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August 14, 2012

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Alameda County  
Environmental Health

Mr. Keith Nowell  
Alameda County Health Care Services  
Environmental Health Services  
Environmental Protection  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

Subject: First Semiannual 2012 Groundwater Monitoring Report \_RO0002933  
1409 – 1417 12<sup>th</sup> Street, Oakland, California

Dear Mr. Nowell:

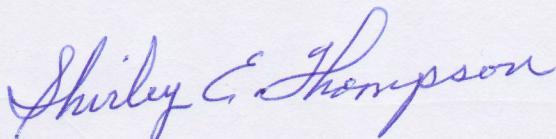
Attached is the First Semiannual 2012 Groundwater Monitoring Report for the property located at 1409 – 1417 12<sup>th</sup> Street, Oakland, California.

**Certification**

*I certify under penalty of law that this document and attachments are prepared under my direction or supervision in accordance with the system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing the violations.*

Please contact Joseph Cotton at (510)703-5420 if you have questions or comments.

Sincerely,



Shirley E. Thompson  
Property Owner

**IES**

**IMPACT ENVIRONMENTAL SERVICES**

August 14, 2012

Mr. Keith Nowell  
Alameda County Health Care Services  
Environmental Health Services  
Environmental Protection  
1131 Harbor Bay Parkway, Suite 250  
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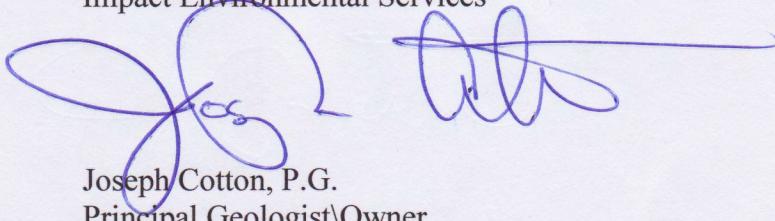
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Sincerely  
Impact Environmental Services



Joseph Cotton, P.G.  
Principal Geologist\Owner

# **FIRST SEMIANNUAL 2012 GROUNDWATER MONITORING REPORT**

**1409 – 1417 12<sup>th</sup> Street  
OAKLAND, CALIFORNIA**

Prepared for

**Shirley Thompson  
1155 Hopkins Street  
Berkeley, CA 94702**

August 7, 2012

Prepared by

**IES  
Impact Environmental Services**

39120 Argonaut Way, Suite 223  
Fremont, California 94538

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**FIRST SEMIANNUAL 2012  
GROUNDWATER MONITORING REPORT  
1409-1417 12<sup>TH</sup> STREET  
OAKLAND CALIFORNIA  
ACEH File No. RO2933**

On behalf of Mrs. Shirley E. Thompson, Impact Environmental Services (IMPACT) is presenting this First Semiannual 2012 Groundwater Monitoring Report for the property located at 1409-1417 12<sup>th</sup> Street in Oakland, California (Figure 1). This report presents results of groundwater monitoring conducted at the subject property on April 23, 2012. This document is being prepared at the request of Alameda County Environmental Health (ACEH) for a groundwater monitoring for the unauthorized release of fuel at the subject property<sup>1</sup>.

**SITE CONTACT INFORMATION**

The site address and contact information is as follows:

**Site Address:**

1409-1417 12<sup>th</sup> Street  
Oakland, CA  
APN 004-063-06

**Contact Information:**

Mrs. Shirley Thompson  
Edward C. and Shirley E. Thompson Trust  
1155 Hopkins Street, Berkeley, CA 94702-1359

**SITE BACKGROUND**

The Subject Property is located in a predominately residential area in the western section of the city of Oakland, Alameda County, California (Figure 1). The subject Property comprises the Alameda County assessor parcel 004-063-06 and is bordered to the north by 12<sup>th</sup> Street and residential development, to the south by a vacant lot, on the east by Mandela Parkway, and to the

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<sup>1</sup> Alameda County Environmental Health Services Letter\_Fuel Leak Case No. RO2933 Global ID T0600158621, Thompson Property, 1409-1417 12<sup>th</sup> Street, Oakland, CA 94607-2003, dated July 31, 2008.

west by a residential development (Figure 2). The property is located approximately 1-mile southeast of San Francisco Bay and 1-mile north of Oakland Inner Harbor. The elevation of the site is approximately 17 feet above mean sea level (USGS West Oakland 7.5 Minute Quadrangle). Portions of the site are paved with asphalt and the remainder is covered by grass and soil.

Historical records indicate that the property was occupied by a service station from circa 1957 to circa 1969. The subject property was either vacant or occupied by residential dwellings from at least 1902 to circa 1956. Sanborn maps from 1957 to 1967 appear to show three underground fuel storage tanks (USTs) located in the southeast corner of the service station. The 1961 Sanborn map appears to show a fourth UST or AST along the west property boundary. According to a previous report, a magnetometer survey performed at the subject property (circa 1999) revealed no magnetic anomalies indicative of buried underground storage tanks. However, communications with the Oakland Fire Department Hazardous Materials Division, confirmed that no records exist of UST removal from the Subject Property<sup>2</sup>.

## Geologic Setting

The Subject Property is located in the East Bay Plain of the San Francisco Bay Area. This region is dominated by northwest trending topography enclosed in the Coast Range Province of California. The site is located in the “Merritt Sand Outcrop” groundwater subarea, which has a maximum thickness of 65 feet, and the regional gradient is directed toward the west to southwest<sup>3</sup>. Based on information provided by a previous investigation, soil beneath the property consists primarily of silty-sand to at least 20 feet bgs. Groundwater is first encountered between 10 and 13 feet below ground surface (bgs) and stabilizes between approximately 9 to 11 feet bgs.

## Previous Phased Environmental Investigations

The 1409-1417 12<sup>th</sup> Street site has been the subject of numerous environmental investigations<sup>4,5,6,7,8</sup> beginning in 1999. The suspected source of on-site contamination is

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<sup>2</sup> Verbal Communication, LeRoy Griffin, Oakland Fire Department Hazardous Materials Division, May 25, 2006.

<sup>3</sup> Hickenbottom and Muir, *Geohydrology and Groundwater Quality Overview of the East Bay Plain Area, Alameda County, California, 205 (J) Report*, 1988.

<sup>4</sup> Blymer Engineers, Inc., *Subsurface Investigation Vacant Parcel 1409-1417 12<sup>th</sup> Street, Oakland, California*, August 25, 1999.

believed to be from residual fuel from former underground storage tanks (USTs) associated with service station operations. Petroleum hydrocarbons have been detected in on-site soil, soil-vapor, and groundwater samples at concentrations that exceed environmental screening levels (ESLs)<sup>9</sup> for residential land-use. Significant concentrations of (total petroleum hydrocarbons (TPH) as gasoline (TPHg) up to 20,000 milligrams per kilogram (mg/kg) and volatile organic compounds (VOCs) to 120 mg/kg were detected in soil samples collected from the site. TPHg was detected in groundwater samples at a maximum concentration of 52,000 $\mu$ g/L. Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were detected in groundwater at maximum concentrations of 8,700 $\mu$ g/L, 2,200 $\mu$ g/L, 2,000 $\mu$ g/L, 7,200 $\mu$ g/L, respectively. 1, 2-Dichloroethane was detected at a maximum concentration of 570 $\mu$ g/L. Soil-vapor samples collected from the site were found to contain TPHg at a maximum concentration of 52,000ug/m<sup>3</sup>, benzene as high as 1,200 ug/m<sup>3</sup>, and vinyl chloride to 260ug/m<sup>3</sup>.

In March 2008, eleven groundwater-monitoring wells (MW-1 through MW-8 and GW-1 through GW-3) were installed at the subject property. Shallow groundwater elevations occur from 9 to 11 feet below ground surface. In general, shallow groundwater flow is toward the south towards San Francisco Bay.

A dual-phase vacuum extraction (DPE) pilot test was conducted at the subject property in October 2008. The pilot test was conducted to evaluate DPE technology as a viable method to cleanup petroleum hydrocarbons from soil and groundwater at the site. The results of pilot test indicated that DPE was a viable technology for mitigating petroleum hydrocarbons from unsaturated soil and groundwater from the subject property.

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<sup>5</sup> Impact Environmental Services, Phase I Environmental Site Assessment 1409-1417 12th Street Oakland California, August 25, 2006 (revised December 13, 2006).

<sup>6</sup> Impact Environmental Services, Site Characterization Report 1409-1417 12<sup>th</sup> Street Oakland California, June 5, 2007.

<sup>7</sup> Impact Environmental Services, Remediation Workplan Site 1409-1417 12<sup>th</sup> Street Oakland California, October 17, 2007.

<sup>8</sup> Impact Environmental Services, Groundwater Well Installation & Initial Quarterly Groundwater Monitoring Report for 1409 - 1417 Street, Oakland, California, October 9, 2008.

<sup>9</sup> San Francisco Bay Regional Water Quality Control Board, Screening For Environmental Concerns at Sites with Contaminated Soil and Groundwater-Interim Final, May 2008.

11 feet below ground surface. In general, shallow groundwater flow is toward the south towards San Francisco Bay.

A dual-phase vacuum extraction (DPE) pilot test was conducted at the subject property in October 2008. The pilot test was conducted to evaluate DPE technology as a viable method to cleanup petroleum hydrocarbons from soil and groundwater at the site. The results of pilot test indicated that DPE was a viable technology for mitigating petroleum hydrocarbons from unsaturated soil and groundwater from the subject property.

In January 2009, eight dual phase extraction wells (DPE-1, DPE-1B, DPE-2, DPE-2B, DPE-3, DPE-5, DPE-6, and DPE-7) were installed at the property under the direction of IMPACT. In addition, existing wells GW-1, GW-3, and MW-8 were converted for dual use as both groundwater monitoring and DPE wells.

In February 2009, IMPACT and its subcontractor's OTG Environmental Engineering were retained to design the DPE system for the site. In April 2009, Ashby Excavation and Construction was retained by IMPACT to construct the DPE containment building. Mako Industries Inc. was contracted by IMPACT to build the liquid-ring, high vacuum extraction and thermal oxidizer treatment system trailer. Ashby completed the containment building and underground DPE groundwater/vapor recovery piping in October 2009. Pacific Gas & Electric completed gas and electric connections to the site in November 2009. Piping from the eleven DPE wells were connected to a central manifold located within the containment building. Final connections were made to the DPE trailer, manifold, thermal oxidizer system, and liquid-phase granular activated carbon vessels in December 2009.

On January 13, 2010, the remediation system was turned on after laboratory results of the Day 1 samples met the discharge requirements. The discharge of the treated water began on January 13, 2010. The remediation system ran continuously for another five days and was then sampled again on January 18 following the NPDES permit requirement. The Day 5 samples were delivered to Torrent Laboratory under 24-hr turnaround time analysis. The remediation system ran continuously from January 18, 2010 through July 23, 2010, except on occasions when the DPE unit was automatically turned off (tripped) due to low pressure of natural gas supply from PG&E.

On May 5, 2011 the DPE System was restarted and monthly NPDES groundwater sampling was resumed. Groundwater-soil vapor extraction wells DPE-1 and DPE-2 were disconnected from the DPE collection network and used as bleeder wells to supplement air flow to the nearby subsurface . The DPE system ran continuously from May 5, 2011 through October 31, 2011, except on occasions when the DPE system tripped. The DPE system was shut down on October 31, 2011 to evaluate remediation effectiveness on groundwater quality. In addition, periodic manual hydrogen peroxide treatment was resumed at wells MW-8, GW-1, GW-3, DPE-1B, and DPE-3 following the shutdown of the DPE system. Semiannual groundwater monitoring for 2011 was performed in the months of June and December.

## **FIRST SEMIANNUAL 2012 GROUNDWATER MONITORING EVENT**

On April 23, 2012, Impact conducted groundwater monitoring at the subject property. During this groundwater-monitoring event, groundwater samples were collected from eleven groundwater monitoring wells (MW-1 through MW-8 and GW-1 through GW-3) and eight DPE wells (DPE-1, DPE-1B, DPE-2, DPE-2B, DPE-3, DPE-5, DPE-6, DPE-7). Prior to collecting groundwater samples, depth-to-water (DTW) measurements were collected from all nineteen wells.

Groundwater samples were collected from groundwater monitoring and extraction/treatment wells in accordance with standard industry practices. Wells were purged of at least three casing volumes using a disposable bailer or a suction pump. During the purging of each well, field parameters (temperature, conductivity, pH, dissolved oxygen, and turbidity) were monitored and recorded on Groundwater Monitoring Data Sheets for the first semiannual 2012 are presented in Appendix A. Each well was purged until temperature, conductivity, and pH stabilized. Samples were collected using a disposable bailer, placed in laboratory-supplied containers, and properly preserved in an ice-cooled container. Chain-of-custody documentation accompanied the samples through collection and delivery to the analytical laboratory. Purge water was contained in a 55-gallon drum, which was left at the subject site pending disposal in accordance with groundwater analytical results. Groundwater samples were submitted to Curtis Tompkins Laboratory and analyzed for several constituents of concern (COCs) including TPHd and TPHmo by EPA Method 8015; and TPHg, BTEX, and fuel oxygenates methyl tert-butyl ether (MTBE), diisopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), tert-Amyl methyl ether (TAME), and t-

butyl alcohol (t-Butanol) by EPA Method 8260. Silica-gel cleanup applied during analysis of samples analyzed for TPHd and TPHmo. Samples were also analyzed for the chlorinated volatile organic compounds: 1,1-dichloroethene; trans-1,2-dichloroethene; cis-1,2-dichloroethene; 1,2-dichloroethane; trichloroethene; tetrachloroethene; and 1,2-dibromoethane during the first semiannual 2012 groundwater monitoring event.

### **Groundwater Elevations and Gradient**

DTW measurements were recorded on the Well Gauging Data Sheet for the first semiannual 2012 and are included in Appendix A. Historical groundwater elevation data for monitoring wells is presented in Table 1. Historical groundwater elevation data for DPE wells is presented in Table 2.

Groundwater elevations were calculated by subtracting the measured depth to water from the surveyed top of well casings elevations. Groundwater elevations for wells MW-8, GW-1, GW-2, and GW-3 were not used in developing groundwater contour maps because these wells were screened and constructed at deeper depths than monitoring wells MW-1 through MW-7. As a result, only groundwater elevations for wells MW-1 through MW-7 were used to calculate and construct groundwater contour maps and gradients. Groundwater elevations for wells DPE-1B and DPE-2B were not used in developing groundwater contour maps for DPE wells because these wells were screened and constructed at deeper depths than DPE wells DPE-1, DPE-2, DPE-3, DPE-5, DPE-6, and DPE-7. As a result, only groundwater elevations for wells DPE-1, DPE-2, DPE-3, DPE-5, DPE-6, and DPE-7 were used to calculate and construct DPE groundwater contour maps and gradients.

The April 2012 groundwater contour map for wells MW-1 through MW-7 is presented as Figures 3. The April 2012 groundwater contour map for DPE wells DPE-1, DPE-2, DPE-3, DPE-5, DPE-6, and DPE-7 is presented as Figures 4. The groundwater elevation contour map generated from groundwater elevations from wells MW-1 through MW-7 indicates that the direction of groundwater flow is to the west at an approximate gradient of 0.0105. The groundwater elevation contour map for DPE wells indicates that the direction of shallow groundwater flow is to the northwest at an approximate gradient of 0.0125.

## **Groundwater Sample Results**

Groundwater sample results for the first semiannual 2012 groundwater monitoring event summarized in Tables 3, 4, and 5. Certified laboratory analytical reports (CARs) are presented in Appendix B. A map showing the concentrations of TPHg and TPHd detected in groundwater well samples during the first semiannual 2012 is presented in Figure 5. The map showing the concentrations of TPHg, TPHd, TPHmo, benzene, and 1, 2-dichloroethane detected in groundwater samples collected from DPE wells during the first semiannual 2012 is presented in Figure 6.

During the first semiannual 2012 groundwater monitoring episode, constituents of concern were only detected in wells GW-1, DPE-1B, and DPE-3. COCs were not detected at or above method detection limits (MDLs) in groundwater samples collected from the remaining groundwater monitoring wells and DPE wells. The groundwater sample from well GW-1 was found to contain 88 $\mu$ g/L TPHg, 66 $\mu$ g/L TPHd, and 0.92 $\mu$ g/L benzene. The groundwater sample collected from well DPE-1B was found to contain 0.53 $\mu$ g/L of 1, 2-Dichloroethane. The groundwater sample from well DPE-3 was found to contain 640 $\mu$ g/L TPHg, 330 $\mu$ g/L TPHd, 17 $\mu$ g/L benzene, 8.9 $\mu$ g/L toluene, 29 $\mu$ g/L ethylbenzene, 98 $\mu$ g/L total xylenes, 3.4 $\mu$ g/L of 1,2-dichloroethane, and 1.1 $\mu$ g/L of 1,2-dibromomethane.

## **QUALITY CONTROL RESULTS**

Quality control (QC) sample results and laboratory QC data for soil and groundwater samples were evaluated to assess the acceptability of the analytical data. Laboratory QC results are included with the CARs presented in Appendix B. All laboratory analyses occurred within EPA recommended sample holding times and all sample containers were received in acceptable condition by the laboratory. Based on the laboratory QA/QC summaries, all method blanks, laboratory control samples (LCS), matrix spikes (MS), and matrix spike duplicates (MSD) were within laboratory control limits, with the following exceptions.

The detections of TPHd in samples collected from groundwater in wells GW-1 and DPE-3 exhibited chromatographic patterns which do not resemble the typical diesel standard.

