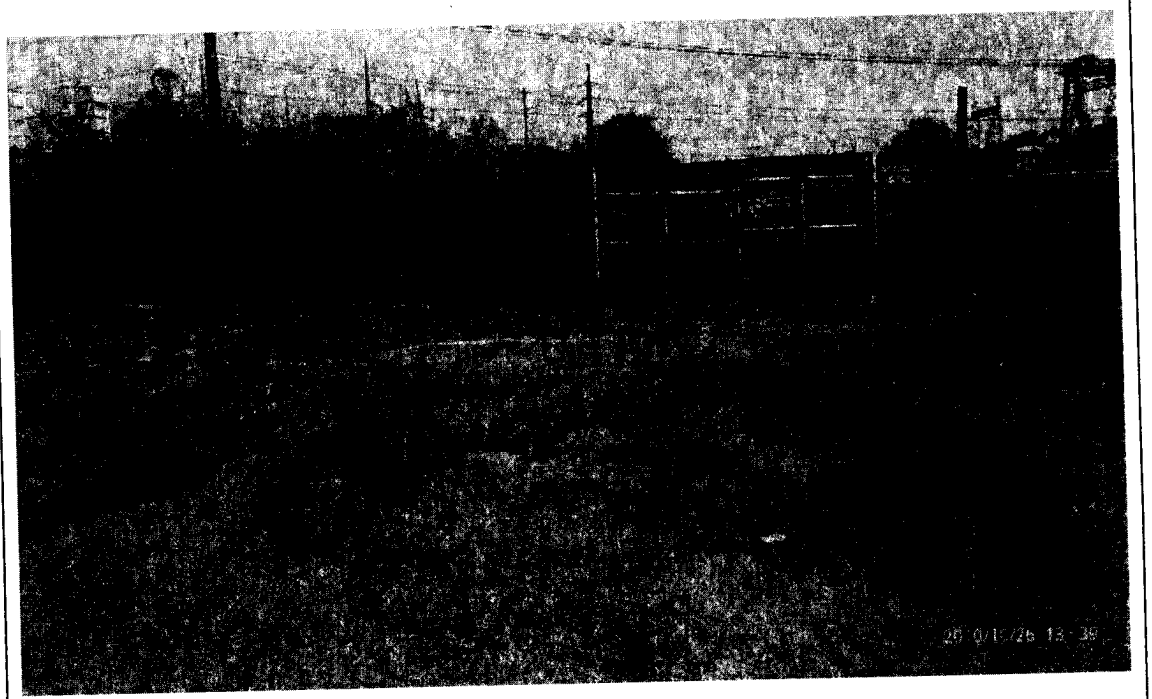
Photo No.	Date:
6	10/26/10

Direction Photo Taken:

NA

Description:

View of backfilled excavation associated with the South OWS excavation.



AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Gulf Oil Limited Partnership	1 Industrial Place, Oceanside, New York	60136875

Photo No.	Date:
7	10/20/10

Direction Photo Taken:

NA

Description:

View of the excavation associated with the Lift Pump Excavation.

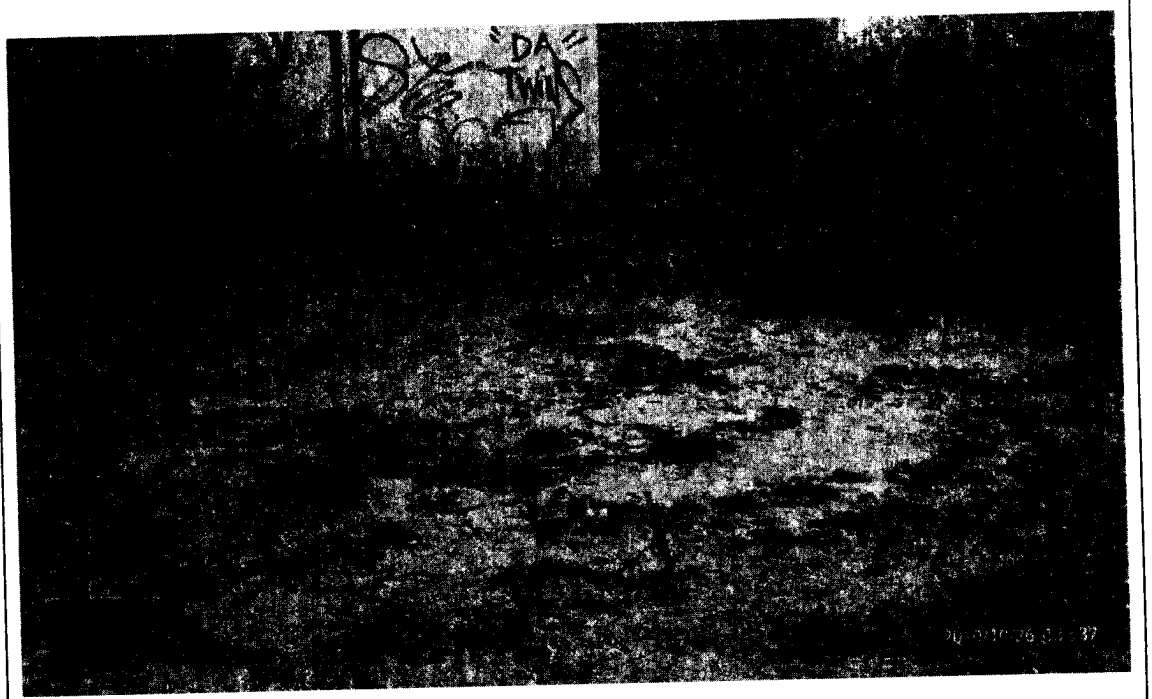
Photo No.	Date:
8	10/26/10

Direction Photo Taken:

NA

Description:

View of the backfilled Lift Pump excavation.



Appendix D

Non Hazardous Waste Manifest

NONHAZARDOUS WASTE MANIFEST

Please type (or print)

1. Generator's US EPA ID No. N Y D 0 0 0 6 3 2 4 3 0 — Manifest Document No.

2. Page 1 of 1

A. Nonhazardous Waste Manifest Document Number: UIS A 0306552

3. Generator's Name and Mailing Address
100 Crossing Blvd
Framingham, MA 01702
508 270-8300

B. G.S.I. (Gen. Site Address)
Gulf Oil LP Terminal
1 Industrial Place
Oceanside, NY 11572

4. Generator's Phone ( )

5. Transporter 1 Company Name: UNITED INDUSTRIAL SERVICES

6. US EPA ID Number: C T D 0 2 1 6 1 6 8 8 9

C. S.T.I. (Trans. Lic. Plate #) AP 1476

7. Transporter 2 Company Name

8. US EPA ID Number

D. Tran. Phone (203) 238-0745

9. Designated Facility Name and Site Address
[illegible] RECYCLING
50 CROSS STREET
BRIDGEPORT, CT 06610

10. US EPA ID Number: C T D 0 0 2 5 9 3 6 8 7

E. S.T.I. (Trans. Lic. Plate #)

F. Tran. Phone ( )

G. State Facility's ID (Not Required)

H. Facility's Phone 203 3241666

GENERATOR

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. WASTE, NON DOT / NON RCRA REGULATED MATERIAL NONE, NONE, , NONE	0 0 1	T T	X1 3.22	G	EPA NONE STATE NJ02
b.					EPA STATE
c.					EPA STATE
d.					EPA STATE

J. Additional Descriptions for Materials Listed Above
a.
b.
c.
d.

K. Handling Codes for Wastes Listed Above

a. Interim	Final	c. Interim	Final
b.		d.	

15. Special Handling Instructions and Additional Information a) P101810006 - EMERGENCY RESPONSE GUIDE # N/A

Point of Departure:

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and all applicable State laws and regulations.

Jeff Smith Manager - Gulf LP

Printed/Typed Name | Signature | Month 10 | Day 19 | Year 10

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: CHRISTOPHER JACKSON | Signature | Month 10 | Day 19 | Year 10

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name | Signature | Month | Day | Year

COPY 4 GENERATOR COPY

Appendix E

Tank Disposal Certificate

PHONE 631-249-4108 FAX 631-249-4126

110 SAND CO.

170 CABOT STREET
WEST BABYLON, N.Y. 11704

Date 10-20 20 10

Name [illegible]

Address [illegible]

Job _____ Truck No. 10-2

	Hrs. Truck Hire		
	Tons Bank Run		
	Tons Gravel		
	Tons Sand		
	Tons Fill		
	Tons Grit		
	Tons Stone		
	Tons Top Soil [illegible]		
1	Load of Job Waste		
	[illegible]		

Trucks Driven Over Sidewalk at Customer's Risk

Rec'd By [illegible]

S-2922 22344

PHONE 631-249-4108 FAX 631-249-4126

110 SAND CO.

170 CABOT STREET
WEST BABYLON, N.Y. 11704

Date 10.20 20 10

Name [illegible]

Address _____

Job [illegible] Truck No. 60

	Hrs. Truck Hire		
	Tons Bank Run		
	Tons Gravel		
	Tons Sand		
	Tons Fill		
	Tons Grit		
	Tons Stone		
	Tons Top Soil		
1	LOAD DEMO REMOVED		

Trucks Driven Over Sidewalk at Customer's Risk

Rec'd By [illegible]

S-2922 23525

Appendix F

Laboratory Analytical Results

Groundwater Analytical, Inc.
P.O.Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone: (508) 759-4441
FAX: (508) 759-4475

GROUNDWATER ANALYTICAL

e-mail

To:	Jennifer Hadden	**From:**	e-mail reporting GWA
	AECOM-Westford	**Pages:**	104
e-mail:	jennifer.hadden@aecom.com	**Date:**	11/04/2010 13:55:42
Re:	137267	**CC:**	

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply**

• **Comments:**

Final Project Report for Oceanside/60136875, Lab ID 137267, Received 10-21-10

Confidential

GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc.
P.O. Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475
www.groundwateranalytical.com

November 4, 2010

Ms. Jennifer Hadden
AECOM Environment
2 Technology Park Drive
Westford, MA 01886

LABORATORY REPORT

Project: **Oceanside/60136875**
Lab ID: **137267**
Received: **10-21-10**

Dear Jennifer:

Enclosed are the analytical results for the above referenced project. The project was processed for Priority turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Eric H. Jensen
Operations Manager

EHJ/elm
Enclosures

GROUNDWATER ANALYTICAL

Sample Receipt Report

Project: **Oceanside/60136875**
Client: **AECOM Environment**
Lab ID: **137267**

Delivery: **GWA Courier**
Airbill: **n/a**
Lab Receipt: **10-21-10**

Temperature: **2.0°C**
Chain of Custody: **Present**
Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-1	South O/W		Aqueous	10/21/10 0:00	EPA 8260B Volatile Organics with Oxygenates			
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**	
C1311716	40 mL VOA Vial	Proline	BX37590	HCL	R-5915D	10-14-10	n/a	
C1311715	40 mL VOA Vial	Proline	BX37590	HCL	R-5915D	10-14-10	n/a	
C1311705	40 mL VOA Vial	Proline	BX37590	HCL	R-5915D	10-14-10	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-2	North O/W		Aqueous	10/21/10 0:00	EPA 8260B Volatile Organics with Oxygenates			
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**	
C1311712	40 mL VOA Vial	Proline	BX37590	HCL	R-5915D	10-14-10	n/a	
C1311708	40 mL VOA Vial	Proline	BX37590	HCL	R-5915D	10-14-10	n/a	
C1311707	40 mL VOA Vial	Proline	BX37590	HCL	R-5915D	10-14-10	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-3	LP		Aqueous	10/21/10 0:00	EPA 8260B Volatile Organics with Oxygenates			
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**	
C1311711	40 mL VOA Vial	Proline	BX37590	HCL	R-5915D	10-14-10	n/a	
C1311710	40 mL VOA Vial	Proline	BX37590	HCL	R-5915D	10-14-10	n/a	
C1311709	40 mL VOA Vial	Proline	BX37590	HCL	R-5915D	10-14-10	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-4	South O/W		Aqueous	10/21/10 0:00	EPA 6010B/7470A 5 RCRA Metals			
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**	
C1308949	1 L Amber Glass	Proline	BX37596	None	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-5	North O/W		Aqueous	10/21/10 0:00	EPA 6010B/7470A 5 RCRA Metals			
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**	
C1308956	1 L Amber Glass	Proline	BX37596	None	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-6	South O/W		Aqueous	10/21/10 0:00	EPA 8270C Semivolatile Organics			
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**	
C1308957	1 L Amber Glass	Proline	BX37596	None	n/a	n/a	n/a	
C1308953	1 L Amber Glass	Proline	BX37596	None	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-7	North O/W		Aqueous	10/21/10 0:00	EPA 8270C Semivolatile Organics			
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**	
C1308960	1 L Amber Glass	Proline	BX37596	None	n/a	n/a	n/a	
C1308952	1 L Amber Glass	Proline	BX37596	None	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-8	LP		Aqueous	10/21/10 0:00	EPA 8270C Semivolatile Organics			
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**	
C1308951	1 L Amber Glass	Proline	BX37596	None	n/a	n/a	n/a	
C1308950	1 L Amber Glass	Proline	BX37596	None	n/a	n/a	n/a	

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project: **Oceanside/60136875**
Client: **AECOM Environment**
Lab ID: **137267**

Delivery: **GWA Courier**
Airbill: **n/a**
Lab Receipt: **10-21-10**

Temperature: **2.0°C**
Chain of Custody: **Present**
Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-9	South O/W		Soil	10/21/10 0:00	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1304708	40 mL VOA Vial	Proline	BX37529	Methanol	R-6268C	10-05-10	n/a	
C1311923	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1311913	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1311903	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-10	North O/W East		Soil	10/21/10 0:00	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1311941	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1311921	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1297557	40 mL VOA Vial	Scientific Products LLC	BX37499	HNO3	R-6113E	10-15-10	n/a	
C1306595	40 mL VOA Vial	n/a	n/a	Methanol	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-11	North O/W South		Soil	10/21/10 0:00	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1311943	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1311933	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1311932	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1297524	40 mL VOA Vial	Scientific Products LLC	BX37499	HNO3	R-6113E	10-15-10	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-12	North O/W West		Soil	10/21/10 0:00	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1311942	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1311922	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1311901	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1297531	40 mL VOA Vial	Scientific Products LLC	BX37499	HNO3	R-6113E	10-15-10	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-13	North O/W North		Soil	10/21/10 0:00	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1311912	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1311911	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1311902	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1297588	40 mL VOA Vial	Scientific Products LLC	BX37499	HNO3	R-6113E	10-15-10	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-14	LP		Soil	10/21/10 0:00	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1311960	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1311959	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1311958	40 mL VOA Vial	Proline	BX37593	n/a	R-6272B	10-13-10	n/a	
C1297605	40 mL VOA Vial	Scientific Products LLC	BX37499	HNO3	R-6113E	10-15-10	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-15	South O/W		Soil	10/21/10 0:00	EPA 8270C Semivolatile Organics			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1306179	250 mL Amber Glass	Proline	BX37610	None	n/a	n/a	n/a	

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project: **Oceanside/60136875**
Client: **AECOM Environment**
Lab ID: **137267**

Delivery: **GWA Courier**
Airbill: **n/a**
Lab Receipt: **10-21-10**

Temperature: **2.0°C**
Chain of Custody: **Present**
Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-16	North O/W		Soil	10/21/10 0:00	EPA 8270C Semivolatile Organics			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1306173	250 mL Amber Glass	Proline	BX37610	None	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-17	South O/W		Soil	10/21/10 0:00	EPA 6010B/7471A 5 RCRA Metals			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1306175	250 mL Amber Glass	Proline	BX37610	None	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-18	North O/W		Soil	10/21/10 0:00	EPA 6010B/7471A 5 RCRA Metals			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1306177	250 mL Amber Glass	Proline	BX37610	None	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-19	North O/W East		Soil	10/21/10 0:00	EPA 6010B/7471A 5 RCRA Metals EPA 8270C Semivolatile Organics			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1306169	250 mL Amber Glass	Proline	BX37610	None	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-20	North O/W South		Soil	10/21/10 0:00	EPA 6010B/7471A 5 RCRA Metals EPA 8270C Semivolatile Organics			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1306171	250 mL Amber Glass	Proline	BX37610	None	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-21	North O/W West		Soil	10/21/10 0:00	EPA 6010B/7471A 5 RCRA Metals EPA 8270C Semivolatile Organics			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1306174	250 mL Amber Glass	Proline	BX37610	None	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-22	North O/W North		Soil	10/21/10 0:00	EPA 6010B/7471A 5 RCRA Metals EPA 8270C Semivolatile Organics			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1306170	250 mL Amber Glass	Proline	BX37610	None	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
137267-23	LP		Soil	10/21/10 0:00	EPA 8270C Semivolatile Organics			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1306176	250 mL Amber Glass	Proline	BX37610	None	n/a	n/a	n/a	
C1306172	250 mL Amber Glass	Proline	BX37610	None	n/a	n/a	n/a	

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**South O/W**	Matrix:	**Aqueous**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HCl/ Cool**
Laboratory ID:	**137267-1**	QC Batch ID:	**VM10-1162-W**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-10 HP 6890**
Received:	**10-21-10 17:10**	Sample Volume:	**5 mL**
Analyzed:	**10-27-10 01:08**	Dilution Factor:	**1**
Analyst:	**EMC**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.5
74-87-3	Chloromethane	BRL		ug/L	0.5
75-01-4	Vinyl Chloride	BRL		ug/L	0.5
74-83-9	Bromomethane	BRL		ug/L	0.5
75-00-3	Chloroethane	BRL		ug/L	0.5
75-69-4	Trichlorofluoromethane	**560**	e	ug/L	0.5
60-29-7	Diethyl Ether	BRL		ug/L	2
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5
67-64-1	Acetone	**66**		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5
75-09-2	Methylene Chloride	BRL		ug/L	3
107-13-1	Acrylonitrile	BRL		ug/L	3
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	**0.6**		ug/L	0.5
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/L	0.5
78-93-3	2-Butanone (MEK)	**13**		ug/L	5
74-97-5	Bromochloromethane	BRL		ug/L	0.5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5
67-66-3	Chloroform	BRL		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.5
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.5
71-43-2	Benzene	**0.7**		ug/L	0.5
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.5
79-01-6	Trichloroethene	BRL		ug/L	0.5
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.5
74-95-3	Dibromomethane	BRL		ug/L	0.5
75-27-4	Bromodichloromethane	BRL		ug/L	0.5
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	0.4
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	**51**		ug/L	0.5
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	0.4
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	BRL		ug/L	0.5
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.5
591-78-6	2-Hexanone	BRL		ug/L	5
124-48-1	Dibromochloromethane	BRL		ug/L	0.5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.5
108-90-7	Chlorobenzene	BRL		ug/L	0.5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.5
100-41-4	Ethylbenzene	**10**		ug/L	0.5
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	**0.5**		ug/L	0.5

GROUNDWATER ANALYTICAL

EPA Method 8260B (Continued)
Volatile Organics by GC/MS

Field ID:	**South O/W**	Matrix:	**Aqueous**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HCl/ Cool**
Laboratory ID:	**137267-1**	QC Batch ID:	**VM10-1162-W**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-10 HP 6890**
Received:	**10-21-10 17:10**	Sample Volume:	**5 mL**
Analyzed:	**10-27-10 01:08**	Dilution Factor:	**1**
Analyst:	**EMC**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	BRL		ug/L	0.5
100-42-5	Styrene	3		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.5
108-86-1	Bromobenzene	BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.5
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/L	25
103-65-1	*n*-Propylbenzene	BRL		ug/L	0.5
95-49-8	2-Chlorotoluene	BRL		ug/L	0.5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.5
106-43-4	4-Chlorotoluene	BRL		ug/L	0.5
98-06-6	*tert*-Butylbenzene	BRL		ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.5
135-98-8	*sec*-Butylbenzene	BRL		ug/L	0.5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.5
99-87-6	4-Isopropyltoluene	6		ug/L	0.5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.5
104-51-8	*n*-Butylbenzene	BRL		ug/L	0.5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
91-20-3	Naphthalene	BRL		ug/L	0.5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.5
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.5
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/L	0.5
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	10	**104** %	70 - 130 %
1,2-Dichloroethane-d_4	10	10	**99** %	70 - 130 %
Toluene-d_8	10	11	**110** %	70 - 130 %
4-Bromofluorobenzene	10	10	**96** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**South O/W**	Matrix:	**Aqueous**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HCl/ Cool**
Laboratory ID:	**137267-1RA1**	QC Batch ID:	**VM10-1163-W**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-10 HP 6890**
Received:	**10-21-10 17:10**	Sample Volume:	**5 mL**
Analyzed:	**10-27-10 09:51**	Dilution Factor:	**10**
Analyst:	**LMG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	5
74-87-3	Chloromethane	BRL		ug/L	5
75-01-4	Vinyl Chloride	BRL		ug/L	5
74-83-9	Bromomethane	BRL		ug/L	5
75-00-3	Chloroethane	BRL		ug/L	5
75-69-4	Trichlorofluoromethane	**430**		ug/L	5
60-29-7	Diethyl Ether	BRL		ug/L	20
75-35-4	1,1-Dichloroethene	BRL		ug/L	5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	50
67-64-1	Acetone	BRL		ug/L	100
75-15-0	Carbon Disulfide	BRL		ug/L	50
75-09-2	Methylene Chloride	BRL		ug/L	25
107-13-1	Acrylonitrile	BRL		ug/L	25
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	5
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/L	5
75-34-3	1,1-Dichloroethane	BRL		ug/L	5
594-20-7	2,2-Dichloropropane	BRL		ug/L	5
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/L	5
78-93-3	2-Butanone (MEK	BRL		ug/L	50
74-97-5	Bromochloromethane	BRL		ug/L	5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	50
67-66-3	Chloroform	BRL		ug/L	5
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	5
56-23-5	Carbon Tetrachloride	BRL		ug/L	5
563-58-6	1,1-Dichloropropene	BRL		ug/L	5
71-43-2	Benzene	BRL		ug/L	5
107-06-2	1,2-Dichloroethane	BRL		ug/L	5
79-01-6	Trichloroethene	BRL		ug/L	5
78-87-5	1,2-Dichloropropane	BRL		ug/L	5
74-95-3	Dibromomethane	BRL		ug/L	5
75-27-4	Bromodichloromethane	BRL		ug/L	5
123-91-1	1,4-Dioxane	BRL		ug/L	5,000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	4
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	50
108-88-3	Toluene	**39**		ug/L	5
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	4
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	5
127-18-4	Tetrachloroethene	BRL		ug/L	5
142-28-9	1,3-Dichloropropane	BRL		ug/L	5
591-78-6	2-Hexanone	BRL		ug/L	50
124-48-1	Dibromochloromethane	BRL		ug/L	5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	5
108-90-7	Chlorobenzene	BRL		ug/L	5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	5
100-41-4	Ethylbenzene	**6**		ug/L	5
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/L	5

GROUNDWATER ANALYTICAL

EPA Method 8260B (Continued)
Volatile Organics by GC/MS

Field ID:	**South O/W**	Matrix:	**Aqueous**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HCl/ Cool**
Laboratory ID:	**137267-1RA1**	QC Batch ID:	**VM10-1163-W**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-10 HP 6890**
Received:	**10-21-10 17:10**	Sample Volume:	**5 mL**
Analyzed:	**10-27-10 09:51**	Dilution Factor:	**10**
Analyst:	**LMG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	BRL		ug/L	5
100-42-5	Styrene	BRL		ug/L	5
75-25-2	Bromoform	BRL		ug/L	5
98-82-8	Isopropylbenzene	BRL		ug/L	5
108-86-1	Bromobenzene	BRL		ug/L	5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	5
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/L	250
103-65-1	*n*-Propylbenzene	BRL		ug/L	5
95-49-8	2-Chlorotoluene	BRL		ug/L	5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	5
106-43-4	4-Chlorotoluene	BRL		ug/L	5
98-06-6	*tert*-Butylbenzene	BRL		ug/L	5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	5
135-98-8	*sec*-Butylbenzene	BRL		ug/L	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	5
99-87-6	4-Isopropyltoluene	BRL		ug/L	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	5
104-51-8	*n*-Butylbenzene	BRL		ug/L	5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	5
87-68-3	Hexachlorobutadiene	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	5
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/L	200
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	5
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/L	5
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	10	**104** %	70 - 130 %
1,2-Dichloroethane-d_4	10	11	**107** %	70 - 130 %
Toluene-d_8	10	11	**109** %	70 - 130 %
4-Bromofluorobenzene	10	11	**110** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**North O/W**	Matrix:	**Aqueous**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HCl/ Cool**
Laboratory ID:	**137267-2**	QC Batch ID:	**VM10-1162-W**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-10 HP 6890**
Received:	**10-21-10 17:10**	Sample Volume:	**5 mL**
Analyzed:	**10-27-10 01:32**	Dilution Factor:	**5**
Analyst:	**EMC**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	3
74-87-3	Chloromethane	BRL		ug/L	3
75-01-4	Vinyl Chloride	BRL		ug/L	3
74-83-9	Bromomethane	BRL		ug/L	3
75-00-3	Chloroethane	BRL		ug/L	3
75-69-4	Trichlorofluoromethane	BRL		ug/L	3
60-29-7	Diethyl Ether	BRL		ug/L	10
75-35-4	1,1-Dichloroethene	BRL		ug/L	3
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	25
67-64-1	Acetone	63		ug/L	50
75-15-0	Carbon Disulfide	BRL		ug/L	25
75-09-2	Methylene Chloride	BRL		ug/L	13
107-13-1	Acrylonitrile	BRL		ug/L	13
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	3
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	3		ug/L	3
75-34-3	1,1-Dichloroethane	BRL		ug/L	3
594-20-7	2,2-Dichloropropane	BRL		ug/L	3
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/L	3
78-93-3	2-Butanone (MEK)	77		ug/L	25
74-97-5	Bromochloromethane	BRL		ug/L	3
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	25
67-66-3	Chloroform	BRL		ug/L	3
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	3
56-23-5	Carbon Tetrachloride	BRL		ug/L	3
563-58-6	1,1-Dichloropropene	BRL		ug/L	3
71-43-2	Benzene	4		ug/L	3
107-06-2	1,2-Dichloroethane	BRL		ug/L	3
79-01-6	Trichloroethene	BRL		ug/L	3
78-87-5	1,2-Dichloropropane	BRL		ug/L	3
74-95-3	Dibromomethane	BRL		ug/L	3
75-27-4	Bromodichloromethane	BRL		ug/L	3
123-91-1	1,4-Dioxane	BRL		ug/L	2,500
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	2
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	25
108-88-3	Toluene	BRL		ug/L	3
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	2
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	3
127-18-4	Tetrachloroethene	BRL		ug/L	3
142-28-9	1,3-Dichloropropane	BRL		ug/L	3
591-78-6	2-Hexanone	BRL		ug/L	25
124-48-1	Dibromochloromethane	BRL		ug/L	3
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	3
108-90-7	Chlorobenzene	BRL		ug/L	3
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	3
100-41-4	Ethylbenzene	BRL		ug/L	3
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/L	3

GROUNDWATER ANALYTICAL

EPA Method 8260B (Continued)
Volatile Organics by GC/MS

Field ID:	**North O/W**	Matrix:	**Aqueous**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HCl/ Cool**
Laboratory ID:	**137267-2**	QC Batch ID:	**VM10-1162-W**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-10 HP 6890**
Received:	**10-21-10 17:10**	Sample Volume:	**5 mL**
Analyzed:	**10-27-10 01:32**	Dilution Factor:	**5**
Analyst:	**EMC**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	BRL		ug/L	3
100-42-5	Styrene	BRL		ug/L	3
75-25-2	Bromoform	BRL		ug/L	3
98-82-8	Isopropylbenzene	5		ug/L	3
108-86-1	Bromobenzene	BRL		ug/L	3
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	3
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	3
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/L	130
103-65-1	*n*-Propylbenzene	8		ug/L	3
95-49-8	2-Chlorotoluene	BRL		ug/L	3
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	3
106-43-4	4-Chlorotoluene	BRL		ug/L	3
98-06-6	*tert*-Butylbenzene	BRL		ug/L	3
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	3
135-98-8	*sec*-Butylbenzene	5		ug/L	3
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	3
99-87-6	4-Isopropyltoluene	BRL		ug/L	3
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	3
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	3
104-51-8	*n*-Butylbenzene	6		ug/L	3
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	3
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	3
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	3
87-68-3	Hexachlorobutadiene	BRL		ug/L	3
91-20-3	Naphthalene	BRL		ug/L	3
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	3
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/L	100
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	3
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/L	3
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/L	3

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	10	**101** %	70 - 130 %
1,2-Dichloroethane-d_4	10	10	**100** %	70 - 130 %
Toluene-d_8	10	10	**105** %	70 - 130 %
4-Bromofluorobenzene	10	11	**107** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	LP	Matrix:	Aqueous
Project:	Oceanside/60136875	Container:	40 mL VOA Vial
Client:	AECOM Environment	Preservation:	HCl/ Cool
Laboratory ID:	137267-3	QC Batch ID:	VM10-1162-W
Sampled:	10-21-10 00:00	Instrument ID:	MS-10 HP 6890
Received:	10-21-10 17:10	Sample Volume:	5 mL
Analyzed:	10-27-10 01:56	Dilution Factor:	50
Analyst:	EMC		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	25
74-87-3	Chloromethane	BRL		ug/L	25
75-01-4	Vinyl Chloride	BRL		ug/L	25
74-83-9	Bromomethane	BRL		ug/L	25
75-00-3	Chloroethane	BRL		ug/L	25
75-69-4	Trichlorofluoromethane	BRL		ug/L	25
60-29-7	Diethyl Ether	BRL		ug/L	100
75-35-4	1,1-Dichloroethene	BRL		ug/L	25
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	250
67-64-1	Acetone	BRL		ug/L	500
75-15-0	Carbon Disulfide	BRL		ug/L	250
75-09-2	Methylene Chloride	BRL		ug/L	130
107-13-1	Acrylonitrile	BRL		ug/L	130
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	25
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/L	25
75-34-3	1,1-Dichloroethane	BRL		ug/L	25
594-20-7	2,2-Dichloropropane	BRL		ug/L	25
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/L	25
78-93-3	2-Butanone (MEK)	BRL		ug/L	250
74-97-5	Bromochloromethane	BRL		ug/L	25
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	250
67-66-3	Chloroform	BRL		ug/L	25
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	25
56-23-5	Carbon Tetrachloride	BRL		ug/L	25
563-58-6	1,1-Dichloropropene	BRL		ug/L	25
71-43-2	Benzene	97		ug/L	25
107-06-2	1,2-Dichloroethane	BRL		ug/L	25
79-01-6	Trichloroethene	BRL		ug/L	25
78-87-5	1,2-Dichloropropane	BRL		ug/L	25
74-95-3	Dibromomethane	BRL		ug/L	25
75-27-4	Bromodichloromethane	BRL		ug/L	25
123-91-1	1,4-Dioxane	BRL		ug/L	25,000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	20
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	250
108-88-3	Toluene	BRL		ug/L	25
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	20
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	25
127-18-4	Tetrachloroethene	BRL		ug/L	25
142-28-9	1,3-Dichloropropane	BRL		ug/L	25
591-78-6	2-Hexanone	BRL		ug/L	250
124-48-1	Dibromochloromethane	BRL		ug/L	25
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	25
108-90-7	Chlorobenzene	BRL		ug/L	25
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	25
100-41-4	Ethylbenzene	130		ug/L	25
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	76		ug/L	25