## DISCUSSION OF RESULTS

The results of groundwater samples collected during the first semiannual 2012 were compared to RWQCB ESLs for a residential land-use where shallow groundwater is a source of drinking water. The RWQCB developed ESLs for commercial/industrial and residential land-use scenarios to provide a measure of whether additional investigation, remedial action, or a more detailed risk assessment should be pursued.

During this groundwater sampling event, only samples collected from wells DPE-1B and DPE-3 were found to contain constituents of concern above respective ESLs. No constituents of concern were detected above their respective ESLs in groundwater samples collected from wells MW-1 through MW-8, GW-1 through GW-3, or in samples collected from DPE wells DPE-1, DPE-2, DPE-2B, DPE-5, DPE-6, or DPE-7.

The groundwater sample collected from well DPE-1B contained 0.53 $\mu\text{g}/\text{L}$  of 1, 2-dichloroethane (1, 2-DCA) which is slightly above the 1, 2-DCA residential ESL of 0.50 $\mu\text{g}/\text{L}$ . The groundwater sample collected from well DPE-3 contained concentrations of TPHg, TPHd, benzene, total xylenes, 1,2-DCA, and dibromoethane that were above their respective residential ESLs. The groundwater sample collected from well DPE-3 was found to contain 640 $\mu\text{g}/\text{L}$  of TPHg (ESL of 100 $\mu\text{g}/\text{L}$ ), 330 $\mu\text{g}/\text{L}$  of TPHd (ESL of 100 $\mu\text{g}/\text{L}$ ), 17 $\mu\text{g}/\text{L}$  of benzene (ESL of 1 $\mu\text{g}/\text{L}$ ), 98 $\mu\text{g}/\text{L}$  of total xylenes (ESL 20 $\mu\text{g}/\text{L}$ ), 3.4 $\mu\text{g}/\text{L}$  of 1,2-dichloroethane (ESL of 0.5 $\mu\text{g}/\text{L}$ ), and 1.1 $\mu\text{g}/\text{L}$  of 1,2-dibromoethane (ESL of 0.05 $\mu\text{g}/\text{L}$ ).

Based on the comparison of site data with ESLs it appears the potential human health risks at the site includes exposure from direct-contact with petroleum-impacted soils (i.e., during construction activities) and intrusion and subsequent inhalation (indoor) of petroleum-related vapors from impacted soil and groundwater in and near wells DPE-1B and DPE-3.

## CONCLUSIONS

Based on the results of soil and groundwater results collected from the wells and confirmation exploratory borings, the following are IMPACTs conclusions regarding the subject property.

- During the first semiannual 2012, groundwater samples collected from wells DPE-1B and DPE-3 contained at least one COCs above respective residential ESLs.

- The groundwater elevation contour map generated from groundwater elevations measured at wells MW-1 through MW-7 during the first semiannual 2012 appears to indicate that the direction of shallow groundwater flow is to the west at an approximate gradient of 0.0105. The groundwater elevation contour map generated from groundwater elevations measured at select DPE wells (DPE-1, DPE-2, DPE-3, DPE-5, DPE-6, and DPE-7) appears to indicate that the direction of intermediate groundwater flow is to the west at an approximate gradient of 0.0125.
- Based on the comparison of site data with ESLs it appears the potential human health risks at the site include exposure from direct-contact with petroleum-impacted soils (i.e., during construction activities) and intrusion and subsequent inhalation (indoor) of petroleum-related vapors from impacted soil and groundwater in and near wells DPE-1B and DPE-3. Site closure verification samples will be reported in mid-August 2012.-

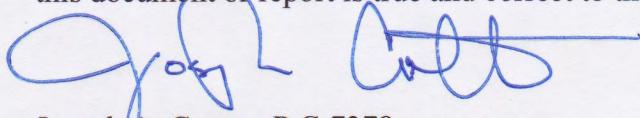
## RECOMMENDATIONS

IMPACT recommends continuing quarterly groundwater monitoring on wells MW-1 through MW-7 and GW-2 to evaluate temporal changes in groundwater quality and to monitor groundwater plume migration.

Based on the results of site closure verification soil and soil-vapor samples, Impact recommends that soil in the vicinity of GW-1 and DPE-3 be excavated and transported off-site to an appropriate landfill facility. Impact further recommends that wells in the proposed areas of excavation including wells MW-8, GW-1, GW-3, DPE-1, DPE-1B, DPE-2, and DPE-3 be decommissioned in accordance with California Well Standards. Following excavation backfill the wells should be replaced as needed and re-incorporated into the groundwater monitoring network..

## PERJURY STATEMENT

I declare, under penalty of perjury, that the information and/or recommendations contained in this document or report is true and correct to the best of my knowledge.



Joseph A. Cotton, P.G.7378  
Principal Environmental Geologist



Distribution:

- (1) Copies – Mrs. Shirley E. Thompson, 1155 Hopkins Way, Berkeley, CA  
(1) Copies – Mr. Steven Plunkett, Alameda County Environmental Health

Attachments:

Tables

Table 1 –Summary of Groundwater Elevations Measurements

Table 2 –Summary of Groundwater Analytical Results

Figures

Figure 1 -- Site Location Map

Figure 2 – Site Plan

Figure 3 – Groundwater Elevation Contour Map- Groundwater Monitoring Wells (April 2012)

Figure 4 – Groundwater Elevation Contour Map- DPE Wells (April 2012)

Figure 5 – Map of Constituents of Concern in Groundwater Monitoring Wells (April 2012)

Figure 6 – Map of Constituents of Concern in DPE Wells (April 2012)

Appendices

Appendix A – Well Sampling Data Sheets

Appendix B – Certified Laboratory Analytical Report

## LIMITATIONS

Impact Environmental's actions on this project were performed in accordance with current generally accepted environmental consulting principles and practices. This warranty is in lieu of all others, be it expressed or implied. Environmental conditions may exist at the site that could not be observed. Where the scope of services was limited to observations made during site reconnaissance, interviews, and/or review of readily available reports and literature, our conclusions and recommendations are necessarily based largely on information supplied by others, the accuracy and sufficiency of which may not have been independently reviewed by us. Our professional analyses are based in part on interpretation of data from discrete sampling locations that may not represent actual conditions between such sampling points. Additional data from future work or changing conditions may lead to modifications to our professional opinions and recommendations. Any reliance on this report, or portions thereof, by a third party shall be at such party's sole risk.

**Table 1**  
**Groundwater Elevations\_Groundwater Monitoring Wells**  
**First Semiannual 2012 Groundwater Monitoring Report**  
**1409-1417 12th Street**  
**Oakland, California**

Well No.	Top-of-Casing Elevation (feet, MSL) <sup>1</sup>	Date Measured	Floating Product Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (feet, MSL) <sup>1</sup>
MW-1	21.56	04/23/12	0.0	8.60	12.96
		11/29/11	0.0	9.21	12.35
		06/08/11	0.0	11.91	9.38
		12/30/10	0.0	9.48	11.81
		07/27/10	0.0	11.49	9.80
		11/06/09	0.0	11.79	9.50
		07/26/09	0.0	11.81	9.48
		04/29/09	0.0	10.00	11.29
		01/25/09	0.0	12.40	8.89
		10/25/08	0.0	12.68	8.61
MW-2	20.68	04/23/12	0.0	8.24	12.44
		11/29/11	0.0	8.39	12.29
		06/08/11	0.0	11.09	9.52
		12/30/10	0.0	8.53	12.08
		07/27/10	0.0	10.64	9.97
		11/06/09	0.0	11.01	9.60
		07/26/09	0.0	10.99	9.62
		04/29/09	0.0	9.51	11.10
		01/25/09	0.0	11.54	9.07
		10/25/08	0.0	11.90	8.71
MW-3	21.16	04/23/12	0.0	8.21	12.95
		11/29/11	0.0	8.87	12.29
		06/08/11	0.0	10.53	10.56
		12/30/10	0.0	8.97	12.12
		07/27/10	0.0	11.10	9.99
		11/06/09	0.0	11.44	9.65
		07/26/09	0.0	11.42	9.67
		04/29/09	0.0	9.70	11.39
		01/25/09	0.0	12.00	9.09
		10/25/08	0.0	12.36	8.73
MW-4	20.40	04/23/12	0.0	7.42	12.98
		11/29/11	0.0	8.08	12.32
		06/08/11	0.0	10.75	9.60
		12/30/10	0.0	8.07	12.28
		07/27/10	0.0	10.31	10.04
		11/06/09	0.0	10.69	9.66
		07/26/09	0.0	10.65	9.70
		04/29/09	0.0	8.88	11.47
		01/25/09	0.0	11.22	9.13
		10/25/08	0.0	11.55	8.80
MW-5	20.12	04/23/12	0.0	7.64	12.48
		11/29/11	0.0	7.90	12.22
		06/08/11	0.0	10.52	9.53
		12/30/10	0.0	8.04	12.01
		07/27/10	0.0	10.10	9.95
		11/06/09	0.0	10.41	9.64
		07/26/09	0.0	10.42	9.63
		04/29/09	0.0	9.00	11.05
		01/25/09	0.0	10.98	9.07
		10/25/08	0.0	11.37	8.68
		07/27/08	0.0	10.68	9.37
		04/30/08	0.0	9.10	10.95

**Table 1**  
**Groundwater Elevations\_Groundwater Monitoring Wells**  
**First Semiannual 2012 Groundwater Monitoring Report**  
**1409-1417 12th Street**  
**Oakland, California**

Well No.	Top-of-Casing Elevation (feet, MSL) <sup>1</sup>	Date Measured	Floating Product Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (feet, MSL) <sup>1</sup>
MW-6	20.12	04/23/12	0.0	7.14	12.98
		11/29/11	0.0	7.90	12.22
	19.67	06/08/11	0.0	10.09	9.58
		12/30/10	0.0	7.57	12.10
		07/27/10	0.0	9.73	9.94
		11/06/09	0.0	10.02	9.65
		07/26/09	0.0	10.03	9.64
		04/29/09	0.0	8.25	11.42
		01/25/09	0.0	10.58	9.09
		10/25/08	0.0	10.92	8.75
		07/27/08	0.0	10.25	9.42
		04/30/08	0.0	8.60	11.07
MW-7	19.95	04/23/12	0.0	7.06	12.89
		11/29/11	0.0	7.72	12.23
	19.88	06/08/11	0.0	10.33	9.55
		12/30/10	0.0	7.97	11.91
		07/27/10	0.0	9.89	9.99
		11/06/09	0.0	10.23	9.65
		07/26/09	0.0	10.21	9.67
		04/29/09	0.0	8.45	11.43
		01/25/09	0.0	10.79	9.09
		10/25/08	0.0	11.11	8.77
		07/27/08	0.0	10.41	9.47
		04/30/08	0.0	8.96	10.92
MW-8	20.93	04/23/12	0.0	8.10	12.83
		11/29/11	0.0	8.70	12.23
	20.71	06/08/11	0.0	11.32	9.39
		12/30/10	0.0	8.75	11.96
		07/27/10	0.0	10.93	9.78
		11/06/09	NM	NM	NM
		07/26/09	0.0	11.07	9.64
		04/29/09	0.0	10.68	10.03
		01/25/09	0.0	11.63	9.08
		10/25/08	0.0	12.00	8.71
		07/27/08	0.0	11.29	9.42
		04/30/08	0.0	9.82	10.89
GW-1	20.29	04/23/12	0.0	7.43	12.86
		11/29/11	0.0	8.07	12.22
	20.23	06/08/11	0.0	10.68	9.55
		12/30/10	0.0	8.12	12.11
		07/27/10	0.0	10.26	9.97
		11/06/09	NM	NM	NM
		07/26/09	0.0	10.59	9.64
		04/29/09	0.0	8.86	11.37
		01/25/09	0.0	11.15	9.08
		10/25/08	0.0	11.51	8.72
		07/27/08	0.0	10.81	9.42
		04/30/08	0.0	9.34	10.89

**Table 1**  
**Groundwater Elevations\_Groundwater Monitoring Wells**  
**First Semiannual 2012 Groundwater Monitoring Report**  
**1409-1417 12th Street**  
**Oakland, California**

Well No.	Top-of-Casing Elevation (feet, MSL) <sup>1</sup>	Date Measured	Floating Product Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (feet, MSL) <sup>1</sup>
GW-2	20.29	04/23/12	0.0	7.80	12.49
		11/29/11	0.0	8.35	11.94
	20.57	06/08/11	0.0	11.03	9.54
		12/30/10	0.0	8.48	12.09
		07/27/10	0.0	10.61	9.96
		11/06/09	0.0	10.93	9.64
		07/26/09	0.0	11.21	9.36
		04/29/09	0.0	8.80	11.77
		01/25/09	0.0	11.50	9.07
		10/25/08	0.0	11.82	8.75
		07/27/08	0.0	11.16	9.41
		04/30/08	0.0	9.70	10.87
GW-3	20.28	04/23/12	0.0	7.35	12.93
		11/29/11	0.0	8.06	12.22
	20.57	06/08/11	0.0	10.67	9.90
		12/30/10	0.0	7.67	12.90
		07/27/10	0.0	10.24	10.33
		11/06/09	0.0	10.64	9.93
		07/26/09	0.0	10.89	9.68
		04/29/09	0.0	9.16	11.41
		01/25/09	0.0	11.49	9.08
		10/25/08	0.0	11.92	8.65
		07/27/08	0.0	11.12	9.45
		04/30/08	0.0	9.60	10.97

MSL= Mean Sea Level

NM= Not measured or gauged

**Table 2**  
**Groundwater Elevations\_Dual-Phase Vacuum Extraction Wells**  
**First Semiannual 2012 Groundwater Monitoring Report**  
**1409-1417 12th Street**  
**Oakland, California**

Well No.	Top-of-Casing Elevation (feet, MSL) <sup>1</sup>	Date Measured	Floating Product Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (feet, MSL) <sup>1</sup>
DPE-1	19.54	04/23/12	0.0	7.14	12.40
		11/29/11	0.0	9.92	9.62
	19.52	06/08/11	0.0	7.34	12.18
		10/11/10	0.0	10.44	9.08
DPE-1B	19.88	04/23/12	0.0	7.03	12.85
		11/29/11	0.0	10.25	9.63
	19.85	06/08/11	0.0	7.65	12.20
		10/11/10	0.0	10.75	9.10
DPE-2	19.52	04/23/12	0.0	6.67	12.85
		11/29/11	0.0	9.93	9.59
	19.51	06/08/11	0.0	7.31	12.20
		10/11/10	0.0	10.41	9.10
DPE-2B	20.03	04/23/12	0.0	7.62	12.41
		11/29/11	0.0	10.40	9.63
	20.00	06/08/11	0.0	7.78	12.22
		10/11/10	0.0	10.88	9.12
DPE-3	19.43	04/23/12	0.0	6.61	12.82
		11/29/11	0.0	9.80	9.63
	19.40	06/08/11	0.0	7.20	12.20
		10/11/10	0.0	10.28	9.12
DPE-5	20.05	04/23/12	0.0	7.17	12.88
		11/29/11	0.0	10.45	9.60
	20.02	06/08/11	0.0	7.83	12.19
		10/11/10	0.0	10.92	9.10
DPE-6	19.53	04/23/12	0.0	6.65	12.88
		11/29/11	0.0	9.90	9.63
	19.54	06/08/11	0.0	7.31	12.23
		10/11/10	0.0	10.42	9.12
DPE-7	19.79	04/23/12	0.0	6.68	13.11
		11/29/11	0.0	10.40	9.39
	19.76	06/08/11	0.0	7.55	12.21
		10/11/10	0.0	10.62	9.14

Notes: MSL=Mean Sea Level

Re-surveyed DPE, MW, and GW Wells on 4-12-2012 applied to November 29, 2011 gauged measurements

**Table 3**  
**Groundwater Monitoring Well Analytical Results**  
**First Semiannual 2012 Groundwater Monitoring Report**  
**1409-1417 12th Street,**  
**Oakland, California**

Sample ID	Date Sampled	TPHg (ug/L)	TPHd (ug/L)	TPHmo (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MTBE (ug/L)	TBA (ug/L)	ETBE (ug/L)	DIPE (ug/L)	TAME (ug/L)
MW-1	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/02/11	<50	<100	<210	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	76 Y	<300	<0.5	<0.5	<0.5	<0.5/0.5	<0.5	<10	<0.5	<0.5	<0.5
	12/30/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	07/28/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	NA	NA	NA	NA
	11/06/09	<55	<100	<200	<0.55	<0.55	<0.55	<1.6	<0.55	<5.5	<0.55	<0.55	<0.55
	07/26/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	04/28/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	01/24/09	<50	<100	<200	<0.500	<0.500	<0.500	<1.5	<0.500	<10.0	<0.500	<0.500	<0.500
	10/25/08	95x	<100	<200	1.68	1.17	<0.500	<1.50	<0.500	<10.0	<0.500	<0.500	<0.500
	07/27/08	<64	<100	<200	<0.645	<0.645	<0.645	<1.94	<0.645	<12.9	<0.645	<0.645	<0.645
	04/30/08	54x	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	NA	NA
MW-2	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	<50	<300	<0.5	<0.5	<0.5	<0.5/0.5	<0.5	<10	<0.5	<0.5	<0.5
	12/30/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	7/27/010	<50	<120	<240	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	NA	NA	NA	NA
	11/06/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<0.50	<0.50	<0.50
	07/26/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	04/28/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	01/24/09	<50	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.500	<0.500
	10/25/08	71x	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.500	<0.500
	07/27/08	<50	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.0500	<0.500
	04/30/08	<50	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	NA	NA
MW-3	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/02/11	<50	<100	<210	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	<50	<300	<0.5	<0.5	<0.5	<0.5/0.5	<0.5	<10	<0.5	<0.5	<0.5
	12/30/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	07/27/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	NA	NA	NA	NA
	11/06/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<0.50	<0.50	<0.50
	07/26/09	<50	<120	<230	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	04/28/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	01/24/09	<50	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.500	<0.500
	10/25/08	<50	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.500	<0.500
	07/27/08	<58	<100	<200	<0.580	<0.580	<0.580	<1.74	<0.580	<11.6	<0.580	<0.580	<0.580
	04/30/08	<50	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	NA	NA
<i>Residential ESL (DWS)</i>		100	100	100	1	40	30	20	5	12	na	na	na
<i>Residential ESL (NDWS)</i>		500	640	640	46	130	290	100	1,800	18,000	na	na	na

**Table 3**  
**Groundwater Monitoring Well Analytical Results**  
**First Semiannual 2012 Groundwater Monitoring Report**  
**1409-1417 12th Street,**  
**Oakland, California**

Sample ID	Date Sampled	TPHg (ug/L)	TPHd (ug/L)	TPHmo (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MtBE (ug/L)	TBA (ug/L)	ETBE (ug/L)	DIPE (ug/L)	TAME (ug/L)
MW-4	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/02/11	<50	<100	<210	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	<50	<300	<0.5	<0.5	<0.5	<0.5/0.5	<0.5	<10	<0.5	<0.5	<0.5
	12/30/10	<50	<150	<250	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	07/27/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	NA	NA	NA	NA
	11/06/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<0.50	<0.50	<0.50
	07/26/09	<50	<110	<220	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	04/28/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	01/24/09	<50	<100	<200	<0.500	<0.500	<0.500	<1.5	<0.500	<10	<0.500	<0.500	<0.500
	10/25/08	61x	<100	<200	<0.500	<0.500	<0.500	<1.5	<0.500	<10	<0.500	<0.500	<0.500
	07/27/08	<50	<100	<200	<0.500	<0.500	<0.500	<1.5	<0.500	<10	<0.500	<0.0500	<0.500
	04/30/08	<58	<100	<200	<0.610	<0.610	<0.610	<1.83	<0.610	NA	NA	NA	NA
MW-5	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	<50	<300	<0.5	<0.5	<0.5	<0.5/0.5	<0.5	<10	<0.5	<0.5	<0.5
	12/30/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	07/27/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	NA	NA	NA	NA
	11/06/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<0.50	<0.50	<0.50
	07/26/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	04/28/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	01/24/09	<50	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.500	<0.500
	10/25/08	71x	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.500	<0.500
	07/27/08	<50	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.0500	<0.500
	04/30/08	<58	<100	<200	<0.580	<0.580	<0.580	<1.50	<0.580	NA	NA	NA	NA
MW-6	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/02/11	<50	<110	<220	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	<50	<300	<0.5	<0.5	<0.5	<0.5/0.5		<10	<0.5	<0.5	<0.5
	12/30/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	07/28/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	NA	NA	NA	NA
	11/06/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<0.50	<0.50	<0.50
	07/26/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	04/28/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	01/24/09	<50	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.500	<0.500
	10/25/08	72x	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.500	<0.500
	07/27/08	<50	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.0500	<0.500
	04/30/08	53x	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	NA	NA
<i>Residential ESL (DWS)</i>		100	100	100	1	40	30	20	5	12	na	na	na
<i>Residential ESL (NDWS)</i>		500	640	640	46	130	290	100	1,800	18,000	na	na	na

**Table 3**  
**Groundwater Monitoring Well Analytical Results**  
**First Semiannual 2012 Groundwater Monitoring Report**  
**1409-1417 12th Street,**  
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Sample ID	Date Sampled	TPHg (ug/L)	TPHd (ug/L)	TPHmo (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MtBE (ug/L)	TBA (ug/L)	ETBE (ug/L)	DIPE (ug/L)	TAME (ug/L)
MW-7	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	<50	<100	<200	<0.5	<0.5	<0.5	<1.0/0.50	<0.5	<10	<0.5	<0.5	<0.5
	06/08/11	<50	<50	<300	<0.5	<0.5	<0.5	<0.5/0.5	<0.5	<10	<0.5	<0.5	<0.5
	12/30/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	07/28/10	<50	<120	<230	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	NA	NA	NA	NA
	11/06/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10.0	<0.50	<0.50	<0.50
	07/26/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	04/28/09	<50	<100	<b>293x</b>	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	01/24/09	<50	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.500	<0.500
	10/25/08	71x	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.500	<0.500
	07/27/08	<50	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.0500	<0.500
	04/30/08	<50	<100	<200	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	NA	NA
MW-8	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	71Y	<300	<0.5	<0.5	<0.5	<0.5/0.5	<0.5	<10	<0.5	<0.5	<0.5
	12/30/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	10/12/10	79x	<100	<200	<0.50	1.0	1.6	<2.5/<2.2	<0.50	NA	NA	NA	<0.50
	07/28/10	<50	<110	<230	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	NA	NA	NA	NA
	11/12/09	<b>220x</b>	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10.0	<0.50	<0.50	<0.50
	07/26/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	04/28/09	<b>110</b>	<b>156x</b>	<b>909x</b>	<b>1.4</b>	0.81	2.4	6.1	<0.50	<10	<0.50	<0.50	<0.50
	01/24/09	<b>190x</b>	<100	<200	<b>2.10</b>	1.47	4.94	11.8	<0.500	<10.0	<0.500	<0.500	<0.500
	10/25/08	<b>240x</b>	<100	<200	<b>1.41</b>	<0.500	<0.500	3.13	<0.500	<10.0	<0.500	<0.500	<0.500
	07/27/08	<b>198x</b>	<100	<200	<b>5.37</b>	1.25	3.77	13.3	<0.500	<10.0	<0.500	<0.0500	<0.500
	04/30/08	<b>1049x</b>	<b>161x</b>	<200	<b>13.9</b>	12.4	9.76	160	<0.500	NA	NA	NA	NA
GW-1	04/23/12	88	66Y	<300	0.92	<0.50	0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	66	<110	<220	0.52	<0.50	0.85	1.4/3.1	<0.50	11	<0.50	<0.50	<0.50
	06/08/11	<b>230</b>	<b>210Y</b>	<300	<b>1.8</b>	0.6	4.5	11/8.2	<0.5	<10	<0.5	<0.5	<0.5
	12/30/10	<50	100	<200	<0.50	<0.50	<0.50	<1.0/0.93	<0.50	<5.0	<0.50	<0.50	<0.50
	10/12/10	<b>120x</b>	<100	<200	0.71	0.70	1.3	2.1/1.9	<0.50	NA	NA	NA	NA
	07/28/10	89x	<100	<200	0.65	<0.50	<0.50	1.0/1.3	<0.50	NA	NA	NA	NA
	11/12/09	<b>120x</b>	<b>138x</b>	<200	<b>3.9</b>	<0.50	2.1	12	<0.50	<10.0	<0.50	<0.50	<0.50
	07/26/09	<b>5,700</b>	<b>540x</b>	<200	<b>1,100</b>	<b>54</b>	<b>120</b>	<b>100</b>	<0.50	<10	<0.50	<0.50	<0.50
	04/28/09	<b>22,000</b>	<b>3,010x</b>	<800	<b>3,000</b>	<b>580</b>	<b>830</b>	<b>2,100</b>	<22	<440	<22	<22	<22
	01/24/09	<b>9,900</b>	<b>767x</b>	<200	<b>1,600</b>	<b>174</b>	<b>315</b>	<b>915</b>	<4.40	<88.0	<4.40	<4.40	<4.40
	10/25/08	<b>7200x</b>	<b>1020x</b>	<b>296x</b>	<b>1,010</b>	<b>161</b>	<b>89.8</b>	<b>693</b>	<2.20	<44.0	<2.20	<2.20	<2.20
	07/27/08	<b>18,000</b>	<b>1060x</b>	<200	<b>3,360</b>	<b>146</b>	<b>533</b>	<b>1,450</b>	<22.0	<440	<22.0	<22.0	<22.0
	04/30/08	<b>37,000</b>	7.25x	<2000	<b>2,400</b>	<b>769</b>	<b>378</b>	<b>3,450</b>	<22.0	NA	NA	NA	NA
<i>Residential ESL (DWS)</i>		100	100	100	1	40	30	20	5	12	na	na	na
<i>Residential ESL (NDWS)</i>		500	640	640	46	130	290	100	1,800	18,000	na	na	na

**Table 3**  
**Groundwater Monitoring Well Analytical Results**  
**First Semiannual 2012 Groundwater Monitoring Report**  
**1409-1417 12th Street,**  
**Oakland, California**

Sample ID	Date Sampled	TPHg (ug/L)	TPHd (ug/L)	TPHmo (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MtBE (ug/L)	TBA (ug/L)	ETBE (ug/L)	DIPE (ug/L)	TAME (ug/L)
GW-2	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	<50	<300	<0.5	<0.5	<0.5	<0.5/0.5	<0.5	<10	<0.5	<0.5	<0.5
	12/30/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	07/28/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	NA	NA	NA	NA
	11/06/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10.0	<0.50	<0.50	<0.50
	07/26/09	<b>550</b>	<110	<230	<b>25</b>	9.5	12	<b>79</b>	<0.50	<10	<0.50	<0.50	<0.50
	04/28/09	82	<b>&lt;100</b>	<b>205x</b>	<b>1.7</b>	1.1	1.2	4.5	<0.50	<10	<0.50	<0.50	<0.50
	01/24/09	<50	<100	<200	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	<0.500	<0.0500	<0.500
	10/25/08	<b>100x</b>	<b>126x</b>	<b>338x</b>	<0.500	<0.500	<0.500	<1.5	<0.500	<10.0	<0.500	<0.500	<0.500
	07/27/08	61x	<100	<200	<0.500	<0.500	<0.500	<1.5	<0.500	15.3	<0.500	<0.500	<0.500
	04/30/08	<74x	<100	<200	<0.500	<0.500	<0.500	<0.500	<0.500	NA	NA	NA	NA
GW-3	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	<50	<100	<200	0.59	0.62	<0.50	1.1/0.87	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	<b>120Y</b>	<b>340</b>	<b>10</b>	<0.5	2.5	2.2/0.7	<0.5	<10	<0.5	<0.5	<0.5
	12/30/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	<5.0	<0.50	<0.50	<0.50
	10/12/10	<b>180x</b>	<100	<200	<b>4.1</b>	6.0	7.1	11/9.7	<0.50	NA	NA	NA	NA
	07/28/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	NA	NA	NA	NA
	11/12/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	0.72	<10.0	<0.50	<0.50	<0.50
	07/26/09	<50	<100	<200	<0.50	<0.50	<0.50	<1.5	<0.50	<10	<0.50	<0.50	<0.50
	04/28/09	<b>500x</b>	<100	<b>206x</b>	<b>63</b>	0.63	<0.50	2.9	<0.50	<10	<0.50	<0.50	<0.50
	01/24/09	<50	<100	<200	0.740	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.0500	<0.500
	10/25/08	<b>100x</b>	<100	<200	<b>8.47</b>	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.500	<0.500
	07/27/08	63x	<100	200	<b>3.27</b>	<0.500	<0.500	<1.50	<0.500	<10.0	<0.500	<0.500	<0.500
	04/30/08	<b>250</b>	<100	<200	<b>46.5</b>	1.36	2.16	6.27	<0.500	NA	NA	NA	NA
<i>Residential ESL (DWS)</i>		100	100	100	1	40	30	20	5	12	na	na	na
<i>Residential ESL (NDWS)</i>		500	640	640	46	130	290	100	1,800	18,000	na	na	na

Abbreviations and Methods:

NA = Not analyzed for particular constituent of concern

na = Not applicable

x = Chromatogram does not resemble typical pattern for specific TPH compound or other non-targeted hydrocarbons causing potentially biasing data

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8260

TPHd= Total Petroleum Hydrocarbons as diesel by EPA Method 8015

TPHmo= Total Petroleum Hydrocarbons as motor oil by EPA Method 8015

DIPE= Diisopropyl Ether

ETBE= Ethyl tert-butyl ether

MTBE = methyl-tert-butyl ether (MTBE)

t-Butanol= tert-Butyl Alcohol (TBA)

TAME= tert-Amyl methyl ether

Xylenes are separated into o-xylene and m,p-xylene and reported as m,p-xylene/o-xylene

Benzene, , toluene, ethylbenzene, xylenes, MTBE, DIPE, ETBE, TAME, and t-Butanol by EPA Method 8260

ESL= San Francisco Bay Regional Water Quality Control Board, Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater, March 2009.

DWS- Groundwater beneath site is a drinking water source NDWS- Groundwater beneath site is not a drinking water source

**Table 4**  
**First Semiannual 2012**  
**DPE Well Groundwater Analytical Results**  
**1409-1417 12th Street Oakland, California**

Sample ID	Date Sampled	TPHg (ug/L)	TPHd (ug/L)	TPHmo (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MTBE (ug/L)	TBA (ug/L)	ETBE (ug/L)	DIPE (ug/L)	TAME (ug/L)
DPE-1	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	<50	<100	<200	<0.50	<0.50	<0.50	<0.50/1.0	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	<50	<300	<0.5	<0.5	<0.5	<0.50/0.50	<0.5	<10	<0.5	<0.5	<0.5
	10/11/10	50	<100	<200	<0.50	<0.50	0.84	1.3/1.3	<0.50	NA	NA	NA	NA
DPE-1B	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	<50	<100	<200	<0.50	<0.50	<0.50	<0.50/1.0	<0.50	<5.0	<0.50	<0.50	<0.50
	06/09/11	<50	<50	<300	<0.5	<0.5	<0.5	<0.50/0.50	<0.5	<10	<0.5	<0.5	<0.5
	10/12/10	98x	<100	<200	<0.50	1.1	1.8	3.0/2.4	<0.5	NA	NA	NA	NA
DPE-2	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.5	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	<50	<110	<220	<0.50	<0.50	<0.50	0.50/1.0	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	<50	<300	<0.5	<0.5	<0.5	<0.50/0.50	<0.5	<10	<0.5	<0.5	<0.5
	10/11/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	NA	NA	NA	NA
DPE-2B	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	0.50/1.0	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	<50	<100	<210	<0.50	<0.50	<0.50	0.50/1.0	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	110Y	<300	<0.5	<0.5	<0.5	<0.50/0.50	<0.5	<10	<0.5	<0.5	<0.5
	10/12/10	100x	<100	<200	6.8	1.4	2.2	3.4/2.8	<0.50	NA	NA	NA	NA
DPE-3	04/23/12	640	330Y	<300	17	8.9	29	60/38	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	66	<100	<210	7.7	3.2	1.8	7.5/9.8	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	1,100	280Y	<300	53	62	42	75/60	<0.5	<10	<0.5	<0.5	<0.5
	10/12/10	1600x	170x	<200	93	21	63	55/54	<0.50	NA	NA	NA	NA
DPE-5	04/23/12	<50	<50	<300	0.62	<0.50	<0.50	1.7/0.67	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	<50	<100	<210	<0.50	<0.50	<0.50	<0.50/1.0	<0.5	<5.0	<0.50	<0.50	<0.50
	06/08/11	52	<50	<300	1.6	<0.5	<0.5	5.0/3.9	<0.5	<10	<0.5	<0.5	<0.5
	10/11/10	87	<100	<200	7.5	0.78	2.9	2.0/1.4	<0.50	NA	NA	NA	NA
DPE-6	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	<50	<100	<210	<0.50	<0.50	<0.50	0.50/1.0	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	100Y	<300	<0.5	<0.5	<0.5	<0.50/0.50	<0.5	<10	<0.5	<0.5	<0.5
	10/11/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	NA	NA	NA	NA
DPE-7	04/23/12	<50	<50	<300	<0.50	<0.50	<0.50	<0.50/0.50	<0.50	<10	<0.50	<0.50	<0.50
	12/01/11	<50	<100	<200	<0.50	<0.50	<0.50	0.50/1.0	<0.50	<5.0	<0.50	<0.50	<0.50
	06/08/11	<50	130Y	<300	<0.5	<0.5	<0.5	<0.50/0.50	<0.5	<10	<0.5	<0.5	<0.5
	10/11/10	<50	<100	<200	<0.50	<0.50	<0.50	<1.0/0.50	<0.50	NA	NA	NA	NA
<i>Residential ESL (DWS)</i>		100	100	100	1	40	30	20	5	12	NA	NA	NA
<i>Residential ESL (NDWS)</i>		500	640	640	46	130	290	100	1,800	18,000	NA	NA	NA

**Abbreviations and Methods:**

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8260

TPHd= Total Petroleum Hydrocarbons as diesel by EPA Method 8015

TPHmo= Total Petroleum Hydrocarbons as motor oil by EPA Method 8015

Benzene, methyl-tert-butyl ether, toluene (MTBE), ethylbenzene, and xylenes by EPA Method 8260

Xylenes are separated into m,p-xylene and o-xylene and reported as m,p-xylene/o-xylene

ug/L= Micrograms per liter, equivalent to parts per billion (ppb)

ESL= San Francisco Bay Regional Water Quality Control Board, Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater, March 2009.