GROUNDWATER ANALYTICAL

EPA Method 8260B (Continued)
Volatile Organics by GC/MS

Field ID:	**LP**	Matrix:	**Aqueous**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HCl/ Cool**
Laboratory ID:	**137267-3**	QC Batch ID:	**VM10-1162-W**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-10 HP 6890**
Received:	**10-21-10 17:10**	Sample Volume:	**5 mL**
Analyzed:	**10-27-10 01:56**	Dilution Factor:	**50**
Analyst:	**EMC**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	BRL		ug/L	25
100-42-5	Styrene	BRL		ug/L	25
75-25-2	Bromoform	BRL		ug/L	25
98-82-8	Isopropylbenzene	BRL		ug/L	25
108-86-1	Bromobenzene	BRL		ug/L	25
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	25
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	25
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/L	1,300
103-65-1	*n*-Propylbenzene	**38**		ug/L	25
95-49-8	2-Chlorotoluene	BRL		ug/L	25
108-67-8	1,3,5-Trimethylbenzene	**36**		ug/L	25
106-43-4	4-Chlorotoluene	BRL		ug/L	25
98-06-6	*tert*-Butylbenzene	BRL		ug/L	25
95-63-6	1,2,4-Trimethylbenzene	**240**		ug/L	25
135-98-8	*sec*-Butylbenzene	BRL		ug/L	25
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	25
99-87-6	4-Isopropyltoluene	BRL		ug/L	25
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	25
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	25
104-51-8	*n*-Butylbenzene	BRL		ug/L	25
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	25
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	25
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	25
87-68-3	Hexachlorobutadiene	BRL		ug/L	25
91-20-3	Naphthalene	**120**		ug/L	25
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	25
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/L	1,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	25
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/L	25
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/L	25

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	10	**98** %	70 - 130 %
1,2-Dichloroethane-d_4	10	10	**102** %	70 - 130 %
Toluene-d_8	10	10	**105** %	70 - 130 %
4-Bromofluorobenzene	10	11	**107** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**South O/W**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**Frozen**
Laboratory ID:	**137267-9**	QC Batch ID:	**VM1-2947-S**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-1 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**7.1 g**
Analyzed:	**11-01-10 17:40**	% Solids:	**80**
Analyst:	**LMG**	Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	50
67-64-1	Acetone	BRL		ug/Kg	200
75-15-0	Carbon Disulfide	BRL		ug/Kg	50
75-09-2	Methylene Chloride	BRL		ug/Kg	50
107-13-1	Acrylonitrile	BRL		ug/Kg	5
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/Kg	5
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/Kg	5
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/Kg	5
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	50
74-97-5	Bromochloromethane	BRL		ug/Kg	5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	50
67-66-3	Chloroform	BRL		ug/Kg	5
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5
71-43-2	Benzene	BRL		ug/Kg	5
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5
79-01-6	Trichloroethene	BRL		ug/Kg	5
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5
74-95-3	Dibromomethane	BRL		ug/Kg	5
75-27-4	Bromodichloromethane	BRL		ug/Kg	5
123-91-1	1,4-Dioxane	BRL		ug/Kg	5,000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/Kg	5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	50
108-88-3	Toluene	BRL		ug/Kg	5
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/Kg	5
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5
127-18-4	Tetrachloroethene	BRL		ug/Kg	5
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5
591-78-6	2-Hexanone	BRL		ug/Kg	50
124-48-1	Dibromochloromethane	BRL		ug/Kg	5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5
108-90-7	Chlorobenzene	BRL		ug/Kg	5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5
100-41-4	Ethylbenzene	BRL		ug/Kg	5
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/Kg	5

EPA Method 8260B (Continued)
Volatile Organics by GC/MS

Field ID:	**South O/W**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**Frozen**
Laboratory ID:	**137267-9**	QC Batch ID:	**VM1-2947-S**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-1 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**7.1 g**
Analyzed:	**11-01-10 17:40**	% Solids:	**80**
Analyst:	**LMG**	Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	BRL		ug/Kg	5
100-42-5	Styrene	BRL		ug/Kg	5
75-25-2	Bromoform	BRL		ug/Kg	5
98-82-8	Isopropylbenzene	BRL		ug/Kg	5
108-86-1	Bromobenzene	BRL		ug/Kg	5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/Kg	50
103-65-1	*n*-Propylbenzene	BRL		ug/Kg	5
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5
98-06-6	*tert*-Butylbenzene	BRL		ug/Kg	5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5
135-98-8	*sec*-Butylbenzene	BRL		ug/Kg	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5
104-51-8	*n*-Butylbenzene	BRL		ug/Kg	5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5
91-20-3	Naphthalene	BRL		ug/Kg	5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/Kg	200
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/Kg	5
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/Kg	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	38	**77** %	70 - 130 %
1,2-Dichloroethane-d_4	50	36	**72** %	70 - 130 %
Toluene-d_8	50	41	**82** %	70 - 130 %
4-Bromofluorobenzene	50	51	**102** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**North O/W East**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**Methanol/ Cool**
Laboratory ID:	**137267-10**	QC Batch ID:	**VM1-2946-E**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-1 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**13 g**
Analyzed:	**10-29-10 12:32**	Final Volume:	**15 mL**
Analyst:	**LMG**	% Solids:	**87**
		Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	640
74-87-3	Chloromethane	BRL		ug/Kg	640
75-01-4	Vinyl Chloride	BRL		ug/Kg	640
74-83-9	Bromomethane	BRL		ug/Kg	640
75-00-3	Chloroethane	BRL		ug/Kg	640
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	640
60-29-7	Diethyl Ether	BRL		ug/Kg	640
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	320
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	3,200
67-64-1	Acetone	BRL		ug/Kg	3,200
75-15-0	Carbon Disulfide	BRL		ug/Kg	3,200
75-09-2	Methylene Chloride	BRL		ug/Kg	1,300
107-13-1	Acrylonitrile	BRL		ug/Kg	320
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/Kg	320
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/Kg	320
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	320
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	320
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/Kg	320
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	3,200
74-97-5	Bromochloromethane	BRL		ug/Kg	320
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	3,200
67-66-3	Chloroform	BRL		ug/Kg	320
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	320
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	320
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	320
71-43-2	Benzene	BRL		ug/Kg	320
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	320
79-01-6	Trichloroethene	BRL		ug/Kg	320
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	320
74-95-3	Dibromomethane	BRL		ug/Kg	320
75-27-4	Bromodichloromethane	BRL		ug/Kg	320
123-91-1	1,4-Dioxane	BRL		ug/Kg	320,000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/Kg	320
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	3,200
108-88-3	Toluene	**440**		ug/Kg	320
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/Kg	320
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	320
127-18-4	Tetrachloroethene	BRL		ug/Kg	320
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	320
591-78-6	2-Hexanone	BRL		ug/Kg	3,200
124-48-1	Dibromochloromethane	BRL		ug/Kg	320
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	320
108-90-7	Chlorobenzene	BRL		ug/Kg	320
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	320
100-41-4	Ethylbenzene	BRL		ug/Kg	320
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	**410**		ug/Kg	320

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**North O/W East**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**Methanol/ Cool**
Laboratory ID:	**137267-10**	QC Batch ID:	**VM1-2946-E**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-1 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**13 g**
Analyzed:	**10-29-10 12:32**	Final Volume:	**15 mL**
Analyst:	**LMG**	% Solids:	**87**
		Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	BRL		ug/Kg	320
100-42-5	Styrene	BRL		ug/Kg	320
75-25-2	Bromoform	BRL		ug/Kg	320
98-82-8	Isopropylbenzene	**1,200**		ug/Kg	320
108-86-1	Bromobenzene	BRL		ug/Kg	320
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	320
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	320
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/Kg	3,200
103-65-1	*n*-Propylbenzene	**2,500**		ug/Kg	320
95-49-8	2-Chlorotoluene	BRL		ug/Kg	320
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	320
106-43-4	4-Chlorotoluene	BRL		ug/Kg	320
98-06-6	*tert*-Butylbenzene	**390**		ug/Kg	320
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	320
135-98-8	*sec*-Butylbenzene	**3,200**		ug/Kg	320
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	320
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	320
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	320
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	320
104-51-8	*n*-Butylbenzene	**5,400**		ug/Kg	320
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	320
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	320
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	320
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	320
91-20-3	Naphthalene	**5,100**		ug/Kg	320
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	320
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/Kg	13,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	320
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/Kg	320
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/Kg	320

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	1,900	**76** %	70 - 130 %
1,2-Dichloroethane-d_4	2,500	1,900	**77** %	70 - 130 %
Toluene-d_8	2,500	2,500	**99** %	70 - 130 %
4-Bromofluorobenzene	2,500	1,900	**77** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**North O/W South**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HNO3/ Cool**
Laboratory ID:	**137267-11**	QC Batch ID:	**VM1-2944-E**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-1 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**18 g**
Analyzed:	**10-27-10 14:04**	Final Volume:	**15 mL**
Analyst:	**LMG**	% Solids:	**84**
		Dilution Factor:	**2**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	1,000
74-87-3	Chloromethane	BRL		ug/Kg	1,000
75-01-4	Vinyl Chloride	BRL		ug/Kg	1,000
74-83-9	Bromomethane	BRL		ug/Kg	1,000
75-00-3	Chloroethane	BRL		ug/Kg	1,000
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	1,000
60-29-7	Diethyl Ether	BRL		ug/Kg	1,000
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	500
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	5,000
67-64-1	Acetone	BRL		ug/Kg	5,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	5,000
75-09-2	Methylene Chloride	BRL		ug/Kg	2,000
107-13-1	Acrylonitrile	BRL		ug/Kg	500
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/Kg	500
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/Kg	500
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	500
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	500
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/Kg	500
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	5,000
74-97-5	Bromochloromethane	BRL		ug/Kg	500
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	5,000
67-66-3	Chloroform	BRL		ug/Kg	500
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	500
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	500
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	500
71-43-2	Benzene	BRL		ug/Kg	500
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	500
79-01-6	Trichloroethene	BRL		ug/Kg	500
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	500
74-95-3	Dibromomethane	BRL		ug/Kg	500
75-27-4	Bromodichloromethane	BRL		ug/Kg	500
123-91-1	1,4-Dioxane	BRL		ug/Kg	500,000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/Kg	500
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	5,000
108-88-3	Toluene	BRL		ug/Kg	500
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/Kg	500
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	500
127-18-4	Tetrachloroethene	BRL		ug/Kg	500
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	500
591-78-6	2-Hexanone	BRL		ug/Kg	5,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	500
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	500
108-90-7	Chlorobenzene	BRL		ug/Kg	500
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	500
100-41-4	Ethylbenzene	BRL		ug/Kg	500
108-38-3,106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/Kg	500

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**North O/W South**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HNO3/ Cool**
Laboratory ID:	**137267-11**	QC Batch ID:	**VM1-2944-E**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-1 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**18 g**
Analyzed:	**10-27-10 14:04**	Final Volume:	**15 mL**
Analyst:	**LMG**	% Solids:	**84**
		Dilution Factor:	**2**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	BRL		ug/Kg	500
100-42-5	Styrene	BRL		ug/Kg	500
75-25-2	Bromoform	BRL		ug/Kg	500
98-82-8	Isopropylbenzene	**930**		ug/Kg	500
108-86-1	Bromobenzene	BRL		ug/Kg	500
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	500
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	500
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/Kg	5,000
103-65-1	*n*-Propylbenzene	**1,900**		ug/Kg	500
95-49-8	2-Chlorotoluene	BRL		ug/Kg	500
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	500
106-43-4	4-Chlorotoluene	BRL		ug/Kg	500
98-06-6	*tert*-Butylbenzene	BRL		ug/Kg	500
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	500
135-98-8	*sec*-Butylbenzene	**2,200**		ug/Kg	500
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	500
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	500
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	500
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	500
104-51-8	*n*-Butylbenzene	**3,700**		ug/Kg	500
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	500
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	500
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	500
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	500
91-20-3	Naphthalene	BRL		ug/Kg	500
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	500
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/Kg	20,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	500
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/Kg	500
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/Kg	500

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	1,800	**74** %	70 - 130 %
1,2-Dichloroethane-d_4	2,500	2,200	**88** %	70 - 130 %
Toluene-d_8	2,500	2,400	**95** %	70 - 130 %
4-Bromofluorobenzene	2,500	2,500	**101** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	North O/W West	Matrix:	Soil
Project:	Oceanside/60136875	Container:	40 mL VOA Vial
Client:	AECOM Environment	Preservation:	HNO3/ Cool
Laboratory ID:	137267-12	QC Batch ID:	VM1-2944-E
Sampled:	10-21-10 00:00	Instrument ID:	MS-1 HP 5890
Received:	10-21-10 17:10	Sample Weight:	20 g
Analyzed:	10-27-10 14:41	Final Volume:	15 mL
Analyst:	LMG	% Solids:	86
		Dilution Factor:	1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	500
74-87-3	Chloromethane	BRL		ug/Kg	500
75-01-4	Vinyl Chloride	BRL		ug/Kg	500
74-83-9	Bromomethane	BRL		ug/Kg	500
75-00-3	Chloroethane	BRL		ug/Kg	500
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	500
60-29-7	Diethyl Ether	BRL		ug/Kg	500
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	250
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,500
67-64-1	Acetone	BRL		ug/Kg	2,500
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,500
75-09-2	Methylene Chloride	BRL		ug/Kg	1,000
107-13-1	Acrylonitrile	BRL		ug/Kg	250
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/Kg	250
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/Kg	250
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	250
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	250
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/Kg	250
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,500
74-97-5	Bromochloromethane	BRL		ug/Kg	250
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,500
67-66-3	Chloroform	BRL		ug/Kg	250
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	250
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	250
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	250
71-43-2	Benzene	BRL		ug/Kg	250
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	250
79-01-6	Trichloroethene	BRL		ug/Kg	250
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	250
74-95-3	Dibromomethane	BRL		ug/Kg	250
75-27-4	Bromodichloromethane	BRL		ug/Kg	250
123-91-1	1,4-Dioxane	BRL		ug/Kg	250,000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/Kg	250
108-10-1	4-Methyl-2-Pentanone (MiBK)	BRL		ug/Kg	2,500
108-88-3	Toluene	BRL		ug/Kg	250
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/Kg	250
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	250
127-18-4	Tetrachloroethene	BRL		ug/Kg	250
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	250
591-78-6	2-Hexanone	BRL		ug/Kg	2,500
124-48-1	Dibromochloromethane	BRL		ug/Kg	250
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	250
108-90-7	Chlorobenzene	BRL		ug/Kg	250
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	250
100-41-4	Ethylbenzene	BRL		ug/Kg	250
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/Kg	250

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**North O/W West**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HNO3/ Cool**
Laboratory ID:	**137267-12**	QC Batch ID:	**VM1-2944-E**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-1 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**20 g**
Analyzed:	**10-27-10 14:41**	Final Volume:	**15 mL**
Analyst:	**LMG**	% Solids:	**86**
		Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	BRL		ug/Kg	250
100-42-5	Styrene	BRL		ug/Kg	250
75-25-2	Bromoform	BRL		ug/Kg	250
98-82-8	Isopropylbenzene	**540**		ug/Kg	250
108-86-1	Bromobenzene	BRL		ug/Kg	250
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	250
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	250
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/Kg	2,500
103-65-1	*n*-Propylbenzene	**1,700**		ug/Kg	250
95-49-8	2-Chlorotoluene	BRL		ug/Kg	250
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	250
106-43-4	4-Chlorotoluene	BRL		ug/Kg	250
98-06-6	*tert*-Butylbenzene	**270**		ug/Kg	250
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	250
135-98-8	*sec*-Butylbenzene	**1,900**		ug/Kg	250
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	250
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	250
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	250
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	250
104-51-8	*n*-Butylbenzene	**3,200**		ug/Kg	250
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	250
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	250
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	250
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	250
91-20-3	Naphthalene	BRL		ug/Kg	250
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	250
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/Kg	10,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	250
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/Kg	250
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/Kg	250

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	1,800	**73** %	70 - 130 %
1,2-Dichloroethane-d_4	2,500	2,600	**104** %	70 - 130 %
Toluene-d_8	2,500	2,100	**85** %	70 - 130 %
4-Bromofluorobenzene	2,500	2,000	**81** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**North O/W North**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HNO3/ Cool**
Laboratory ID:	**137267-13**	QC Batch ID:	**VM1-2944-E**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-1 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**20 g**
Analyzed:	**10-27-10 15:19**	Final Volume:	**15 mL**
Analyst:	**LMG**	% Solids:	**88**
		Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	500
74-87-3	Chloromethane	BRL		ug/Kg	500
75-01-4	Vinyl Chloride	BRL		ug/Kg	500
74-83-9	Bromomethane	BRL		ug/Kg	500
75-00-3	Chloroethane	BRL		ug/Kg	500
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	500
60-29-7	Diethyl Ether	BRL		ug/Kg	500
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	250
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,500
67-64-1	Acetone	BRL		ug/Kg	2,500
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,500
75-09-2	Methylene Chloride	BRL		ug/Kg	1,000
107-13-1	Acrylonitrile	BRL		ug/Kg	250
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/Kg	250
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/Kg	250
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	250
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	250
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/Kg	250
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,500
74-97-5	Bromochloromethane	BRL		ug/Kg	250
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,500
67-66-3	Chloroform	BRL		ug/Kg	250
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	250
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	250
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	250
71-43-2	Benzene	BRL		ug/Kg	250
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	250
79-01-6	Trichloroethene	BRL		ug/Kg	250
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	250
74-95-3	Dibromomethane	BRL		ug/Kg	250
75-27-4	Bromodichloromethane	BRL		ug/Kg	250
123-91-1	1,4-Dioxane	BRL		ug/Kg	250,000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/Kg	250
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,500
108-88-3	Toluene	BRL		ug/Kg	250
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/Kg	250
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	250
127-18-4	Tetrachloroethene	BRL		ug/Kg	250
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	250
591-78-6	2-Hexanone	BRL		ug/Kg	2,500
124-48-1	Dibromochloromethane	BRL		ug/Kg	250
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	250
108-90-7	Chlorobenzene	BRL		ug/Kg	250
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	250
100-41-4	Ethylbenzene	BRL		ug/Kg	250
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/Kg	250

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**North O/W North**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HNO3/ Cool**
Laboratory ID:	**137267-13**	QC Batch ID:	**VM1-2944-E**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-1 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**20 g**
Analyzed:	**10-27-10 15:19**	Final Volume:	**15 mL**
Analyst:	**LMG**	% Solids:	**88**
		Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	BRL		ug/Kg	250
100-42-5	Styrene	BRL		ug/Kg	250
75-25-2	Bromoform	BRL		ug/Kg	250
98-82-8	Isopropylbenzene	BRL		ug/Kg	250
108-86-1	Bromobenzene	BRL		ug/Kg	250
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	250
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	250
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/Kg	2,500
103-65-1	*n*-Propylbenzene	490		ug/Kg	250
95-49-8	2-Chlorotoluene	BRL		ug/Kg	250
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	250
106-43-4	4-Chlorotoluene	BRL		ug/Kg	250
98-06-6	*tert*-Butylbenzene	BRL		ug/Kg	250
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	250
135-98-8	*sec*-Butylbenzene	400		ug/Kg	250
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	250
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	250
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	250
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	250
104-51-8	*n*-Butylbenzene	640		ug/Kg	250
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	250
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	250
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	250
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	250
91-20-3	Naphthalene	BRL		ug/Kg	250
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	250
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/Kg	10,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	250
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/Kg	250
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/Kg	250

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	1,900	**77** %	70 - 130 %
1,2-Dichloroethane-d_4	2,500	1,700	**70** %	70 - 130 %
Toluene-d_8	2,500	2,300	**92** %	70 - 130 %
4-Bromofluorobenzene	2,500	2,200	**90** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**LP**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HNO3/ Cool**
Laboratory ID:	**137267-14**	QC Batch ID:	**VM1-2944-E**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-1 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**20 g**
Analyzed:	**10-27-10 15:56**	Final Volume:	**15 mL**
Analyst:	**LMG**	% Solids:	**80**
		Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	500
74-87-3	Chloromethane	BRL		ug/Kg	500
75-01-4	Vinyl Chloride	BRL		ug/Kg	500
74-83-9	Bromomethane	BRL		ug/Kg	500
75-00-3	Chloroethane	BRL		ug/Kg	500
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	500
60-29-7	Diethyl Ether	BRL		ug/Kg	500
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	250
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,500
67-64-1	Acetone	BRL		ug/Kg	2,500
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,500
75-09-2	Methylene Chloride	BRL		ug/Kg	1,000
107-13-1	Acrylonitrile	BRL		ug/Kg	250
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/Kg	250
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/Kg	250
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	250
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	250
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/Kg	250
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,500
74-97-5	Bromochloromethane	BRL		ug/Kg	250
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,500
67-66-3	Chloroform	BRL		ug/Kg	250
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	250
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	250
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	250
71-43-2	Benzene	BRL		ug/Kg	250
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	250
79-01-6	Trichloroethene	BRL		ug/Kg	250
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	250
74-95-3	Dibromomethane	BRL		ug/Kg	250
75-27-4	Bromodichloromethane	BRL		ug/Kg	250
123-91-1	1,4-Dioxane	BRL		ug/Kg	250,000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/Kg	250
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,500
108-88-3	Toluene	BRL		ug/Kg	250
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/Kg	250
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	250
127-18-4	Tetrachloroethene	BRL		ug/Kg	250
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	250
591-78-6	2-Hexanone	BRL		ug/Kg	2,500
124-48-1	Dibromochloromethane	BRL		ug/Kg	250
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	250
108-90-7	Chlorobenzene	BRL		ug/Kg	250
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	250
100-41-4	Ethylbenzene	**330**		ug/Kg	250
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/Kg	250

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**LP**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**40 mL VOA Vial**
Client:	**AECOM Environment**	Preservation:	**HNO3/ Cool**
Laboratory ID:	**137267-14**	QC Batch ID:	**VM1-2944-E**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-1 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**20 g**
Analyzed:	**10-27-10 15:56**	Final Volume:	**15 mL**
Analyst:	**LMG**	% Solids:	**80**
		Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	BRL		ug/Kg	250
100-42-5	Styrene	BRL		ug/Kg	250
75-25-2	Bromoform	BRL		ug/Kg	250
98-82-8	Isopropylbenzene	BRL		ug/Kg	250
108-86-1	Bromobenzene	BRL		ug/Kg	250
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	250
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	250
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/Kg	2,500
103-65-1	*n*-Propylbenzene	BRL		ug/Kg	250
95-49-8	2-Chlorotoluene	BRL		ug/Kg	250
108-67-8	1,3,5-Trimethylbenzene	**470**		ug/Kg	250
106-43-4	4-Chlorotoluene	BRL		ug/Kg	250
98-06-6	*tert*-Butylbenzene	BRL		ug/Kg	250
95-63-6	1,2,4-Trimethylbenzene	**2,000**		ug/Kg	250
135-98-8	*sec*-Butylbenzene	BRL		ug/Kg	250
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	250
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	250
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	250
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	250
104-51-8	*n*-Butylbenzene	BRL		ug/Kg	250
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	250
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	250
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	250
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	250
91-20-3	Naphthalene	**860**		ug/Kg	250
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	250
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/Kg	10,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	250
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/Kg	250
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/Kg	250

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,300	**91** %	70 - 130 %
1,2-Dichloroethane-d_4	2,500	2,000	**82** %	70 - 130 %
Toluene-d_8	2,500	2,800	**111** %	70 - 130 %
4-Bromofluorobenzene	2,500	2,500	**100** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**South O/W**	Matrix:	**Aqueous**
Project:	**Oceanside/60136875**	Container:	**1 L Amber Glass**
Client:	**AECOM Environment**	Preservation:	**HNO3 / Cool**
Laboratory ID:	**137267-4**	Preserved:	**10-21-10 17:10**
Sampled:	**10-21-10 00:00**		
Received:	**10-21-10 17:10**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B[1]	MB-4222-W	EPA 3010A	10-27-10 00:00	50 mL	ICP-1 PE 3000	LS
EPA 7470A[2]	MP-2330-W	EPA 7470A	10-27-10 00:00	25 mL	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	**0.02**		mg/L	0.01	1	10-27-10 16:29	EPA 6010B[1]
7440-43-9	Cadmium, Total	**0.007**		mg/L	0.004	1	10-27-10 16:29	EPA 6010B[1]
7440-47-3	Chromium, Total	**0.05**		mg/L	0.01	1	10-27-10 16:28	EPA 6010B[1]
7439-92-1	Lead, Total	**0.21**		mg/L	0.005	1	10-27-10 16:29	EPA 6010B[1]
7439-97-6	Mercury, Total	BRL		mg/L	0.0002	1	10-28-10 00:00	EPA 7470A[2]

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**North O/W**	Matrix:	**Aqueous**
Project:	**Oceanside/60136875**	Container:	**1 L Amber Glass**
Client:	**AECOM Environment**	Preservation:	**HNO3 / Cool**
Laboratory ID:	**137267-5**	Preserved:	**10-21-10 17:10**
Sampled:	**10-21-10 00:00**		
Received:	**10-21-10 17:10**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B[1]	MB-4222-W	EPA 3010A	10-27-10 00:00	50 mL	ICP-1 PE 3000	LS
EPA 7470A[2]	MP-2330-W	EPA 7470A	10-27-10 00:00	25 mL	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	**0.02**		mg/L	0.01	1	10-27-10 16:33	EPA 6010B[1]
7440-43-9	Cadmium, Total	BRL		mg/L	0.004	1	10-27-10 16:33	EPA 6010B[1]
7440-47-3	Chromium, Total	**0.02**		mg/L	0.01	1	10-27-10 16:33	EPA 6010B[1]
7439-92-1	Lead, Total	**0.24**		mg/L	0.005	1	10-27-10 16:33	EPA 6010B[1]
7439-97-6	Mercury, Total	BRL		mg/L	0.0002	1	10-28-10 00:00	EPA 7470A[2]

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**South O/W**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-17**	Percent Solids:	**80**
Sampled:	**10-21-10 00:00**		
Received:	**10-21-10 17:10**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B[1]	MB-1914-S	EPA 3050B	10-27-10 00:00	0.48 g	ICP-1 PE 3000	JK
EPA 7471A[2]	MP-2602-S	EPA 7471A	10-27-10 00:00	0.6 g	CVAA-1 PE FIMS	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	BRL		mg/Kg	3.9	1	10-28-10 11:01	EPA 6010B[1]
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.65	1	10-28-10 11:01	EPA 6010B[1]
7440-47-3	Chromium, Total	**6.1**		mg/Kg	1.3	1	10-28-10 11:01	EPA 6010B[1]
7439-92-1	Lead, Total	**20**		mg/Kg	6.5	1	10-28-10 11:01	EPA 6010B[1]
7439-97-6	Mercury, Total	BRL		mg/Kg	0.021	1	10-28-10 11:28	EPA 7471A[2]

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**North O/W**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-18**	Percent Solids:	**80**
Sampled:	**10-21-10 00:00**		
Received:	**10-21-10 17:10**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B[1]	MB-1913-S	EPA 3050B	10-25-10 00:00	0.495 g	ICP-1 PE 3000	LS
EPA 7471A[2]	MP-2602-S	EPA 7471A	10-27-10 00:00	0.6 g	CVAA-1 PE FIMS	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	BRL		mg/Kg	3.8	1	10-25-10 18:57	EPA 6010B[1]
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.63	1	10-25-10 18:57	EPA 6010B[1]
7440-47-3	Chromium, Total	**4.8**		mg/Kg	1.3	1	10-25-10 18:57	EPA 6010B[1]
7439-92-1	Lead, Total	**28**		mg/Kg	6.3	1	10-25-10 18:57	EPA 6010B[1]
7439-97-6	Mercury, Total	BRL		mg/Kg	0.021	1	10-28-10 11:32	EPA 7471A[2]

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**North O/W East**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-19**	Percent Solids:	**87**
Sampled:	**10-21-10 00:00**		
Received:	**10-21-10 17:10**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B[1]	MB-1913-S	EPA 3050B	10-25-10 00:00	0.515 g	ICP-1 PE 3000	LS
EPA 7471A[2]	MP-2602-S	EPA 7471A	10-27-10 00:00	0.6 g	CVAA-1 PE FIMS	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	BRL		mg/Kg	3.3	1	10-25-10 19:01	EPA 6010B[1]
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.56	1	10-25-10 19:01	EPA 6010B[1]
7440-47-3	Chromium, Total	12		mg/Kg	1.1	1	10-25-10 19:01	EPA 6010B[1]
7439-92-1	Lead, Total	96		mg/Kg	5.6	1	10-25-10 19:01	EPA 6010B[1]
7439-97-6	Mercury, Total	BRL		mg/Kg	0.019	1	10-28-10 11:53	EPA 7471A[2]

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**North O/W South**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-20**	Percent Solids:	**84**
Sampled:	**10-21-10 00:00**		
Received:	**10-21-10 17:10**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B[1]	MB-1913-S	EPA 3050B	10-25-10 00:00	0.495 g	ICP-1 PE 3000	LS
EPA 7471A[2]	MP-2602-S	EPA 7471A	10-27-10 00:00	0.6 g	CVAA-1 PE FIMS	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	BRL		mg/Kg	3.6	1	10-25-10 19:06	EPA 6010B[1]
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.60	1	10-25-10 19:06	EPA 6010B[1]
7440-47-3	Chromium, Total	**5.2**		mg/Kg	1.2	1	10-25-10 19:05	EPA 6010B[1]
7439-92-1	Lead, Total	**32**		mg/Kg	6.0	1	10-25-10 19:06	EPA 6010B[1]
7439-97-6	Mercury, Total	**0.024**		mg/Kg	0.020	1	10-28-10 11:56	EPA 7471A[2]

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**North O/W West**	Matrix:	**Soil**
Project:	**Oceanside'60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-21**	Percent Solids:	**86**
Sampled:	**10-21-10 00:00**		
Received:	**10-21-10 17:10**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B[1]	MB-1913-S	EPA 3050B	10-25-10 00:00	0.495 g	ICP-1 PE 3000	LS
EPA 7471A[2]	MP-2602-S	EPA 7471A	10-27-10 00:00	0.6 g	CVAA-1 PE FIMS	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	BRL		mg/Kg	3.5	1	10-25-10 19:10	EPA 6010B[1]
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.59	1	10-25-10 19:10	EPA 6010B[1]
7440-47-3	Chromium, Total	**5.9**		mg/Kg	1.2	1	10-25-10 19:09	EPA 6010B[1]
7439-92-1	Lead, Total	**38**		mg/Kg	5.9	1	10-25-10 19:10	EPA 6010B[1]
7439-97-6	Mercury, Total	BRL		mg/Kg	0.020	1	10-28-10 12:00	EPA 7471A[2]

Method Reference: Test Methods for Evaluating Solid Waste. US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**North O/W North**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-22**	Percent Solids:	**88**
Sampled:	**10-21-10 00:00**		
Received:	**10-21-10 17:10**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B[1]	MB-1913-S	EPA 3050B	10-25-10 00:00	0.515 g	ICP-1 PE 3000	LS
EPA 7471A[2]	MP-2602-S	EPA 7471A	10-27-10 00:00	0.6 g	CVAA-1 PE FIMS	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	BRL		mg/Kg	3.3	1	10-25-10 19:14	EPA 6010B[1]
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.55	1	10-25-10 19:14	EPA 6010B[1]
7440-47-3	Chromium, Total	**4.1**		mg/Kg	1.1	1	10-25-10 19:14	EPA 6010B[1]
7439-92-1	Lead, Total	**29**		mg/Kg	5.5	1	10-25-10 19:14	EPA 6010B[1]
7439-97-6	Mercury, Total	BRL		mg/Kg	0.018	1	10-28-10 12:03	EPA 7471A[2]