DWS- Groundwater beneath site is a drinking water source

NDWS- Groundwater beneath site is not a drinking water source

**Table 5**  
**First Semiannual 2012 Groundwater Analytical Results**  
**Select Chlorinated Volatile Organic Compounds**  
**1409-1417 12th Street,**  
**Oakland, California**

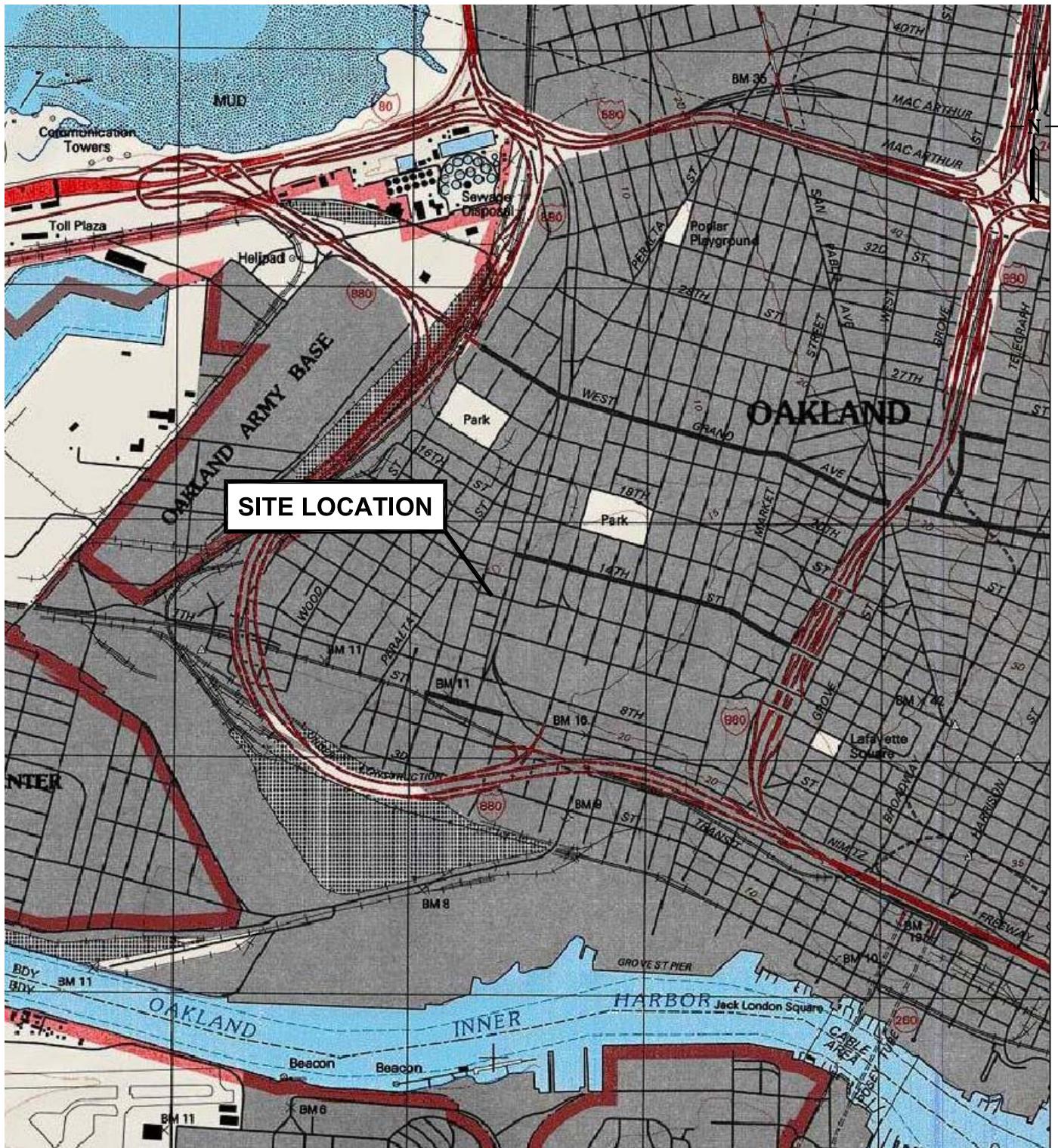
Sample ID	Sample Date	1,1-Dichloroethene (ug/L)	trans -1, 2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	1,2-Dichloroethane (ug/L)	Trichloroethene (ug/L)	Tetrachloroethene (ug/L)	1,2-Dibromoethane (ug/L)
MW-1	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-2	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-3	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-5	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-6	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-8	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
GW-1	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
GW-2	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
GW-3	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DPE-1	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DPE-1B	4/23/2012	<0.50	<0.50	<0.50	<b>0.53</b>	<0.50	<0.50	<0.50
DPE-2	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DPE-2B	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DPE-3	4/23/2012	<0.50	<0.50	<0.50	<b>3.4</b>	<0.50	<0.50	<b>1.1</b>
DPE-5	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DPE-6	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DPE-7	4/23/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
<i>Residential ESL (DWS)</i>		6.0	10	6	0.5	100	30	0.05
<i>Residential ESL (NDWS)</i>		25	590	590	200	640	290	150

*Notes and abbreviations:*

ug/kg - micrograms per liter

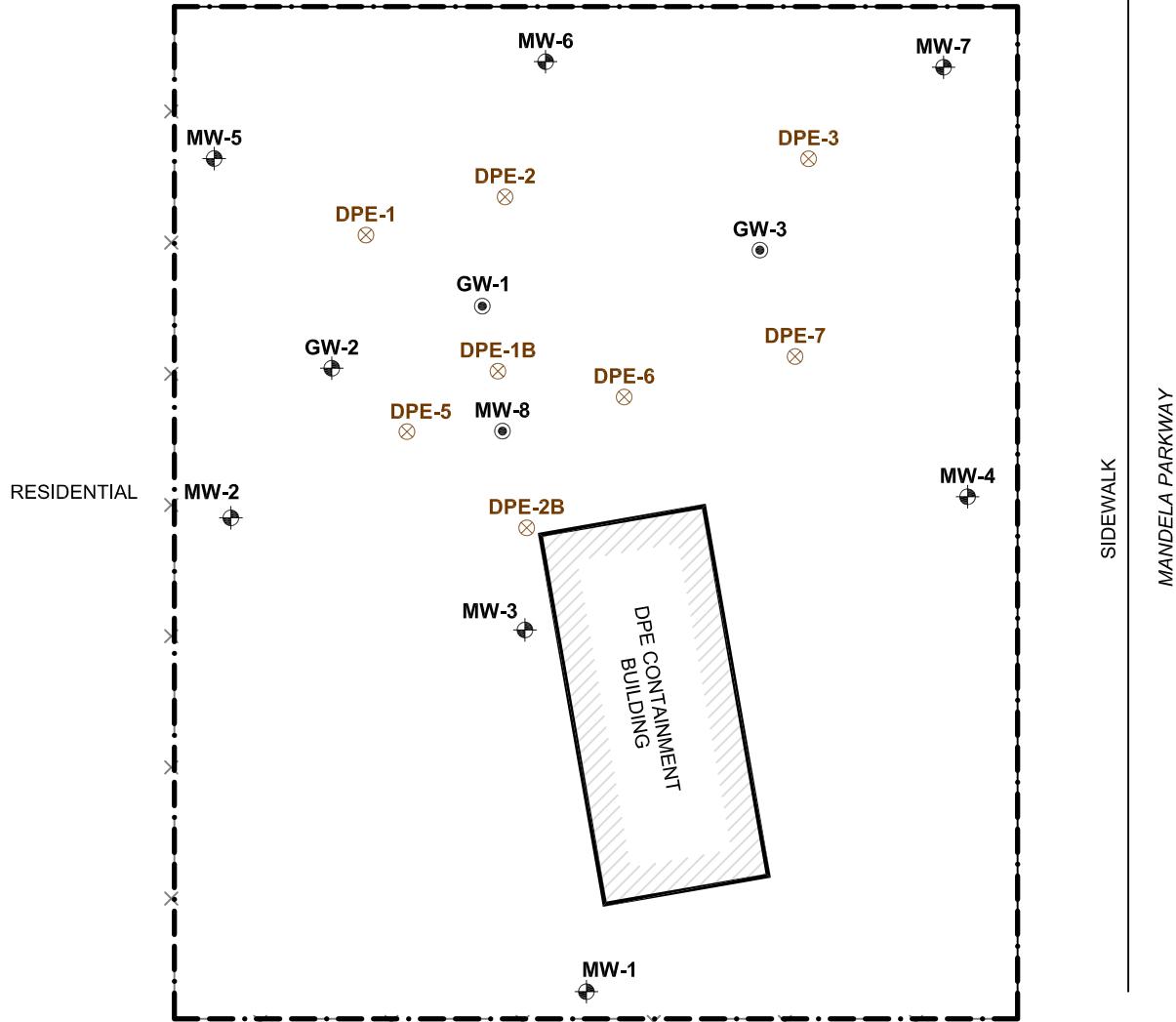
< - not detected at the method detection limit shown.

ESL= San Francisco Bay Regional Water Quality Control Board, Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater, March 2009.



12TH STREET

SIDEWALK



EXPLANATION:

— · — Approximate Property Boundary

MW-1 ● Monitoring Well Location

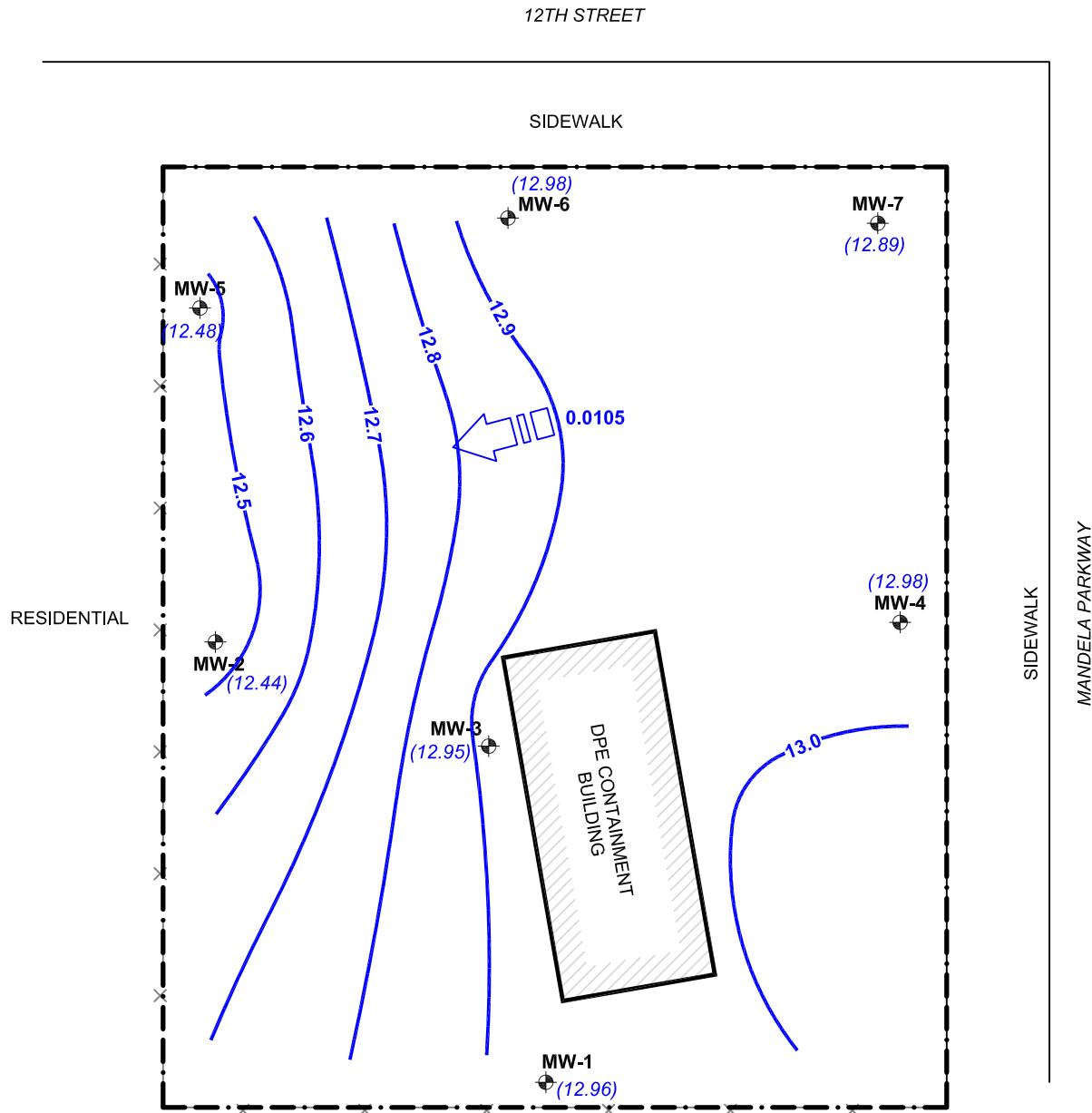
GW-3 ● DPE/Monitoring Well Location (Dual-Use Well)

DPE-1 ⊗ DPE Well Location



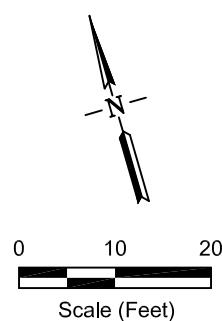
0 10 20

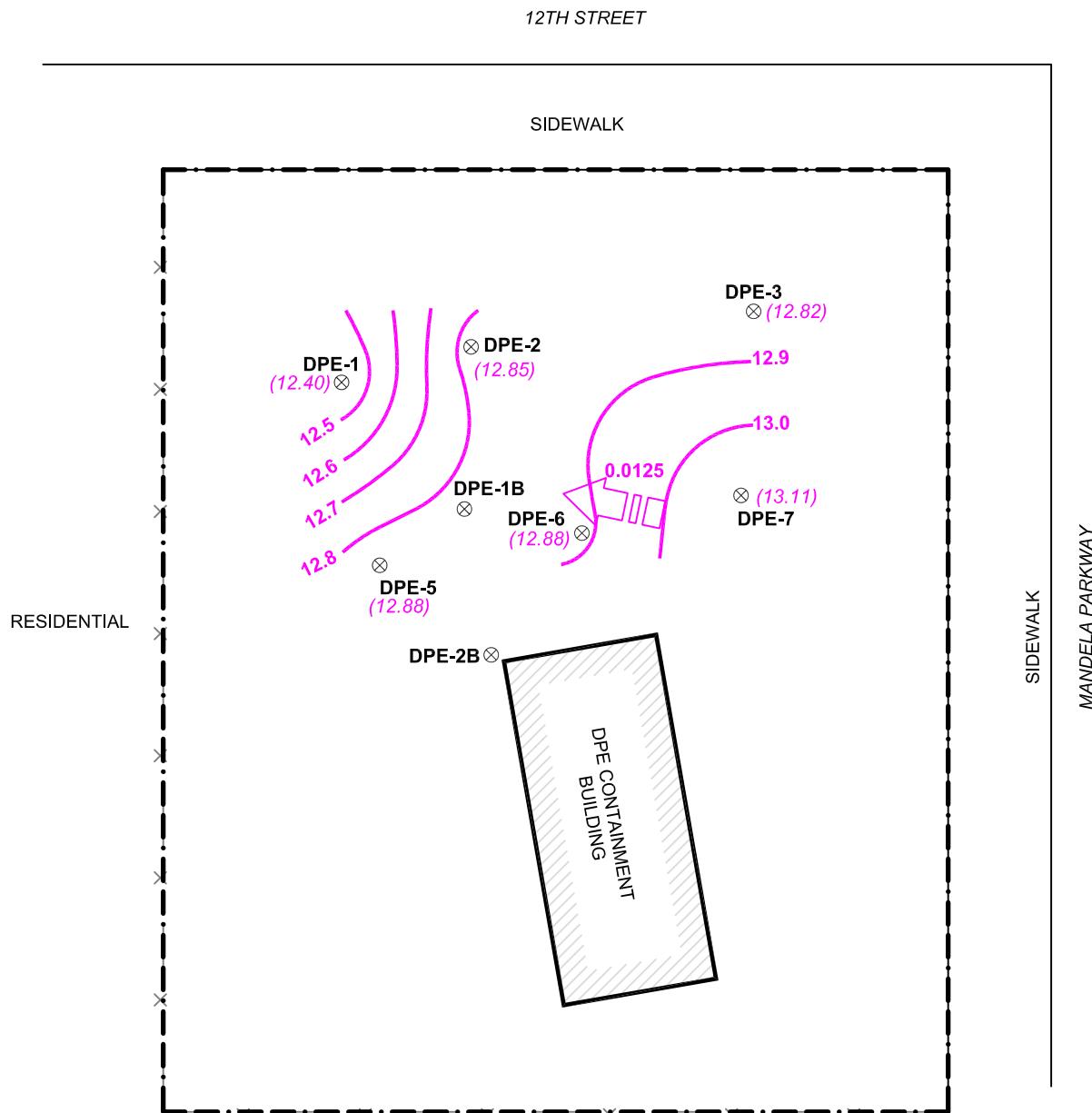
Scale (Feet)



EXPLANATION:

- · — Approximate Property Boundary
- MW-1 • Monitoring Well Location
- (12.95) Groundwater Elevation (ft.-MSL)
- 10.2 — Groundwater Elevation Contour at Groundwater Monitoring Wells



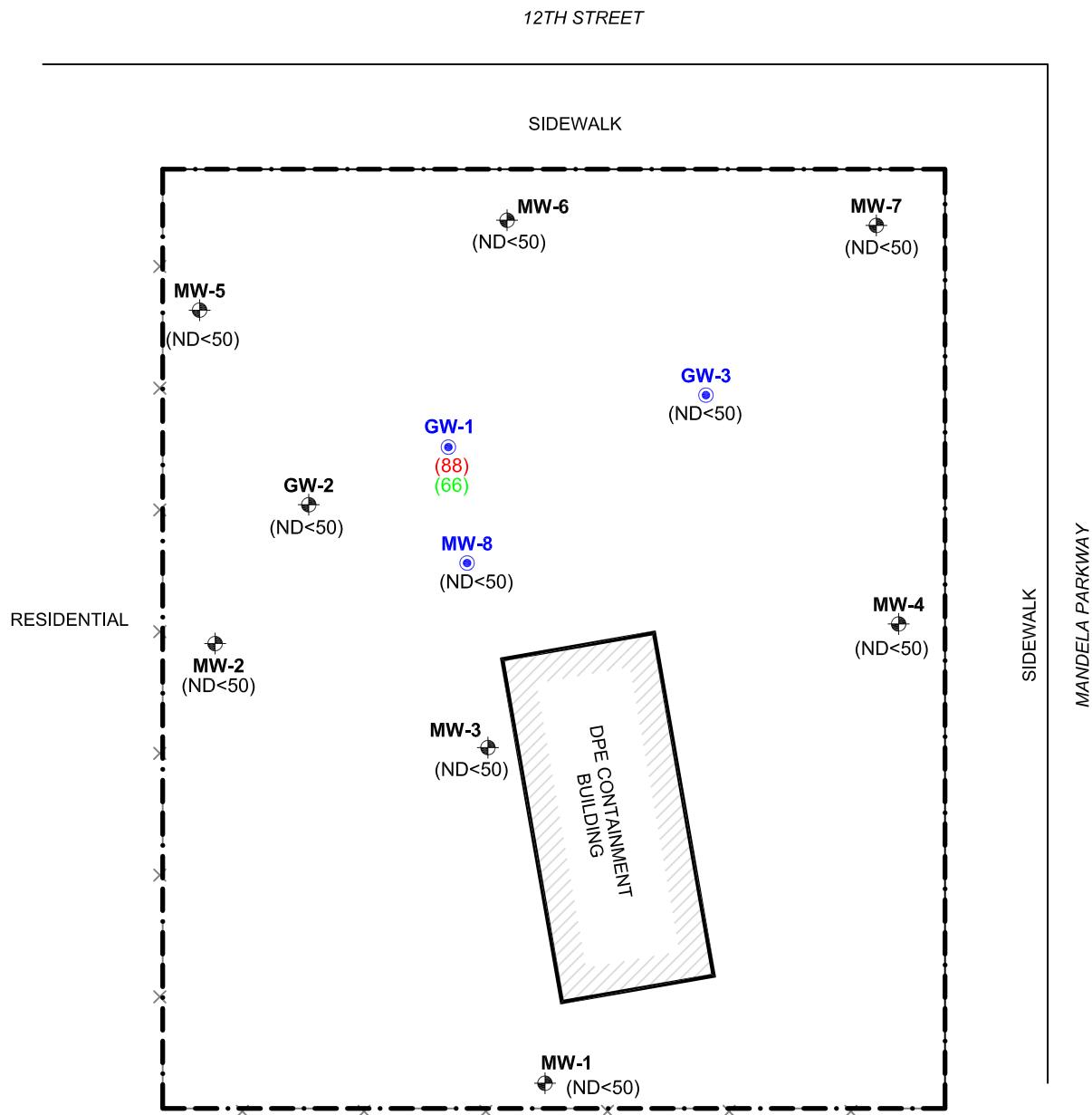


#### EXPLANATION:

- · — Approximate Property Boundary
- DPE-1 ⊗ DPE Well Location
- (12.88) Groundwater Elevation at DPE Wells
- 12.8 — Groundwater Elevation Contour at DPE Wells

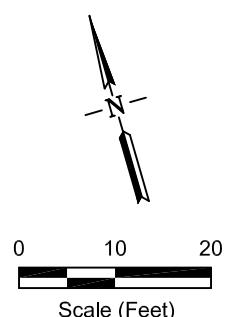
0 10 20  
Scale (Feet)

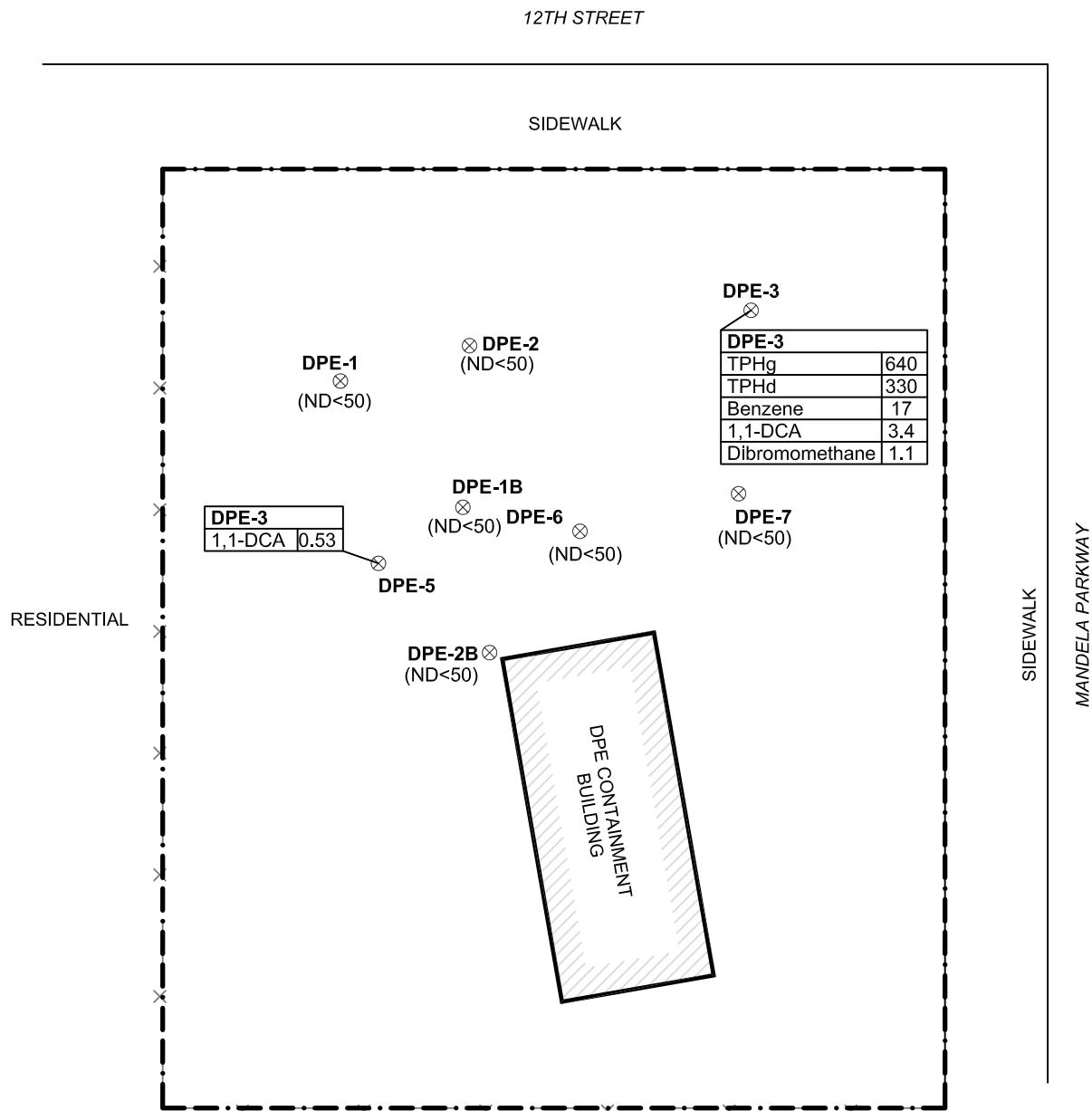




#### EXPLANATION:

- · — Approximate Property Boundary
- MW-1 • Monitoring Well Location
- GW-3 • DPE/Monitoring Well Location (Dual-Use Well)
- (88) TPHg Results in Micrograms Per Liter (ug/L)
- (66) TPHd Results in Micrograms Per Liter (ug/L)
- (ND<50) TPHg, TPHd, TPHmo, BTEX and Fuel Oxygenates All Non-Detect





#### EXPLANATION:

— · — Approximate Property Boundary

DPE-1 ⊗ Monitoring Well Location

640 Analytical Results in Micrograms Per Liter (ug/L)

(ND<50) TPHg, TPHd, TPHmo, BTEX, and Fuel Oxygenates All Non-Detect



## **APPENDIX A**

**Well Gauging Data Sheets & Well Sampling Data Sheets**  
**(April 2012)**

# WELL GAUGING DATA

Project # 120423-MM1

Date 4/23/12

Client Impact Environmental

Site 1409-1417 12<sup>th</sup> St. Oakland, CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes	GA EST VCL Purg
MW-1	0803	2					8.60	13.92			2.7
MW-2	0805	2					8.24	14.02			2.7
MW-3	0817	2					8.21	13.93			2.7
MW-4	0840	2					7.42	13.81			3.0
MW-5	0812	2					7.64	13.94			3.0
MW-6	0816	2					7.14	14.55	lock		3.6
MW-7	0843	2					7.06	13.80			3.0
MW-8	0821	2					8.10	27.28	vault, 2'x3'	9.3	
DPE-1	0826	4					7.14	20.55	vault, 2'x3'	26.1	
DPE-1B	0830	4					7.03	26.85	vault, 2'x3'	38.7	
DPE-2	0835	4					6.67	20.24	vault, 2'x3'	26.7	
DPE-2B	0828	4					7.62	27.85			39.3
DPE-3	0834	4					6.61	20.33			27.0
DPE-5	0840	4					7.17	20.34	vault, 2'x3'	25.8	
DPE-6	0832	4					6.65	17.97			22.2
DPE-7	0836	4					6.68	20.25			26.4
GW-1	0850	4					7.43	17.12	✓		18.9

## WELL GAUGING DATA

Project # 120423-MM1 Date 4/23/12 Client Impact Environmental

Site 14C9-1417 12<sup>th</sup> St Oakland, CA

## WELLHEAD INSPECTION CHECKLIST

Page 1 of 2Date 4/23/12Client Impact Environmental ServicesSite Address 1409-1417 12th St. Oakland, CAJob Number 120423-MW1Technician MN KS

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
MW-1							X	
MW-2		X						
MW-3	X							
MW-4	X							
MW-5		X						
MW-6		X						
MW-7	X							
MW-8	X							
DPE-1	X							
DPE-1B	X							
DPE-2	X							
DPE-2B	X							
DPE-3							X	
DPE-5	X							
DPE-6	X							
DPE-7	X							

NOTES: MW-1 WELL CAP MISSING

DPE-3 WELL CAP MISSING

MW-3 WELL CAP MISSING

\* ALL WELL LIDS ARE NOT BOLTED &amp; SECURED

\* ALL WELL CAPS ARE NOT LOCKED EXCEPT MW-6

# WELLHEAD INSPECTION CHECKLIST

Page 2 of 2

Date 4/23/12

## Client

## Impact Environmental Services

**Site Address**

1409-1417 12<sup>th</sup> St. Oakland, CA

**Job Number**

### **Technician**

KS

**NOTES:**

# WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental		
Sampler: MM KS	Date: 4/23/12		
Well I.D.: MW-1	Well Diameter: (2) 3 4 6 8		
Total Well Depth (TD): 13.92	Depth to Water (DTW): 8.60		
Depth to Free Product:	Thickness of Free Product (feet):		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YS	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.66			

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra Peristaltic Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

0.9 (Gals.) X 3 = 2.7 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	ORP Observations
0918	66	7.27	999	>1000	0.7	35
0920	66	6.53	1159	>1000	1.8	26
0921	65	6.55	1175	>1000	2.7	24

Did well dewater? Yes  No Gallons actually evacuated: 2.7

Sampling Date: 4/23/12 Sampling Time: 0930 Depth to Water: 9.51

Sample I.D.: MW-1 Laboratory: Kiff CalScience  C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @  Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):  Pre-purge: 0.51 mg/L Post-purge:  mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge:  mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental	
Sampler: MY KS	Date: 4/23/12	
Well I.D.: MW-2	Well Diameter: ② 3 4 6 8	
Total Well Depth (TD): 14.02	Depth to Water (DTW): 8.24	
Depth to Free Product: —	Thickness of Free Product (feet): —	
Referenced to: PVC	Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.39		

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

9 (Gals.) X 3 = 2.7 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	ORP	Observations
0952	16.4	6.36	9346.9	>1000	.9	199	
0955	16.7	6.28	324.9	>1000	1.8	211	
0958	16.5	6.19	318.8	>1000	2.7	221	

Did well dewater? Yes  Gallons actually evacuated: 2.7

Sampling Date: 4/23/12 Sampling Time: 1000 Depth to Water: 9.20

Sample I.D.: MW-2 Laboratory: Kiff CalScience  C&T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge	5.50	mg/L	Post-purge:	mg/L
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O.R.P. (if req'd): Pre-purge:	mV	Post-purge:	mV
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Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

D.O. CHECKED WITH TWO D.O. (YSI 550A) Meters

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental		
Sampler: MM (KS)	Date: 4/23/12		
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8		
Total Well Depth (TD): 13.93	Depth to Water (DTW): 8.21		
Depth to Free Product:	Thickness of Free Product (feet):		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YSI	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.35			

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing

Other: \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

0.9 (Gals.) X 3 = 2.7 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp °F or °C	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	ORP mV	Observations
0939	15.5	7.22	839	720	0.9	65	
0940	15.5	7.21	884	>1000	1.8	66	
0941	15.6	7.18	874	>100	2.7	69	

Did well dewater? Yes (No) Gallons actually evacuated: 2.7

Sampling Date: 4/23/12 Sampling Time: 0950 Depth to Water: 9.17

Sample I.D.: MW-3 Laboratory: Kiff CalScience Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 253 mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental		
Sampler: MM <i>(X)</i>	Date: 4/23/12		
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8		
Total Well Depth (TD): 13.81	Depth to Water (DTW): 7.42		
Depth to Free Product:	Thickness of Free Product (feet):		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YSI	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 8.70			

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

1.0 (Gals.) X 3 = 3.0 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	ORP mV	Observations
1003	17.0	7.28	370	327	1.0	70	
1004	17.0	7.14	434.	451	2.0	76	
1006	17.1	7.07	422	423	3.0	78	

Did well dewater? Yes *No* Gallons actually evacuated: 3.0

Sampling Date: 4/23/12 Sampling Time: 1020 Depth to Water: 8.64

Sample I.D.: MW-4 Laboratory: Kiff CalScience Other C/T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 3.23 mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental		
Sampler: MW KS	Date: 4/23/12		
Well I.D.: MW-5	Well Diameter: D 3 4 6 8		
Total Well Depth (TD): 13.94	Depth to Water (DTW): 7.64		
Depth to Free Product:	Thickness of Free Product (feet):		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YS	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 8.96			

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing

Other: \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

1 Case Volume (Gals.) X Specified Volumes = Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	ORP	Observations
1015	16.8	6.62	471.2	249	1	229	
1018	16.9	6.50	448.3	774	2	208	
1021	17.0	6.45	416.5	>1000	3	207	

Did well dewater? Yes No Gallons actually evacuated: 3

Sampling Date: 4/23/12 Sampling Time: 1035 Depth to Water: 8.85

Sample I.D.: MW-5 Laboratory: Kiff CalScience  CFT

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): <input checked="" type="checkbox"/> Pre-purge:	4.20 mg/L	Post-purge:	mg/L
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O.R.P. (if req'd): Pre-purge:	mV	Post-purge:	mV
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## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental		
Sampler: MM KS	Date: 4/23/12		
Well I.D.: MW-6	Well Diameter: 2 3 4 6 8		
Total Well Depth (TD): 14.55	Depth to Water (DTW): 7.14		
Depth to Free Product: —	Thickness of Free Product (feet): —		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YSI	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 8.62			

Purge Method: Bailer	Waterra	Sampling Method: Bailer																
<u>Disposable Bailer</u>	Peristaltic	<u>Disposable Bailer</u>																
Positive Air Displacement	Extraction Pump	Extraction Port																
Electric Submersible	Other _____	Dedicated Tubing																
Other: _____																		
$\frac{1.2 \text{ (Gals.)} \times 3}{1 \text{ Case Volume} \quad \text{Specified Volumes}} = \frac{3.6 \text{ Gals.}}{\text{Calculated Volume}}$		<table border="1"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier															
1"	0.04	4"	0.65															
2"	0.16	6"	1.47															
3"	0.37	Other	radius <sup>2</sup> * 0.163															

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	ORP Observations
1047	17.2	7.03	360.2	455	1.2	209
1050	17.3	6.81	351.3	381	2.4	182
1053	17.6	6.86	347.8	485	3.6	171

Did well dewater? Yes No Gallons actually evacuated: 3.6

Sampling Date: 4/23/12 Sampling Time: 111 Depth to Water: 8.60

Sample I.D.: MW-6 Laboratory: Kiff CalScience Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 4.28 mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental		
Sampler: MM KS	Date: 4/23/12		
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8		
Total Well Depth (TD): 13.80	Depth to Water (DTW): 7.06		
Depth to Free Product:	Thickness of Free Product (feet):		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YS	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 8.41			

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

1.0 (Gals.) X 3 = 3.0 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or μS)	Turbidity (NTUs)	Gals. Removed	Observations
1028	17.8	7.21	312	31	1.0	76
1029	17.8	7.00	377	56	2.0	81
1031	17.9	6.91	396	63	8 @ 3.0	88