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**LP**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-23**	Percent Solids:	**80**
Sampled:	**10-21-10 00:00**		
Received:	**10-21-10 17:10**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B[1]	MB-1913-S	EPA 3050B	10-25-10 00:00	0.485 g	ICP-1 PE 3000	LS
EPA 7471A[2]	MP-2602-S	EPA 7471A	10-27-10 00:00	0.6 g	CVAA-1 PE FIMS	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	BRL		mg/Kg	3.9	1	10-25-10 19:28	EPA 6010B[1]
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.64	1	10-25-10 19:28	EPA 6010B[1]
7440-47-3	Chromium, Total	**8.4**		mg/Kg	1.3	1	10-25-10 19:28	EPA 6010B[1]
7439-92-1	Lead, Total	**44**		mg/Kg	6.4	1	10-25-10 19:28	EPA 6010B[1]
7439-97-6	Mercury, Total	**0.022**		mg/Kg	0.021	1	10-28-10 12:06	EPA 7471A[2]

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	South O/W	Matrix:	Aqueous
Project:	Oceanside/60136875	Container:	1 L Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-06	QC Batch ID:	SV-2573-F
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Volume:	1,000 mL
Extracted:	10-29-10 20:00	Final Volume:	1 mL
Analyzed:	11-02-10 19:53	Dilution Factor:	5
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	25
110-86-1	Pyridine	BRL		ug/L	25
108-95-2	Phenol	28		ug/L	25
62-53-3	Aniline	BRL		ug/L	25
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	25
95-57-8	2-Chlorophenol	BRL		ug/L	25
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	25
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	25
100-51-6	Benzyl Alcohol	BRL		ug/L	25
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	25
95-48-7	2-Methylphenol	BRL		ug/L	25
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	25
108-39-4/106-44-5	3 and 4-Methylphenol *	28		ug/L	25
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/L	25
98-86-2	Acetophenone	BRL		ug/L	25
67-72-1	Hexachloroethane	BRL		ug/L	25
98-95-3	Nitrobenzene	BRL		ug/L	25
78-59-1	Isophorone	BRL		ug/L	25
88-75-5	2-Nitrophenol	BRL		ug/L	25
105-67-9	2,4-Dimethylphenol	BRL		ug/L	25
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	25
120-83-2	2,4-Dichlorophenol	BRL		ug/L	25
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	25
91-20-3	Naphthalene	BRL		ug/L	25
106-47-8	4-Chloroaniline	BRL		ug/L	25
87-68-3	Hexachlorobutadiene	BRL		ug/L	25
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	25
91-57-6	2-Methylnaphthalene	BRL		ug/L	25
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	25
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	25
95-95-4	2,4,5-Trichlorophenol	BRL		ug/L	25
91-58-7	2-Chloronaphthalene	BRL		ug/L	25
88-74-4	2-Nitroaniline	BRL		ug/L	25
100-25-4	1,4-Dinitrobenzene	BRL		ug/L	25
131-11-3	Dimethyl phthalate	BRL		ug/L	25
99-65-0	1,3-Dinitrobenzene	BRL		ug/L	25
208-96-8	Acenaphthylene	BRL		ug/L	25
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	25
528-29-0	1,2-Dinitrobenzene	BRL		ug/L	25
99-09-2	3-Nitroaniline	BRL		ug/L	25
83-32-9	Acenaphthene	BRL		ug/L	25
51-28-5	2,4-Dinitrophenol	BRL		ug/L	50
100-02-7	4-Nitrophenol	BRL		ug/L	25
132-64-9	Dibenzofuran	BRL		ug/L	25
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	25

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	South O/W	Matrix:	Aqueous
Project:	Oceanside/601368.75	Container:	1 L Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-06	QC Batch ID:	SV-2573-F
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Volume:	1,000 mL
Extracted:	10-29-10 20:00	Final Volume:	1 mL
Analyzed:	11-02-10 19:53	Dilution Factor:	5
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/L	25
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	25
86-73-7	Fluorene	BRL		ug/L	25
100-01-6	4-Nitroaniline	BRL		ug/L	25
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	50
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/L	25
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/L	25
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	25
118-74-1	Hexachlorobenzene	BRL		ug/L	25
87-86-5	Pentachlorophenol	BRL		ug/L	50
85-01-8	Phenanthrene	BRL		ug/L	25
120-12-7	Anthracene	BRL		ug/L	25
86-74-8	Carbazole	BRL		ug/L	25
84-74-2	Di-*n*-butyl phthalate	BRL		ug/L	25
206-44-0	Fluoranthene	BRL		ug/L	25
129-00-0	Pyrene	BRL		ug/L	25
85-68-7	Butyl benzyl phthalate	BRL		ug/L	25
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	25
56-55-3	Benzo[a]anthracene	BRL		ug/L	25
218-01-9	Chrysene	BRL		ug/L	25
117-81-7	Bis(2-ethylhexyl) phthalate	**26**		ug/L	25
117-84-0	Di-*n*-octyl phthalate	BRL		ug/L	25
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	25
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	25
50-32-8	Benzo[a]pyrene	BRL		ug/L	25
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	25
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	25
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	25

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	200	85	**43** %	15 - 110 %
Phenol-d5	200	74	**37** %	15 - 110 %
Nitrobenzene-d5	100	110	**105** %	30 - 130 %
2-Fluorobiphenyl	100	110	**111** %	30 - 130 %
2,4,6-Tribromophenol	200	210	**104** %	15 - 110 %
Terphenyl-d14	100	88	**88** %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
* Analyzed as 4-Methylphenol.
† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.
◊ Analyzed as Azobenzene.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	**North O/W**	Matrix:	**Aqueous**
Project:	**Oceanside/60136875**	Container:	**1 L Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-07**	QC Batch ID:	**SV-2573-F**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Volume:	**1,000 mL**
Extracted:	**10-29-10 20:00**	Final Volume:	**1 mL**
Analyzed:	**11-02-10 20:34**	Dilution Factor:	**5**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	25
110-86-1	Pyridine	BRL		ug/L	25
108-95-2	Phenol	BRL		ug/L	25
62-53-3	Aniline	BRL		ug/L	25
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	25
95-57-8	2-Chlorophenol	BRL		ug/L	25
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	25
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	25
100-51-6	Benzyl Alcohol	BRL		ug/L	25
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	25
95-48-7	2-Methylphenol	BRL		ug/L	25
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	25
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/L	25
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/L	25
98-86-2	Acetophenone	BRL		ug/L	25
67-72-1	Hexachloroethane	BRL		ug/L	25
98-95-3	Nitrobenzene	BRL		ug/L	25
78-59-1	Isophorone	BRL		ug/L	25
88-75-5	2-Nitrophenol	BRL		ug/L	25
105-67-9	2,4-Dimethylphenol	BRL		ug/L	25
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	25
120-83-2	2,4-Dichlorophenol	BRL		ug/L	25
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	25
91-20-3	Naphthalene	BRL		ug/L	25
106-47-8	4-Chloroaniline	BRL		ug/L	25
87-68-3	Hexachlorobutadiene	BRL		ug/L	25
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	25
91-57-6	2-Methylnaphthalene	450		ug/L	25
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	25
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	25
95-95-4	2,4,5-Trichlorophenol	BRL		ug/L	25
91-58-7	2-Chloronaphthalene	BRL		ug/L	25
88-74-4	2-Nitroaniline	BRL		ug/L	25
100-25-4	1,4-Dinitrobenzene	BRL		ug/L	25
131-11-3	Dimethyl phthalate	BRL		ug/L	25
99-65-0	1,3-Dinitrobenzene	BRL		ug/L	25
208-96-8	Acenaphthylene	BRL		ug/L	25
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	25
528-29-0	1,2-Dinitrobenzene	BRL		ug/L	25
99-09-2	3-Nitroaniline	BRL		ug/L	25
83-32-9	Acenaphthene	57		ug/L	25
51-28-5	2,4-Dinitrophenol	BRL		ug/L	50
100-02-7	4-Nitrophenol	BRL		ug/L	25
132-64-9	Dibenzofuran	BRL		ug/L	25
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	25

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	North O/W	Matrix:	Aqueous
Project:	Oceanside/60136875	Container:	1 L Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-07	QC Batch ID:	SV-2573-F
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Volume:	1,000 mL
Extracted:	10-29-10 20:00	Final Volume:	1 mL
Analyzed:	11-02-10 20:34	Dilution Factor:	5
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/L	25
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	25
86-73-7	Fluorene	85		ug/L	25
100-01-6	4-Nitroaniline	BRL		ug/L	25
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	50
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/L	25
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/L	25
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	25
118-74-1	Hexachlorobenzene	BRL		ug/L	25
87-86-5	Pentachlorophenol	BRL		ug/L	50
85-01-8	Phenanthrene	150		ug/L	25
120-12-7	Anthracene	BRL		ug/L	25
86-74-8	Carbazole	BRL		ug/L	25
84-74-2	Di-*n*-butyl phthalate	BRL		ug/L	25
206-44-0	Fluoranthene	BRL		ug/L	25
129-00-0	Pyrene	BRL		ug/L	25
85-68-7	Butyl benzyl phthalate	BRL		ug/L	25
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	25
56-55-3	Benzo[a]anthracene	BRL		ug/L	25
218-01-9	Chrysene	BRL		ug/L	25
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	25
117-84-0	Di-*n*-octyl phthalate	BRL		ug/L	25
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	25
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	25
50-32-8	Benzo[a]pyrene	BRL		ug/L	25
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	25
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	25
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	25

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	200	120	60 %	15 - 110 %
Phenol-d5	200	110	54 %	15 - 110 %
Nitrobenzene-d5	100	110	110 %	30 - 130 %
2-Fluorobiphenyl	100	100	103 %	30 - 130 %
2,4,6-Tribromophenol	200	220	109 %	15 - 110 %
Terphenyl-d14	100	97	97 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
* Analyzed as 4-Methylphenol.
† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.
◊ Analyzed as Azobenzene.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	**LP**	Matrix:	**Aqueous**
Project:	**Oceanside/60136875**	Container:	**1 L Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-08**	QC Batch ID:	**SV-2573-F**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Volume:	**1,000 mL**
Extracted:	**10-29-10 20:00**	Final Volume:	**1 mL**
Analyzed:	**11-02-10 21:15**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	5
110-86-1	Pyridine	BRL		ug/L	5
108-95-2	Phenol	49		ug/L	5
62-53-3	Aniline	BRL		ug/L	5
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	5
95-57-8	2-Chlorophenol	BRL		ug/L	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	5
100-51-6	Benzyl Alcohol	BRL		ug/L	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	5
95-48-7	2-Methylphenol	BRL		ug/L	5
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	5
108-39-4/106-44-5	3 and 4-Methylphenol *	7		ug/L	5
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/L	5
98-86-2	Acetophenone	BRL		ug/L	5
67-72-1	Hexachloroethane	BRL		ug/L	5
98-95-3	Nitrobenzene	BRL		ug/L	5
78-59-1	Isophorone	BRL		ug/L	5
88-75-5	2-Nitrophenol	BRL		ug/L	5
105-67-9	2,4-Dimethylphenol	BRL		ug/L	5
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	5
120-83-2	2,4-Dichlorophenol	BRL		ug/L	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	5
91-20-3	Naphthalene	75		ug/L	5
106-47-8	4-Chloroaniline	BRL		ug/L	5
87-68-3	Hexachlorobutadiene	BRL		ug/L	5
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	5
91-57-6	2-Methylnaphthalene	73		ug/L	5
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	5
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	5
95-95-4	2,4,5-Trichlorophenol	BRL		ug/L	5
91-58-7	2-Chloronaphthalene	BRL		ug/L	5
88-74-4	2-Nitroaniline	BRL		ug/L	5
100-25-4	1,4-Dinitrobenzene	BRL		ug/L	5
131-11-3	Dimethyl phthalate	BRL		ug/L	5
99-65-0	1,3-Dinitrobenzene	BRL		ug/L	5
208-96-8	Acenaphthylene	BRL		ug/L	5
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	5
528-29-0	1,2-Dinitrobenzene	BRL		ug/L	5
99-09-2	3-Nitroaniline	BRL		ug/L	5
83-32-9	Acenaphthene	6		ug/L	5
51-28-5	2,4-Dinitrophenol	BRL		ug/L	10
100-02-7	4-Nitrophenol	BRL		ug/L	5
132-64-9	Dibenzofuran	BRL		ug/L	5
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	5

GROUNDWATER ANALYTICAL

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	LP	Matrix:	Aqueous
Project:	Oceanside/60136875	Container:	1 L Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-08	QC Batch ID:	SV-2573-F
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Volume:	1,000 mL
Extracted:	10-29-10 20:00	Final Volume:	1 mL
Analyzed:	11-02-10 21:15	Dilution Factor:	1
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/L	5
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	5
86-73-7	Fluorene	8		ug/L	5
100-01-6	4-Nitroaniline	BRL		ug/L	5
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	10
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/L	5
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/L	5
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	5
118-74-1	Hexachlorobenzene	BRL		ug/L	5
87-86-5	Pentachlorophenol	BRL		ug/L	10
85-01-8	Phenanthrene	13		ug/L	5
120-12-7	Anthracene	BRL		ug/L	5
86-74-8	Carbazole	BRL		ug/L	5
84-74-2	Di-*n*-butyl phthalate	BRL		ug/L	5
206-44-0	Fluoranthene	BRL		ug/L	5
129-00-0	Pyrene	BRL		ug/L	5
85-68-7	Butyl benzyl phthalate	BRL		ug/L	5
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	5
56-55-3	Benzo[a]anthracene	BRL		ug/L	5
218-01-9	Chrysene	BRL		ug/L	5
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	5
117-84-0	Di-*n*-octyl phthalate	BRL		ug/L	5
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	5
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	5
50-32-8	Benzo[a]pyrene	BRL		ug/L	5
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	5
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	5
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	200	87	44 %	15 - 110 %
Phenol-d5	200	79	39 %	15 - 110 %
Nitrobenzene-d5	100	100	103 %	30 - 130 %
2-Fluorobiphenyl	100	70	70 %	30 - 130 %
2,4,6-Tribromophenol	200	140	68 %	15 - 110 %
Terphenyl-d14	100	65	65 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
* Analyzed as 4-Methylphenol.
† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.
◊ Analyzed as Azobenzene.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	**South O/W**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-15**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**15 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-28-10 13:56**	Percent Solids:	**80**
Analyst:	**MJB**	Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/Kg	410
110-86-1	Pyridine	BRL		ug/Kg	410
108-95-2	Phenol	BRL		ug/Kg	410
62-53-3	Aniline	BRL		ug/Kg	410
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/Kg	410
95-57-8	2-Chlorophenol	BRL		ug/Kg	410
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	410
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	410
100-51-6	Benzyl Alcohol	BRL		ug/Kg	410
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	410
95-48-7	2-Methylphenol	BRL		ug/Kg	410
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/Kg	410
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/Kg	410
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/Kg	410
98-86-2	Acetophenone	BRL		ug/Kg	410
67-72-1	Hexachloroethane	BRL		ug/Kg	410
98-95-3	Nitrobenzene	BRL		ug/Kg	410
78-59-1	Isophorone	BRL		ug/Kg	410
88-75-5	2-Nitrophenol	BRL		ug/Kg	410
105-67-9	2,4-Dimethylphenol	BRL		ug/Kg	830
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/Kg	410
120-83-2	2,4-Dichlorophenol	BRL		ug/Kg	410
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	410
91-20-3	Naphthalene	BRL		ug/Kg	410
106-47-8	4-Chloroaniline	BRL		ug/Kg	410
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	410
59-50-7	4-Chloro-3-methylphenol	BRL		ug/Kg	410
91-57-6	2-Methylnaphthalene	BRL		ug/Kg	410
77-47-4	Hexachlorocyclopentadiene	BRL		ug/Kg	410
88-06-2	2,4,6-Trichlorophenol	BRL		ug/Kg	410
95-95-4	2,4,5-Trichlorophenol	BRL		ug/Kg	410
91-58-7	2-Chloronaphthalene	BRL		ug/Kg	410
88-74-4	2-Nitroaniline	BRL		ug/Kg	410
100-25-4	1,4-Dinitrobenzene	BRL		ug/Kg	410
131-11-3	Dimethyl phthalate	BRL		ug/Kg	410
99-65-0	1,3-Dinitrobenzene	BRL		ug/Kg	410
208-96-8	Acenaphthylene	BRL		ug/Kg	410
606-20-2	2,6-Dinitrotoluene	BRL		ug/Kg	410
528-29-0	1,2-Dinitrobenzene	BRL		ug/Kg	410
99-09-2	3-Nitroaniline	BRL		ug/Kg	410
83-32-9	Acenaphthene	**480**		ug/Kg	410
51-28-5	2,4-Dinitrophenol	BRL		ug/Kg	830
100-02-7	4-Nitrophenol	BRL		ug/Kg	410
132-64-9	Dibenzofuran	BRL		ug/Kg	410
121-14-2	2,4-Dinitrotoluene	BRL		ug/Kg	410

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	South O/W	Matrix:	Soil
Project:	Oceanside/60136875	Container:	250 mL Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-15	QC Batch ID:	SV-2400-P
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Weight:	15 g
Extracted:	10-27-10 12:00	Final Volume:	1 mL
Analyzed:	10-28-10 13:56	Dilution Factor:	1
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/Kg	410
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/Kg	410
86-73-7	Fluorene	440		ug/Kg	410
100-01-6	4-Nitroaniline	BRL		ug/Kg	410
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/Kg	410
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/Kg	410
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/Kg	410
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/Kg	410
118-74-1	Hexachlorobenzene	BRL		ug/Kg	410
87-86-5	Pentachlorophenol	BRL		ug/Kg	410
85-01-8	Phenanthrene	1,200		ug/Kg	410
120-12-7	Anthracene	BRL		ug/Kg	410
86-74-8	Carbazole	BRL		ug/Kg	410
84-74-2	Di-*n*-butyl phthalate	BRL		ug/Kg	410
206-44-0	Fluoranthene	1,600		ug/Kg	410
129-00-0	Pyrene	1,500		ug/Kg	410
85-68-7	Butyl benzyl phthalate	BRL		ug/Kg	410
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/Kg	410
56-55-3	Benzo[a]anthracene	490		ug/Kg	410
218-01-9	Chrysene	450		ug/Kg	410
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/Kg	410
117-84-0	Di-*n*-octyl phthalate	BRL		ug/Kg	410
205-99-2	Benzo[b]fluoranthene	640		ug/Kg	410
207-08-9	Benzo[k]fluoranthene	BRL		ug/Kg	410
50-32-8	Benzo[a]pyrene	500		ug/Kg	410
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	410
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	410
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	410

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	16,000	10,000	61 %	30 - 130 %
Phenol-d5	16,000	10,000	63 %	30 - 130 %
Nitrobenzene-d5	8,200	6,100	74 %	30 - 130 %
2-Fluorobiphenyl	8,200	7,300	89 %	30 - 130 %
2,4,6-Tribromophenol	16,000	14,000	82 %	30 - 130 %
Terphenyl-d14	8,200	7,100	87 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545. Results are reported on a dry weight basis.

Report Notations:
- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- * Analyzed as 4-Methylphenol.
- † Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.
- ◊ Analyzed as Azobenzene.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	**North O/W**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-16**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**16 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-28-10 14:38**	Percent Solids:	**80**
Analyst:	**MJB**	Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/Kg	390
110-86-1	Pyridine	BRL		ug/Kg	390
108-95-2	Phenol	BRL		ug/Kg	390
62-53-3	Aniline	BRL		ug/Kg	390
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/Kg	390
95-57-8	2-Chlorophenol	BRL		ug/Kg	390
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	390
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	390
100-51-6	Benzyl Alcohol	BRL		ug/Kg	390
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	390
95-48-7	2-Methylphenol	BRL		ug/Kg	390
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/Kg	390
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/Kg	390
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/Kg	390
98-86-2	Acetophenone	BRL		ug/Kg	390
67-72-1	Hexachloroethane	BRL		ug/Kg	390
98-95-3	Nitrobenzene	BRL		ug/Kg	390
78-59-1	Isophorone	BRL		ug/Kg	390
88-75-5	2-Nitrophenol	BRL		ug/Kg	390
105-67-9	2,4-Dimethylphenol	BRL		ug/Kg	790
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/Kg	390
120-83-2	2,4-Dichlorophenol	BRL		ug/Kg	390
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	390
91-20-3	Naphthalene	BRL		ug/Kg	390
106-47-8	4-Chloroaniline	BRL		ug/Kg	390
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	390
59-50-7	4-Chloro-3-methylphenol	BRL		ug/Kg	390
91-57-6	2-Methylnaphthalene	**40,000**	e	ug/Kg	390
77-47-4	Hexachlorocyclopentadiene	BRL		ug/Kg	390
88-06-2	2,4,6-Trichlorophenol	BRL		ug/Kg	390
95-95-4	2,4,5-Trichlorophenol	BRL		ug/Kg	390
91-58-7	2-Chloronaphthalene	BRL		ug/Kg	390
88-74-4	2-Nitroaniline	BRL		ug/Kg	390
100-25-4	1,4-Dinitrobenzene	BRL		ug/Kg	390
131-11-3	Dimethyl phthalate	BRL		ug/Kg	390
99-65-0	1,3-Dinitrobenzene	BRL		ug/Kg	390
208-96-8	Acenaphthylene	BRL		ug/Kg	390
606-20-2	2,6-Dinitrotoluene	BRL		ug/Kg	390
528-29-0	1,2-Dinitrobenzene	BRL		ug/Kg	390
99-09-2	3-Nitroaniline	BRL		ug/Kg	390
83-32-9	Acenaphthene	BRL		ug/Kg	390
51-28-5	2,4-Dinitrophenol	BRL		ug/Kg	790
100-02-7	4-Nitrophenol	BRL		ug/Kg	390
132-64-9	Dibenzofuran	BRL		ug/Kg	390
121-14-2	2,4-Dinitrotoluene	BRL		ug/Kg	390

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	North O/W	Matrix:	Soil
Project:	Oceanside/60136875	Container:	250 mL Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-16	QC Batch ID:	SV-2400-P
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Weight:	16 g
Extracted:	10-27-10 12:00	Final Volume:	1 mL
Analyzed:	10-28-10 14:38	Dilution Factor:	1
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/Kg	390
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/Kg	390
86-73-7	Fluorene	**4,900**		ug/Kg	390
100-01-6	4-Nitroaniline	BRL		ug/Kg	390
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/Kg	390
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/Kg	390
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/Kg	390
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/Kg	390
118-74-1	Hexachlorobenzene	BRL		ug/Kg	390
87-86-5	Pentachlorophenol	BRL		ug/Kg	390
85-01-8	Phenanthrene	**13,000**	e	ug/Kg	390
120-12-7	Anthracene	BRL		ug/Kg	390
86-74-8	Carbazole	BRL		ug/Kg	390
84-74-2	Di-*n*-butyl phthalate	BRL		ug/Kg	390
206-44-0	Fluoranthene	BRL		ug/Kg	390
129-00-0	Pyrene	**490**		ug/Kg	390
85-68-7	Butyl benzyl phthalate	BRL		ug/Kg	390
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/Kg	390
56-55-3	Benzo[a]anthracene	BRL		ug/Kg	390
218-01-9	Chrysene	BRL		ug/Kg	390
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/Kg	390
117-84-0	Di-*n*-octyl phthalate	BRL		ug/Kg	390
205-99-2	Benzo[b]fluoranthene	BRL		ug/Kg	390
207-08-9	Benzo[k]fluoranthene	BRL		ug/Kg	390
50-32-8	Benzo[a]pyrene	BRL		ug/Kg	390
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	390
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	390
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	390

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	16,000	11,000	**72** %	30 - 130 %
Phenol-d5	16,000	12,000	**74** %	30 - 130 %
Nitrobenzene-d5	7,900	5,300	**67** %	30 - 130 %
2-Fluorobiphenyl	7,900	7,600	**96** %	30 - 130 %
2,4,6-Tribromophenol	16,000	8,400	**53** %	30 - 130 %
Terphenyl-d14	7,900	8,200	**104** %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545. Results are reported on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	**North O/W**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-16RA1**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**16 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-29-10 12:38**	Percent Solids:	**80**
Analyst:	**MJB**	Dilution Factor:	**10**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/Kg	3,900
110-86-1	Pyridine	BRL		ug/Kg	3,900
108-95-2	Phenol	BRL		ug/Kg	3,900
62-53-3	Aniline	BRL		ug/Kg	3,900
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/Kg	3,900
95-57-8	2-Chlorophenol	BRL		ug/Kg	3,900
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	3,900
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	3,900
100-51-6	Benzyl Alcohol	BRL		ug/Kg	3,900
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	3,900
95-48-7	2-Methylphenol	BRL		ug/Kg	3,900
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/Kg	3,900
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/Kg	3,900
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/Kg	3,900
98-86-2	Acetophenone	BRL		ug/Kg	3,900
67-72-1	Hexachloroethane	BRL		ug/Kg	3,900
98-95-3	Nitrobenzene	BRL		ug/Kg	3,900
78-59-1	Isophorone	BRL		ug/Kg	3,900
88-75-5	2-Nitrophenol	BRL		ug/Kg	3,900
105-67-9	2,4-Dimethylphenol	BRL		ug/Kg	7,900
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/Kg	3,900
120-83-2	2,4-Dichlorophenol	BRL		ug/Kg	3,900
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	3,900
91-20-3	Naphthalene	BRL		ug/Kg	3,900
106-47-8	4-Chloroaniline	BRL		ug/Kg	3,900
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	3,900
59-50-7	4-Chloro-3-methylphenol	BRL		ug/Kg	3,900
91-57-6	2-Methylnaphthalene	45,000		ug/Kg	3,900
77-47-4	Hexachlorocyclopentadiene	BRL		ug/Kg	3,900
88-06-2	2,4,6-Trichlorophenol	BRL		ug/Kg	3,900
95-95-4	2,4,5-Trichlorophenol	BRL		ug/Kg	3,900
91-58-7	2-Chloronaphthalene	BRL		ug/Kg	3,900
88-74-4	2-Nitroaniline	BRL		ug/Kg	3,900
100-25-4	1,4-Dinitrobenzene	BRL		ug/Kg	3,900
131-11-3	Dimethyl phthalate	BRL		ug/Kg	3,900
99-65-0	1,3-Dinitrobenzene	BRL		ug/Kg	3,900
208-96-8	Acenaphthylene	BRL		ug/Kg	3,900
606-20-2	2,6-Dinitrotoluene	BRL		ug/Kg	3,900
528-29-0	1,2-Dinitrobenzene	BRL		ug/Kg	3,900
99-09-2	3-Nitroaniline	BRL		ug/Kg	3,900
83-32-9	Acenaphthene	BRL		ug/Kg	3,900
51-28-5	2,4-Dinitrophenol	BRL		ug/Kg	7,900
100-02-7	4-Nitrophenol	BRL		ug/Kg	3,900
132-64-9	Dibenzofuran	BRL		ug/Kg	3,900
121-14-2	2,4-Dinitrotoluene	BRL		ug/Kg	3,900

GROUNDWATER ANALYTICAL

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	North O/W	Matrix:	Soil
Project:	Oceanside/60136875	Container:	250 mL Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-16RA1	QC Batch ID:	SV-2400-P
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Weight:	16 g
Extracted:	10-27-10 12:00	Final Volume:	1 mL
Analyzed:	10-29-10 12:38	Dilution Factor:	10
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/Kg	3,900
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/Kg	3,900
86-73-7	Fluorene	5,900		ug/Kg	3,900
100-01-6	4-Nitroaniline	BRL		ug/Kg	3,900
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/Kg	3,900
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/Kg	3,900
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/Kg	3,900
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/Kg	3,900
118-74-1	Hexachlorobenzene	BRL		ug/Kg	3,900
87-86-5	Pentachlorophenol	BRL		ug/Kg	3,900
85-01-8	Phenanthrene	14,000		ug/Kg	3,900
120-12-7	Anthracene	BRL		ug/Kg	3,900
86-74-8	Carbazole	BRL		ug/Kg	3,900
84-74-2	Di-*n*-butyl phthalate	BRL		ug/Kg	3,900
206-44-0	Fluoranthene	BRL		ug/Kg	3,900
129-00-0	Pyrene	BRL		ug/Kg	3,900
85-68-7	Butyl benzyl phthalate	BRL		ug/Kg	3,900
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/Kg	3,900
56-55-3	Benzo[a]anthracene	BRL		ug/Kg	3,900
218-01-9	Chrysene	BRL		ug/Kg	3,900
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/Kg	3,900
117-84-0	Di-*n*-octyl phthalate	BRL		ug/Kg	3,900
205-99-2	Benzo[b]fluoranthene	BRL		ug/Kg	3,900
207-08-9	Benzo[k]fluoranthene	BRL		ug/Kg	3,900
50-32-8	Benzo[a]pyrene	BRL		ug/Kg	3,900
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	3,900
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	3,900
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	3,900

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	16,000	12,000	79 %	30 - 130 %
Phenol-d5	16,000	14,000	86 %	30 - 130 %
Nitrobenzene-d5	7,900	7,200	91 %	30 - 130 %
2-Fluorobiphenyl	7,900	8,100	102 %	30 - 130 %
2,4,6-Tribromophenol	16,000	5,900	37 %	30 - 130 %
Terphenyl-d14	7,900	7,500	95 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545. Results are reported on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	**North O/W East**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-19**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**16 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-28-10 15:20**	Percent Solids:	**87**
Analyst:	**MJB**	Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/Kg	370
110-86-1	Pyridine	BRL		ug/Kg	370
108-95-2	Phenol	BRL		ug/Kg	370
62-53-3	Aniline	BRL		ug/Kg	370
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/Kg	370
95-57-8	2-Chlorophenol	BRL		ug/Kg	370
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	370
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	370
100-51-6	Benzyl Alcohol	BRL		ug/Kg	370
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	370
95-48-7	2-Methylphenol	BRL		ug/Kg	370
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/Kg	370
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/Kg	370
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/Kg	370
98-86-2	Acetophenone	BRL		ug/Kg	370
67-72-1	Hexachloroethane	BRL		ug/Kg	370
98-95-3	Nitrobenzene	BRL		ug/Kg	370
78-59-1	Isophorone	BRL		ug/Kg	370
88-75-5	2-Nitrophenol	BRL		ug/Kg	370
105-67-9	2,4-Dimethylphenol	BRL		ug/Kg	740
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/Kg	370
120-83-2	2,4-Dichlorophenol	BRL		ug/Kg	370
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	370
91-20-3	Naphthalene	BRL		ug/Kg	370
106-47-8	4-Chloroaniline	BRL		ug/Kg	370
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	370
59-50-7	4-Chloro-3-methylphenol	BRL		ug/Kg	370
91-57-6	2-Methylnaphthalene	**22,000**	e	ug/Kg	370
77-47-4	Hexachlorocyclopentadiene	BRL		ug/Kg	370
88-06-2	2,4,6-Trichlorophenol	BRL		ug/Kg	370
95-95-4	2,4,5-Trichlorophenol	BRL		ug/Kg	370
91-58-7	2-Chloronaphthalene	BRL		ug/Kg	370
88-74-4	2-Nitroaniline	BRL		ug/Kg	370
100-25-4	1,4-Dinitrobenzene	BRL		ug/Kg	370
131-11-3	Dimethyl phthalate	BRL		ug/Kg	370
99-65-0	1,3-Dinitrobenzene	BRL		ug/Kg	370
208-96-8	Acenaphthylene	BRL		ug/Kg	370
606-20-2	2,6-Dinitrotoluene	BRL		ug/Kg	370
528-29-0	1,2-Dinitrobenzene	BRL		ug/Kg	370
99-09-2	3-Nitroaniline	BRL		ug/Kg	370
83-32-9	Acenaphthene	BRL		ug/Kg	370
51-28-5	2,4-Dinitrophenol	BRL		ug/Kg	740
100-02-7	4-Nitrophenol	BRL		ug/Kg	370
132-64-9	Dibenzofuran	BRL		ug/Kg	370
121-14-2	2,4-Dinitrotoluene	BRL		ug/Kg	370