Did well dewater? Yes  Gallons actually evacuated: 3.0

Sampling Date: 4/23/12 Sampling Time: 1045 Depth to Water: 8.32

Sample I.D.: MW-7 Laboratory: Kiff CalScience  Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 3.76 mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental		
Sampler: MM KS	Date: 4/23/12		
Well I.D.: MW-8	Well Diameter: 2 3 4 6 8		
Total Well Depth (TD): 27.28	Depth to Water (DTW): 8.10		
Depth to Free Product:	Thickness of Free Product (feet):		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YSI	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 11.93			

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

3.1 (Gals.) X 3 = 9.3 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or <del>ps</del> )	Turbidity (NTUs)	Gals. Removed	GRIP Observations
1117	18.2	6.52	416.1	250	3.1	151
1122	18.4	6.34	436.4	209	6.2	155
1127	18.9	6.48	468.5	287	9.3	143

Did well dewater? Yes No Gallons actually evacuated: 9.3

Sampling Date: 4/23/12 Sampling Time: 1135 Depth to Water: 9.10

Sample I.D.: MW-8 Laboratory: Kiff CalScience Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 21.25 mg/L Post-purge: \_\_\_\_\_ mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental		
Sampler: MM KS	Date: 4/23/12		
Well I.D.: DPE-1	Well Diameter: 2 3 4 6 8		
Total Well Depth (TD): 20.55	Depth to Water (DTW): 7.14		
Depth to Free Product: —	Thickness of Free Product (feet): —		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YSI	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.82			

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

8.7 (Gals.) X 3 = 26.1 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1213	19.5	7.35	662.2	125	8.7	86
1215	18.6	7.00	639.4	449	17.4	103
			WELL DEWATERED AT	19 GAL		
1230	19.0	7.40	630.3	559	GRAB	167

Did well dewater? Yes No Gallons actually evacuated: 19

Sampling Date: 4/23/12 Sampling Time: 1230 Depth to Water: 9.47

Sample I.D.: DPE-1 Laboratory: Kiff CalScience Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 5.80 mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental		
Sampler: MM KS	Date: 4/23/12		
Well I.D.: DPE-1B	Well Diameter: 2 3 4 6 8		
Total Well Depth (TD): 26.85	Depth to Water (DTW): 7.03		
Depth to Free Product:	Thickness of Free Product (feet):		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YS	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 10.99			

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

12.9 (Gals.) X 3 = 38.7 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	ORP	Observations
1240	18.9	6.63	249	6641	12.9	156	
1242	18.8	6.40	343.3	597	25.8	167	
							WELL Dewatered at 31 GAL
1255	19.0	6.50	433.2	387	GRAB	175	

Did well dewater? Yes No Gallons actually evacuated: 31

Sampling Date: 4/23/12 Sampling Time: 1255 Depth to Water: 9.05

Sample I.D.: DPE-1B Laboratory: Kiff CalScience Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE CSC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 18.55 mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental
Sampler: MM KS	Date: 4/23/12
Well I.D.: DPE-2	Well Diameter: 2 3 4 6 8
Total Well Depth (TD): 20.24	Depth to Water (DTW): 6.67
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.38	

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra Peristaltic Extraction Pump Other

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port Dedicated Tubing  
 Other:

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

8.8 (Gals.) X 3 = 26.40 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or <del>µS</del> )	Turbidity (NTUs)	Gals. Removed	ORP	Observations
1305	18.8	6.73	404.3	95	8.8	161	
1307	18.8	6.49	381.9	>1000	17.6	160	
WELL DEWATERED AT 22 GAL							
1320	18.9	6.53	376.3	850	GRAB	180	

Did well dewater? Yes No Gallons actually evacuated: 22

Sampling Date: 4/23/12 Sampling Time: 1320 Depth to Water: 9.35

Sample I.D.: DPE-2 Laboratory: Kiff CalScience Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 3.60 mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental	
Sampler: MM VS	Date: 4/23/12	
Well I.D.: DPE - 2B	Well Diameter: 2 3 4 6 8	
Total Well Depth (TD): 27.85	Depth to Water (DTW): 7.62	
Depth to Free Product:	Thickness of Free Product (feet):	
Referenced to: PVC	Grade	D.O. Meter (if req'd): YES HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 11.67		

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

13.1 (Gals.) X 3 = 39.3 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp °F or °C	pH	Cond. (mS or $\mu\text{S}$ )	Turbidity (NTUs)	Gals. Removed	ORP	Observations
1049	18.1	6.97	596	335	83 13.1	85	
1052	18.3	6.49	678	64	26.2	84	
Well Dewatered		2	32 gal		DTW =		24.17
1100	17.9	6.73	609	53		88	

Did well dewater? Yes No Gallons actually evacuated: 32

Sampling Date: DPE 4/23/12 Sampling Time: 1100 Depth to Water: 9.49

Sample I.D.: 440 DPE-2B Laboratory: Kiff CalScience Other C#T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge:	1.77	mg/L	Post-purge:	mg/L
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O.R.P. (if req'd): Pre-purge:	mV	Post-purge:	mV
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## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental
Sampler: MM <i>(KS)</i>	Date: 4/23/12
Well I.D.: DPE-3	Well Diameter: 2 3 4 6 8
Total Well Depth (TD): 20.33	Depth to Water (DTW): 6.61
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.35	

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

9.0 (Gals.) X 3 = 27.0 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp °F or °C	pH	Cond. (mS or <i>(KS)</i> )	Turbidity (NTUs)	Gals. Removed	Observations
1116	18.6	7.46	366	366	9.0	81
Well	Dewatered	@	12 gals	DTW = 15.63		
1140	18.6	6.59	382	332		42

Did well dewater? Yes No Gallons actually evacuated: 12

Sampling Date: 4/23/12 Sampling Time: 1140 Depth to Water: 9.29

Sample I.D.: DPE-3 Laboratory: Kiff CalScience Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 2.05 mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental	
Sampler: MM KS	Date:	
Well I.D.: DPE - 5	Well Diameter: 2 3 4 6 8	
Total Well Depth (TD): 20.34	Depth to Water (DTW): 7.17	
Depth to Free Product: —	Thickness of Free Product (feet): —	
Referenced to: PVC	Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.80		

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

8.6 (Gals.) X 3 = 25.8 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	ORP	Observations
1329	18.1	6.42	926.7	176	8.6	95	
1340	18.3	6.50	840.5	290	GRAB	29	

Did well dewater? Yes No Gallons actually evacuated: 13

Sampling Date: 4/23/12 Sampling Time: 1340 Depth to Water: 9.75

Sample I.D.: DPE - 5 Laboratory: Kiff CalScience Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 0.53 mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental		
Sampler: MM (KS)	Date: 4/23/12		
Well I.D.: DPE-6	Well Diameter: 2 3 4 6 8		
Total Well Depth (TD): 17.97	Depth to Water (DTW): 6.65		
Depth to Free Product:	Thickness of Free Product (feet):		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YSI	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 8.91			

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing

Other: \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

7.4 (Gals.) X 3 = 22.2 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or μS)	Turbidity (NTUs)	Gals. Removed	ORP mV	Observations
1204	17.9	7.41	665	80	7.4	53	
1206	17.9	7.40	811	187	14.8	58	
Well	Dewatered	Q	16 gal			DTW = 13.76	
1220	18.6	7.01	697	121		65	

Did well dewater? Yes No Gallons actually evacuated: 16

Sampling Date: 4/23/12 Sampling Time: 1220 Depth to Water: 8.22

Sample I.D.: DPE-6 Laboratory: Kiff CalScience Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 4.70 mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM	Client: Impact Environmental		
Sampler: MM <u>KS</u>	Date: 4/23/12		
Well I.D.: DPE-7	Well Diameter: 2 3 <u>4</u> 6 8		
Total Well Depth (TD): 20.25	Depth to Water (DTW): 6.68		
Depth to Free Product:	Thickness of Free Product (feet):		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YS	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.39			

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
Electric Submersible  
 Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

8.8 (Gals.) X 3 = 26.4 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp °F or °C	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	ORP mV	Observations
1230	17.8	7.68	702	187	8.8	67	
1245	18.0	7.64	589	>1000	—	64	

Did well dewater? Yes No Gallons actually evacuated: 13

Sampling Date: 4/23/12 Sampling Time: 1245 Depth to Water: 9.00

Sample I.D.: DPE-7 Laboratory: Kiff CalScience Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 3.54 mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental		
Sampler: <u>AMM</u> <u>ES</u>	Date: 4/23/12		
Well I.D.: GW-1	Well Diameter: 2 3 4 6 8		
Total Well Depth (TD): 17.12	Depth to Water (DTW): 7.43		
Depth to Free Product:	Thickness of Free Product (feet):		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YSI	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.36			

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterra  
 Peristaltic  
 Extraction Pump  
 Other

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other:

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

$$\frac{6.3 \text{ (Gals.)} \times 3}{1 \text{ Case Volume} \quad \text{Specified Volumes}} = \frac{18.9 \text{ Gals.}}{\text{Calculated Volume}}$$

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1330	19.0	6.81	594	148	6.3	DRP = ✓
Well Dewatered		Q	7.0	gal		DTW = 14.55
1350	19.37	6.76	546	99	—	-3

Did well dewater? Yes No Gallons actually evacuated: 7.0

Sampling Date: 4/23/12 Sampling Time: 1350 Depth to Water: 9.35

Sample I.D.: GW-1 Laboratory: Kiff CalScience Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 0.63 mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental		
Sampler: MM KS	Date: 4/23/12		
Well I.D.: GW-2	Well Diameter: 2 3 4 6 8		
Total Well Depth (TD): 17.07	Depth to Water (DTW): 7.80		
Depth to Free Product: —	Thickness of Free Product (feet): —		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YSI	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.65			

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
Electric Submersible  
 Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

			Well Diameter	Multiplier	Well Diameter	Multiplier
6	(Gals.) X	3	1"	0.04	4"	0.65
1 Case Volume	Specified Volumes	=	2"	0.16	6"	1.47
			3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or <del>µS</del> )	Turbidity (NTUs)	Gals. Removed	ORP	Observations
1356	18.3	7.61	301.6	389	6	83	
							WELL DEWATERED AT 10 GAL
1420	18.9	7.36	206.9	294	GRAB	100	

Did well dewater? Yes No Gallons actually evacuated: 10

Sampling Date: 4/23/12 Sampling Time: 1420 Depth to Water: 9.57

Sample I.D.: GW-2 Laboratory: Kiff CalScience Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: 3.04 mg/L Post-purge: \_\_\_\_\_ mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

## WELL MONITORING DATA SHEET

Project #: 120423-MM1	Client: Impact Environmental		
Sampler: MM KS	Date: 4/23/12		
Well I.D.: GW-3	Well Diameter: 2 3 4 6 8		
Total Well Depth (TD): 17.12	Depth to Water (DTW): 7.35		
Depth to Free Product:	Thickness of Free Product (feet):		
Referenced to: PVC	Grade	D.O. Meter (if req'd): YES	HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.30			

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Waterera  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing

Other: \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163
$\text{Radius}^2 = \frac{\text{Diameter}}{2}$			

6.4 (Gals.) X 3 = 19.2 Gals.  
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	ORP mv	Observations
1250	18.3	7.55	491	255	6.4	59	
Well Dewatered	@ 3.5 gal			DTW = 13.82			
1315	18.7	7.46	576	273	—	57	

Did well dewater? YES No Gallons actually evacuated: 13.5

Sampling Date: 4/23/12 Sampling Time: 1315 Depth to Water: 9.25

Sample I.D.: GW-3 Laboratory: Kiff CalScience Other C/T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge:	0.64 mg/L	Post-purge:	mg/L
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O.R.P. (if req'd): Pre-purge:	mV	Post-purge:	mV
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## TEST EQUIPMENT CALIBRATION LOG

## TEST EQUIPMENT CALIBRATION LOG

# H or Purge Water Drum Log

Client: Impact

Site Address: 1409 12th St., Oakland

## STATUS OF DRUM(S) UPON ARRIVAL

Date	04/30/08	4/28/09	11/6/09	11/12/09	4/23/12
Number of drum(s) empty:	7	1	05		6 OLD 6 DRUMS
Number of drum(s) 1/4 full:	0			1	
Number of drum(s) 1/2 full:	1	1			
Number of drum(s) 3/4 full:	0				
Number of drum(s) full:	13	5	36mm		
Total drum(s) on site:	21	7	4	1 BTS	
Are the drum(s) properly labeled?	YES	YES	Y	YES	NO
Drum ID & Contents:	Soil & Purge H2O	Purge H2O	Purge H2O	Purge H2O	
If any drum(s) are partially or totally filled, what is the first use date:	4-6-08			11/6/09	

- If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purgewater or DI Water.
- If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.
- All BTS drums MUST be labeled appropriately.

## STATUS OF DRUM(S) UPON DEPARTURE

Date	04/30/08	4/28/09	11/6/09	11/12/09	4/23/12
Number of drums empty:	6	0			6 OLD
Number of drum(s) 1/4 full:	0		1	1	3 GAL
Number of drum(s) 1/2 full:	1	1			
Number of drum(s) 3/4 full:	0				
Number of drum(s) full:	12-14	6	3	1	4 NEW
Total drum(s) on site:	21	7	4	2	
Are the drum(s) properly labeled?	YES	YES	Y	Y	NEW / OLD YES / NO
Drum ID & Contents:	Soil & Purge H2O	Purge H2O	Purge H2O	Purge H2O	PURGE H2O

## LOCATION OF DRUM(S)

Describe location of drum(s):

Aear MW-6

4/23/12 NEAR MW-2 - ALL DRUMS ARE RUSTED & IN POOR CONDITION

## FINAL STATUS

Number of new drum(s) left on site this event	0	0	1	1	5
Date of inspection:	04/30/08	4/28/09	11/6/09	11/12/09	4/23/12
Drum(s) labelled properly:	YES	YES	Y	Y	Y
Logged by BTS Field Tech:	MJ	SD	SD	JW	MM
Office reviewed by:	PC	R	R	R	N

## **APPENDIX B**

### **Certified Laboratory Analytical Reports - (April 2012)**



**Curtis & Tompkins, Ltd.**

Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 235758**  
**ANALYTICAL REPORT**

Impact Environmental  
39120 Argonaut Way  
Fremont, CA 94538

Project : 1409-1417  
Location : 1409-1417 12th St., Oakland  
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
MW-1	235758-001
MW-2	235758-002
MW-3	235758-003
MW-4	235758-004
MW-5	235758-005
MW-6	235758-006
MW-7	235758-007
MW-8	235758-008
DPE-1	235758-009
DPE-1B	235758-010
DPE-2	235758-011
DPE-2B	235758-012
DPE-3	235758-013
DPE-5	235758-014
DPE-6	235758-015
DPE-7	235758-016
GW-1	235758-017
GW-2	235758-018
GW-3	235758-019
TB	235758-020

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

*Desiree N. Tetzlaff*

Signature: \_\_\_\_\_  
Project Manager

Date: 05/03/2012

NELAP # 01107CA

**CASE NARRATIVE**

Laboratory number: **235758**  
Client: **Impact Environmental**  
Project: **1409-1417**  
Location: **1409-1417 12th St., Oakland**  
Request Date: **04/23/12**  
Samples Received: **04/23/12**

This data package contains sample and QC results for twenty water samples, requested for the above referenced project on 04/23/12. The samples were received cold and intact.

**TPH-Extractables by GC (EPA 8015B):**

No analytical problems were encountered.

**Volatile Organics by GC/MS (EPA 8260B):**

No analytical problems were encountered.

**BLAINE**

TECH SERVICES, INC.

1680 ROGERS AVENUE  
SAN JOSE, CALIFORNIA 95112-1105  
FAX (408) 573-7771  
PHONE (408) 573-0555

235750

CHAIN OF CUSTODY		
BTS #		
CLIENT Impact Environmental Services		
SITE 1409-1417 12th St.		
Oakland CA		

SAMPLE I.D.	DATE	TIME	MATRIX S = Soil W = H <sub>2</sub> O	CONTAINERS TOTAL	CONDUCT ANALYSIS TO DETECT					LAB	C&T	DHS #
					TPH-G (8260)	TPH-D & Motor Oil w/SGC (8015M)	BTEX, MTBE (8260)	(7) Oxygenates (8260)	TCE, PCE, DCE & vinyl chloride only (8260)			
1 MW-1	4/23/12	0930	W	5	X	X	X	X	X			
2 MW-2		1000	W	5	X	X	X	X	X			
3 MW-3		0950	W	5	X	X	X	X	X			
4 MW-4		1020	W	5	X	X	X	X	X			
5 MW-5		1035	W	5	X	X	X	X	X			
6 MW-6		1111	W	5	X	X	X	X	X			
7 MW-7		1045	W	5	X	X	X	X	X			
8 MW-8		1135	W	5	X	X	X	X	X			
9 DPE-1		1230	W	5	X	X	X	X	X			
10 DPE-1B	↓	1255	W	5	X	X	X	X	X			

SAMPLING DATE TIME SAMPLING  
COMPLETED 4/23/12 1430 PERFORMED BY *Mark McCalibch, KEN SIM* RESULTS NEEDED  
RELEASED BY NO LATER THAN Standard TAT

RELEASED BY DATE TIME RECEIVED BY DATE TIME  
*Mark McCalibch* 4/23/12 1516 *Pat Young Jr.* 4/23 15:16  
RELEASED BY DATE TIME RECEIVED BY DATE TIME  
RELEASED BY DATE TIME RECEIVED BY DATE TIME

SHIPPED VIA DATE SENT TIME SENT COOLER #

**BLAINE**

TECH SERVICES, INC.

1680 ROGERS AVENUE  
 SAN JOSE, CALIFORNIA 95112-1105  
 FAX (408) 573-7771  
 PHONE (408) 573-0555

235758

C&amp;T

DHS #

CHAIN OF CUSTODY	
BTS #	
CLIENT	Impact Environmental Services
SITE	1409-1417 12th St. Oakland CA

SAMPLE I.D.	DATE	TIME	S = Soil W = H <sub>2</sub> O	MATRIX	CONTAINERS	CONDUCT ANALYSIS TO DETECT				LAB	MUST MEET SPECIFICATIONS	C&T	DHS #
						TPH-G (8260)	TPH-D & Motor Oil w/SGC (8015M)	BTEX, MTBE (8260)	(7) Oxygenates (8260)				
11 DPE-2	4/23/12	1320	W	5		X	X	X	X	X			
12 DPE-2B		1100	W	5		X	X	X	X	X			
13 DPE-3		1140	W	5		X	X	X	X	X			
14 DPE-5		1340	W	5		X	X	X	X	X			
15 DPE-6		1220	W	5		X	X	X	X	X			
16 DPE-7		1245	W	5		X	X	X	X	X			
17 GW-1		1350	W	5		X	X	X	X	X			
18 GW-2		1420	W	5		X	X	X	X	X			
19 GW-3		1315	W	5		X	X	X	X	X			
20 TB	4/23/12	0800	W	3		X	X	X	X	X	ON HOLD		

RESULTS NEEDED  
 NO LATER THAN

Standard TAT

SAMPLING DATE TIME SAMPLING DATE TIME  
 COMPLETED 4/23/12 1430 PERFORMED BY Mark McColloch, Ken Sim

RELEASED BY DATE TIME RECEIVED BY DATE TIME  
 Mark McColloch 4/23/12 1516 Pat Dougherty 4/23/12 1516

RELEASED BY DATE TIME RECEIVED BY DATE TIME

SHIPPED VIA DATE SENT TIME SENT COOLER #

## COOLER RECEIPT CHECKLIST



Curtis &amp; Tompkins, Ltd.

Login # 235758 Date Received 4/23/12 Number of coolers 3  
 Client Impact Environmental Services Project 1409-1417 12th St.

Date Opened 4/23/12 By (print) Micah Smith (sign) Micah Smith  
 Date Logged in 4/24/12 By (print) C. Morrow (sign) C. Morrow

1. Did cooler come with a shipping slip (airbill, etc) \_\_\_\_\_ YES  NO  
 Shipping info \_\_\_\_\_

2A. Were custody seals present? ....  YES (circle) on cooler on samples  NO  
 How many \_\_\_\_\_ Name \_\_\_\_\_ Date \_\_\_\_\_

2B. Were custody seals intact upon arrival? \_\_\_\_\_ YES NO  N/A

3. Were custody papers dry and intact when received?  YES NO

4. Were custody papers filled out properly (ink, signed, etc)?  YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form)  YES NO

6. Indicate the packing in cooler: (if other, describe) \_\_\_\_\_

Bubble Wrap  Foam blocks  Bags  None  
 Cloth material  Cardboard  Styrofoam  Paper towels

7. Temperature documentation: \* Notify PM if temperature exceeds 6°C

Type of ice used:  Wet  Blue/Gel  None Temp(°C) \_\_\_\_\_

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? \_\_\_\_\_ YES  NO

If YES, what time were they transferred to freezer? \_\_\_\_\_

9. Did all bottles arrive unbroken/unopened? \_\_\_\_\_ YES  NO

10. Are there any missing / extra samples? \_\_\_\_\_ YES  NO

11. Are samples in the appropriate containers for indicated tests? \_\_\_\_\_ YES  NO

12. Are sample labels present, in good condition and complete? \_\_\_\_\_ YES  NO

13. Do the sample labels agree with custody papers? \_\_\_\_\_ YES  NO

14. Was sufficient amount of sample sent for tests requested? \_\_\_\_\_ YES  NO

15. Are the samples appropriately preserved? \_\_\_\_\_ YES  NO N/A

16. Did you check preservatives for all bottles for each sample? \_\_\_\_\_ YES  NO  N/A

17. Did you document your preservative check? \_\_\_\_\_ YES  NO  N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? \_\_\_\_\_ YES  NO  N/A

19. Did you change the hold time in LIMS for preserved terracores? \_\_\_\_\_ YES  NO  N/A

20. Are bubbles > 6mm absent in VOA samples? \_\_\_\_\_ YES  NO N/A

21. Was the client contacted concerning this sample delivery? \_\_\_\_\_ YES  NO

If YES, Who was called? \_\_\_\_\_ By \_\_\_\_\_ Date: \_\_\_\_\_

## COMMENTS

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**Total Extractable Hydrocarbons**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 3520C
Project#:	1409-1417	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/23/12
Units:	ug/L	Received:	04/23/12
Diln Fac:	1.000	Prepared:	04/25/12
Batch#:	185928		

Field ID: MW-1 Analyzed: 04/26/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-001

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	84	61-129

Field ID: MW-2 Analyzed: 04/27/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-002

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	94	61-129

Field ID: MW-3 Analyzed: 04/26/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-003

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	101	61-129

Field ID: MW-4 Analyzed: 04/26/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-004

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	105	61-129

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

**Total Extractable Hydrocarbons**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 3520C
Project#:	1409-1417	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/23/12
Units:	ug/L	Received:	04/23/12
Diln Fac:	1.000	Prepared:	04/25/12
Batch#:	185928		

Field ID: MW-5 Analyzed: 04/26/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-005

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	111	61-129

Field ID: MW-6 Analyzed: 04/26/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-006

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	96	61-129

Field ID: MW-7 Analyzed: 04/26/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-007

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	105	61-129

Field ID: MW-8 Analyzed: 04/26/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-008

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	99	61-129

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected

RL= Reporting Limit

**Total Extractable Hydrocarbons**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 3520C
Project#:	1409-1417	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/23/12
Units:	ug/L	Received:	04/23/12
Diln Fac:	1.000	Prepared:	04/25/12
Batch#:	185928		

Field ID: DPE-1 Analyzed: 04/26/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-009

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	107	61-129

Field ID: DPE-1B Analyzed: 04/26/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-010

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	119	61-129

Field ID: DPE-2 Analyzed: 04/26/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-011

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	102	61-129

Field ID: DPE-2B Analyzed: 04/26/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-012

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	116	61-129

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected

RL= Reporting Limit

**Total Extractable Hydrocarbons**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 3520C
Project#:	1409-1417	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/23/12
Units:	ug/L	Received:	04/23/12
Diln Fac:	1.000	Prepared:	04/25/12
Batch#:	185928		

Field ID: DPE-3 Analyzed: 04/27/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-013

Analyte	Result	RL
Diesel C10-C24	330 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	100	61-129

Field ID: DPE-5 Analyzed: 04/27/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-014

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	106	61-129

Field ID: DPE-6 Analyzed: 04/27/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-015

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	120	61-129

Field ID: DPE-7 Analyzed: 04/27/12  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 235758-016

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	108	61-129

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected

RL= Reporting Limit

**Total Extractable Hydrocarbons**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 3520C
Project#:	1409-1417	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/23/12
Units:	ug/L	Received:	04/23/12
Diln Fac:	1.000	Prepared:	04/25/12
Batch#:	185928		

Field ID: GW-1                          Analyzed: 04/27/12  
 Type: SAMPLE                            Cleanup Method: EPA 3630C  
 Lab ID: 235758-017

Analyte	Result	RL
Diesel C10-C24	66 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	110	61-129

Field ID: GW-2                          Analyzed: 04/27/12  
 Type: SAMPLE                            Cleanup Method: EPA 3630C  
 Lab ID: 235758-018

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	116	61-129

Field ID: GW-3                          Analyzed: 04/27/12  
 Type: SAMPLE                            Cleanup Method: EPA 3630C  
 Lab ID: 235758-019

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	114	61-129

Type: BLANK                            Analyzed: 04/26/12  
 Lab ID: QC637178                    Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	82	61-129

Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**
**Total Extractable Hydrocarbons**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 3520C
Project#:	1409-1417	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	185928
Units:	ug/L	Prepared:	04/25/12
Diln Fac:	1.000	Analyzed:	04/26/12

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC637179

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,995	80	59-120

Surrogate	%REC	Limits
o-Terphenyl	97	61-129

Type: BSD Cleanup Method: EPA 3630C  
 Lab ID: QC637180

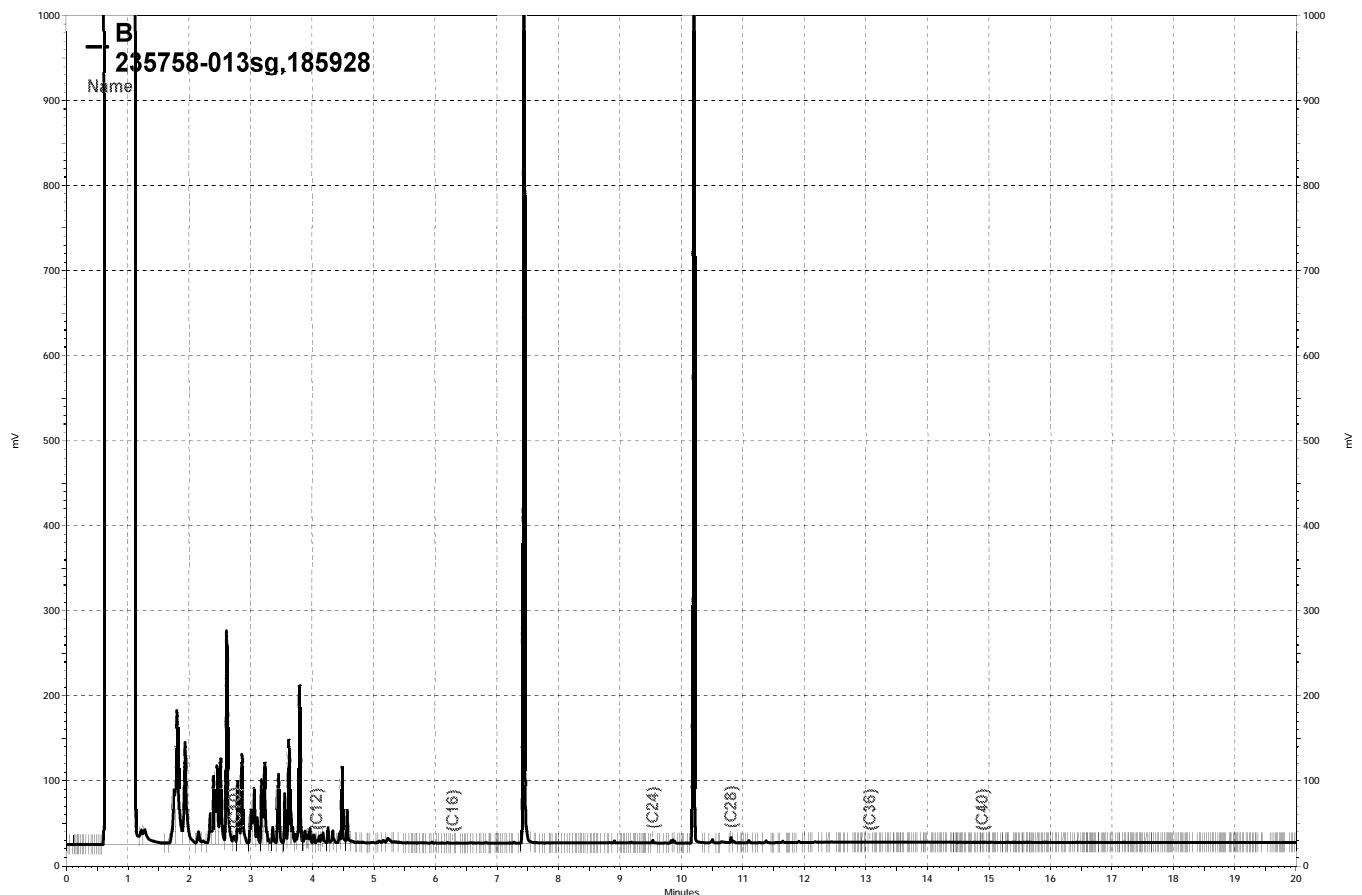
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,772	71	59-120	12	52