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	North O/W East	Matrix:	Soil
Project:	Oceanside/60136875	Container:	250 mL Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-19	QC Batch ID:	SV-2400-P
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Weight:	16 g
Extracted:	10-27-10 12:00	Final Volume:	1 mL
Analyzed:	10-28-10 15:20	Dilution Factor:	1
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/Kg	370
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/Kg	370
86-73-7	Fluorene	4,800		ug/Kg	370
100-01-6	4-Nitroaniline	BRL		ug/Kg	370
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/Kg	370
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/Kg	370
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/Kg	370
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/Kg	370
118-74-1	Hexachlorobenzene	BRL		ug/Kg	370
87-86-5	Pentachlorophenol	BRL		ug/Kg	370
85-01-8	Phenanthrene	13,000	e	ug/Kg	370
120-12-7	Anthracene	BRL		ug/Kg	370
86-74-8	Carbazole	BRL		ug/Kg	370
84-74-2	Di-*n*-butyl phthalate	BRL		ug/Kg	370
206-44-0	Fluoranthene	BRL		ug/Kg	370
129-00-0	Pyrene	530		ug/Kg	370
85-68-7	Butyl benzyl phthalate	BRL		ug/Kg	370
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/Kg	370
56-55-3	Benzo[a]anthracene	BRL		ug/Kg	370
218-01-9	Chrysene	BRL		ug/Kg	370
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/Kg	370
117-84-0	Di-*n*-octyl phthalate	BRL		ug/Kg	370
205-99-2	Benzo[b]fluoranthene	BRL		ug/Kg	370
207-08-9	Benzo[k]fluoranthene	BRL		ug/Kg	370
50-32-8	Benzo[a]pyrene	BRL		ug/Kg	370
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	370
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	370
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	370

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	15,000	9,000	61 %	30 - 130 %
Phenol-d5	15,000	9,900	67 %	30 - 130 %
Nitrobenzene-d5	7,400	4,700	64 %	30 - 130 %
2-Fluorobiphenyl	7,400	6,200	85 %	30 - 130 %
2,4,6-Tribromophenol	15,000	6,600	45 %	30 - 130 %
Terphenyl-d14	7,400	7,000	95 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545. Results are reported on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	**North O/W East**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-19RA1**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**16 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-29-10 11:57**	Percent Solids:	**87**
Analyst:	**MJB**	Dilution Factor:	**5**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/Kg	1,800
110-86-1	Pyridine	BRL		ug/Kg	1,800
108-95-2	Phenol	BRL		ug/Kg	1,800
62-53-3	Aniline	BRL		ug/Kg	1,800
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/Kg	1,800
95-57-8	2-Chlorophenol	BRL		ug/Kg	1,800
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	1,800
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	1,800
100-51-6	Benzyl Alcohol	BRL		ug/Kg	1,800
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	1,800
95-48-7	2-Methylphenol	BRL		ug/Kg	1,800
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/Kg	1,800
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/Kg	1,800
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/Kg	1,800
98-86-2	Acetophenone	BRL		ug/Kg	1,800
67-72-1	Hexachloroethane	BRL		ug/Kg	1,800
98-95-3	Nitrobenzene	BRL		ug/Kg	1,800
78-59-1	Isophorone	BRL		ug/Kg	1,800
88-75-5	2-Nitrophenol	BRL		ug/Kg	1,800
105-67-9	2,4-Dimethylphenol	BRL		ug/Kg	3,700
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/Kg	1,800
120-83-2	2,4-Dichlorophenol	BRL		ug/Kg	1,800
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	1,800
91-20-3	Naphthalene	BRL		ug/Kg	1,800
106-47-8	4-Chloroaniline	BRL		ug/Kg	1,800
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	1,800
59-50-7	4-Chloro-3-methylphenol	BRL		ug/Kg	1,800
91-57-6	2-Methylnaphthalene	**21,000**		ug/Kg	1,800
77-47-4	Hexachlorocyclopentadiene	BRL		ug/Kg	1,800
88-06-2	2,4,6-Trichlorophenol	BRL		ug/Kg	1,800
95-95-4	2,4,5-Trichlorophenol	BRL		ug/Kg	1,800
91-58-7	2-Chloronaphthalene	BRL		ug/Kg	1,800
88-74-4	2-Nitroaniline	BRL		ug/Kg	1,800
100-25-4	1,4-Dinitrobenzene	BRL		ug/Kg	1,800
131-11-3	Dimethyl phthalate	BRL		ug/Kg	1,800
99-65-0	1,3-Dinitrobenzene	BRL		ug/Kg	1,800
208-96-8	Acenaphthylene	BRL		ug/Kg	1,800
606-20-2	2,6-Dinitrotoluene	BRL		ug/Kg	1,800
528-29-0	1,2-Dinitrobenzene	BRL		ug/Kg	1,800
99-09-2	3-Nitroaniline	BRL		ug/Kg	1,800
83-32-9	Acenaphthene	BRL		ug/Kg	1,800
51-28-5	2,4-Dinitrophenol	BRL		ug/Kg	3,700
100-02-7	4-Nitrophenol	BRL		ug/Kg	1,800
132-64-9	Dibenzofuran	BRL		ug/Kg	1,800
121-14-2	2,4-Dinitrotoluene	BRL		ug/Kg	1,800

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	North O/W East	Matrix:	Soil
Project:	Oceanside/60136875	Container:	250 mL Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-19RA1	QC Batch ID:	SV-2400-P
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Weight:	16 g
Extracted:	10-27-10 12:00	Final Volume:	1 mL
Analyzed:	10-29-10 11:57	Dilution Factor:	5
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/Kg	1,800
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/Kg	1,800
86-73-7	Fluorene	5,400		ug/Kg	1,800
100-01-6	4-Nitroaniline	BRL		ug/Kg	1,800
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/Kg	1,800
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/Kg	1,800
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/Kg	1,800
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/Kg	1,800
118-74-1	Hexachlorobenzene	BRL		ug/Kg	1,800
87-86-5	Pentachlorophenol	BRL		ug/Kg	1,800
85-01-8	Phenanthrene	13,000		ug/Kg	1,800
120-12-7	Anthracene	BRL		ug/Kg	1,800
86-74-8	Carbazole	BRL		ug/Kg	1,800
84-74-2	Di-*n*-butyl phthalate	BRL		ug/Kg	1,800
206-44-0	Fluoranthene	BRL		ug/Kg	1,800
129-00-0	Pyrene	BRL		ug/Kg	1,800
85-68-7	Butyl benzyl phthalate	BRL		ug/Kg	1,800
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/Kg	1,800
56-55-3	Benzo[a]anthracene	BRL		ug/Kg	1,800
218-01-9	Chrysene	BRL		ug/Kg	1,800
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/Kg	1,800
117-84-0	Di-*n*-octyl phthalate	BRL		ug/Kg	1,800
205-99-2	Benzo[b]fluoranthene	BRL		ug/Kg	1,800
207-08-9	Benzo[k]fluoranthene	BRL		ug/Kg	1,800
50-32-8	Benzo[a]pyrene	BRL		ug/Kg	1,800
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	1,800
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	1,800
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	1,800

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	15,000	8,800	60 %	30 - 130 %
Phenol-d5	15,000	9,500	64 %	30 - 130 %
Nitrobenzene-d5	7,400	6,000	81 %	30 - 130 %
2-Fluorobiphenyl	7,400	6,200	84 %	30 - 130 %
2,4,6-Tribromophenol	15,000	7,300	50 %	30 - 130 %
Terphenyl-d14	7,400	6,100	83 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545. Results are reported on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	**North O/W South**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-20**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**15 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-28-10 16:01**	Percent Solids:	**84**
Analyst:	**MJB**	Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/Kg	380
110-86-1	Pyridine	BRL		ug/Kg	380
108-95-2	Phenol	BRL		ug/Kg	380
62-53-3	Aniline	BRL		ug/Kg	380
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/Kg	380
95-57-8	2-Chlorophenol	BRL		ug/Kg	380
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	380
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	380
100-51-6	Benzyl Alcohol	BRL		ug/Kg	380
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	380
95-48-7	2-Methylphenol	BRL		ug/Kg	380
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/Kg	380
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/Kg	380
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/Kg	380
98-86-2	Acetophenone	BRL		ug/Kg	380
67-72-1	Hexachloroethane	BRL		ug/Kg	380
98-95-3	Nitrobenzene	BRL		ug/Kg	380
78-59-1	Isophorone	BRL		ug/Kg	380
88-75-5	2-Nitrophenol	BRL		ug/Kg	380
105-67-9	2,4-Dimethylphenol	BRL		ug/Kg	780
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/Kg	380
120-83-2	2,4-Dichlorophenol	BRL		ug/Kg	380
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	380
91-20-3	Naphthalene	BRL		ug/Kg	380
106-47-8	4-Chloroaniline	BRL		ug/Kg	380
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	380
59-50-7	4-Chloro-3-methylphenol	BRL		ug/Kg	380
91-57-6	2-Methylnaphthalene	**38,000**	e	ug/Kg	380
77-47-4	Hexachlorocyclopentadiene	BRL		ug/Kg	380
88-06-2	2,4,6-Trichlorophenol	BRL		ug/Kg	380
95-95-4	2,4,5-Trichlorophenol	BRL		ug/Kg	380
91-58-7	2-Chloronaphthalene	BRL		ug/Kg	380
88-74-4	2-Nitroaniline	BRL		ug/Kg	380
100-25-4	1,4-Dinitrobenzene	BRL		ug/Kg	380
131-11-3	Dimethyl phthalate	BRL		ug/Kg	380
99-65-0	1,3-Dinitrobenzene	BRL		ug/Kg	380
208-96-8	Acenaphthylene	BRL		ug/Kg	380
606-20-2	2,6-Dinitrotoluene	BRL		ug/Kg	380
528-29-0	1,2-Dinitrobenzene	BRL		ug/Kg	380
99-09-2	3-Nitroaniline	BRL		ug/Kg	380
83-32-9	Acenaphthene	BRL		ug/Kg	380
51-28-5	2,4-Dinitrophenol	BRL		ug/Kg	780
100-02-7	4-Nitrophenol	BRL		ug/Kg	380
132-64-9	Dibenzofuran	BRL		ug/Kg	380
121-14-2	2,4-Dinitrotoluene	BRL		ug/Kg	380

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	**North O/W South**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-20**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**15 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-28-10 16:01**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/Kg	380
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/Kg	380
86-73-7	Fluorene	**5,600**		ug/Kg	380
100-01-6	4-Nitroaniline	BRL		ug/Kg	380
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/Kg	380
86-30-6	N-Nitrosodipheny amine †	BRL		ug/Kg	380
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/Kg	380
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/Kg	380
118-74-1	Hexachlorobenzene	BRL		ug/Kg	380
87-86-5	Pentachlorophenol	BRL		ug/Kg	380
85-01-8	Phenanthrene	**14,000**	e	ug/Kg	380
120-12-7	Anthracene	BRL		ug/Kg	380
86-74-8	Carbazole	BRL		ug/Kg	380
84-74-2	Di-*n*-butyl phthalate	BRL		ug/Kg	380
206-44-0	Fluoranthene	BRL		ug/Kg	380
129-00-0	Pyrene	**610**		ug/Kg	380
85-68-7	Butyl benzyl phthalate	BRL		ug/Kg	380
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/Kg	380
56-55-3	Benzo[a]anthracene	BRL		ug/Kg	380
218-01-9	Chrysene	BRL		ug/Kg	380
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/Kg	380
117-84-0	Di-*n*-octyl phthalate	BRL		ug/Kg	380
205-99-2	Benzo[b]fluoranthene	BRL		ug/Kg	380
207-08-9	Benzo[k]fluoranthene	BRL		ug/Kg	380
50-32-8	Benzo[a]pyrene	BRL		ug/Kg	380
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	380
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	380
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	380

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	15,000	8,700	**56** %	30 - 130 %
Phenol-d5	15,000	9,500	**61** %	30 - 130 %
Nitrobenzene-d5	7,700	5,300	**68** %	30 - 130 %
2-Fluorobiphenyl	7,700	6,700	**86** %	30 - 130 %
2,4,6-Tribromophenol	15,000	5,900	**38** %	30 - 130 %
Terphenyl-d14	7,700	7,000	**90** %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545. Results are reported on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	**North O/W South**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-20RA1**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**15 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-29-10 13:19**	Percent Solids:	**84**
Analyst:	**MJB**	Dilution Factor:	**10**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/Kg	3,800
110-86-1	Pyridine	BRL		ug/Kg	3,800
108-95-2	Phenol	BRL		ug/Kg	3,800
62-53-3	Aniline	BRL		ug/Kg	3,800
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/Kg	3,800
95-57-8	2-Chlorophenol	BRL		ug/Kg	3,800
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	3,800
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	3,800
100-51-6	Benzyl Alcohol	BRL		ug/Kg	3,800
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	3,800
95-48-7	2-Methylphenol	BRL		ug/Kg	3,800
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/Kg	3,800
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/Kg	3,800
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/Kg	3,800
98-86-2	Acetophenone	BRL		ug/Kg	3,800
67-72-1	Hexachloroethane	BRL		ug/Kg	3,800
98-95-3	Nitrobenzene	BRL		ug/Kg	3,800
78-59-1	Isophorone	BRL		ug/Kg	3,800
88-75-5	2-Nitrophenol	BRL		ug/Kg	3,800
105-67-9	2,4-Dimethylphenol	BRL		ug/Kg	7,800
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/Kg	3,800
120-83-2	2,4-Dichlorophenol	BRL		ug/Kg	3,800
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	3,800
91-20-3	Naphthalene	BRL		ug/Kg	3,800
106-47-8	4-Chloroaniline	BRL		ug/Kg	3,800
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	3,800
59-50-7	4-Chloro-3-methylphenol	BRL		ug/Kg	3,800
91-57-6	2-Methylnaphthalene	**31,000**		ug/Kg	3,800
77-47-4	Hexachlorocyclopentadiene	BRL		ug/Kg	3,800
88-06-2	2,4,6-Trichlorophenol	BRL		ug/Kg	3,800
95-95-4	2,4,5-Trichlorophenol	BRL		ug/Kg	3,800
91-58-7	2-Chloronaphthalene	BRL		ug/Kg	3,800
88-74-4	2-Nitroaniline	BRL		ug/Kg	3,800
100-25-4	1,4-Dinitrobenzene	BRL		ug/Kg	3,800
131-11-3	Dimethyl phthalate	BRL		ug/Kg	3,800
99-65-0	1,3-Dinitrobenzene	BRL		ug/Kg	3,800
208-96-8	Acenaphthylene	BRL		ug/Kg	3,800
606-20-2	2,6-Dinitrotoluene	BRL		ug/Kg	3,800
528-29-0	1,2-Dinitrobenzene	BRL		ug/Kg	3,800
99-09-2	3-Nitroaniline	BRL		ug/Kg	3,800
83-32-9	Acenaphthene	BRL		ug/Kg	3,800
51-28-5	2,4-Dinitrophenol	BRL		ug/Kg	7,800
100-02-7	4-Nitrophenol	BRL		ug/Kg	3,800
132-64-9	Dibenzofuran	**3,800**		ug/Kg	3,800
121-14-2	2,4-Dinitrotoluene	BRL		ug/Kg	3,800

GROUNDWATER ANALYTICAL

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	**North O/W South**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-20RA1**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**15 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-29-10 13:19**	Dilution Factor:	**10**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/Kg	3,800
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/Kg	3,800
86-73-7	Fluorene	7,000		ug/Kg	3,800
100-01-6	4-Nitroaniline	BRL		ug/Kg	3,800
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/Kg	3,800
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/Kg	3,800
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/Kg	3,800
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/Kg	3,800
118-74-1	Hexachlorobenzene	BRL		ug/Kg	3,800
87-86-5	Pentachlorophenol	BRL		ug/Kg	3,800
85-01-8	Phenanthrene	16,000		ug/Kg	3,800
120-12-7	Anthracene	BRL		ug/Kg	3,800
86-74-8	Carbazole	BRL		ug/Kg	3,800
84-74-2	Di-*n*-butyl phthalate	BRL		ug/Kg	3,800
206-44-0	Fluoranthene	BRL		ug/Kg	3,800
129-00-0	Pyrene	BRL		ug/Kg	3,800
85-68-7	Butyl benzyl phthalate	BRL		ug/Kg	3,800
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/Kg	3,800
56-55-3	Benzo[a]anthracene	BRL		ug/Kg	3,800
218-01-9	Chrysene	BRL		ug/Kg	3,800
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/Kg	3,800
117-84-0	Di-*n*-octyl phthalate	BRL		ug/Kg	3,800
205-99-2	Benzo[b]fluoranthene	BRL		ug/Kg	3,800
207-08-9	Benzo[k]fluoranthene	BRL		ug/Kg	3,800
50-32-8	Benzo[a]pyrene	BRL		ug/Kg	3,800
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	3,800
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	3,800
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	3,800

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	15,000	9,500	**61** %	30 - 130 %
Phenol-d5	15,000	11,000	**71** %	30 - 130 %
Nitrobenzene-d5	7,700	6,900	**89** %	30 - 130 %
2-Fluorobiphenyl	7,700	6,600	**86** %	30 - 130 %
2,4,6-Tribromophenol	15,000	2,400	**16** % m	30 - 130 %
Terphenyl-d14	7,700	6,400	**82** %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545. Results are reported on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

m Surrogate recovery outside recommended limits due to sample matrix interference.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	**North O/W West**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-21**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**15 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-28-10 16:43**	Percent Solids:	**86**
Analyst:	**MJB**	Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/Kg	380
110-86-1	Pyridine	BRL		ug/Kg	380
108-95-2	Phenol	BRL		ug/Kg	380
62-53-3	Aniline	BRL		ug/Kg	380
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/Kg	380
95-57-8	2-Chlorophenol	BRL		ug/Kg	380
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	380
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	380
100-51-6	Benzyl Alcohol	BRL		ug/Kg	380
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	380
95-48-7	2-Methylphenol	BRL		ug/Kg	380
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/Kg	380
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/Kg	380
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/Kg	380
98-86-2	Acetophenone	BRL		ug/Kg	380
67-72-1	Hexachloroethane	BRL		ug/Kg	380
98-95-3	Nitrobenzene	BRL		ug/Kg	380
78-59-1	Isophorone	BRL		ug/Kg	380
88-75-5	2-Nitrophenol	BRL		ug/Kg	380
105-67-9	2,4-Dimethylphenol	BRL		ug/Kg	760
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/Kg	380
120-83-2	2,4-Dichlorophenol	BRL		ug/Kg	380
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	380
91-20-3	Naphthalene	BRL		ug/Kg	380
106-47-8	4-Chloroaniline	BRL		ug/Kg	380
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	380
59-50-7	4-Chloro-3-methylphenol	BRL		ug/Kg	380
91-57-6	2-Methylnaphthalene	**35,000**	e	ug/Kg	380
77-47-4	Hexachlorocyclopentadiene	BRL		ug/Kg	380
88-06-2	2,4,6-Trichlorophenol	BRL		ug/Kg	380
95-95-4	2,4,5-Trichlorophenol	BRL		ug/Kg	380
91-58-7	2-Chloronaphthalene	BRL		ug/Kg	380
88-74-4	2-Nitroaniline	BRL		ug/Kg	380
100-25-4	1,4-Dinitrobenzene	BRL		ug/Kg	380
131-11-3	Dimethyl phthalate	BRL		ug/Kg	380
99-65-0	1,3-Dinitrobenzene	BRL		ug/Kg	380
208-96-8	Acenaphthylene	BRL		ug/Kg	380
606-20-2	2,6-Dinitrotoluene	BRL		ug/Kg	380
528-29-0	1,2-Dinitrobenzene	BRL		ug/Kg	380
99-09-2	3-Nitroaniline	BRL		ug/Kg	380
83-32-9	Acenaphthene	BRL		ug/Kg	380
51-28-5	2,4-Dinitrophenol	BRL		ug/Kg	760
100-02-7	4-Nitrophenol	BRL		ug/Kg	380
132-64-9	Dibenzofuran	BRL		ug/Kg	380
121-14-2	2,4-Dinitrotoluene	BRL		ug/Kg	380

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	North O/W West	Matrix:	Soil
Project:	Oceanside/60136875	Container:	250 mL Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-21	QC Batch ID:	SV-2400-P
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Weight:	15 g
Extracted:	10-27-10 12:00	Final Volume:	1 mL
Analyzed:	10-28-10 16:43	Dilution Factor:	1
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/Kg	380
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/Kg	380
86-73-7	Fluorene	5,300		ug/Kg	380
100-01-6	4-Nitroaniline	BRL		ug/Kg	380
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/Kg	380
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/Kg	380
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/Kg	380
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/Kg	380
118-74-1	Hexachlorobenzene	BRL		ug/Kg	380
87-86-5	Pentachlorophenol	BRL		ug/Kg	380
85-01-8	Phenanthrene	14,000	e	ug/Kg	380
120-12-7	Anthracene	BRL		ug/Kg	380
86-74-8	Carbazole	BRL		ug/Kg	380
84-74-2	Di-*n*-butyl phthalate	BRL		ug/Kg	380
206-44-0	Fluoranthene	BRL		ug/Kg	380
129-00-0	Pyrene	550		ug/Kg	380
85-68-7	Butyl benzyl phthalate	BRL		ug/Kg	380
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/Kg	380
56-55-3	Benzo[a]anthracene	BRL		ug/Kg	380
218-01-9	Chrysene	BRL		ug/Kg	380
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/Kg	380
117-84-0	Di-*n*-octyl phthalate	BRL		ug/Kg	380
205-99-2	Benzo[b]fluoranthene	BRL		ug/Kg	380
207-08-9	Benzo[k]fluoranthene	BRL		ug/Kg	380
50-32-8	Benzo[a]pyrene	BRL		ug/Kg	380
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	380
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	380
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	380

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	15,000	9,500	62 %	30 - 130 %
Phenol-d5	15,000	10,000	69 %	30 - 130 %
Nitrobenzene-d5	7,600	4,700	62 %	30 - 130 %
2-Fluorobiphenyl	7,600	7,200	95 %	30 - 130 %
2,4,6-Tribromophenol	15,000	7,200	47 %	30 - 130 %
Terphenyl-d14	7,600	7,900	103 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545. Results are reported on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	**North O/W West**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-21RA1**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**15 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-29-10 14:01**	Percent Solids:	**86**
Analyst:	**MJB**	Dilution Factor:	**10**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/Kg	3,800
110-86-1	Pyridine	BRL		ug/Kg	3,800
108-95-2	Phenol	BRL		ug/Kg	3,800
62-53-3	Aniline	BRL		ug/Kg	3,800
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/Kg	3,800
95-57-8	2-Chlorophenol	BRL		ug/Kg	3,800
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	3,800
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	3,800
100-51-6	Benzyl Alcohol	BRL		ug/Kg	3,800
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	3,800
95-48-7	2-Methylphenol	BRL		ug/Kg	3,800
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/Kg	3,800
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/Kg	3,800
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/Kg	3,800
98-86-2	Acetophenone	BRL		ug/Kg	3,800
67-72-1	Hexachloroethane	BRL		ug/Kg	3,800
98-95-3	Nitrobenzene	BRL		ug/Kg	3,800
78-59-1	Isophorone	BRL		ug/Kg	3,800
88-75-5	2-Nitrophenol	BRL		ug/Kg	3,800
105-67-9	2,4-Dimethylphenol	BRL		ug/Kg	7,600
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/Kg	3,800
120-83-2	2,4-Dichlorophenol	BRL		ug/Kg	3,800
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	3,800
91-20-3	Naphthalene	BRL		ug/Kg	3,800
106-47-8	4-Chloroaniline	BRL		ug/Kg	3,800
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	3,800
59-50-7	4-Chloro-3-methylphenol	BRL		ug/Kg	3,800
91-57-6	2-Methylnaphthalene	36,000		ug/Kg	3,800
77-47-4	Hexachlorocyclopentadiene	BRL		ug/Kg	3,800
88-06-2	2,4,6-Trichlorophenol	BRL		ug/Kg	3,800
95-95-4	2,4,5-Trichlorophenol	BRL		ug/Kg	3,800
91-58-7	2-Chloronaphthalene	BRL		ug/Kg	3,800
88-74-4	2-Nitroaniline	BRL		ug/Kg	3,800
100-25-4	1,4-Dinitrobenzene	BRL		ug/Kg	3,800
131-11-3	Dimethyl phthalate	BRL		ug/Kg	3,800
99-65-0	1,3-Dinitrobenzene	BRL		ug/Kg	3,800
208-96-8	Acenaphthylene	BRL		ug/Kg	3,800
606-20-2	2,6-Dinitrotoluene	BRL		ug/Kg	3,800
528-29-0	1,2-Dinitrobenzene	BRL		ug/Kg	3,800
99-09-2	3-Nitroaniline	BRL		ug/Kg	3,800
83-32-9	Acenaphthene	BRL		ug/Kg	3,800
51-28-5	2,4-Dinitrophenol	BRL		ug/Kg	7,600
100-02-7	4-Nitrophenol	BRL		ug/Kg	3,800
132-64-9	Dibenzofuran	BRL		ug/Kg	3,800
121-14-2	2,4-Dinitrotoluene	BRL		ug/Kg	3,800

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	North O/W West	Matrix:	Soil
Project:	Oceanside/60136875	Container:	250 mL Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-21RA1	QC Batch ID:	SV-2400-P
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Weight:	15 g
Extracted:	10-27-10 12:00	Final Volume:	1 mL
Analyzed:	10-29-10 14:01	Dilution Factor:	10
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/Kg	3,800
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/Kg	3,800
86-73-7	Fluorene	**6,000**		ug/Kg	3,800
100-01-6	4-Nitroaniline	BRL		ug/Kg	3,800
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/Kg	3,800
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/Kg	3,800
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/Kg	3,800
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/Kg	3,800
118-74-1	Hexachlorobenzene	BRL		ug/Kg	3,800
87-86-5	Pentachlorophenol	BRL		ug/Kg	3,800
85-01-8	Phenanthrene	**14,000**		ug/Kg	3,800
120-12-7	Anthracene	BRL		ug/Kg	3,800
86-74-8	Carbazole	BRL		ug/Kg	3,800
84-74-2	Di-*n*-butyl phthalate	BRL		ug/Kg	3,800
206-44-0	Fluoranthene	BRL		ug/Kg	3,800
129-00-0	Pyrene	BRL		ug/Kg	3,800
85-68-7	Butyl benzyl phthalate	BRL		ug/Kg	3,800
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/Kg	3,800
56-55-3	Benzo[a]anthracene	BRL		ug/Kg	3,800
218-01-9	Chrysene	BRL		ug/Kg	3,800
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/Kg	3,800
117-84-0	Di-*n*-octyl phthalate	BRL		ug/Kg	3,800
205-99-2	Benzo[b]fluoranthene	BRL		ug/Kg	3,800
207-08-9	Benzo[k]fluoranthene	BRL		ug/Kg	3,800
50-32-8	Benzo[a]pyrene	BRL		ug/Kg	3,800
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	3,800
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	3,800
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	3,800

QC Surrogate Compound	Spiked	Measured	Recovery		QC Limits
2-Fluorophenol	15,000	11,000	**75** %		30 - 130 %
Phenol-d5	15,000	11,000	**71** %		30 - 130 %
Nitrobenzene-d5	7,600	6,800	**90** %		30 - 130 %
2-Fluorobiphenyl	7,600	7,100	**94** %		30 - 130 %
2,4,6-Tribromophenol	15,000	1,500	**10** %	m	30 - 130 %
Terphenyl-d14	7,600	6,900	**90** %		30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545. Results are reported on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

m Surrogate recovery outside recommended limits due to sample matrix interference.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	**North O/W North**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-22**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**15 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-28-10 17:25**	Percent Solids:	**88**
Analyst:	**MJB**	Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/Kg	370
110-86-1	Pyridine	BRL		ug/Kg	370
108-95-2	Phenol	BRL		ug/Kg	370
62-53-3	Aniline	BRL		ug/Kg	370
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/Kg	370
95-57-8	2-Chlorophenol	BRL		ug/Kg	370
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	370
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	370
100-51-6	Benzyl Alcohol	BRL		ug/Kg	370
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	370
95-48-7	2-Methylphenol	BRL		ug/Kg	370
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/Kg	370
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/Kg	370
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/Kg	370
98-86-2	Acetophenone	BRL		ug/Kg	370
67-72-1	Hexachloroethane	BRL		ug/Kg	370
98-95-3	Nitrobenzene	BRL		ug/Kg	370
78-59-1	Isophorone	BRL		ug/Kg	370
88-75-5	2-Nitrophenol	BRL		ug/Kg	370
105-67-9	2,4-Dimethylphenol	BRL		ug/Kg	740
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/Kg	370
120-83-2	2,4-Dichlorophenol	BRL		ug/Kg	370
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	370
91-20-3	Naphthalene	BRL		ug/Kg	370
106-47-8	4-Chloroaniline	BRL		ug/Kg	370
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	370
59-50-7	4-Chloro-3-methylphenol	BRL		ug/Kg	370
91-57-6	2-Methylnaphthalene	**59,000**	e	ug/Kg	370
77-47-4	Hexachlorocyclopentadiene	BRL		ug/Kg	370
88-06-2	2,4,6-Trichlorophenol	BRL		ug/Kg	370
95-95-4	2,4,5-Trichlorophenol	BRL		ug/Kg	370
91-58-7	2-Chloronaphthalene	BRL		ug/Kg	370
88-74-4	2-Nitroaniline	BRL		ug/Kg	370
100-25-4	1,4-Dinitrobenzene	BRL		ug/Kg	370
131-11-3	Dimethyl phthalate	BRL		ug/Kg	370
99-65-0	1,3-Dinitrobenzene	BRL		ug/Kg	370
208-96-8	Acenaphthylene	BRL		ug/Kg	370
606-20-2	2,6-Dinitrotoluene	BRL		ug/Kg	370
528-29-0	1,2-Dinitrobenzene	BRL		ug/Kg	370
99-09-2	3-Nitroaniline	BRL		ug/Kg	370
83-32-9	Acenaphthene	BRL		ug/Kg	370
51-28-5	2,4-Dinitrophenol	BRL		ug/Kg	740
100-02-7	4-Nitrophenol	BRL		ug/Kg	370
132-64-9	Dibenzofuran	BRL		ug/Kg	370
121-14-2	2,4-Dinitrotoluene	BRL		ug/Kg	370

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	North O/W North	Matrix:	Soil
Project:	Oceanside/60136875	Container:	250 mL Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-22	QC Batch ID:	SV-2400-P
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Weight:	15 g
Extracted:	10-27-10 12:00	Final Volume:	1 mL
Analyzed:	10-28-10 17:25	Dilution Factor:	1
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/Kg	370
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/Kg	370
86-73-7	Fluorene	5,700		ug/Kg	370
100-01-6	4-Nitroaniline	BRL		ug/Kg	370
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/Kg	370
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/Kg	370
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/Kg	370
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/Kg	370
118-74-1	Hexachlorobenzene	BRL		ug/Kg	370
87-86-5	Pentachlorophenol	BRL		ug/Kg	370
85-01-8	Phenanthrene	16,000	e	ug/Kg	370
120-12-7	Anthracene	BRL		ug/Kg	370
86-74-8	Carbazole	BRL		ug/Kg	370
84-74-2	Di-*n*-butyl phthalate	BRL		ug/Kg	370
206-44-0	Fluoranthene	BRL		ug/Kg	370
129-00-0	Pyrene	630		ug/Kg	370
85-68-7	Butyl benzyl phthalate	BRL		ug/Kg	370
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/Kg	370
56-55-3	Benzo[a]anthracene	BRL		ug/Kg	370
218-01-9	Chrysene	BRL		ug/Kg	370
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/Kg	370
117-84-0	Di-*n*-octyl phthalate	BRL		ug/Kg	370
205-99-2	Benzo[b]fluoranthene	BRL		ug/Kg	370
207-08-9	Benzo[k]fluoranthene	BRL		ug/Kg	370
50-32-8	Benzo[a]pyrene	BRL		ug/Kg	370
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	370
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	370
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	370

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	15,000	6,900	47 %	30 - 130 %
Phenol-d5	15,000	7,200	49 %	30 - 130 %
Nitrobenzene-d5	7,400	3,900	53 %	30 - 130 %
2-Fluorobiphenyl	7,400	5,600	76 %	30 - 130 %
2,4,6-Tribromophenol	15,000	5,200	35 %	30 - 130 %
Terphenyl-d14	7,400	5,900	79 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545. Results are reported on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	North O/W North	Matrix:	Soil
Project:	Oceanside/60136875	Container:	250 mL Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-22RA1	QC Batch ID:	SV-2400-P
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Weight:	15 g
Extracted:	10-27-10 12:00	Final Volume:	1 mL
Analyzed:	10-29-10 14:42	Percent Solids:	88
Analyst:	MJB	Dilution Factor:	10

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/Kg	3,700
110-86-1	Pyridine	BRL		ug/Kg	3,700
108-95-2	Phenol	BRL		ug/Kg	3,700
62-53-3	Aniline	BRL		ug/Kg	3,700
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/Kg	3,700
95-57-8	2-Chlorophenol	BRL		ug/Kg	3,700
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	3,700
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	3,700
100-51-6	Benzyl Alcohol	BRL		ug/Kg	3,700
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	3,700
95-48-7	2-Methylphenol	BRL		ug/Kg	3,700
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/Kg	3,700
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/Kg	3,700
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/Kg	3,700
98-86-2	Acetophenone	BRL		ug/Kg	3,700
67-72-1	Hexachloroethane	BRL		ug/Kg	3,700
98-95-3	Nitrobenzene	BRL		ug/Kg	3,700
78-59-1	Isophorone	BRL		ug/Kg	3,700
88-75-5	2-Nitrophenol	BRL		ug/Kg	3,700
105-67-9	2,4-Dimethylphenol	BRL		ug/Kg	7,400
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/Kg	3,700
120-83-2	2,4-Dichlorophenol	BRL		ug/Kg	3,700
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	3,700
91-20-3	Naphthalene	BRL		ug/Kg	3,700
106-47-8	4-Chloroaniline	BRL		ug/Kg	3,700
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	3,700
59-50-7	4-Chloro-3-methylphenol	BRL		ug/Kg	3,700
91-57-6	2-Methylnaphthalene	58,000		ug/Kg	3,700
77-47-4	Hexachlorocyclopentadiene	BRL		ug/Kg	3,700
88-06-2	2,4,6-Trichlorophenol	BRL		ug/Kg	3,700
95-95-4	2,4,5-Trichlorophenol	BRL		ug/Kg	3,700
91-58-7	2-Chloronaphthalene	BRL		ug/Kg	3,700
88-74-4	2-Nitroaniline	BRL		ug/Kg	3,700
100-25-4	1,4-Dinitrobenzene	BRL		ug/Kg	3,700
131-11-3	Dimethyl phthalate	BRL		ug/Kg	3,700
99-65-0	1,3-Dinitrobenzene	BRL		ug/Kg	3,700
208-96-8	Acenaphthylene	BRL		ug/Kg	3,700
606-20-2	2,6-Dinitrotoluene	BRL		ug/Kg	3,700
528-29-0	1,2-Dinitrobenzene	BRL		ug/Kg	3,700
99-09-2	3-Nitroaniline	BRL		ug/Kg	3,700
83-32-9	Acenaphthene	BRL		ug/Kg	3,700
51-28-5	2,4-Dinitrophenol	BRL		ug/Kg	7,400
100-02-7	4-Nitrophenol	BRL		ug/Kg	3,700
132-64-9	Dibenzofuran	BRL		ug/Kg	3,700
121-14-2	2,4-Dinitrotoluene	BRL		ug/Kg	3,700

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	**North O/W North**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-22RA1**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**15 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-29-10 14:42**	Dilution Factor:	**10**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/Kg	3,700
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/Kg	3,700
86-73-7	Fluorene	6,900		ug/Kg	3,700
100-01-6	4-Nitroaniline	BRL		ug/Kg	3,700
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/Kg	3,700
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/Kg	3,700
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/Kg	3,700
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/Kg	3,700
118-74-1	Hexachlorobenzene	BRL		ug/Kg	3,700
87-86-5	Pentachlorophenol	BRL		ug/Kg	3,700
85-01-8	Phenanthrene	17,000		ug/Kg	3,700
120-12-7	Anthracene	BRL		ug/Kg	3,700
86-74-8	Carbazole	BRL		ug/Kg	3,700
84-74-2	Di-*n*-butyl phthalate	BRL		ug/Kg	3,700
206-44-0	Fluoranthene	BRL		ug/Kg	3,700
129-00-0	Pyrene	BRL		ug/Kg	3,700
85-68-7	Butyl benzyl phthalate	BRL		ug/Kg	3,700
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/Kg	3,700
56-55-3	Benzo[a]anthracene	BRL		ug/Kg	3,700
218-01-9	Chrysene	BRL		ug/Kg	3,700
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/Kg	3,700
117-84-0	Di-*n*-octyl phthalate	BRL		ug/Kg	3,700
205-99-2	Benzo[b]fluoranthene	BRL		ug/Kg	3,700
207-08-9	Benzo[k]fluoranthene	BRL		ug/Kg	3,700
50-32-8	Benzo[a]pyrene	BRL		ug/Kg	3,700
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	3,700
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	3,700
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	3,700

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	15,000	8,200	**56** %	30 - 130 %
Phenol-d5	15,000	8,700	**59** %	30 - 130 %
Nitrobenzene-d5	7,400	5,500	**74** %	30 - 130 %
2-Fluorobiphenyl	7,400	5,500	**74** %	30 - 130 %
2,4,6-Tribromophenol	15,000	1,600	**11** % m	30 - 130 %
Terphenyl-d14	7,400	5,600	**75** %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545. Results are reported on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

m Surrogate recovery outside recommended limits due to sample matrix interference.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS

Field ID:	**LP**	Matrix:	**Soil**
Project:	**Oceanside/60136875**	Container:	**250 mL Amber Glass**
Client:	**AECOM Environment**	Preservation:	**Cool**
Laboratory ID:	**137267-23**	QC Batch ID:	**SV-2400-P**
Sampled:	**10-21-10 00:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**10-21-10 17:10**	Sample Weight:	**16 g**
Extracted:	**10-27-10 12:00**	Final Volume:	**1 mL**
Analyzed:	**10-28-10 18:07**	Percent Solids:	**80**
Analyst:	**MJB**	Dilution Factor:	**1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/Kg	390
110-86-1	Pyridine	BRL		ug/Kg	390
108-95-2	Phenol	BRL		ug/Kg	390
62-53-3	Aniline	BRL		ug/Kg	390
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/Kg	390
95-57-8	2-Chlorophenol	BRL		ug/Kg	390
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	390
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	390
100-51-6	Benzyl Alcohol	BRL		ug/Kg	390
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	390
95-48-7	2-Methylphenol	BRL		ug/Kg	390
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/Kg	390
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/Kg	390
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/Kg	390
98-86-2	Acetophenone	BRL		ug/Kg	390
67-72-1	Hexachloroethane	BRL		ug/Kg	390
98-95-3	Nitrobenzene	BRL		ug/Kg	390
78-59-1	Isophorone	BRL		ug/Kg	390
88-75-5	2-Nitrophenol	BRL		ug/Kg	390
105-67-9	2,4-Dimethylphenol	BRL		ug/Kg	790
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/Kg	390
120-83-2	2,4-Dichlorophenol	BRL		ug/Kg	390
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	390
91-20-3	Naphthalene	BRL		ug/Kg	390
106-47-8	4-Chloroaniline	BRL		ug/Kg	390
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	390
59-50-7	4-Chloro-3-methylphenol	BRL		ug/Kg	390
91-57-6	2-Methylnaphthalene	BRL		ug/Kg	390
77-47-4	Hexachlorocyclopentadiene	BRL		ug/Kg	390
88-06-2	2,4,6-Trichlorophenol	BRL		ug/Kg	390
95-95-4	2,4,5-Trichlorophenol	BRL		ug/Kg	390
91-58-7	2-Chloronaphthalene	BRL		ug/Kg	390
88-74-4	2-Nitroaniline	BRL		ug/Kg	390
100-25-4	1,4-Dinitrobenzene	BRL		ug/Kg	390
131-11-3	Dimethyl phthalate	BRL		ug/Kg	390
99-65-0	1,3-Dinitrobenzene	BRL		ug/Kg	390
208-96-8	Acenaphthylene	BRL		ug/Kg	390
606-20-2	2,6-Dinitrotoluene	BRL		ug/Kg	390
528-29-0	1,2-Dinitrobenzene	BRL		ug/Kg	390
99-09-2	3-Nitroaniline	BRL		ug/Kg	390
83-32-9	Acenaphthene	BRL		ug/Kg	390
51-28-5	2,4-Dinitrophenol	BRL		ug/Kg	790
100-02-7	4-Nitrophenol	BRL		ug/Kg	390
132-64-9	Dibenzofuran	BRL		ug/Kg	390
121-14-2	2,4-Dinitrotoluene	BRL		ug/Kg	390

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS

Field ID:	LP	Matrix:	Soil
Project:	Oceanside/60136875	Container:	250 mL Amber Glass
Client:	AECOM Environment	Preservation:	Cool
Laboratory ID:	137267-23	QC Batch ID:	SV-2400-P
Sampled:	10-21-10 00:00	Instrument ID:	MS-3 HP 5890
Received:	10-21-10 17:10	Sample Weight:	16 g
Extracted:	10-27-10 12:00	Final Volume:	1 mL
Analyzed:	10-28-10 18:07	Dilution Factor:	1
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
84-66-2	Diethyl phthalate	BRL		ug/Kg	390
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/Kg	390
86-73-7	Fluorene	BRL		ug/Kg	390
100-01-6	4-Nitroaniline	BRL		ug/Kg	390
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/Kg	390
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/Kg	390
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/Kg	390
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/Kg	390
118-74-1	Hexachlorobenzene	BRL		ug/Kg	390
87-86-5	Pentachlorophenol	BRL		ug/Kg	390
85-01-8	Phenanthrene	BRL		ug/Kg	390
120-12-7	Anthracene	BRL		ug/Kg	390
86-74-8	Carbazole	BRL		ug/Kg	390
84-74-2	Di-*n*-butyl phthalate	BRL		ug/Kg	390
206-44-0	Fluoranthene	BRL		ug/Kg	390
129-00-0	Pyrene	BRL		ug/Kg	390
85-68-7	Butyl benzyl phthalate	BRL		ug/Kg	390
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/Kg	390
56-55-3	Benzo[a]anthracene	BRL		ug/Kg	390
218-01-9	Chrysene	BRL		ug/Kg	390
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/Kg	390
117-84-0	Di-*n*-octyl phthalate	BRL		ug/Kg	390
205-99-2	Benzo[b]fluoranthene	BRL		ug/Kg	390
207-08-9	Benzo[k]fluoranthene	BRL		ug/Kg	390
50-32-8	Benzo[a]pyrene	BRL		ug/Kg	390
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	390
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	390
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	390

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	16,000	8,600	55 %	30 - 130 %
Phenol-d5	16,000	9,200	59 %	30 - 130 %
Nitrobenzene-d5	7,900	5,500	70 %	30 - 130 %
2-Fluorobiphenyl	7,900	7,100	90 %	30 - 130 %
2,4,6-Tribromophenol	16,000	12,000	73 %	30 - 130 %
Terphenyl-d14	7,900	7,200	91 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545. Results are reported on a dry weight basis.

Report Notations:
- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- * Analyzed as 4-Methylphenol.
- † Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.
- ◊ Analyzed as Azobenzene.

GROUNDWATER ANALYTICAL

Project Narrative

Project: **Oceanside/60136875**
Client: **AECOM Environment**

Lab ID: **137267**
Received: **10-21-10 17:10**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1. No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1. EPA 8260B Non-conformance: Sample 137267-1. Reported results for selected analyte exceeded the high standard of the associated calibration curve. Results are estimated. Sample was reanalyzed and reported with all analytes within calibration.
2. EPA 8260B Note: Samples 137267-1RA1 and -11. Samples were diluted prior to analysis. Dilution was required to keep all target analytes within calibration.
3. EPA 8260B Note: Samples 137267-2 and -3. Samples were diluted prior to analysis. Dilution was required due to presence of non-target analyte interference.
4. EPA 8270C Note: Samples 137267-6, -7, -16RA1 and -19RA1 through -22RA1. Samples were diluted prior to analysis. Dilution was required to keep all target analytes within calibration.
5. EPA 8270C Non-conformance: Samples 137267-16 and -19 through -22. Reported results for selected analytes exceeded the high standard of the associated calibration curve. Results are estimated. Samples were reanalyzed and reported with all analytes within calibration.
6. EPA 8270C Non-conformance: Samples 137267-20RA1, -21RA1 and -22RA1. Samples had surrogate 2,4,6-Tibromophenol below recommended recovery limits due to sample matrix interference. The surrogates were within criteria on the original samples.
7. EPA 8270C Non-conformance: Laboratory control sample (LCS) analytes 2,4-Dinitrophenol and 4,6-Dinitro-2-methylphenol were below recommended recovery limits for QC batch SV-2400-P.
8. EPA 8270C Non-conformance: Laboratory control sample (LCS) analyte 4,6-Dinitro-2-methylphenol had an RPD recovery outside recommended recovery limits for QC batch SV-2400-P.
9. EPA 8260B Non-conformance: Laboratory control sample (LCS) analyteTrichlorofluoromethane was below recommended recovery limits for QC batch VM1-2944-E.
10. EPA 8260B Non-conformance: Laboratory control sample (LCS) analyte trans-1,4-Dichloro-2-butene was above recommended recovery limits for QC batch VM10-1162-W.
11. EPA 8260B Non-conformance: Laboratory control sample (LCS) analytes 1,4-Dioxane, Bromobenzene, 4-Chlorotoluene, 1,2,4-Trichlorobenzene, Hexachlorobutadiene and 1,2,3-Trichlorobenzene had RPD recoveries outside recommended recovery limits for QC batch VM10-1163-W
12. EPA 8260B Non-conformance: Laboratory control sample (LCS) analyteTrichlorofluoromethane was below recommended recovery limits for QC batch VM1-2946-E.

ROUNDWATER ANALYTICAL (cut off at edge)

228 Main Street, P.O. Box 1200
Buzzards Bay, MA 02532
Telephone (508) 759-4441 • FAX (508) 759-4475
www.groundwateranalytical.com

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

Name: ...n S de	Firm: AECOM
Number: 0136875	Address: 2 Technology Park Dr.
Name: ...ell Smith	City / State / Zip: Westford Ma
Manager: ...n Hodden	Telephone: 978-589-3000

TURNAROUND

- ☐ 10 Business Days
- ☒ 5 Business Days
- ☐ RUSH (RAN- ______) (Rush requires Rush Authorization Number)
- ☒ Please Email to: Zeno.kr.Hodden @ AECOM.com
- ☐ Please FAX to: ______

BILLING

- ☐ Purchase Order No.: Direct Bill
- ☐ Third Party Billing: Quick Bill to ... Smith
- ☐ GWA Quote ______

INSTRUCTIONS: Use separate line for each container (except replicates).

ANALYSIS REQUEST: Volatiles | Semivolatiles | Pesticides/Herb/PCBs | Metals | Petroleum Hydrocarbons | Haz. Waste | General Chemistry | Other

Time	Sample Identification	Matrix	Type	Containers (Number)	Preservation	Laboratory Number (Lab Use Only)	Analysis
	South O/W	X / X	X	7 (2, 3)	X ... X X X		X X X
	North O/W			3 (2, 3)	X		
	North O/W East			4 (1)			
	North O/W South			4 (1)			
	North O/W West			4 (1)			
	North O/W North			4 (1)			X
	LP	X / X	X	7 (2, 2)	X ... X X X		X X

REMARKS / SPECIAL INSTRUCTIONS

- ☐ NO MCP Data Certification required
- ☒ NO MCP Drinking Water Sample Included. (...ble analyses require duplicate collection and Trip Blanks).
- ...alyze Duplicates and Trips Blanks only if positive results.
- ☒ NO CT RCP Data Certification required

Signature: [signature]

DATA QUALITY OBJECTIVES

Regulatory Program

State	Standard	Deliverables
☐ CT	☐ MCP GW-1/S-1	☐ PWS Form
☐ ME	☐ MCP GW-2/S-2	☐ MWPA
☐ MA	☐ NY STARS	☐
☐ NH	☐ Drinking Water	
☒ NY	☐ Wastewater	
☐ RI	☐ Waste Disposal	
☐ VT	☐ Dredge Material	
☐	☐	

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. **Each MS, MSD and Sample Duplicate requires an additional sample aliquot.**

Project Specific QC Required: ☐ Sample Duplicate ☐ Matrix Spike ☐ Matrix Spike Duplicate

Selection of QC Sample: ☐ Please use sample ______

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Relinquished by	Date	Time	Received by
Relinquished by Sampler: [signature]	10/21/10	11:40	Alan Maddigan
Relinquished by: Alan Maddigan	10/21/10	15:10	Received by: [signature]
Relinquished by:			Received by Laboratory:

Receipt Temperature: 2 °C
Condition:
Shipping/Airbill Number:
Custody Seal Number:

Method of Shipment: ☒ GWA Courier ☐ Express Mail ☐ Federal Express ☐ UPS ☐ Hand ☐

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans,* US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste,* US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

Category: **Metals**
Matrix: **Soil**
Units: **mg/Kg**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 6010B	MB-1913-SL	EPA 3050B	10-25-10 00:00	10-25-10 17:35	ICP-1 PE 3000	JK
LCS	EPA 7471A	MP-2602-SL	EPA 7471A	10-27-10 00:00	10-28-10 11:06	CVAA-1 PE FIMS	MFP
LCSD	EPA 6010B	MB-1913-SL	EPA 3050B	10-25-10 00:00	10-25-10 17:42	ICP-1 PE 3000	JK
LCSD	EPA 7471A	MP-2602-SL	EPA 7471A	10-27-10 00:00	10-28-10 11:09	CVAA-1 PE FIMS	MFP

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7440-38-2	Arsenic	110	110	**97%**	110	100	**96%**	**1 %**	83-117 %	30 %	EPA 6010B
7440-43-9	Cadmium	110	120	**105%**	110	120	**107%**	**1 %**	80-120 %	30 %	EPA 6010B
7440-47-3	Chromium	93	98	**105%**	93	100	**107%**	**1 %**	81-120 %	30 %	EPA 6010B
7439-92-1	Lead	150	170	**109%**	150	170	**109%**	**0 %**	79-121 %	30 %	EPA 6010B
7439-97-6	Mercury	16	18	**110%**	16	17	**104%**	**3 %**	71-129 %	30 %	EPA 7471A

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **Metals**
Matrix: **Soil**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B	MB-1913-SB	EPA 3050B	10-25-10 00:00	0.5 g	ICP-1 PE 3000	JK
EPA 7471A	MP-2602-SB	EPA 7471A	10-27-10 00:00	0.6 g	CVAA-1 PE FIMS	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic	BRL		mg/Kg	3.0	1	10-25-10 17:31	EPA 6010B
7440-43-9	Cadmium	BRL		mg/Kg	0.50	1	10-25-10 17:31	EPA 6010B
7440-47-3	Chromium	BRL		mg/Kg	1.0	1	10-25-10 17:31	EPA 6010B
7439-92-1	Lead	BRL		mg/Kg	5.0	1	10-25-10 17:31	EPA 6010B
7439-97-6	Mercury	BRL		mg/Kg	0.017	1	10-28-10 11:06	EPA 7471A

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

Category: **Metals**
Matrix: **Soil**
Units: **mg/Kg**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 6010B	MB-1914-SL	EPA 3050B	10-27-10 00:00	10-28-10 10:49	ICP-1 PE 3000	JK
LCS	EPA 7471A	MP-2330-SL	EPA 7471A	08-04-08 09:25	08-04-08 17:44	CVAA-1 PE FIMS	MFP
LCSD	EPA 6010B	MB-1914-SL	EPA 3050B	10-27-10 00:00	10-28-10 10:55	ICP-1 PE 3000	JK
LCSD	EPA 7471A	MP-2330-SL	EPA 7471A	08-04-08 09:25	08-04-08 17:48	CVAA-1 PE FIMS	MFP

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7440-38-2	Arsenic	110	97	**89%**	110	90	**83%**	**3 %**	83-117 %	30 %	EPA 6010B
7440-43-9	Cadmium	110	110	**100%**	110	100	**92%**	**4 %**	80-120 %	30 %	EPA 6010B
7440-47-3	Chromium	93	89	**95%**	93	78	**84%**	**6 %**	81-120 %	30 %	EPA 6010B
7439-92-1	Lead	150	150	**100%**	150	140	**90%**	**5 %**	79-121 %	30 %	EPA 6010B
7439-97-6	Mercury	8.5	8.5	**100%**	8.5	8.7	**103%**	**1 %**	66-132 %	30 %	EPA 7471A

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **Metals**
Matrix: **Soil**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B	MB-1914-SB	EPA 3050B	10-27-10 00:00	0.5 g	ICP-1 PE 3000	JK
EPA 7471A	MP-2330-SB	EPA 7471A	08-04-08 09:25	0.6 g	CVAA-1 PE FIMS	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic	BRL		mg/Kg	3.0	1	10-28-10 10:45	EPA 6010B
7440-43-9	Cadmium	BRL		mg/Kg	0.50	1	10-28-10 10:45	EPA 6010B
7440-47-3	Chromium	BRL		mg/Kg	1.0	1	10-28-10 10:44	EPA 6010B
7439-92-1	Lead	BRL		mg/Kg	5.0	1	10-28-10 10:45	EPA 6010B
7439-97-6	Mercury	BRL		mg/Kg	0.017	1	08-04-08 17:44	EPA 7471A

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

Category: **Metals**
Matrix: **Aqueous**
Units: **mg/L**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 6010B	MB-4222-WL	EPA 3010A	10-27-10 00:00	10-27-10 14:36	ICP-1 PE 3000	JK
LCS	EPA 7470A	MP-2330-WL	EPA 7470A	10-27-10 00:00	10-28-10 00:00	CVAA-1 PE FIMS	LS
LCSD	EPA 6010B	MB-4222-WL	EPA 3010A	10-27-10 00:00	10-27-10 14:41	ICP-1 PE 3000	JK
LCSD	EPA 7470A	MP-2330-WL	EPA 7470A	10-27-10 00:00	10-28-10 00:00	CVAA-1 PE FIMS	LS

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7440-38-2	Arsenic	5.0	4.0	**81%**	5.0	4.0	**80%**	**1 %**	80-120 %	20 %	EPA 6010B
7440-43-9	Cadmium	1.0	0.90	**90%**	1.0	0.91	**91%**	**1 %**	80-120 %	20 %	EPA 6010B
7440-47-3	Chromium	1.0	0.89	**89%**	1.0	0.91	**91%**	**1 %**	80-120 %	20 %	EPA 6010B
7439-92-1	Lead	5.0	4.5	**90%**	5.0	4.6	**91%**	**1 %**	80-120 %	20 %	EPA 6010B
7439-97-6	Mercury	0.0010	0.0010	**95%**	0.0010	0.0010	**102%**	**4 %**	80-120 %	20 %	EPA 7470A

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **Metals**
Matrix: **Aqueous**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B	MB-4222-WB	EPA 3010A	10-27-10 00:00	50 mL	ICP-1 PE 3000	JK
EPA 7470A	MP-2330-WB	EPA 7470A	10-27-10 00:00	25 mL	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic	BRL		mg/L	0.01	1	10-27-10 14:32	EPA 6010B
7440-43-9	Cadmium	BRL		mg/L	0.004	1	10-27-10 14:32	EPA 6010B
7440-47-3	Chromium	BRL		mg/L	0.01	1	10-27-10 14:32	EPA 6010B
7439-92-1	Lead	BRL		mg/L	0.005	1	10-27-10 14:32	EPA 6010B
7439-97-6	Mercury	BRL		mg/L	0.0002	1	10-28-10 00:00	EPA 7470A

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	EPA Method 8260B	Instrument ID:	MS-1 HP 5890	Instrument ID:	MS-1 HP 5890
QC Batch ID:	VM1-2944-E	Analyzed:	10-27-10 06:54	Analyzed:	10-27-10 07:32
Matrix:	Soil	Analyst:	LMG	Analyst:	LMG
Units:	ug/kg				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	2,500	2,000	82 %	2,500	2,000	79 %	4 %	70 - 130 %	20%
74-87-3	Chloromethane	2,500	2,300	93 %	2,500	2,300	90 %	3 %	70 - 130 %	20%
75-01-4	Vinyl Chloride	2,500	2,500	101 %	2,500	2,400	96 %	5 %	70 - 130 %	20%
74-83-9	Bromomethane	2,500	2,200	86 %	2,500	2,000	81 %	6 %	70 - 130 %	20%
75-00-3	Chloroethane	2,500	2,300	94 %	2,500	2,200	88 %	7 %	70 - 130 %	20%
75-69-4	Trichlorofluoromethane	2,500	1,800	72 %	2,500	1,700	68 % q	6 %	70 - 130 %	20%
60-29-7	Diethyl Ether	5,000	4,500	90 %	5,000	4,300	86 %	5 %	70 - 130 %	20%
75-35-4	1,1-Dichloroethene	2,500	2,200	89 %	2,500	2,100	84 %	5 %	70 - 130 %	20%
76-13-1	1,1,2-Trichlorotrifluoroethane	5,000	4,900	98 %	5,000	4,500	89 %	9 %	70 - 130 %	20%
67-64-1	Acetone	5,000	4,200	83 %	5,000	3,800	76 %	9 %	70 - 130 %	20%
75-15-0	Carbon Disulfide	5,000	4,300	86 %	5,000	4,200	84 %	3 %	70 - 130 %	20%
75-09-2	Methylene Chloride	2,500	2,000	82 %	2,500	1,900	77 %	5 %	70 - 130 %	20%
107-13-1	Acrylonitrile	2,500	2,900	115 %	2,500	2,500	100 %	14 %	70 - 130 %	20%
156-60-5	*trans*-1,2-Dichloroethene	2,500	2,000	82 %	2,500	2,100	85 %	4 %	70 - 130 %	20%
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	2,500	2,600	106 %	2,500	2,300	94 %	12 %	70 - 130 %	20%
75-34-3	1,1-Dichloroethane	2,500	2,100	86 %	2,500	2,100	84 %	2 %	70 - 130 %	20%
594-20-7	2,2-Dichloropropane	2,500	2,200	89 %	2,500	2,100	85 %	4 %	70 - 130 %	20%
156-59-2	*cis*-1,2-Dichloroethene	2,500	2,500	99 %	2,500	2,300	94 %	6 %	70 - 130 %	20%
78-93-3	2-Butanone (MEK)	5,000	4,500	89 %	5,000	4,100	82 %	8 %	70 - 130 %	20%
74-97-5	Bromochloromethane	2,500	2,100	82 %	2,500	2,100	83 %	1 %	70 - 130 %	20%
109-99-9	Tetrahydrofuran (THF)	5,000	5,400	107 %	5,000	5,500	110 %	2 %	70 - 130 %	20%
67-66-3	Chloroform	2,500	2,000	80 %	2,500	2,200	86 %	7 %	70 - 130 %	20%
71-55-6	1,1,1-Trichloroethane	2,500	2,000	81 %	2,500	2,100	83 %	2 %	70 - 130 %	20%
56-23-5	Carbon Tetrachloride	2,500	2,100	82 %	2,500	2,100	83 %	1 %	70 - 130 %	20%
563-58-6	1,1-Dichloropropene	2,500	2,200	88 %	2,500	2,000	81 %	8 %	70 - 130 %	20%
71-43-2	Benzene	2,500	2,200	87 %	2,500	2,000	80 %	8 %	70 - 130 %	20%
107-06-2	1,2-Dichloroethane	2,500	2,200	86 %	2,500	2,100	82 %	5 %	70 - 130 %	20%
79-01-6	Trichloroethene	2,500	2,100	85 %	2,500	2,100	83 %	2 %	70 - 130 %	20%
78-87-5	1,2-Dichloropropane	2,500	2,200	87 %	2,500	2,200	89 %	3 %	70 - 130 %	20%
74-95-3	Dibromomethane	2,500	2,100	83 %	2,500	2,100	82 %	1 %	70 - 130 %	20%
75-27-4	Bromodichloromethane	2,500	2,200	87 %	2,500	2,100	86 %	2 %	70 - 130 %	20%
123-91-1	1,4-Dioxane	50,000	52,000	104 %	50,000	50,000	101 %	3 %	70 - 130 %	20%
10061-01-5	*cis*-1,3-Dichloropropene	2,500	2,200	87 %	2,500	2,300	90 %	3 %	70 - 130 %	20%
108-10-1	4-Methyl-2-Pentanone (MIBK)	5,000	4,700	95 %	5,000	4,700	94 %	1 %	70 - 130 %	20%
108-88-3	Toluene	2,500	2,200	89 %	2,500	2,200	90 %	1 %	70 - 130 %	20%
10061-02-6	*trans*-1,3-Dichloropropene	2,500	2,200	87 %	2,500	2,200	87 %	0 %	70 - 130 %	20%
79-00-5	1,1,2-Trichloroethane	2,500	2,200	88 %	2,500	2,200	87 %	1 %	70 - 130 %	20%
127-18-4	Tetrachloroethene	2,500	2,200	86 %	2,500	2,100	82 %	5 %	70 - 130 %	20%
142-28-9	1,3-Dichloropropane	2,500	2,300	91 %	2,500	2,300	90 %	1 %	70 - 130 %	20%
591-78-6	2-Hexanone	5,000	4,500	90 %	5,000	4,700	94 %	5 %	70 - 130 %	20%
124-48-1	Dibromochloromethane	2,500	2,100	86 %	2,500	2,200	89 %	5 %	70 - 130 %	20%
106-93-4	1,2-Dibromoethane (EDB)	2,500	2,300	90 %	2,500	2,300	91 %	0 %	70 - 130 %	20%
108-90-7	Chlorobenzene	2,500	2,200	90 %	2,500	2,200	88 %	2 %	70 - 130 %	20%
630-20-6	1,1,1,2-Tetrachloroethane	2,500	2,300	91 %	2,500	2,100	86 %	6 %	70 - 130 %	20%
100-41-4	Ethylbenzene	2,500	2,300	90 %	2,500	2,300	92 %	2 %	70 - 130 %	20%
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	5,000	4,400	87 %	5,000	4,500	91 %	4 %	70 - 130 %	20%
95-47-6	*ortho*-Xylene	2,500	2,300	90 %	2,500	2,300	91 %	0 %	70 - 130 %	20%
100-42-5	Styrene	2,500	2,400	98 %	2,500	2,500	99 %	2 %	70 - 130 %	20%
75-25-2	Bromoform	2,500	2,300	93 %	2,500	2,400	97 %	4 %	70 - 130 %	20%

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

Category: **EPA Method 8260B**
QC Batch ID: **VM1-2944-E**
Matrix: **Soil**
Units: **ug/kg**

LCS
Instrument ID: **MS-1 HP 5890**
Analyzed: **10-27-10 06:54**
Analyst: **LMG**

LCSD
Instrument ID: **MS-1 HP 5890**
Analyzed: **10-27-10 07:32**
Analyst: **LMG**

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	2,500	2,100	84 %	2,500	2,100	83 %	1 %	70 - 130 %	20%
108-86-1	Bromobenzene	2,500	2,400	96 %	2,500	2,300	93 %	4 %	70 - 130 %	20%
79-34-5	1,1,2,2-Tetrachloroethane	2,500	2,400	96 %	2,500	2,300	94 %	3 %	70 - 130 %	20%
96-18-4	1,2,3-Trichloropropane	2,500	2,200	90 %	2,500	2,300	93 %	3 %	70 - 130 %	20%
110-57-6	*trans*-1,4-Dichloro-2-butene	10,000	11,000	110 %	10,000	11,000	106 %	3 %	70 - 130 %	20%
103-65-1	*n*-Propylbenzene	2,500	2,400	94 %	2,500	2,300	94 %	1 %	70 - 130 %	20%
95-49-8	2-Chlorotoluene	2,500	2,300	91 %	2,500	2,200	90 %	1 %	70 - 130 %	20%
108-67-8	1,3,5-Trimethylbenzene	2,500	2,200	90 %	2,500	2,400	95 %	6 %	70 - 130 %	20%
106-43-4	4-Chlorotoluene	2,500	2,200	89 %	2,500	2,200	87 %	2 %	70 - 130 %	20%
98-06-6	*tert*-Butylbenzene	2,500	2,300	93 %	2,500	2,200	88 %	5 %	70 - 130 %	20%
95-63-6	1,2,4-Trimethylbenzene	2,500	2,600	104 %	2,500	2,500	100 %	4 %	70 - 130 %	20%
135-98-8	*sec*-Butylbenzene	2,500	2,300	92 %	2,500	2,200	90 %	3 %	70 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	2,500	2,300	93 %	2,500	2,200	88 %	5 %	70 - 130 %	20%
99-87-6	4-Isopropyltoluene	2,500	2,500	99 %	2,500	2,400	97 %	2 %	70 - 130 %	20%
106-46-7	1,4-Dichlorobenzene	2,500	2,200	89 %	2,500	2,200	90 %	1 %	70 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	2,500	2,400	96 %	2,500	2,300	90 %	7 %	70 - 130 %	20%
104-51-8	*n*-Butylbenzene	2,500	2,500	102 %	2,500	2,400	96 %	6 %	70 - 130 %	20%
96-12-8	1,2-Dibromo-3-chloropropane	2,500	2,500	102 %	2,500	2,800	111 %	9 %	70 - 130 %	20%
108-70-3	1,3,5-Trichlorobenzene	2,500	2,500	99 %	2,500	2,100	86 %	14 %	70 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	2,500	2,300	91 %	2,500	2,200	88 %	4 %	70 - 130 %	20%
87-68-3	Hexachlorobutadiene	2,500	2,400	97 %	2,500	2,400	95 %	2 %	70 - 130 %	20%
91-20-3	Naphthalene	2,500	2,400	97 %	2,500	2,200	89 %	9 %	70 - 130 %	20%
87-61-6	1,2,3-Trichlorobenzene	2,500	2,300	94 %	2,500	2,200	89 %	5 %	70 - 130 %	20%
75-65-0	*tert*-Butyl Alcohol (TBA)	50,000	45,000	91 %	50,000	45,000	90 %	1 %	70 - 130 %	20%
108-20-3	Di-isopropyl Ether (DIPE)	2,500	2,200	87 %	2,500	2,300	91 %	4 %	70 - 130 %	20%
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	2,500	2,200	87 %	2,500	2,400	95 %	8 %	70 - 130 %	20%
994-05-8	*tert*-Amyl Methyl Ether (TAME)	2,500	2,100	85 %	2,500	2,200	87 %	3 %	70 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
Dibromofluoromethane	2,500	2,000	81 %	2,500	1,900	77 %		70 - 130 %
1,2-Dichloroethane-d_4	2,500	2,300	93 %	2,500	1,900	76 %		70 - 130 %
Toluene-d_8	2,500	2,300	92 %	2,500	2,000	82 %		70 - 130 %
4-Bromofluorobenzene	2,500	2,300	92 %	2,500	2,400	95 %		70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5035A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM1-2944-E**
Matrix: **Soil**

Instrument ID: **MS-1 HP 5890**
Analyzed: **10-27-10 08:10**
Analyst: **LMG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	500
74-87-3	Chloromethane	BRL		ug/Kg	500
75-01-4	Vinyl Chloride	BRL		ug/Kg	500
74-83-9	Bromomethane	BRL		ug/Kg	500
75-00-3	Chloroethane	BRL		ug/Kg	500
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	500
60-29-7	Diethyl Ether	BRL		ug/Kg	500
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	250
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,500
67-64-1	Acetone	BRL		ug/Kg	2,500
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,500
75-09-2	Methylene Chloride	BRL		ug/Kg	1,000
107-13-1	Acrylonitrile	BRL		ug/Kg	250
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/Kg	250
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/Kg	250
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	250
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	250
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/Kg	250
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,500
74-97-5	Bromochloromethane	BRL		ug/Kg	250
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,500
67-66-3	Chloroform	BRL		ug/Kg	250
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	250
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	250
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	250
71-43-2	Benzene	BRL		ug/Kg	250
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	250
79-01-6	Trichloroethene	BRL		ug/Kg	250
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	250
74-95-3	Dibromomethane	BRL		ug/Kg	250
75-27-4	Bromodichloromethane	BRL		ug/Kg	250
123-91-1	1,4-Dioxane	BRL		ug/Kg	250,000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/Kg	250
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,500
108-88-3	Toluene	BRL		ug/Kg	250
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/Kg	250
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	250
127-18-4	Tetrachloroethene	BRL		ug/Kg	250
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	250
591-78-6	2-Hexanone	BRL		ug/Kg	2,500
124-48-1	Dibromochloromethane	BRL		ug/Kg	250
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	250
108-90-7	Chlorobenzene	BRL		ug/Kg	250
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	250
100-41-4	Ethylbenzene	BRL		ug/Kg	250
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/Kg	250
95-47-6	*ortho*-Xylene	BRL		ug/Kg	250
100-42-5	Styrene	BRL		ug/Kg	250
75-25-2	Bromoform	BRL		ug/Kg	250

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM1-2944-E**
Matrix: **Soil**

Instrument ID: **MS-1 HP 5890**
Analyzed: **10-27-10 08:10**
Analyst: **LMG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/Kg	250
108-86-1	Bromobenzene	BRL		ug/Kg	250
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	250
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	250
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/Kg	2,500
103-65-1	*n*-Propylbenzene	BRL		ug/Kg	250
95-49-8	2-Chlorotoluene	BRL		ug/Kg	250
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	250
106-43-4	4-Chlorotoluene	BRL		ug/Kg	250
98-06-6	*tert*-Butylbenzene	BRL		ug/Kg	250
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	250
135-98-8	*sec*-Butylbenzene	BRL		ug/Kg	250
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	250
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	250
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	250
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	250
104-51-8	*n*-Butylbenzene	BRL		ug/Kg	250
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	250
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	250
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	250
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	250
91-20-3	Naphthalene	BRL		ug/Kg	250
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	250
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/Kg	10,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	250
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/Kg	250
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/Kg	250

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,200	**88** %	70 - 130 %
1,2-Dichloroethane-d_4	2,500	2,200	**87** %	70 - 130 %
Toluene-d_8	2,500	2,500	**98** %	70 - 130 %
4-Bromofluorobenzene	2,500	2,600	**103** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5035A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	EPA Method 8260B	Instrument ID:	MS-1 HP 5890	Instrument ID:	MS-1 HP 5890
QC Batch ID:	VM1-2946-E	Analyzed:	10-29-10 09:58	Analyzed:	10-29-10 10:34
Matrix:	Soil	Analyst:	LMG	Analyst:	LMG
Units:	ug/kg				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	2,500	1,900	77 %	2,500	1,800	72 %	6 %	70 - 130 %	20%
74-87-3	Chloromethane	2,500	2,500	100 %	2,500	2,500	94 %	6 %	70 - 130 %	20%
75-01-4	Vinyl Chloride	2,500	2,600	103 %	2,500	2,300	94 %	10 %	70 - 130 %	20%
74-83-9	Bromomethane	2,500	2,200	88 %	2,500	2,100	82 %	7 %	70 - 130 %	20%
75-00-3	Chloroethane	2,500	2,500	101 %	2,500	2,300	92 %	9 %	70 - 130 %	20%
75-69-4	Trichlorofluoromethane	2,500	1,800	72 %	2,500	1,500	62 % q	16 %	70 - 130 %	20%
60-29-7	Diethyl Ether	5,000	5,300	105 %	5,000	4,900	99 %	7 %	70 - 130 %	20%
75-35-4	1,1-Dichloroethene	2,500	2,400	94 %	2,500	2,200	87 %	8 %	70 - 130 %	20%
76-13-1	1,1,2-Trichlorotrifluoroethane	5,000	5,000	99 %	5,000	4,600	93 %	6 %	70 - 130 %	20%
67-64-1	Acetone	5,000	3,700	75 %	5,000	4,100	83 %	10 %	70 - 130 %	20%
75-15-0	Carbon Disulfide	5,000	4,900	98 %	5,000	4,300	87 %	12 %	70 - 130 %	20%
75-09-2	Methylene Chloride	2,500	2,400	95 %	2,500	2,200	89 %	6 %	70 - 130 %	20%
107-13-1	Acrylonitrile	2,500	2,700	109 %	2,500	3,000	120 %	9 %	70 - 130 %	20%
156-60-5	*trans*-1,2-Dichloroethene	2,500	2,100	85 %	2,500	2,100	86 %	1 %	70 - 130 %	20%
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	2,500	2,900	118 %	2,500	2,800	111 %	6 %	70 - 130 %	20%
75-34-3	1,1-Dichloroethane	2,500	2,100	85 %	2,500	2,200	86 %	2 %	70 - 130 %	20%
594-20-7	2,2-Dichloropropane	2,500	2,100	82 %	2,500	2,100	84 %	2 %	70 - 130 %	20%
156-59-2	*cis*-1,2-Dichloroethene	2,500	2,500	98 %	2,500	2,500	99 %	1 %	70 - 130 %	20%
78-93-3	2-Butanone (MEK)	5,000	4,200	84 %	5,000	4,400	88 %	5 %	70 - 130 %	20%
74-97-5	Bromochloromethane	2,500	2,300	91 %	2,500	2,200	88 %	4 %	70 - 130 %	20%
109-99-9	Tetrahydrofuran (THF)	5,000	5,700	114 %	5,000	5,900	118 %	3 %	70 - 130 %	20%
67-66-3	Chloroform	2,500	2,100	86 %	2,500	2,100	86 %	0 %	70 - 130 %	20%
71-55-6	1,1,1-Trichloroethane	2,500	2,000	81 %	2,500	2,000	80 %	1 %	70 - 130 %	20%
56-23-5	Carbon Tetrachloride	2,500	2,000	80 %	2,500	1,900	78 %	3 %	70 - 130 %	20%
563-58-6	1,1-Dichloropropene	2,500	2,300	91 %	2,500	2,100	85 %	7 %	70 - 130 %	20%
71-43-2	Benzene	2,500	2,500	100 %	2,500	2,400	96 %	5 %	70 - 130 %	20%
107-06-2	1,2-Dichloroethane	2,500	2,100	83 %	2,500	2,100	84 %	1 %	70 - 130 %	20%
79-01-6	Trichloroethene	2,500	2,200	90 %	2,500	2,300	92 %	2 %	70 - 130 %	20%
78-87-5	1,2-Dichloropropane	2,500	2,400	97 %	2,500	2,500	100 %	3 %	70 - 130 %	20%
74-95-3	Dibromomethane	2,500	2,200	88 %	2,500	2,100	85 %	3 %	70 - 130 %	20%
75-27-4	Bromodichloromethane	2,500	2,200	89 %	2,500	2,200	89 %	0 %	70 - 130 %	20%
123-91-1	1,4-Dioxane	50,000	46,000	91 %	50,000	51,000	102 %	11 %	70 - 130 %	20%
10061-01-5	*cis*-1,3-Dichloropropene	2,500	2,400	97 %	2,500	2,500	98 %	1 %	70 - 130 %	20%
108-10-1	4-Methyl-2-Pentanone (MiBK)	5,000	5,100	102 %	5,000	5,500	111 %	8 %	70 - 130 %	20%
108-88-3	Toluene	2,500	2,400	98 %	2,500	2,400	94 %	4 %	70 - 130 %	20%
10061-02-6	*trans*-1,3-Dichloropropene	2,500	2,200	86 %	2,500	2,500	100 %	15 %	70 - 130 %	20%
79-00-5	1,1,2-Trichloroethane	2,500	2,300	94 %	2,500	2,500	100 %	7 %	70 - 130 %	20%
127-18-4	Tetrachloroethene	2,500	2,200	89 %	2,500	2,300	90 %	1 %	70 - 130 %	20%
142-28-9	1,3-Dichloropropane	2,500	2,500	98 %	2,500	2,600	105 %	7 %	70 - 130 %	20%
591-78-6	2-Hexanone	5,000	5,000	100 %	5,000	5,600	113 %	12 %	70 - 130 %	20%
124-48-1	Dibromochloromethane	2,500	2,400	95 %	2,500	2,500	101 %	6 %	70 - 130 %	20%
106-93-4	1,2-Dibromoethane (EDB)	2,500	2,400	97 %	2,500	2,500	101 %	5 %	70 - 130 %	20%
108-90-7	Chlorobenzene	2,500	2,500	99 %	2,500	2,400	96 %	2 %	70 - 130 %	20%
630-20-6	1,1,1,2-Tetrachloroethane	2,500	2,400	94 %	2,500	2,400	96 %	2 %	70 - 130 %	20%
100-41-4	Ethylbenzene	2,500	2,500	99 %	2,500	2,600	103 %	3 %	70 - 130 %	20%
108-38-3,106-42-3	*meta*-Xylene and *para*-Xylene	5,000	5,100	102 %	5,000	5,400	108 %	6 %	70 - 130 %	20%
95-47-6	*ortho*-Xylene	2,500	2,200	88 %	2,500	2,500	101 %	14 %	70 - 130 %	20%
100-42-5	Styrene	2,500	2,600	105 %	2,500	2,800	113 %	7 %	70 - 130 %	20%
75-25-2	Bromoform	2,500	2,500	100 %	2,500	2,600	105 %	5 %	70 - 130 %	20%

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	EPA Method 8260B	Instrument ID:	MS-1 HP 5890	Instrument ID:	MS-1 HP 5890
QC Batch ID:	VM1-2946-E	Analyzed:	10-29-10 09:58	Analyzed:	10-29-10 10:34
Matrix:	Soil	Analyst:	LMG	Analyst:	LMG
Units:	ug/kg				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	2,500	2,100	83 %	2,500	2,000	82 %	1 %	70 - 130 %	20%
108-86-1	Bromobenzene	2,500	2,300	94 %	2,500	2,400	95 %	2 %	70 - 130 %	20%
79-34-5	1,1,2,2-Tetrachloroethane	2,500	2,300	92 %	2,500	2,500	102 %	10 %	70 - 130 %	20%
96-18-4	1,2,3-Trichloropropane	2,500	2,300	91 %	2,500	2,300	93 %	1 %	70 - 130 %	20%
110-57-6	*trans*-1,4-Dichloro-2-butene	10,000	11,000	112 %	10,000	12,000	117 %	5 %	70 - 130 %	20%
103-65-1	*n*-Propylbenzene	2,500	2,500	100 %	2,500	2,400	96 %	4 %	70 - 130 %	20%
95-49-8	2-Chlorotoluene	2,500	2,400	97 %	2,500	2,400	97 %	0 %	70 - 130 %	20%
108-67-8	1,3,5-Trimethylbenzene	2,500	2,400	98 %	2,500	2,500	99 %	1 %	70 - 130 %	20%
106-43-4	4-Chlorotoluene	2,500	2,200	88 %	2,500	2,300	90 %	3 %	70 - 130 %	20%
98-06-6	*tert*-Butylbenzene	2,500	2,400	96 %	2,500	2,300	94 %	3 %	70 - 130 %	20%
95-63-6	1,2,4-Trimethylbenzene	2,500	2,600	105 %	2,500	2,600	104 %	1 %	70 - 130 %	20%
135-98-8	sec-Butylbenzene	2,500	2,400	96 %	2,500	2,300	93 %	3 %	70 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	2,500	2,300	93 %	2,500	2,400	95 %	2 %	70 - 130 %	20%
99-87-6	4-Isopropyltoluene	2,500	2,500	99 %	2,500	2,500	98 %	1 %	70 - 130 %	20%
106-46-7	1,4-Dichlorobenzene	2,500	2,300	93 %	2,500	2,400	97 %	5 %	70 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	2,500	2,300	93 %	2,500	2,400	94 %	1 %	70 - 130 %	20%
104-51-8	*n*-Butylbenzene	2,500	2,800	110 %	2,500	2,600	103 %	7 %	70 - 130 %	20%
96-12-8	1,2-Dibromo-3-chloropropane	2,500	2,100	86 %	2,500	2,300	94 %	9 %	70 - 130 %	20%
108-70-3	1,3,5-Trichlorobenzene	2,500	2,400	96 %	2,500	2,300	94 %	3 %	70 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	2,500	2,100	86 %	2,500	2,100	83 %	4 %	70 - 130 %	20%
87-68-3	Hexachlorobutadiene	2,500	2,000	82 %	2,500	2,200	87 %	6 %	70 - 130 %	20%
91-20-3	Naphthalene	2,500	2,200	87 %	2,500	2,200	89 %	3 %	70 - 130 %	20%
87-61-6	1,2,3-Trichlorobenzene	2,500	2,200	90 %	2,500	2,100	84 %	7 %	70 - 130 %	20%
75-65-0	*tert*-Butyl Alcohol (TBA)	50,000	45,000	89 %	50,000	45,000	90 %	1 %	70 - 130 %	20%
108-20-3	Di-isopropyl Ether (DIPE)	2,500	2,400	97 %	2,500	2,300	91 %	6 %	70 - 130 %	20%
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	2,500	2,100	86 %	2,500	2,200	88 %	3 %	70 - 130 %	20%
994-05-8	*tert*-Amyl Methyl Ether (TAME)	2,500	2,100	85 %	2,500	2,100	84 %	1 %	70 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
Dibromofluoromethane	2,500	1,900	77 %	2,500	2,000	81 %		70 - 130 %
1,2-Dichloroethane-d_4	2,500	2,100	82 %	2,500	2,100	82 %		70 - 130 %
Toluene-d_8	2,500	2,200	87 %	2,500	2,200	89 %		70 - 130 %
4-Bromofluorobenzene	2,500	2,400	95 %	2,500	2,100	85 %		70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5035A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM1-2946-E**
Matrix: **Soil**

Instrument ID: **MS-1 HP 5890**
Analyzed: **10-29-10 11:09**
Analyst: **LMG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	500
74-87-3	Chloromethane	BRL		ug/Kg	500
75-01-4	Vinyl Chloride	BRL		ug/Kg	500
74-83-9	Bromomethane	BRL		ug/Kg	500
75-00-3	Chloroethane	BRL		ug/Kg	500
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	500
60-29-7	Diethyl Ether	BRL		ug/Kg	500
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	250
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,500
67-64-1	Acetone	BRL		ug/Kg	2,500
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,500
75-09-2	Methylene Chloride	BRL		ug/Kg	1,000
107-13-1	Acrylonitrile	BRL		ug/Kg	250
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/Kg	250
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/Kg	250
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	250
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	250
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/Kg	250
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,500
74-97-5	Bromochloromethane	BRL		ug/Kg	250
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,500
67-66-3	Chloroform	BRL		ug/Kg	250
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	250
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	250
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	250
71-43-2	Benzene	BRL		ug/Kg	250
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	250
79-01-6	Trichloroethene	BRL		ug/Kg	250
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	250
74-95-3	Dibromomethane	BRL		ug/Kg	250
75-27-4	Bromodichloromethane	BRL		ug/Kg	250
123-91-1	1,4-Dioxane	BRL		ug/Kg	250,000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/Kg	250
108-10-1	4-Metnyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,500
108-88-3	Toluene	BRL		ug/Kg	250
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/Kg	250
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	250
127-18-4	Tetrachloroethene	BRL		ug/Kg	250
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	250
591-78-6	2-Hexanone	BRL		ug/Kg	2,500
124-48-1	Dibromochloromethane	BRL		ug/Kg	250
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	250
108-90-7	Chlorobenzene	BRL		ug/Kg	250
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	250
100-41-4	Ethylbenzene	BRL		ug/Kg	250
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/Kg	250
95-47-6	*ortho*-Xylene	BRL		ug/Kg	250
100-42-5	Styrene	BRL		ug/Kg	250
75-25-2	Bromoform	BRL		ug/Kg	250

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM1-2946-E**
Matrix: **Soil**

Instrument ID: **MS-1 HP 5890**
Analyzed: **10-29-10 11:09**
Analyst: **LMG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/Kg	250
108-86-1	Bromobenzene	BRL		ug/Kg	250
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	250
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	250
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/Kg	2,500
103-65-1	*n*-Propylbenzene	BRL		ug/Kg	250
95-49-8	2-Chlorotoluene	BRL		ug/Kg	250
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	250
106-43-4	4-Chlorotoluene	BRL		ug/Kg	250
98-06-6	*tert*-Butylbenzene	BRL		ug/Kg	250
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	250
135-98-8	*sec*-Butylbenzene	BRL		ug/Kg	250
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	250
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	250
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	250
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	250
104-51-8	*n*-Butylbenzene	BRL		ug/Kg	250
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	250
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	250
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	250
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	250
91-20-3	Naphthalene	BRL		ug/Kg	250
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	250
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/Kg	10,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	250
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/Kg	250
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/Kg	250

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,000	**80** %	70 - 130 %
1,2-Dichloroethane-d_4	2,500	1,900	**77** %	70 - 130 %
Toluene-d_8	2,500	2,100	**84** %	70 - 130 %
4-Bromofluorobenzene	2,500	2,500	**98** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5035A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	EPA Method 8260B	Instrument ID:	MS-1 HP 5890	Instrument ID:	MS-1 HP 5890
QC Batch ID:	VM1-2947-S	Analyzed:	11-01-10 10:47	Analyzed:	11-01-10 11:23
Matrix:	Soil	Analyst:	LMG	Analyst:	LMG
Units:	ug/kg				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	50	39	77 %	50	39	77 %	0 %	70 - 130 %	20%
74-87-3	Chloromethane	50	56	112 %	50	55	110 %	2 %	70 - 130 %	20%
75-01-4	Vinyl Chloride	50	59	118 %	50	56	112 %	5 %	70 - 130 %	20%
74-83-9	Bromomethane	50	49	97 %	50	47	95 %	2 %	70 - 130 %	20%
75-00-3	Chloroethane	50	57	114 %	50	53	105 %	8 %	70 - 130 %	20%
75-69-4	Trichlorofluoromethane	50	37	74 %	50	36	73 %	2 %	70 - 130 %	20%
60-29-7	Diethyl Ether	100	110	107 %	100	97	97 %	10 %	70 - 130 %	20%
75-35-4	1,1-Dichloroethene	50	45	91 %	50	46	91 %	0 %	70 - 130 %	20%
76-13-1	1,1,2-Trichlorotrifluoroethane	100	97	97 %	100	93	93 %	4 %	70 - 130 %	20%
67-64-1	Acetone	100	78	78 %	100	73	73 %	6 %	70 - 130 %	20%
75-15-0	Carbon Disulfide	100	100	100 %	100	95	95 %	5 %	70 - 130 %	20%
75-09-2	Methylene Chloride	50	55	110 %	50	51	103 %	7 %	70 - 130 %	20%
107-13-1	Acrylonitrile	50	47	94 %	50	56	113 %	18 %	70 - 130 %	20%
156-60-5	*trans*-1,2-Dichloroethene	50	47	94 %	50	44	88 %	7 %	70 - 130 %	20%
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	50	61	123 %	50	53	106 %	15 %	70 - 130 %	20%
75-34-3	1,1-Dichloroethane	50	46	92 %	50	44	89 %	3 %	70 - 130 %	20%
594-20-7	2,2-Dichloropropane	50	43	87 %	50	44	87 %	0 %	70 - 130 %	20%
156-59-2	*cis*-1,2-Dichloroethene	50	51	102 %	50	47	94 %	8 %	70 - 130 %	20%
78-93-3	2-Butanone (MEK)	100	89	89 %	100	88	88 %	1 %	70 - 130 %	20%
74-97-5	Bromochloromethane	50	48	96 %	50	44	88 %	8 %	70 - 130 %	20%
109-99-9	Tetrahydrofuran (THF)	100	130	128 %	100	120	122 %	5 %	70 - 130 %	20%
67-66-3	Chloroform	50	43	85 %	50	41	83 %	3 %	70 - 130 %	20%
71-55-6	1,1,1-Trichloroethane	50	39	79 %	50	39	78 %	1 %	70 - 130 %	20%
56-23-5	Carbon Tetrachloride	50	40	80 %	50	38	76 %	5 %	70 - 130 %	20%
563-58-6	1,1-Dichloropropene	50	41	81 %	50	47	94 %	15 %	70 - 130 %	20%
71-43-2	Benzene	50	47	93 %	50	49	98 %	5 %	70 - 130 %	20%
107-06-2	1,2-Dichloroethane	50	41	82 %	50	40	79 %	4 %	70 - 130 %	20%
79-01-6	Trichloroethene	50	43	86 %	50	41	83 %	4 %	70 - 130 %	20%
78-87-5	1,2-Dichloropropane	50	53	106 %	50	50	101 %	5 %	70 - 130 %	20%
74-95-3	Dibromomethane	50	45	89 %	50	41	82 %	8 %	70 - 130 %	20%
75-27-4	Bromodichloromethane	50	46	93 %	50	44	87 %	6 %	70 - 130 %	20%
123-91-1	1,4-Dioxane	1,000	1,000	105 %	1,000	1,100	108 %	3 %	70 - 130 %	20%
10061-01-5	*cis*-1,3-Dichloropropene	50	52	105 %	50	52	105 %	0 %	70 - 130 %	20%
108-10-1	4-Methyl-2-Pentanone (MIBK)	100	110	115 %	100	100	105 %	9 %	70 - 130 %	20%
108-88-3	Toluene	50	49	98 %	50	46	92 %	7 %	70 - 130 %	20%
10061-02-6	*trans*-1,3-Dichloropropene	50	49	98 %	50	45	90 %	8 %	70 - 130 %	20%
79-00-5	1,1,2-Trichloroethane	50	50	101 %	50	47	94 %	6 %	70 - 130 %	20%
127-18-4	Tetrachloroethene	50	43	85 %	50	42	84 %	1 %	70 - 130 %	20%
142-28-9	1,3-Dichloropropane	50	51	102 %	50	48	95 %	6 %	70 - 130 %	20%
591-78-6	2-Hexanone	100	110	113 %	100	97	97 %	15 %	70 - 130 %	20%
124-48-1	Dibromochloromethane	50	48	97 %	50	43	85 %	13 %	70 - 130 %	20%
106-93-4	1,2-Dibromoethane (EDB)	50	51	101 %	50	46	93 %	8 %	70 - 130 %	20%
108-90-7	Chlorobenzene	50	48	95 %	50	46	92 %	4 %	70 - 130 %	20%
630-20-6	1,1,1,2-Tetrachloroethane	50	47	93 %	50	45	90 %	3 %	70 - 130 %	20%
100-41-4	Ethylbenzene	50	47	93 %	50	46	92 %	1 %	70 - 130 %	20%
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	100	100	102 %	100	97	97 %	5 %	70 - 130 %	20%
95-47-6	*ortho*-Xylene	50	45	90 %	50	45	90 %	0 %	70 - 130 %	20%
100-42-5	Styrene	50	55	111 %	50	55	111 %	0 %	70 - 130 %	20%
75-25-2	Bromoform	50	52	105 %	50	51	102 %	3 %	70 - 130 %	20%

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	EPA Method 8260B	Instrument ID:	MS-1 HP 5890	Instrument ID:	MS-1 HP 5890
QC Batch ID:	VM1-2947-S	Analyzed:	11-01-10 10:47	Analyzed:	11-01-10 11:23
Matrix:	Soil	Analyst:	LMG	Analyst:	LMG
Units:	ug/kg				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	50	40	81 %	50	41	82 %	2 %	70 - 130 %	20%
108-86-1	Bromobenzene	50	44	88 %	50	46	92 %	4 %	70 - 130 %	20%
79-34-5	1,1,2,2-Tetrachloroethane	50	49	98 %	50	50	99 %	1 %	70 - 130 %	20%
96-18-4	1,2,3-Trichloropropane	50	44	89 %	50	43	85 %	4 %	70 - 130 %	20%
110-57-6	*trans*-1,4-Dichloro-2-butene	200	240	118 %	200	230	116 %	2 %	70 - 130 %	20%
103-65-1	*n*-Propylbenzene	50	46	91 %	50	46	93 %	2 %	70 - 130 %	20%
95-49-8	2-Chlorotoluene	50	45	89 %	50	46	92 %	3 %	70 - 130 %	20%
108-67-8	1,3,5-Trimethylbenzene	50	45	90 %	50	44	87 %	3 %	70 - 130 %	20%
106-43-4	4-Chlorotoluene	50	44	88 %	50	41	83 %	6 %	70 - 130 %	20%
98-06-6	*tert*-Butylbenzene	50	43	85 %	50	45	89 %	4 %	70 - 130 %	20%
95-63-6	1,2,4-Trimethylbenzene	50	48	96 %	50	50	100 %	5 %	70 - 130 %	20%
135-98-8	*sec*-Butylbenzene	50	43	86 %	50	44	88 %	2 %	70 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	50	44	88 %	50	44	88 %	0 %	70 - 130 %	20%
99-87-6	4-Isopropyltoluene	50	48	95 %	50	44	89 %	7 %	70 - 130 %	20%
106-46-7	1,4-Dichlorobenzene	50	43	86 %	50	47	94 %	10 %	70 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	50	43	85 %	50	43	86 %	1 %	70 - 130 %	20%
104-51-8	*n*-Butylbenzene	50	48	96 %	50	48	96 %	0 %	70 - 130 %	20%
96-12-8	1,2-Dibromo-3-chloropropane	50	49	98 %	50	48	96 %	3 %	70 - 130 %	20%
108-70-3	1,3,5-Trichlorobenzene	50	47	94 %	50	47	95 %	1 %	70 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	50	43	85 %	50	42	85 %	1 %	70 - 130 %	20%
87-68-3	Hexachlorobutadiene	50	41	82 %	50	42	83 %	2 %	70 - 130 %	20%
91-20-3	Naphthalene	50	52	103 %	50	51	101 %	2 %	70 - 130 %	20%
87-61-6	1,2,3-Trichlorobenzene	50	43	86 %	50	43	85 %	1 %	70 - 130 %	20%
75-65-0	*tert*-Butyl Alcohol (TBA)	1,000	1,100	105 %	1,000	990	99 %	6 %	70 - 130 %	20%
108-20-3	Di-isopropyl Ether (DIPE)	50	52	105 %	50	46	91 %	14 %	70 - 130 %	20%
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	50	51	102 %	50	49	97 %	5 %	70 - 130 %	20%
994-05-8	*tert*-Amyl Methyl Ether (TAME)	50	52	105 %	50	50	99 %	6 %	70 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
Dibromofluoromethane	50	41	83 %	50	39	79 %		70 - 130 %
1,2-Dichloroethane-d_4	50	44	87 %	50	39	78 %		70 - 130 %
Toluene-d_8	50	42	84 %	50	42	85 %		70 - 130 %
4-Bromofluorobenzene	50	49	98 %	50	41	82 %		70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5035A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM1-2947-S**
Matrix: **Soil**

Instrument ID: **MS-1 HP 5890**
Analyzed: **11-01-10 12:51**
Analyst: **LMG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	50
67-64-1	Acetone	BRL		ug/Kg	200
75-15-0	Carbon Disulfide	BRL		ug/Kg	50
75-09-2	Methylene Chloride	BRL		ug/Kg	50
107-13-1	Acrylonitrile	BRL		ug/Kg	5
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/Kg	5
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/Kg	5
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/Kg	5
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	50
74-97-5	Bromochloromethane	BRL		ug/Kg	5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	50
67-66-3	Chloroform	BRL		ug/Kg	5
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5
71-43-2	Benzene	BRL		ug/Kg	5
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5
79-01-6	Trichloroethene	BRL		ug/Kg	5
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5
74-95-3	Dibromomethane	BRL		ug/Kg	5
75-27-4	Bromodichloromethane	BRL		ug/Kg	5
123-91-1	1,4-Dioxane	BRL		ug/Kg	5,000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/Kg	5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	50
108-88-3	Toluene	BRL		ug/Kg	5
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/Kg	5
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5
127-18-4	Tetrachloroethene	BRL		ug/Kg	5
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5
591-78-6	2-Hexanone	BRL		ug/Kg	50
124-48-1	Dibromochloromethane	BRL		ug/Kg	5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5
108-90-7	Chlorobenzene	BRL		ug/Kg	5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5
100-41-4	Ethylbenzene	BRL		ug/Kg	5
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/Kg	5
95-47-6	*ortho*-Xylene	BRL		ug/Kg	5
100-42-5	Styrene	BRL		ug/Kg	5
75-25-2	Bromoform	BRL		ug/Kg	5

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM1-2947-S**
Matrix: **Soil**

Instrument ID: **MS-1 HP 5890**
Analyzed: **11-01-10 12:51**
Analyst: **LMG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/Kg	5
108-86-1	Bromobenzene	BRL		ug/Kg	5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/Kg	50
103-65-1	*n*-Propylbenzene	BRL		ug/Kg	5
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5
98-06-6	*tert*-Butylbenzene	BRL		ug/Kg	5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5
135-98-8	*sec*-Butylbenzene	BRL		ug/Kg	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5
104-51-8	*n*-Butylbenzene	BRL		ug/Kg	5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5
91-20-3	Naphthalene	BRL		ug/Kg	5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/Kg	200
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/Kg	5
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/Kg	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	41	**81** %	70 - 130 %
1,2-Dichloroethane-d_4	50	43	**86** %	70 - 130 %
Toluene-d_8	50	46	**91** %	70 - 130 %
4-Bromofluorobenzene	50	44	**89** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5035A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	EPA Method 8260B	Instrument ID:	MS-10 HP 6890	Instrument ID:	MS-10 HP 6890
QC Batch ID:	VM10-1162-W	Analyzed:	10-26-10 18:41	Analyzed:	10-26-10 19:05
Matrix:	Aqueous	Analyst:	EMC	Analyst:	EMC
Units:	ug/L				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	10	7.5	75 %	10	7.9	79 %	6 %	70 - 130 %	20%
74-87-3	Chloromethane	10	8.5	85 %	10	9.0	90 %	6 %	70 - 130 %	20%
75-01-4	Vinyl Chloride	10	9.9	99 %	10	10	102 %	3 %	70 - 130 %	20%
74-83-9	Bromomethane	10	7.4	74 %	10	7.7	77 %	4 %	70 - 130 %	20%
75-00-3	Chloroethane	10	8.3	83 %	10	8.0	80 %	3 %	70 - 130 %	20%
75-69-4	Trichlorofluoromethane	10	7.8	78 %	10	7.9	79 %	1 %	70 - 130 %	20%
60-29-7	Diethyl Ether	20	18	90 %	20	18	92 %	2 %	70 - 130 %	20%
75-35-4	1,1-Dichloroethene	10	8.4	84 %	10	8.8	88 %	5 %	70 - 130 %	20%
76-13-1	1,1,2-Trichlorotrifluoroethane	20	21	103 %	20	21	106 %	3 %	70 - 130 %	20%
67-64-1	Acetone	20	21	103 %	20	20	99 %	3 %	70 - 130 %	20%
75-15-0	Carbon Disulfide	20	18	92 %	20	19	94 %	3 %	70 - 130 %	20%
75-09-2	Methylene Chloride	10	7.5	75 %	10	7.7	77 %	2 %	70 - 130 %	20%
107-13-1	Acrylonitrile	10	9.5	95 %	10	9.7	97 %	1 %	70 - 130 %	20%
156-60-5	*trans*-1,2-Dichloroethene	10	8.8	88 %	10	9.0	90 %	2 %	70 - 130 %	20%
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	10	10	104 %	10	11	105 %	1 %	70 - 130 %	20%
75-34-3	1,1-Dichloroethane	10	9.1	91 %	10	9.2	92 %	1 %	70 - 130 %	20%
594-20-7	2,2-Dichloropropane	10	8.9	89 %	10	9.2	92 %	3 %	70 - 130 %	20%
156-59-2	*cis*-1,2-Dichloroethene	10	9.0	90 %	10	9.3	93 %	3 %	70 - 130 %	20%
78-93-3	2-Butanone (MEK)	20	19	94 %	20	20	99 %	5 %	70 - 130 %	20%
74-97-5	Bromochloromethane	10	9.0	90 %	10	9.6	96 %	6 %	70 - 130 %	20%
109-99-9	Tetrahydrofuran (THF)	20	21	107 %	20	21	105 %	2 %	70 - 130 %	20%
67-66-3	Chloroform	10	9.1	91 %	10	9.3	93 %	3 %	70 - 130 %	20%
71-55-6	1,1,1-Trichloroethane	10	8.7	87 %	10	9.0	90 %	4 %	70 - 130 %	20%
56-23-5	Carbon Tetrachloride	10	8.7	87 %	10	9.1	91 %	5 %	70 - 130 %	20%
563-58-6	1,1-Dichloropropene	10	8.7	87 %	10	8.9	89 %	3 %	70 - 130 %	20%
71-43-2	Benzene	10	9.0	90 %	10	9.1	91 %	1 %	70 - 130 %	20%
107-06-2	1,2-Dichloroethane	10	9.2	92 %	10	9.4	94 %	2 %	70 - 130 %	20%
79-01-6	Trichloroethene	10	8.8	88 %	10	8.9	89 %	1 %	70 - 130 %	20%
78-87-5	1,2-Dichloropropane	10	9.0	90 %	10	9.2	92 %	2 %	70 - 130 %	20%
74-95-3	Dibromomethane	10	9.3	93 %	10	9.4	94 %	1 %	70 - 130 %	20%
75-27-4	Bromodichloromethane	10	9.3	93 %	10	9.3	93 %	0 %	70 - 130 %	20%
123-91-1	1,4-Dioxane	200	200	99 %	200	220	108 %	8 %	70 - 130 %	20%
10061-01-5	*cis*-1,3-Dichloropropene	10	8.3	83 %	10	8.6	86 %	4 %	70 - 130 %	20%
108-10-1	4-Methyl-2-Pentanone (MIBK)	20	23	113 %	20	22	110 %	3 %	70 - 130 %	20%
108-88-3	Toluene	10	8.9	89 %	10	9.1	91 %	1 %	70 - 130 %	20%
10061-02-6	*trans*-1,3-Dichloropropene	10	8.3	83 %	10	8.9	89 %	7 %	70 - 130 %	20%
79-00-5	1,1,2-Trichloroethane	10	9.7	97 %	10	9.6	96 %	1 %	70 - 130 %	20%
127-18-4	Tetrachloroethene	10	9.1	91 %	10	9.2	92 %	1 %	70 - 130 %	20%
142-28-9	1,3-Dichloropropane	10	10	100 %	10	10	102 %	2 %	70 - 130 %	20%
591-78-6	2-Hexanone	20	26	130 %	20	26	128 %	2 %	70 - 130 %	20%
124-48-1	Dibromochloromethane	10	9.6	96 %	10	10	102 %	6 %	70 - 130 %	20%
106-93-4	1,2-Dibromoethane (EDB)	10	10	100 %	10	10	101 %	1 %	70 - 130 %	20%
108-90-7	Chlorobenzene	10	9.1	91 %	10	9.3	93 %	2 %	70 - 130 %	20%
630-20-6	1,1,1,2-Tetrachloroethane	10	9.6	96 %	10	10	102 %	6 %	70 - 130 %	20%
100-41-4	Ethylbenzene	10	9.4	94 %	10	9.9	99 %	5 %	70 - 130 %	20%
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	20	19	95 %	20	19	96 %	1 %	70 - 130 %	20%
95-47-6	*ortho*-Xylene	10	9.6	96 %	10	9.5	95 %	1 %	70 - 130 %	20%
100-42-5	Styrene	10	9.6	96 %	10	10	101 %	5 %	70 - 130 %	20%
75-25-2	Bromoform	10	9.4	94 %	10	10	103 %	8 %	70 - 130 %	20%

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA Method 8260B**	Instrument ID:	**MS-10 HP 6890**	Instrument ID:	**MS-10 HP 6890**
QC Batch ID:	**VM10-1162-W**	Analyzed:	**10-26-10 18:41**	Analyzed:	**10-26-10 19:05**
Matrix:	**Aqueous**	Analyst:	**EMC**	Analyst:	**EMC**
Units:	**ug/L**				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	10	8.0	**80** %	10	8.7	**87** %	**8** %	70 - 130 %	20%
108-86-1	Bromobenzene	10	9.4	**94** %	10	10	**100** %	**6** %	70 - 130 %	20%
79-34-5	1,1,2,2-Tetrachloroethane	10	9.4	**94** %	10	10	**102** %	**8** %	70 - 130 %	20%
96-18-4	1,2,3-Trichloropropane	10	9.7	**97** %	10	10	**102** %	**5** %	70 - 130 %	20%
110-57-6	*trans*-1,4-Dichloro-2-butene	200	300	**151** % q	200	320	**161** % q	**6** %	70 - 130 %	20%
103-65-1	*n*-Propylbenzene	10	9.3	**93** %	10	10	**101** %	**8** %	70 - 130 %	20%
95-49-8	2-Chlorotoluene	10	9.0	**90** %	10	9.4	**94** %	**4** %	70 - 130 %	20%
108-67-8	1,3,5-Trimethylbenzene	10	9.4	**94** %	10	10	**103** %	**9** %	70 - 130 %	20%
106-43-4	4-Chlorotoluene	10	8.6	**86** %	10	9.1	**91** %	**6** %	70 - 130 %	20%
98-06-6	*tert*-Butylbenzene	10	8.9	**89** %	10	9.5	**95** %	**7** %	70 - 130 %	20%
95-63-6	1,2,4-Trimethylbenzene	10	9.9	**99** %	10	11	**106** %	**7** %	70 - 130 %	20%
135-98-8	*sec*-Butylbenzene	10	9.2	**92** %	10	9.7	**97** %	**5** %	70 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	10	8.9	**89** %	10	9.3	**93** %	**4** %	70 - 130 %	20%
99-87-6	4-Isopropyltoluene	10	9.2	**92** %	10	9.9	**99** %	**7** %	70 - 130 %	20%
106-46-7	1,4-Dichlorobenzene	10	8.6	**86** %	10	9.0	**90** %	**4** %	70 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	10	8.9	**89** %	10	9.2	**92** %	**3** %	70 - 130 %	20%
104-51-8	*n*-Butylbenzene	10	9.2	**92** %	10	10	**100** %	**8** %	70 - 130 %	20%
96-12-8	1,2-Dibromo-3-chloropropane	10	12	**118** %	10	12	**119** %	**1** %	70 - 130 %	20%
108-70-3	1,3,5-Trichlorobenzene	10	9.6	**96** %	10	9.8	**98** %	**2** %	70 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	10	8.8	**88** %	10	9.1	**91** %	**2** %	70 - 130 %	20%
87-68-3	Hexachlorobutadiene	10	8.0	**80** %	10	8.9	**89** %	**10** %	70 - 130 %	20%
91-20-3	Naphthalene	10	9.5	**95** %	10	9.9	**99** %	**5** %	70 - 130 %	20%
87-61-6	1,2,3-Trichlorobenzene	10	9.0	**90** %	10	9.4	**94** %	**4** %	70 - 130 %	20%
75-65-0	*tert*-Butyl Alcohol (TBA)	200	180	**89** %	200	170	**83** %	**7** %	70 - 130 %	20%
108-20-3	Di-isopropyl Ether (DIPE)	10	8.7	**87** %	10	8.8	**88** %	**1** %	70 - 130 %	20%
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	10	8.7	**87** %	10	8.7	**87** %	**1** %	70 - 130 %	20%
994-05-8	*tert*-Amyl Methyl Ether (TAME)	10	8.1	**81** %	10	8.2	**82** %	**1** %	70 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
Dibromofluoromethane	10	10	**96** %	10	10	**96** %		70 - 130 %
1,2-Dichloroethane-d_4	10	9	**90** %	10	9	**94** %		70 - 130 %
Toluene-d_8	10	10	**101** %	10	10	**99** %		70 - 130 %
4-Bromofluorobenzene	10	10	**102** %	10	11	**107** %		70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM10-1162-W**
Matrix: **Aqueous**

Instrument ID: **MS-10 HP 6890**
Analyzed: **10-26-10 19:49**
Analyst: **EMC**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.5
74-87-3	Chloromethane	BRL		ug/L	0.5
75-01-4	Vinyl Chloride	BRL		ug/L	0.5
74-83-9	Bromomethane	BRL		ug/L	0.5
75-00-3	Chloroethane	BRL		ug/L	0.5
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.5
60-29-7	Diethyl Ether	BRL		ug/L	2
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5
75-09-2	Methylene Chloride	BRL		ug/L	3
107-13-1	Acrylonitrile	BRL		ug/L	3
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/L	0.5
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/L	0.5
78-93-3	2-Butanone (MEK)	BRL		ug/L	5
74-97-5	Bromochloromethane	BRL		ug/L	0.5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5
67-66-3	Chloroform	BRL		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.5
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.5
71-43-2	Benzene	BRL		ug/L	0.5
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.5
79-01-6	Trichloroethene	BRL		ug/L	0.5
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.5
74-95-3	Dibromomethane	BRL		ug/L	0.5
75-27-4	Bromodichloromethane	BRL		ug/L	0.5
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	0.4
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	BRL		ug/L	0.5
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	0.4
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	BRL		ug/L	0.5
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.5
591-78-6	2-Hexanone	BRL		ug/L	5
124-48-1	Dibromochloromethane	BRL		ug/L	0.5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.5
108-90-7	Chlorobenzene	BRL		ug/L	0.5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/L	0.5
95-47-6	*ortho*-Xylene	BRL		ug/L	0.5
100-42-5	Styrene	BRL		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM10-1162-W**
Matrix: **Aqueous**

Instrument ID: **MS-10 HP 6890**
Analyzed: **10-26-10 19:49**
Analyst: **EMC**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/L	0.5
108-86-1	Bromobenzene	BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.5
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/L	25
103-65-1	*n*-Propylbenzene	BRL		ug/L	0.5
95-49-8	2-Chlorotoluene	BRL		ug/L	0.5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.5
106-43-4	4-Chlorotoluene	BRL		ug/L	0.5
98-06-6	*tert*-Butylbenzene	BRL		ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.5
135-98-8	*sec*-Butylbenzene	BRL		ug/L	0.5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.5
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.5
104-51-8	*n*-Butylbenzene	BRL		ug/L	0.5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
91-20-3	Naphthalene	BRL		ug/L	0.5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.5
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.5
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/L	0.5
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	10	**100** %	70 - 130 %
1,2-Dichloroethane-d_4	10	10	**97** %	70 - 130 %
Toluene-d_8	10	10	**101** %	70 - 130 %
4-Bromofluorobenzene	10	10	**103** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	EPA Method 8260B	Instrument ID:	MS-10 HP 6890	Instrument ID:	MS-10 HP 6890
QC Batch ID:	VM10-1163-W	Analyzed:	10-27-10 06:52	Analyzed:	10-27-10 07:16
Matrix:	Aqueous	Analyst:	LMG	Analyst:	LMG
Units:	ug/L				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	10	8.8	88 %	10	8.3	83 %	6 %	70 - 130 %	20%
74-87-3	Chloromethane	10	9.1	91 %	10	8.4	84 %	8 %	70 - 130 %	20%
75-01-4	Vinyl Chloride	10	9.1	91 %	10	9.0	90 %	1 %	70 - 130 %	20%
74-83-9	Bromomethane	10	9.3	93 %	10	9.0	90 %	4 %	70 - 130 %	20%
75-00-3	Chloroethane	10	8.5	85 %	10	8.3	83 %	2 %	70 - 130 %	20%
75-69-4	Trichlorofluoromethane	10	8.8	88 %	10	8.7	87 %	1 %	70 - 130 %	20%
60-29-7	Diethyl Ether	20	17	86 %	20	17	87 %	1 %	70 - 130 %	20%
75-35-4	1,1-Dichloroethene	10	9.2	92 %	10	9.3	93 %	1 %	70 - 130 %	20%
76-13-1	1,1,2-Trichlorotrifluoroethane	20	20	100 %	20	20	101 %	1 %	70 - 130 %	20%
67-64-1	Acetone	20	19	96 %	20	20	100 %	4 %	70 - 130 %	20%
75-15-0	Carbon Disulfide	20	17	87 %	20	18	89 %	2 %	70 - 130 %	20%
75-09-2	Methylene Chloride	10	8.5	85 %	10	8.6	86 %	1 %	70 - 130 %	20%
107-13-1	Acrylonitrile	10	9.2	92 %	10	9.0	90 %	2 %	70 - 130 %	20%
156-60-5	*trans*-1,2-Dichloroethene	10	9.3	93 %	10	9.3	93 %	0 %	70 - 130 %	20%
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	10	9.8	98 %	10	10	101 %	3 %	70 - 130 %	20%
75-34-3	1,1-Dichloroethane	10	9.1	91 %	10	9.2	92 %	1 %	70 - 130 %	20%
594-20-7	2,2-Dichloropropane	10	9.7	97 %	10	9.8	98 %	1 %	70 - 130 %	20%
156-59-2	*cis*-1,2-Dichloroethene	10	9.3	93 %	10	9.4	94 %	1 %	70 - 130 %	20%
78-93-3	2-Butanone (MEK)	20	18	88 %	20	18	92 %	5 %	70 - 130 %	20%
74-97-5	Bromochloromethane	10	9.4	94 %	10	9.2	92 %	3 %	70 - 130 %	20%
109-99-9	Tetrahydrofuran (THF)	20	19	96 %	20	19	94 %	2 %	70 - 130 %	20%
67-66-3	Chloroform	10	9.2	92 %	10	9.3	93 %	1 %	70 - 130 %	20%
71-55-6	1,1,1-Trichloroethane	10	9.0	90 %	10	9.1	91 %	1 %	70 - 130 %	20%
56-23-5	Carbon Tetrachloride	10	8.3	83 %	10	8.6	86 %	3 %	70 - 130 %	20%
563-58-6	1,1-Dichloropropene	10	9.1	91 %	10	9.2	92 %	1 %	70 - 130 %	20%
71-43-2	Benzene	10	9.1	91 %	10	9.2	92 %	1 %	70 - 130 %	20%
107-06-2	1,2-Dichloroethane	10	8.9	89 %	10	8.9	89 %	0 %	70 - 130 %	20%
79-01-6	Trichloroethene	10	8.8	88 %	10	9.0	90 %	2 %	70 - 130 %	20%
78-87-5	1,2-Dichloropropane	10	9.0	90 %	10	9.1	91 %	2 %	70 - 130 %	20%
74-95-3	Dibromomethane	10	9.2	92 %	10	9.4	94 %	2 %	70 - 130 %	20%
75-27-4	Bromodichloromethane	10	9.5	95 %	10	9.7	97 %	3 %	70 - 130 %	20%
123-91-1	1,4-Dioxane	200	160	78 %	200	200	100 %	25 % q	70 - 130 %	20%
10061-01-5	*cis*-1,3-Dichloropropene	10	8.3	83 %	10	8.8	88 %	6 %	70 - 130 %	20%
108-10-1	4-Methyl-2-Pentanone (MIBK)	20	20	101 %	20	20	101 %	0 %	70 - 130 %	20%
108-88-3	Toluene	10	9.2	92 %	10	9.3	93 %	2 %	70 - 130 %	20%
10061-02-6	*trans*-1,3-Dichloropropene	10	8.9	89 %	10	9.3	93 %	4 %	70 - 130 %	20%
79-00-5	1,1,2-Trichloroethane	10	9.8	98 %	10	10	101 %	3 %	70 - 130 %	20%
127-18-4	Tetrachloroethene	10	9.8	98 %	10	10	101 %	2 %	70 - 130 %	20%
142-28-9	1,3-Dichloropropane	10	10	103 %	10	10	105 %	2 %	70 - 130 %	20%
591-78-6	2-Hexanone	20	22	109 %	20	23	114 %	4 %	70 - 130 %	20%
124-48-1	Dibromochloromethane	10	8.5	85 %	10	8.6	86 %	2 %	70 - 130 %	20%
106-93-4	1,2-Dibromoethane (EDB)	10	10	104 %	10	11	108 %	5 %	70 - 130 %	20%
108-90-7	Chlorobenzene	10	9.6	96 %	10	9.9	99 %	3 %	70 - 130 %	20%
630-20-6	1,1,1,2-Tetrachloroethane	10	10	100 %	10	11	107 %	6 %	70 - 130 %	20%
100-41-4	Ethylbenzene	10	10	101 %	10	10	103 %	2 %	70 - 130 %	20%
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	20	20	98 %	20	20	102 %	4 %	70 - 130 %	20%
95-47-6	*ortho*-Xylene	10	9.8	98 %	10	10	101 %	3 %	70 - 130 %	20%
100-42-5	Styrene	10	9.0	90 %	10	9.3	93 %	3 %	70 - 130 %	20%
75-25-2	Bromoform	10	8.1	81 %	10	8.2	82 %	0 %	70 - 130 %	20%

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA Method 8260B**	Instrument ID:	**MS-10 HP 6890**	Instrument ID:	**MS-10 HP 6890**
QC Batch ID:	**VM10-1163-W**	Analyzed:	**10-27-10 06:52**	Analyzed:	**10-27-10 07:16**
Matrix:	**Aqueous**	Analyst:	**LMG**	Analyst:	**LMG**
Units:	**ug/L**				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	10	7.1	**71 %**	10	8.5	**85 %**	**18 %**	70 - 130 %	20%
108-86-1	Bromobenzene	10	8.1	**81 %**	10	10	**101 %**	**21 % q**	70 - 130 %	20%
79-34-5	1,1,2,2-Tetrachloroethane	10	8.2	**82 %**	10	9.8	**98 %**	**18 %**	70 - 130 %	20%
96-18-4	1,2,3-Trichloropropane	10	8.1	**81 %**	10	9.7	**97 %**	**17 %**	70 - 130 %	20%
110-57-6	*trans*-1,4-Dichloro-2-butene	200	170	**87 %**	200	200	**100 %**	**14 %**	70 - 130 %	20%
103-65-1	*n*-Propylbenzene	10	8.1	**81 %**	10	9.9	**99 %**	**20 %**	70 - 130 %	20%
95-49-8	2-Chlorotoluene	10	7.9	**79 %**	10	9.6	**96 %**	**19 %**	70 - 130 %	20%
108-67-8	1,3,5-Trimethylbenzene	10	9.2	**92 %**	10	10	**102 %**	**9 %**	70 - 130 %	20%
106-43-4	4-Chlorotoluene	10	7.6	**76 %**	10	9.3	**93 %**	**21 % q**	70 - 130 %	20%
98-06-6	*tert*-Butylbenzene	10	9.3	**93 %**	10	9.7	**97 %**	**4 %**	70 - 130 %	20%
95-63-6	1,2,4-Trimethylbenzene	10	9.9	**99 %**	10	10	**105 %**	**6 %**	70 - 130 %	20%
135-98-8	*sec*-Butylbenzene	10	9.2	**92 %**	10	9.8	**98 %**	**7 %**	70 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	10	9.0	**90 %**	10	9.5	**95 %**	**6 %**	70 - 130 %	20%
99-87-6	4-Isopropyltoluene	10	8.7	**87 %**	10	9.2	**92 %**	**5 %**	70 - 130 %	20%
106-46-7	1,4-Dichlorobenzene	10	8.9	**89 %**	10	9.2	**92 %**	**3 %**	70 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	10	9.1	**91 %**	10	9.3	**93 %**	**3 %**	70 - 130 %	20%
104-51-8	*n*-Butylbenzene	10	9.6	**96 %**	10	10	**102 %**	**6 %**	70 - 130 %	20%
96-12-8	1,2-Dibromo-3-chloropropane	10	8.4	**84 %**	10	9.5	**95 %**	**12 %**	70 - 130 %	20%
108-70-3	1,3,5-Trichlorobenzene	10	7.8	**78 %**	10	9.5	**95 %**	**20 %**	70 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	10	7.7	**77 %**	10	9.6	**96 %**	**22 % q**	70 - 130 %	20%
87-68-3	Hexachlorobutadiene	10	7.0	**70 %**	10	8.7	**87 %**	**21 % q**	70 - 130 %	20%
91-20-3	Naphthalene	10	8.1	**81 %**	10	9.9	**99 %**	**20 %**	70 - 130 %	20%
87-61-6	1,2,3-Trichlorobenzene	10	7.7	**77 %**	10	9.6	**96 %**	**22 % q**	70 - 130 %	20%
75-65-0	*tert*-Butyl Alcohol (TBA)	200	150	**76 %**	200	160	**80 %**	**5 %**	70 - 130 %	20%
108-20-3	Di-isopropyl Ether (DIPE)	10	8.4	**84 %**	10	8.5	**85 %**	**1 %**	70 - 130 %	20%
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	10	8.6	**86 %**	10	8.7	**87 %**	**0 %**	70 - 130 %	20%
994-05-8	*tert*-Amyl Methyl Ether (TAME)	10	8.0	**80 %**	10	8.2	**82 %**	**2 %**	70 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
Dibromofluoromethane	10	10	**101 %**	10	10	**104 %**		70 - 130 %
1,2-Dichloroethane-d_4	10	10	**100 %**	10	10	**100 %**		70 - 130 %
Toluene-d_8	10	11	**107 %**	10	11	**108 %**		70 - 130 %
4-Bromofluorobenzene	10	9	**90 %**	10	11	**108 %**		70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

Quality Control Report
Method Blank

Category:	**EPA Method 8260B**	Instrument ID:	**MS-10 HP 6890**
QC Batch ID:	**VM10-1163-W**	Analyzed:	**10-27-10 07:53**
Matrix:	**Aqueous**	Analyst:	**LMG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.5
74-87-3	Chloromethane	BRL		ug/L	0.5
75-01-4	Vinyl Chloride	BRL		ug/L	0.5
74-83-9	Bromomethane	BRL		ug/L	0.5
75-00-3	Chloroethane	BRL		ug/L	0.5
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.5
60-29-7	Diethyl Ether	BRL		ug/L	2
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5
75-09-2	Methylene Chloride	BRL		ug/L	3
107-13-1	Acrylonitrile	BRL		ug/L	3
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/L	0.5
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/L	0.5
78-93-3	2-Butanone (MEK)	BRL		ug/L	5
74-97-5	Bromochloromethane	BRL		ug/L	0.5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5
67-66-3	Chloroform	BRL		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.5
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.5
71-43-2	Benzene	BRL		ug/L	0.5
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.5
79-01-6	Trichloroethene	BRL		ug/L	0.5
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.5
74-95-3	Dibromomethane	BRL		ug/L	0.5
75-27-4	Bromodichloromethane	BRL		ug/L	0.5
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	0.4
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	BRL		ug/L	0.5
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	0.4
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	BRL		ug/L	0.5
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.5
591-78-6	2-Hexanone	BRL		ug/L	5
124-48-1	Dibromochloromethane	BRL		ug/L	0.5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.5
108-90-7	Chlorobenzene	BRL		ug/L	0.5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/L	0.5
95-47-6	*ortho*-Xylene	BRL		ug/L	0.5
100-42-5	Styrene	BRL		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM10-1163-W**
Matrix: **Aqueous**

Instrument ID: **MS-10 HP 6890**
Analyzed: **10-27-10 07:53**
Analyst: **LMG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/L	0.5
108-86-1	Bromobenzene	BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.5
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/L	25
103-65-1	*n*-Propylbenzene	BRL		ug/L	0.5
95-49-8	2-Chlorotoluene	BRL		ug/L	0.5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.5
106-43-4	4-Chlorotoluene	BRL		ug/L	0.5
98-06-6	*tert*-Butylbenzene	BRL		ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.5
135-98-8	*sec*-Butylbenzene	BRL		ug/L	0.5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.5
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.5
104-51-8	*n*-Butylbenzene	BRL		ug/L	0.5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
91-20-3	Naphthalene	BRL		ug/L	0.5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.5
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.5
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/L	0.5
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	10	**102** %	70 - 130 %
1,2-Dichloroethane-d_4	10	10	**104** %	70 - 130 %
Toluene-d_8	10	11	**107** %	70 - 130 %
4-Bromofluorobenzene	10	11	**111** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	EPA Method 8270C		MS-3 HP 5890	Instrument ID:	MS-3 HP 5890
QC Batch ID:	SV-2400-P	Extracted:	10-27-10 12:00	Extracted:	10-27-10 12:00
Matrix:	Soil	Analyzed:	10-28-10 09:03	Analyzed:	10-28-10 09:45
Units:	ug/Kg	Analyst:	MJB	Analyst:	MJB

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
62-75-9	N-Nitrosodimethylamine	3,300	1,900	56 %	3,300	1,800	54 %	3 %	40 - 140 %	30%
110-86-1	Pyridine	3,300	1,300	40 %	3,300	1,400	43 %	7 %	40 - 140 %	30%
108-95-2	Phenol	3,300	2,100	64 %	3,300	2,200	65 %	2 %	30 - 130 %	30%
62-53-3	Aniline	3,300	2,000	60 %	3,300	1,900	56 %	7 %	40 - 140 %	30%
111-44-4	Bis(2-chloroethyl) ether	3,300	2,000	60 %	3,300	2,000	59 %	1 %	40 - 140 %	30%
95-57-8	2-Chlorophenol	3,300	2,200	67 %	3,300	2,300	68 %	2 %	30 - 130 %	30%
541-73-1	1,3-Dichlorobenzene	3,300	1,900	58 %	3,300	2,000	59 %	2 %	40 - 140 %	30%
106-46-7	1,4-Dichlorobenzene	3,300	2,000	61 %	3,300	2,000	61 %	1 %	40 - 140 %	30%
100-51-6	Benzyl Alcohol	3,300	2,400	73 %	3,300	2,300	70 %	4 %	30 - 130 %	30%
95-50-1	1,2-Dichlorobenzene	3,300	2,000	60 %	3,300	2,100	62 %	3 %	40 - 140 %	30%
95-48-7	2-Methylphenol	3,300	2,200	67 %	3,300	2,200	67 %	0 %	30 - 130 %	30%
108-60-1	Bis(2-chloroisopropyl) ether	3,300	1,900	58 %	3,300	1,900	56 %	3 %	40 - 140 %	30%
106-44-5	4-Methylphenol	3,300	2,200	67 %	3,300	2,200	67 %	1 %	30 - 130 %	30%
621-64-7	N-Nitrosodi-n-propylamine	3,300	2,100	64 %	3,300	2,100	62 %	3 %	40 - 140 %	30%
98-86-2	Acetophenone	3,300	2,200	67 %	3,300	2,200	66 %	2 %	40 - 140 %	30%
67-72-1	Hexachloroethane	3,300	2,000	60 %	3,300	2,000	60 %	0 %	40 - 140 %	30%
98-95-3	Nitrobenzene	3,300	2,200	65 %	3,300	2,000	61 %	7 %	40 - 140 %	30%
78-59-1	Isophorone	3,300	2,200	66 %	3,300	2,000	61 %	8 %	40 - 140 %	30%
88-75-5	2-Nitrophenol	3,300	2,200	66 %	3,300	2,100	63 %	5 %	30 - 130 %	30%
105-67-9	2,4-Dimethylphenol	3,300	2,400	71 %	3,300	2,300	69 %	3 %	30 - 130 %	30%
111-91-1	Bis(2-chloroethoxy) methane	3,300	2,200	66 %	3,300	2,100	62 %	8 %	40 - 140 %	30%
120-83-2	2,4-Dichlorophenol	3,300	2,300	69 %	3,300	2,200	67 %	2 %	30 - 130 %	30%
120-82-1	1,2,4-Trichlorobenzene	3,300	2,200	66 %	3,300	2,200	65 %	2 %	40 - 140 %	30%
91-20-3	Naphthalene	3,300	2,200	66 %	3,300	2,100	64 %	4 %	40 - 140 %	30%
106-47-8	4-Chloroaniline	3,300	1,900	58 %	3,300	2,100	62 %	7 %	40 - 140 %	30%
87-68-3	Hexachlorobutadiene	3,300	2,200	66 %	3,300	2,200	66 %	1 %	40 - 140 %	30%
59-50-7	4-Chloro-3-methylphenol	3,300	2,400	73 %	3,300	2,300	70 %	4 %	30 - 130 %	30%
91-57-6	2-Methylnaphthalene	3,300	2,200	67 %	3,300	2,200	65 %	3 %	40 - 140 %	30%
77-47-4	Hexachlorocyclopentadiene	3,300	2,300	68 %	3,300	2,400	71 %	3 %	40 - 140 %	30%
88-06-2	2,4,6-Trichlorophenol	3,300	2,300	70 %	3,300	2,400	72 %	3 %	30 - 130 %	30%
95-95-4	2,4,5-Trichlorophenol	3,300	2,400	71 %	3,300	2,400	73 %	3 %	30 - 130 %	30%
91-58-7	2-Chloronaphthalene	3,300	2,300	69 %	3,300	2,200	67 %	2 %	40 - 140 %	30%
88-74-4	2-Nitroaniline	3,300	2,500	75 %	3,300	2,300	68 %	9 %	40 - 140 %	30%
100-25-4	1,4-Dinitrobenzene	3,300	2,500	76 %	3,300	2,400	73 %	4 %	40 - 140 %	30%
131-11-3	Dimethyl phthalate	3,300	2,500	76 %	3,300	2,400	73 %	4 %	40 - 140 %	30%
99-65-0	1,3-Dinitrobenzene	3,300	2,600	78 %	3,300	2,400	73 %	7 %	40 - 140 %	30%
208-96-8	Acenaphthylene	3,300	2,400	72 %	3,300	2,300	69 %	4 %	40 - 140 %	30%
606-20-2	2,6-Dinitrotoluene	3,300	2,500	76 %	3,300	2,400	73 %	5 %	40 - 140 %	30%
528-29-0	1,2-Dinitrobenzene	3,300	2,600	78 %	3,300	2,400	72 %	9 %	40 - 140 %	30%
99-09-2	3-Nitroaniline	3,300	2,400	71 %	3,300	2,200	67 %	5 %	40 - 140 %	30%
83-32-9	Acenaphthene	3,300	2,100	63 %	3,300	2,100	62 %	1 %	40 - 140 %	30%
51-28-5	2,4-Dinitrophenol	3,300	530	16 % q	3,300	670	20 % q	24 %	30 - 130 %	30%
100-02-7	4-Nitrophenol	3,300	2,400	71 %	3,300	2,000	60 %	16 %	30 - 130 %	30%
132-64-9	Dibenzofuran	3,300	2,400	72 %	3,300	2,400	72 %	0 %	40 - 140 %	30%
121-14-2	2,4-Dinitrotoluene	3,300	2,600	77 %	3,300	2,500	75 %	2 %	40 - 140 %	30%
84-66-2	Diethyl phthalate	3,300	2,600	78 %	3,300	2,500	75 %	3 %	40 - 140 %	30%
7005-72-3	4-Chlorophenyl phenyl ether	3,300	2,500	75 %	3,300	2,500	76 %	1 %	40 - 140 %	30%
86-73-7	Fluorene	3,300	2,500	74 %	3,300	2,400	73 %	2 %	40 - 140 %	30%

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	EPA Method 8270C	Instrument ID:	MS-3 HP 5890	Instrument ID:	MS-3 HP 5890
QC Batch ID:	SV-2400-P	Extracted:	10-27-10 12:00	Extracted:	10-27-10 12:00
Matrix:	Soil	Analyzed:	10-28-10 09:03	Analyzed:	10-28-10 09:45
Units:	ug/Kg	Analyst:	MJB	Analyst:	MJB

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
100-01-6	4-Nitroaniline	3,300	2,500	74 %	3,300	2,400	72 %	3 %	40 - 140 %	30%
534-52-1	4,6-Dinitro-2-methylphenol	3,300	910	27 % q	3,300	1,300	39 %	37 % q	30 - 130 %	30%
86-30-6	N-Nitrosodiphenylamine †	3,300	2,500	76 %	3,300	2,400	73 %	4 %	40 - 140 %	30%
122-66-7	1,2-Diphenylhydrazine à	3,300	2,400	73 %	3,300	2,200	67 %	9 %	40 - 140 %	30%
101-55-3	4-Bromophenyl phenyl ether	3,300	2,600	77 %	3,300	2,500	76 %	1 %	40 - 140 %	30%
118-74-1	Hexachlorobenzene	3,300	2,600	78 %	3,300	2,600	79 %	1 %	40 - 140 %	30%
87-86-5	Pentachlorophenol	3,300	2,400	71 %	3,300	2,300	68 %	4 %	30 - 130 %	30%
85-01-8	Phenanthrene	3,300	2,500	75 %	3,300	2,500	74 %	2 %	40 - 140 %	30%
120-12-7	Anthracene	3,300	2,600	78 %	3,300	2,500	76 %	2 %	40 - 140 %	30%
86-74-8	Carbazole	3,300	2,600	78 %	3,300	2,500	75 %	4 %	40 - 140 %	30%
84-74-2	Di-*n*-butyl phthalate	3,300	2,600	79 %	3,300	2,500	76 %	4 %	40 - 140 %	30%
206-44-0	Fluoranthene	3,300	2,600	78 %	3,300	2,600	79 %	0 %	40 - 140 %	30%
129-00-0	Pyrene	3,300	2,600	77 %	3,300	2,500	76 %	1 %	40 - 140 %	30%
85-68-7	Butyl benzyl phthalate	3,300	2,600	77 %	3,300	2,400	72 %	6 %	40 - 140 %	30%
91-94-1	3,3'-Dichlorobenzidine	3,300	2,200	65 %	3,300	2,200	66 %	2 %	40 - 140 %	30%
56-55-3	Benzo[a]anthracene	3,300	2,500	76 %	3,300	2,500	76 %	0 %	40 - 140 %	30%
218-01-9	Chrysene	3,300	2,600	77 %	3,300	2,500	75 %	2 %	40 - 140 %	30%
117-81-7	Bis(2-ethylhexyl) phthalate	3,300	2,600	78 %	3,300	2,500	74 %	4 %	40 - 140 %	30%
117-84-0	Di-*n*-octyl phthalate	3,300	2,500	75 %	3,300	2,500	75 %	0 %	40 - 140 %	30%
205-99-2	Benzo[b]fluoranthene	3,300	2,500	75 %	3,300	2,500	76 %	1 %	40 - 140 %	30%
207-08-9	Benzo[k]fluoranthene	3,300	2,600	77 %	3,300	2,600	79 %	2 %	40 - 140 %	30%
50-32-8	Benzo[a]pyrene	3,300	2,500	76 %	3,300	2,500	76 %	0 %	40 - 140 %	30%
193-39-5	Indeno[1,2,3-c,d]pyrene	3,300	2,300	69 %	3,300	2,300	70 %	0 %	40 - 140 %	30%
53-70-3	Dibenzo[a,h]anthracene	3,300	2,400	71 %	3,300	2,300	70 %	1 %	40 - 140 %	30%
191-24-2	Benzo[g,h,i]perylene	3,300	2,400	71 %	3,300	2,400	71 %	0 %	40 - 140 %	30%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
2-Fluorophenol	13,000	7,700	58 %	13,000	7,900	59 %		30 - 130 %
Phenol-d5	13,000	8,200	61 %	13,000	8,100	61 %		30 - 130 %
Nitrobenzene-d5	6,700	5,000	75 %	6,700	4,800	72 %		30 - 130 %
2-Fluorobiphenyl	6,700	5,400	81 %	6,700	5,400	81 %		30 - 130 %
2,4,6-Tribromophenol	13,000	11,000	83 %	13,000	11,000	82 %		30 - 130 %
Terphenyl-d14	6,700	6,200	93 %	6,700	6,000	91 %		30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

q Recovery outside recommended limits.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8270C**
QC Batch ID: **SV-2400-P**
Matrix: **Soil**

Instrument ID: **MS-3 HP 5890**
Extracted: **10-27-10 12:00**
Analyzed: **10-28-10 10:26**
Analyst: **MJB**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/Kg	330
110-86-1	Pyridine	BRL		ug/Kg	330
108-95-2	Phenol	BRL		ug/Kg	330
62-53-3	Aniline	BRL		ug/Kg	330
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/Kg	330
95-57-8	2-Chlorophenol	BRL		ug/Kg	330
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	330
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	330
100-51-6	Benzyl Alcohol	BRL		ug/Kg	330
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	330
95-48-7	2-Methylphenol	BRL		ug/Kg	330
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/Kg	330
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/Kg	330
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/Kg	330
98-86-2	Acetophenone	BRL		ug/Kg	330
67-72-1	Hexachloroethane	BRL		ug/Kg	330
98-95-3	Nitrobenzene	BRL		ug/Kg	330
78-59-1	Isophorone	BRL		ug/Kg	330
88-75-5	2-Nitrophenol	BRL		ug/Kg	330
105-67-9	2,4-Dimethylphenol	BRL		ug/Kg	670
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/Kg	330
120-83-2	2,4-Dichlorophenol	BRL		ug/Kg	330
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	330
91-20-3	Naphthalene	BRL		ug/Kg	330
106-47-8	4-Chloroaniline	BRL		ug/Kg	330
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	330
59-50-7	4-Chloro-3-methylphenol	BRL		ug/Kg	330
91-57-6	2-Methylnaphthalene	BRL		ug/Kg	330
77-47-4	Hexachlorocyclopentadiene	BRL		ug/Kg	330
88-06-2	2,4,6-Trichlorophenol	BRL		ug/Kg	330
95-95-4	2,4,5-Trichlorophenol	BRL		ug/Kg	330
91-58-7	2-Chloronaphthalene	BRL		ug/Kg	330
88-74-4	2-Nitroaniline	BRL		ug/Kg	330
100-25-4	1,4-Dinitrobenzene	BRL		ug/Kg	330
131-11-3	Dimethyl phthalate	BRL		ug/Kg	330
99-65-0	1,3-Dinitrobenzene	BRL		ug/Kg	330
208-96-8	Acenaphthylene	BRL		ug/Kg	330
606-20-2	2,6-Dinitrotoluene	BRL		ug/Kg	330
528-29-0	1,2-Dinitrobenzene	BRL		ug/Kg	330
99-09-2	3-Nitroaniline	BRL		ug/Kg	330
83-32-9	Acenaphthene	BRL		ug/Kg	330
51-28-5	2,4-Dinitrophenol	BRL		ug/Kg	670
100-02-7	4-Nitrophenol	BRL		ug/Kg	330
132-64-9	Dibenzofuran	BRL		ug/Kg	330
121-14-2	2,4-Dinitrotoluene	BRL		ug/Kg	330
84-66-2	Diethyl phthalate	BRL		ug/Kg	330
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/Kg	330
86-73-7	Fluorene	BRL		ug/Kg	330
100-01-6	4-Nitroaniline	BRL		ug/Kg	330

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8270C**
QC Batch ID: **SV-2400-P**
Matrix: **Soil**

Instrument ID: **MS-3 HP 5890**
Extracted: **10-27-10 12:00**
Analyzed: **10-28-10 10:26**
Analyst: **MJB**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/Kg	330
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/Kg	330
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/Kg	330
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/Kg	330
118-74-1	Hexachlorobenzene	BRL		ug/Kg	330
87-86-5	Pentachlorophenol	BRL		ug/Kg	330
85-01-8	Phenanthrene	BRL		ug/Kg	330
120-12-7	Anthracene	BRL		ug/Kg	330
86-74-8	Carbazole	BRL		ug/Kg	330
84-74-2	Di-*n*-butyl phthalate	BRL		ug/Kg	330
206-44-0	Fluoranthene	BRL		ug/Kg	330
129-00-0	Pyrene	BRL		ug/Kg	330
85-68-7	Butyl benzyl phthalate	BRL		ug/Kg	330
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/Kg	330
56-55-3	Benzo[a]anthracene	BRL		ug/Kg	330
218-01-9	Chrysene	BRL		ug/Kg	330
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/Kg	330
117-84-0	Di-*n*-octyl phthalate	BRL		ug/Kg	330
205-99-2	Benzo[b]fluoranthene	BRL		ug/Kg	330
207-08-9	Benzo[k]fluoranthene	BRL		ug/Kg	330
50-32-8	Benzo[a]pyrene	BRL		ug/Kg	330
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	330
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	330
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	330

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	13,000	7,200	**54 %**	30 - 130 %
Phenol-d5	13,000	7,500	**56 %**	30 - 130 %
Nitrobenzene-d5	6,700	4,500	**67 %**	30 - 130 %
2-Fluorobiphenyl	6,700	5,300	**79 %**	30 - 130 %
2,4,6-Tribromophenol	13,000	10,000	**75 %**	30 - 130 %
Terphenyl-d14	6,700	5,600	**84 %**	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3545.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
* Analyzed as 4-Methylphenol.
† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.
◊ Analyzed as Azobenzene.

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	EPA Method 8270C	Instrument ID:	MS-3 HP 5890	Instrument ID:	MS-3 HP 5890
QC Batch ID:	SV-2573-F	Extracted:	10-29-10 20:00	Extracted:	10-29-10 20:00
Matrix:	Aqueous	Analyzed:	11-02-10 13:40	Analyzed:	11-02-10 14:22
Units:	ug/L	Analyst:	MJB	Analyst:	MJB

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
62-75-9	N-Nitrosodimethylamine	50	31	62 %	50	32	65 %	5 %	40 - 140 %	20%
110-86-1	Pyridine	50	27	55 %	50	28	56 %	3 %	40 - 140 %	20%
108-95-2	Phenol	50	21	43 %	50	23	46 %	8 %	30 - 130 %	20%
62-53-3	Aniline	50	35	70 %	50	38	76 %	8 %	40 - 140 %	20%
111-44-4	Bis(2-chloroethyl) ether	50	33	67 %	50	37	74 %	11 %	40 - 140 %	20%
95-57-8	2-Chlorophenol	50	32	64 %	50	35	71 %	10 %	30 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	50	29	59 %	50	33	66 %	12 %	40 - 140 %	20%
106-46-7	1,4-Dichlorobenzene	50	29	59 %	50	33	67 %	13 %	40 - 140 %	20%
100-51-6	Benzyl Alcohol	50	36	73 %	50	40	79 %	9 %	30 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	50	30	60 %	50	34	67 %	11 %	40 - 140 %	20%
95-48-7	2-Methylphenol	50	33	67 %	50	36	72 %	7 %	30 - 130 %	20%
108-60-1	Bis(2-chloroisopropyl) ether	50	35	70 %	50	37	75 %	7 %	40 - 140 %	20%
106-44-5	4-Methylphenol	50	33	67 %	50	36	72 %	7 %	30 - 130 %	20%
621-64-7	N-Nitrosodi-n-propylamine	50	36	73 %	50	39	78 %	8 %	40 - 140 %	20%
98-86-2	Acetophenone	50	37	74 %	50	41	81 %	9 %	40 - 140 %	20%
67-72-1	Hexachloroethane	50	30	60 %	50	33	67 %	12 %	40 - 140 %	20%
98-95-3	Nitrobenzene	50	33	66 %	50	37	73 %	10 %	40 - 140 %	20%
78-59-1	Isophorone	50	36	71 %	50	39	79 %	10 %	40 - 140 %	20%
88-75-5	2-Nitrophenol	50	33	67 %	50	38	77 %	14 %	30 - 130 %	20%
105-67-9	2,4-Dimethylphenol	50	36	72 %	50	38	76 %	6 %	30 - 130 %	20%
111-91-1	Bis(2-chloroethoxy) methane	50	35	70 %	50	38	77 %	10 %	40 - 140 %	20%
120-83-2	2,4-Dichlorophenol	50	35	69 %	50	38	76 %	10 %	30 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	50	32	64 %	50	36	71 %	11 %	40 - 140 %	20%
91-20-3	Naphthalene	50	33	66 %	50	37	73 %	10 %	40 - 140 %	20%
106-47-8	4-Chloroaniline	50	40	80 %	50	44	87 %	9 %	40 - 140 %	20%
87-68-3	Hexachlorobutadiene	50	32	63 %	50	35	70 %	10 %	40 - 140 %	20%
59-50-7	4-Chloro-3-methylphenol	50	41	82 %	50	43	86 %	5 %	30 - 130 %	20%
91-57-6	2-Methylnaphthalene	50	34	69 %	50	38	76 %	10 %	40 - 140 %	20%
77-47-4	Hexachlorocyclopentadiene	50	24	47 %	50	26	52 %	9 %	40 - 140 %	20%
88-06-2	2,4,6-Trichlorophenol	50	39	78 %	50	43	86 %	10 %	30 - 130 %	20%
95-95-4	2,4,5-Trichlorophenol	50	39	79 %	50	44	88 %	11 %	30 - 130 %	20%
91-58-7	2-Chloronaphthalene	50	37	73 %	50	40	80 %	9 %	40 - 140 %	20%
88-74-4	2-Nitroaniline	50	41	81 %	50	45	91 %	11 %	40 - 140 %	20%
100-25-4	1,4-Dinitrobenzene	50	41	81 %	50	46	91 %	12 %	40 - 140 %	20%
131-11-3	Dimethyl phthalate	50	40	81 %	50	44	88 %	9 %	40 - 140 %	20%
99-65-0	1,3-Dinitrobenzene	50	41	83 %	50	46	92 %	11 %	40 - 140 %	20%
208-96-8	Acenaphthylene	50	37	75 %	50	41	82 %	10 %	40 - 140 %	20%
606-20-2	2,6-Dinitrotoluene	50	41	82 %	50	44	89 %	9 %	40 - 140 %	20%
528-29-0	1,2-Dinitrobenzene	50	41	83 %	50	45	91 %	9 %	40 - 140 %	20%
99-09-2	3-Nitroaniline	50	42	83 %	50	45	90 %	8 %	40 - 140 %	20%
83-32-9	Acenaphthene	50	39	78 %	50	43	86 %	10 %	40 - 140 %	20%
51-28-5	2,4-Dinitrophenol	50	38	76 %	50	42	84 %	10 %	30 - 130 %	20%
100-02-7	4-Nitrophenol	50	28	56 %	50	30	61 %	9 %	30 - 130 %	20%
132-64-9	Dibenzofuran	50	38	77 %	50	42	83 %	8 %	40 - 140 %	20%
121-14-2	2,4-Dinitrotoluene	50	42	83 %	50	46	91 %	9 %	40 - 140 %	20%
84-66-2	Diethyl phthalate	50	41	83 %	50	45	90 %	8 %	40 - 140 %	20%
7005-72-3	4-Chlorophenyl phenyl ether	50	39	78 %	50	42	84 %	8 %	40 - 140 %	20%
86-73-7	Fluorene	50	39	77 %	50	42	84 %	8 %	40 - 140 %	20%

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	EPA Method 8270C	Instrument ID:	MS-3 HP 5890	Instrument ID:	MS-3 HP 5890
QC Batch ID:	SV-2573-F	Extracted:	10-29-10 20:00	Extracted:	10-29-10 20:00
Matrix:	Aqueous	Analyzed:	11-02-10 13:40	Analyzed:	11-02-10 14:22
Units:	ug/L	Analyst:	MJB	Analyst:	MJB

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
100-01-6	4-Nitroaniline	50	45	90 %	50	48	96 %	7 %	40 - 140 %	20%
534-52-1	4,6-Dinitro-2-methylphenol	50	41	82 %	50	45	90 %	9 %	30 - 130 %	20%
86-30-6	N-Nitrosodiphenylamine †	50	40	81 %	50	44	89 %	9 %	40 - 140 %	20%
122-66-7	1,2-Diphenylhydrazine à	50	40	81 %	50	44	88 %	8 %	40 - 140 %	20%
101-55-3	4-Bromophenyl phenyl ether	50	41	82 %	50	43	87 %	6 %	40 - 140 %	20%
118-74-1	Hexachlorobenzene	50	42	83 %	50	44	88 %	5 %	40 - 140 %	20%
87-86-5	Pentachlorophenol	50	40	81 %	50	45	89 %	10 %	30 - 130 %	20%
85-01-8	Phenanthrene	50	41	81 %	50	45	90 %	10 %	40 - 140 %	20%
120-12-7	Anthracene	50	41	82 %	50	45	90 %	9 %	40 - 140 %	20%
86-74-8	Carbazole	50	42	85 %	50	46	93 %	9 %	40 - 140 %	20%
84-74-2	Di-*n*-butyl phthalate	50	43	87 %	50	47	94 %	9 %	40 - 140 %	20%
206-44-0	Fluoranthene	50	43	85 %	50	47	94 %	10 %	40 - 140 %	20%
129-00-0	Pyrene	50	44	87 %	50	47	94 %	8 %	40 - 140 %	20%
85-68-7	Butyl benzyl phthalate	50	44	88 %	50	48	96 %	8 %	40 - 140 %	20%
91-94-1	3,3'-Dichlorobenzidine	50	40	81 %	50	44	87 %	8 %	40 - 140 %	20%
56-55-3	Benzo[a]anthracene	50	44	88 %	50	47	93 %	6 %	40 - 140 %	20%
218-01-9	Chrysene	50	44	89 %	50	47	95 %	7 %	40 - 140 %	20%
117-81-7	Bis(2-ethylhexyl) phthalate	50	45	89 %	50	48	95 %	6 %	40 - 140 %	20%
117-84-0	Di-*n*-octyl phthalate	50	46	91 %	50	49	99 %	8 %	40 - 140 %	20%
205-99-2	Benzo[b]fluoranthene	50	44	88 %	50	47	94 %	6 %	40 - 140 %	20%
207-08-9	Benzo[k]fluoranthene	50	45	91 %	50	48	97 %	7 %	40 - 140 %	20%
50-32-8	Benzo[a]pyrene	50	44	87 %	50	47	94 %	7 %	40 - 140 %	20%
193-39-5	Indeno[1,2,3-c,d]pyrene	50	47	93 %	50	50	100 %	7 %	40 - 140 %	20%
53-70-3	Dibenzo[a,h]anthracene	50	44	88 %	50	48	95 %	8 %	40 - 140 %	20%
191-24-2	Benzo[g,h,i]perylene	50	45	91 %	50	49	99 %	9 %	40 - 140 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
2-Fluorophenol	200	94	47 %	200	98	49 %		15 - 110 %
Phenol-d5	200	77	39 %	200	82	41 %		15 - 110 %
Nitrobenzene-d5	100	82	82 %	100	97	97 %		30 - 130 %
2-Fluorobiphenyl	100	86	86 %	100	94	94 %		30 - 130 %
2,4,6-Tribromophenol	200	160	78 %	200	170	84 %		15 - 110 %
Terphenyl-d14	100	110	109 %	100	120	117 %		30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

Quality Control Report
Method Blank

Category: **EPA Method 8270C**
QC Batch ID: **SV-2573-F**
Matrix: **Aqueous**

Instrument ID: **MS-3 HP 5890**
Extracted: **10-29-10 20:00**
Analyzed: **11-02-10 15:03**
Analyst: **MJB**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	5
110-86-1	Pyridine	BRL		ug/L	5
108-95-2	Phenol	BRL		ug/L	5
62-53-3	Aniline	BRL		ug/L	5
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	5
95-57-8	2-Chlorophenol	BRL		ug/L	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	5
100-51-6	Benzyl Alcohol	BRL		ug/L	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	5
95-48-7	2-Methylphenol	BRL		ug/L	5
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	5
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/L	5
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/L	5
98-86-2	Acetophenone	BRL		ug/L	5
67-72-1	Hexachloroethane	BRL		ug/L	5
98-95-3	Nitrobenzene	BRL		ug/L	5
78-59-1	Isophorone	BRL		ug/L	5
88-75-5	2-Nitrophenol	BRL		ug/L	5
105-67-9	2,4-Dimethylphenol	BRL		ug/L	5
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	5
120-83-2	2,4-Dichlorophenol	BRL		ug/L	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5
106-47-8	4-Chloroaniline	BRL		ug/L	5
87-68-3	Hexachlorobutadiene	BRL		ug/L	5
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	5
91-57-6	2-Methylnaphthalene	BRL		ug/L	5
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	5
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	5
95-95-4	2,4,5-Trichlorophenol	BRL		ug/L	5
91-58-7	2-Chloronaphthalene	BRL		ug/L	5
88-74-4	2-Nitroaniline	BRL		ug/L	5
100-25-4	1,4-Dinitrobenzene	BRL		ug/L	5
131-11-3	Dimethyl phthalate	BRL		ug/L	5
99-65-0	1,3-Dinitrobenzene	BRL		ug/L	5
208-96-8	Acenaphthylene	BRL		ug/L	5
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	5
528-29-0	1,2-Dinitrobenzene	BRL		ug/L	5
99-09-2	3-Nitroaniline	BRL		ug/L	5
83-32-9	Acenaphthene	BRL		ug/L	5
51-28-5	2,4-Dinitrophenol	BRL		ug/L	10
100-02-7	4-Nitrophenol	BRL		ug/L	5
132-64-9	Dibenzofuran	BRL		ug/L	5
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	5
84-66-2	Diethyl phthalate	BRL		ug/L	5
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	5
86-73-7	Fluorene	BRL		ug/L	5
100-01-6	4-Nitroaniline	BRL		ug/L	5

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8270C**
QC Batch ID: **SV-2573-F**
Matrix: **Aqueous**

Instrument ID: **MS-3 HP 5890**
Extracted: **10-29-10 20:00**
Analyzed: **11-02-10 15:03**
Analyst: **MJB**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	10
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/L	5
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/L	5
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	5
118-74-1	Hexachlorobenzene	BRL		ug/L	5
87-86-5	Pentachlorophenol	BRL		ug/L	10
85-01-8	Phenanthrene	BRL		ug/L	5
120-12-7	Anthracene	BRL		ug/L	5
86-74-8	Carbazole	BRL		ug/L	5
84-74-2	Di-*n*-butyl phthalate	BRL		ug/L	5
206-44-0	Fluoranthene	BRL		ug/L	5
129-00-0	Pyrene	BRL		ug/L	5
85-68-7	Butyl benzyl phthalate	BRL		ug/L	5
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	5
56-55-3	Benzo[a]anthracene	BRL		ug/L	5
218-01-9	Chrysene	BRL		ug/L	5
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	5
117-84-0	Di-*n*-octyl phthalate	BRL		ug/L	5
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	5
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	5
50-32-8	Benzo[a]pyrene	BRL		ug/L	5
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	5
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	5
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	200	110	**55** %	15 - 110 %
Phenol-d5	200	91	**45** %	15 - 110 %
Nitrobenzene-d5	100	98	**98** %	30 - 130 %
2-Fluorobiphenyl	100	100	**101** %	30 - 130 %
2,4,6-Tribromophenol	200	160	**81** %	15 - 110 %
Terphenyl-d14	100	120	**118** %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
* Analyzed as 4-Methylphenol.
† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.
◊ Analyzed as Azobenzene.

GROUNDWATER ANALYTICAL

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

http://www.groundwateranalytical.com/qualifications.htm

CONNECTICUT

Department of Health Services, PH-0586 — Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 — Potable Water and Non-Potable Water
http://public.dep.state.ma.us/labcert/labcert.aspx

Department of Labor, Division of Occupational Safety, AA000195 — Asbestos Analytical Services, Class A
http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 — Potable Water, Non-Potable Water, Solid and Chemical Materials
http://www4.egov.nh.gov/DES/NHELAP

NEW YORK

Department of Health, 11754 — Potable Water, Non-Potable Water, Solid and Hazardous Waste
http://www.wadsworth.org/labcert/elap/comm.html

RHODE ISLAND

Department of Health, Division of Laboratories, LAO00054 — Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
http://www.health.ri.gov/labs/outofstatelabs.pdf

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 — Foreign soil import permit

VERMONT

Department of Health, VT-87643 — Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Certifications and Approvals

MASSACHUSETTS — Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)

Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Alkalinity, Total	SM 2320-B
Antimony	EPA 200.8
Arsenic	EPA 200.8
Barium	EPA 200.7
Barium	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G
Chromium	EPA 200.7
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G
Fecal Coliform (Source Water)	MF SM 9222-D
Fluoride	EPA 300.0
Fluoride	SM 4500-F-C
Haloacetic Acids	EPA 552.2
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
Mercury	EPA 245.1
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Nitrite-N	EPA 300.0
Nitrite-N	Lachat 10-107-04-1-C
pH	SM 4500-H-B
Selenium	EPA 200.8
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223
Total Coliform (Treatment and Distribution)	MF SM 9222-B
Total Dissolved Solids	SM 2540-C
Trihalomethanes	EPA 524.2
Turbidity	SM 2130-B
Volatile Organic Compounds	EPA 524.2

Non-Potable Water (Wastewater)

Analyte	Method
Aldrin	EPA 608
Alkalinity, Total	SM 2320-B
Alpha-BHC	EPA 608
Aluminum	EPA 200.7

Non-Potable Water (Wastewater)

Analyte	Method
Aluminum	EPA 200.8
Ammonia-N	Lachat 10-107-06-1-B
Antimony	EPA 200.7
Antimony	EPA 200.8
Arsenic	EPA 200.7
Arsenic	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Beta-BHC	EPA 608
Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chemical Oxygen Demand	SM 5220-D
Chlordane	EPA 608
Chloride	EPA 300.0
Chlorine, Total Residual	SM 4500-CL-G
Chromium	EPA 200.7
Chromium	EPA 200.8
Cobalt	EPA 200.7
Cobalt	EPA 200.8
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
DDD	EPA 608
DDE	EPA 608
DDT	EPA 608
Delta-BHC	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Gamma-BHC	EPA 608
Hardness (CaCO3), Total	EPA 200.7
Hardness (CaCO3), Total	SM 2340-B
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Iron	EPA 200.7
Kjeldahl-N	Lachat 10-107-06-02-D
Lead	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Manganese	EPA 200.8
Mercury	EPA 245.1
Molybdenum	EPA 200.7
Molybdenum	EPA 200.8
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Non-Filterable Residue	SM 2540-D
Oil and Grease	EPA 1664

Certifications and Approvals

MASSACHUSETTS — **Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

AECOM (NYSE: ACM) is a global provider of professional technical and management support services to a broad range of markets, including transportation, facilities, environmental and energy. With 45,000 employees around the world, AECOM is a leader in all of the key markets that it serves. AECOM provides a blend of global reach, local knowledge, innovation, and technical excellence in delivering solutions that enhance and sustain the world's built, natural, and social environments. A *Fortune 500* company, AECOM serves clients in more than 100 countries and had revenue of $6.1 billion during the 12-month period ended June 30, 2009. More information on AECOM and its services can be found at www.aecom.com.

AECOM
2 Technology Park Drive
Westford, Massachusetts 01886
T: +1.978.589.3000
F: +1.978.589.3100
AskEnvironment@aecom.com