Surrogate	%REC	Limits
o-Terphenyl	82	61-129

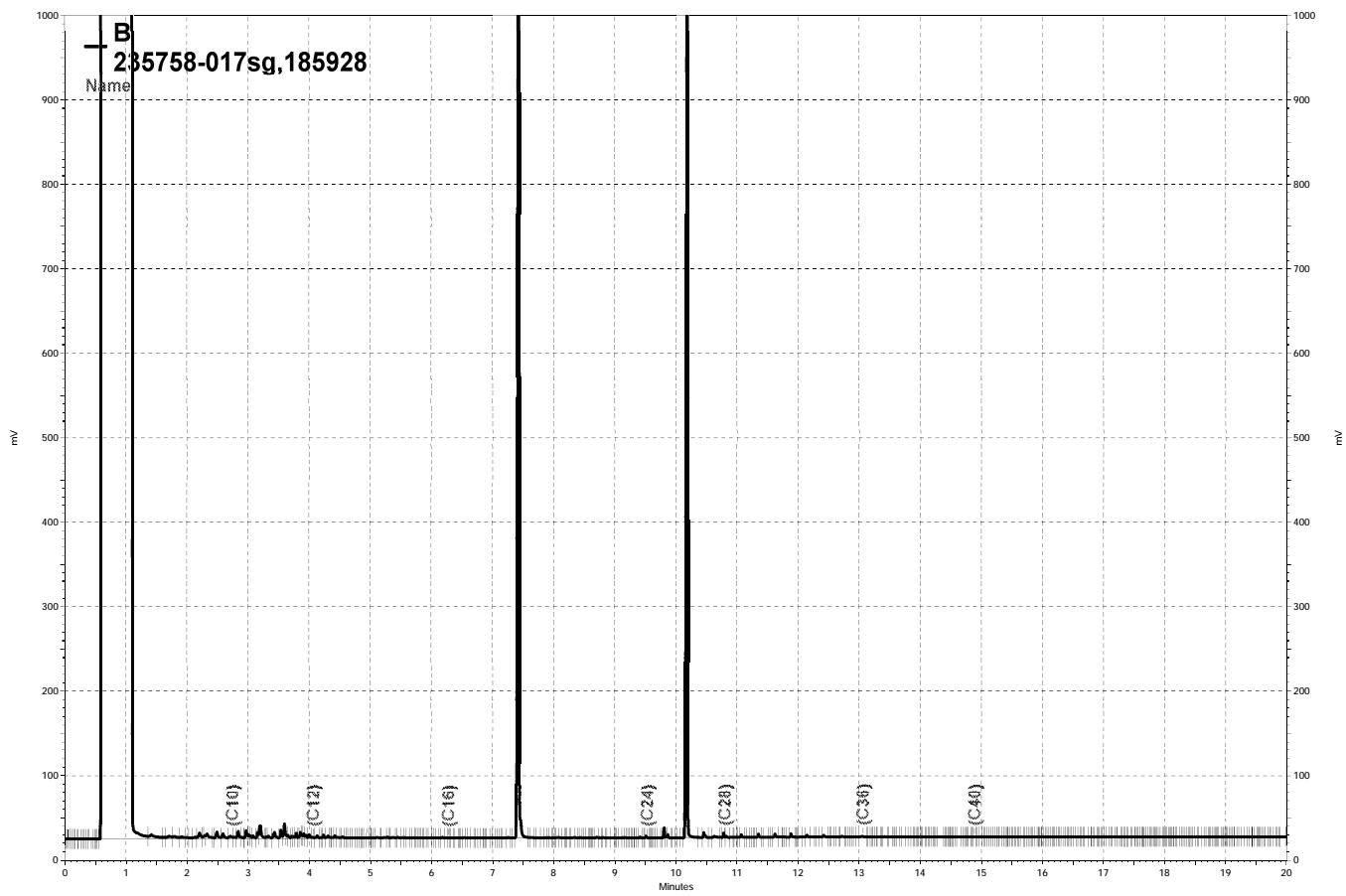
RPD= Relative Percent Difference

Page 1 of 1

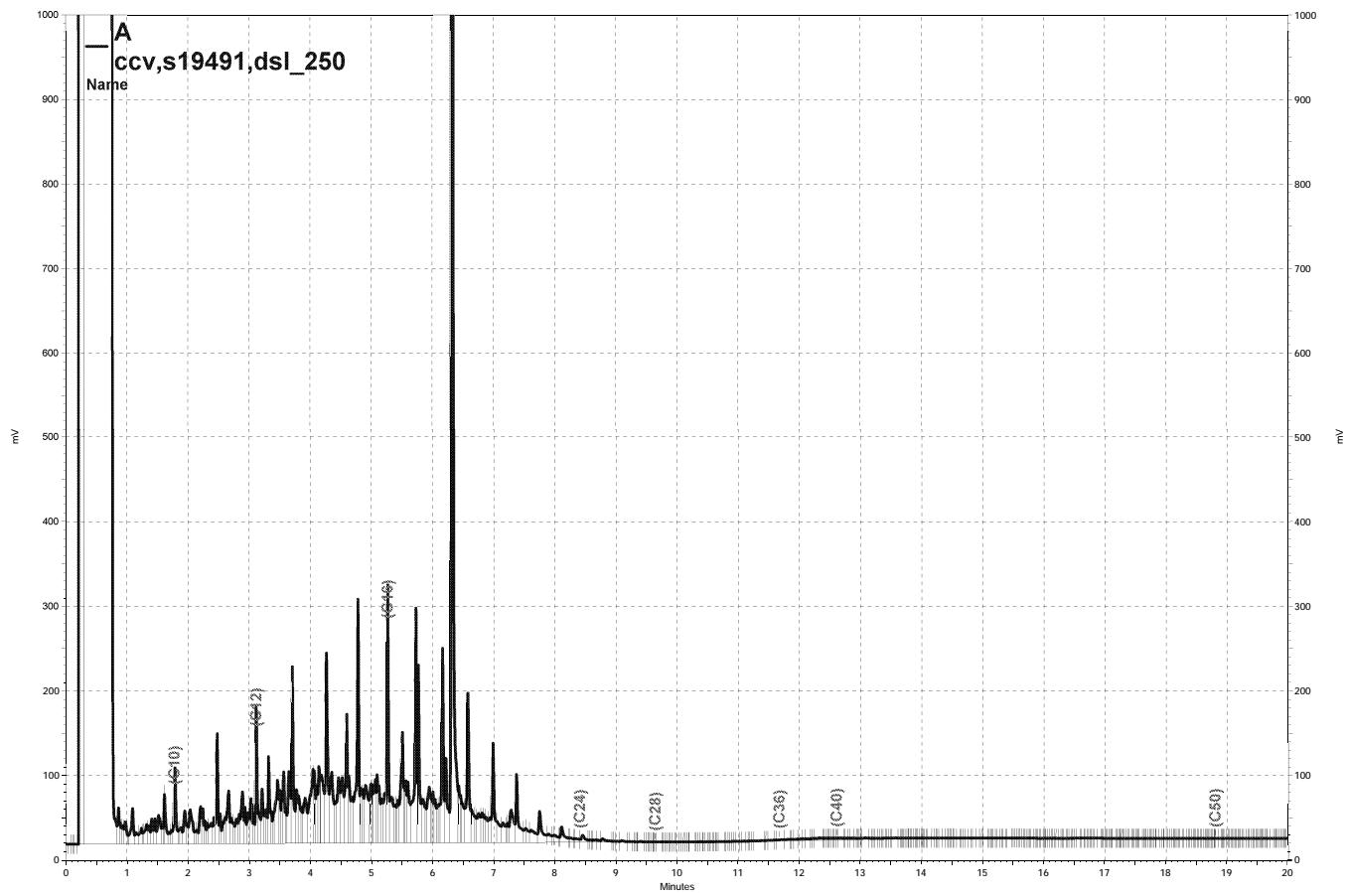
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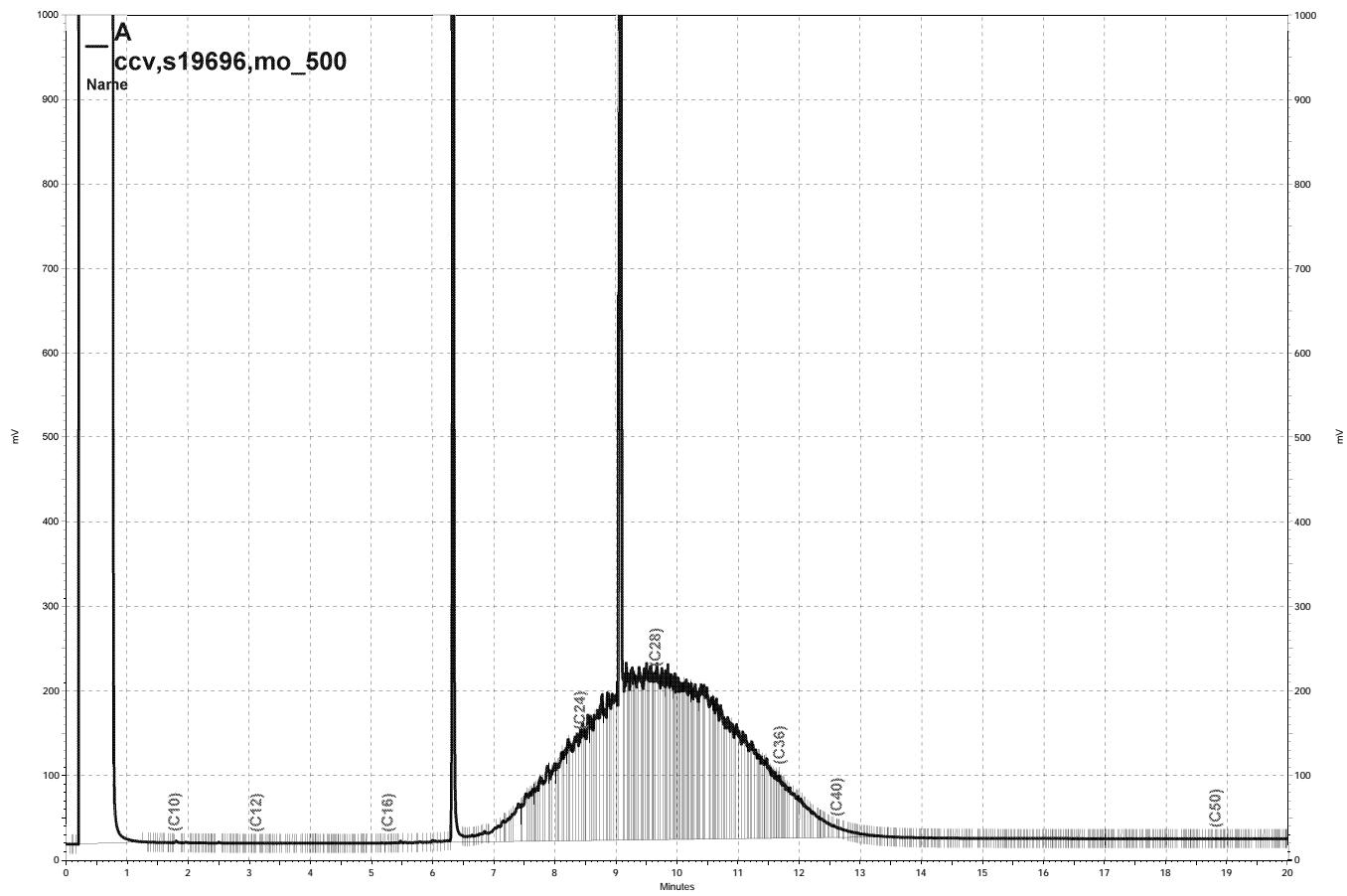
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— \\Lims\\gdrive\\ezchrom\\Projects\\GC17A\\Data\\117a014, A

**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	MW-1	Batch#:	186053
Lab ID:	235758-001	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-125
1,2-Dichloroethane-d4	107	69-145
Toluene-d8	101	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	MW-2	Batch#:	186053
Lab ID:	235758-002	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-125
1,2-Dichloroethane-d4	99	69-145
Toluene-d8	103	80-120
Bromofluorobenzene	96	80-120

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	186053
Lab ID:	235758-003	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-125
1,2-Dichloroethane-d4	106	69-145
Toluene-d8	102	80-120
Bromofluorobenzene	106	80-120

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	MW-4	Batch#:	186053
Lab ID:	235758-004	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-125
1,2-Dichloroethane-d4	103	69-145
Toluene-d8	103	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	MW-5	Batch#:	186053
Lab ID:	235758-005	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-125
1,2-Dichloroethane-d4	100	69-145
Toluene-d8	101	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	MW-6	Batch#:	186053
Lab ID:	235758-006	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-125
1,2-Dichloroethane-d4	99	69-145
Toluene-d8	100	80-120
Bromofluorobenzene	106	80-120

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	MW-7	Batch#:	186053
Lab ID:	235758-007	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-125
1,2-Dichloroethane-d4	98	69-145
Toluene-d8	103	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	MW-8	Batch#:	186053
Lab ID:	235758-008	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-125
1,2-Dichloroethane-d4	92	69-145
Toluene-d8	106	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	DPE-1	Batch#:	186056
Lab ID:	235758-009	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-125
1,2-Dichloroethane-d4	111	69-145
Toluene-d8	98	80-120
Bromofluorobenzene	107	80-120

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	DPE-1B	Batch#:	186056
Lab ID:	235758-010	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	0.53	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-125
1,2-Dichloroethane-d4	107	69-145
Toluene-d8	93	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	DPE-2	Batch#:	186056
Lab ID:	235758-011	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-125
1,2-Dichloroethane-d4	103	69-145
Toluene-d8	92	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	DPE-2B	Batch#:	186056
Lab ID:	235758-012	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-125
1,2-Dichloroethane-d4	105	69-145
Toluene-d8	89	80-120
Bromofluorobenzene	108	80-120

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	DPE-3	Batch#:	186056
Lab ID:	235758-013	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	640	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	3.4	0.50
Benzene	17	0.50
Trichloroethene	ND	0.50
Toluene	8.9	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	1.1	0.50
Ethylbenzene	29	0.50
m,p-Xylenes	60	0.50
o-Xylene	38	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-125
1,2-Dichloroethane-d4	107	69-145
Toluene-d8	93	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	DPE-5	Diln Fac:	1.000
Lab ID:	235758-014	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	ND	50	186056	04/30/12
tert-Butyl Alcohol (TBA)	ND	10	186101	05/01/12
Isopropyl Ether (DIPE)	ND	0.50	186101	05/01/12
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	186101	05/01/12
Methyl tert-Amyl Ether (TAME)	ND	0.50	186101	05/01/12
1,1-Dichloroethene	ND	0.50	186101	05/01/12
MTBE	ND	0.50	186101	05/01/12
trans-1,2-Dichloroethene	ND	0.50	186101	05/01/12
cis-1,2-Dichloroethene	ND	0.50	186101	05/01/12
1,2-Dichloroethane	ND	0.50	186101	05/01/12
Benzene	0.62	0.50	186101	05/01/12
Trichloroethene	ND	0.50	186101	05/01/12
Toluene	ND	0.50	186101	05/01/12
Tetrachloroethene	ND	0.50	186101	05/01/12
1,2-Dibromoethane	ND	0.50	186101	05/01/12
Ethylbenzene	ND	0.50	186101	05/01/12
m,p-Xylenes	1.7	0.50	186101	05/01/12
o-Xylene	0.67	0.50	186101	05/01/12

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	107	80-125	186101	05/01/12
1,2-Dichloroethane-d4	114	69-145	186101	05/01/12
Toluene-d8	92	80-120	186101	05/01/12
Bromofluorobenzene	110	80-120	186101	05/01/12

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	DPE-6	Batch#:	186056
Lab ID:	235758-015	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-125
1,2-Dichloroethane-d4	106	69-145
Toluene-d8	92	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	DPE-7	Batch#:	186056
Lab ID:	235758-016	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-125
1,2-Dichloroethane-d4	108	69-145
Toluene-d8	91	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	GW-1	Batch#:	186056
Lab ID:	235758-017	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	88	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	0.92	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-125
1,2-Dichloroethane-d4	107	69-145
Toluene-d8	93	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	GW-2	Batch#:	186056
Lab ID:	235758-018	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-125
1,2-Dichloroethane-d4	111	69-145
Toluene-d8	93	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	GW-3	Batch#:	186056
Lab ID:	235758-019	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-125
1,2-Dichloroethane-d4	108	69-145
Toluene-d8	92	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected

RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Field ID:	TB	Batch#:	186056
Lab ID:	235758-020	Sampled:	04/23/12
Matrix:	Water	Received:	04/23/12
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-125
1,2-Dichloroethane-d4	102	69-145
Toluene-d8	94	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected

RL= Reporting Limit

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## Batch QC Report

## Purgeable Organics by GC/MS

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	186053
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Type: BS Lab ID: QC637672

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	123.5	99	47-136
Isopropyl Ether (DIPE)	25.00	24.37	97	54-136
Ethyl tert-Butyl Ether (ETBE)	25.00	24.84	99	57-133
Methyl tert-Amyl Ether (TAME)	25.00	25.12	100	65-120
1,1-Dichloroethene	25.00	24.64	99	66-131
MTBE	25.00	25.32	101	61-121
trans-1,2-Dichloroethene	25.00	25.02	100	72-130
cis-1,2-Dichloroethene	25.00	25.50	102	73-130
1,2-Dichloroethane	25.00	24.41	98	70-136
Benzene	25.00	26.30	105	80-121
Trichloroethene	25.00	24.01	96	79-120
Toluene	25.00	27.22	109	80-120
Tetrachloroethene	25.00	25.63	103	79-127
1,2-Dibromoethane	25.00	26.78	107	80-120
Ethylbenzene	25.00	25.32	101	80-120
m,p-Xylenes	50.00	54.77	110	80-121
o-Xylene	25.00	27.03	108	80-121

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-125
1,2-Dichloroethane-d4	100	69-145
Toluene-d8	102	80-120
Bromofluorobenzene	103	80-120

Type: BSD Lab ID: QC637673

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	119.1	95	47-136	4	28
Isopropyl Ether (DIPE)	25.00	24.06	96	54-136	1	20
Ethyl tert-Butyl Ether (ETBE)	25.00	24.79	99	57-133	0	20
Methyl tert-Amyl Ether (TAME)	25.00	22.89	92	65-120	9	20
1,1-Dichloroethene	25.00	23.88	96	66-131	3	20
MTBE	25.00	24.44	98	61-121	4	20
trans-1,2-Dichloroethene	25.00	23.74	95	72-130	5	20
cis-1,2-Dichloroethene	25.00	24.48	98	73-130	4	20
1,2-Dichloroethane	25.00	23.95	96	70-136	2	20
Benzene	25.00	24.21	97	80-121	8	20
Trichloroethene	25.00	23.58	94	79-120	2	20
Toluene	25.00	26.96	108	80-120	1	20
Tetrachloroethene	25.00	24.79	99	79-127	3	20
1,2-Dibromoethane	25.00	25.53	102	80-120	5	20
Ethylbenzene	25.00	25.80	103	80-120	2	20
m,p-Xylenes	50.00	52.19	104	80-121	5	20
o-Xylene	25.00	23.93	96	80-121	12	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-125
1,2-Dichloroethane-d4	96	69-145
Toluene-d8	103	80-120
Bromofluorobenzene	102	80-120

RPD= Relative Percent Difference

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## Batch QC Report

## Purgeable Organics by GC/MS

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	186053
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Type: BS Lab ID: QC637674

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	923.3	92	80-120
1,1-Dichloroethene		NA		
trans-1,2-Dichloroethene		NA		
cis-1,2-Dichloroethene		NA		
Trichloroethene		NA		
Tetrachloroethene		NA		

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-125
1,2-Dichloroethane-d4	97	69-145
Toluene-d8	105	80-120
Bromofluorobenzene	101	80-120

Type: BSD Lab ID: QC637675

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	846.7	85	80-120	9	20
1,1-Dichloroethene		NA				
trans-1,2-Dichloroethene		NA				
cis-1,2-Dichloroethene		NA				
Trichloroethene		NA				
Tetrachloroethene		NA				

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-125
1,2-Dichloroethane-d4	97	69-145
Toluene-d8	101	80-120
Bromofluorobenzene	102	80-120

NA= Not Analyzed

RPD= Relative Percent Difference

**Batch QC Report**
**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC637676	Batch#:	186053
Matrix:	Water	Analyzed:	04/30/12
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-125
1,2-Dichloroethane-d4	93	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

## Purgeable Organics by GC/MS

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	186056
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Type: BS Lab ID: QC637684

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	99.80	80	47-136
Isopropyl Ether (DIPE)	25.00	23.62	94	54-136
Ethyl tert-Butyl Ether (ETBE)	25.00	23.48	94	57-133
Methyl tert-Amyl Ether (TAME)	25.00	22.37	89	65-120
1,1-Dichloroethene	25.00	25.19	101	66-131
MTBE	25.00	23.64	95	61-121
trans-1,2-Dichloroethene	25.00	28.36	113	72-130
cis-1,2-Dichloroethene	25.00	26.66	107	73-130
1,2-Dichloroethane	25.00	25.51	102	70-136
Benzene	25.00	26.48	106	80-121
Trichloroethene	25.00	26.97	108	79-120
Toluene	25.00	25.81	103	80-120
Tetrachloroethene	25.00	28.13	113	79-127
1,2-Dibromoethane	25.00	23.81	95	80-120
Ethylbenzene	25.00	26.65	107	80-120
m,p-Xylenes	50.00	51.61	103	80-121
o-Xylene	25.00	24.08	96	80-121

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-125
1,2-Dichloroethane-d4	100	69-145
Toluene-d8	93	80-120
Bromofluorobenzene	97	80-120

Type: BSD Lab ID: QC637685

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	100.8	81	47-136	1	28
Isopropyl Ether (DIPE)	25.00	22.62	90	54-136	4	20
Ethyl tert-Butyl Ether (ETBE)	25.00	23.05	92	57-133	2	20
Methyl tert-Amyl Ether (TAME)	25.00	21.93	88	65-120	2	20
1,1-Dichloroethene	25.00	24.13	97	66-131	4	20
MTBE	25.00	23.29	93	61-121	1	20
trans-1,2-Dichloroethene	25.00	25.27	101	72-130	12	20
cis-1,2-Dichloroethene	25.00	25.83	103	73-130	3	20
1,2-Dichloroethane	25.00	26.05	104	70-136	2	20
Benzene	25.00	24.97	100	80-121	6	20
Trichloroethene	25.00	26.11	104	79-120	3	20
Toluene	25.00	24.21	97	80-120	6	20
Tetrachloroethene	25.00	27.03	108	79-127	4	20
1,2-Dibromoethane	25.00	24.36	97	80-120	2	20
Ethylbenzene	25.00	24.99	100	80-120	6	20
m,p-Xylenes	50.00	47.97	96	80-121	7	20
o-Xylene	25.00	24.23	97	80-121	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-125
1,2-Dichloroethane-d4	102	69-145
Toluene-d8	95	80-120
Bromofluorobenzene	97	80-120

RPD= Relative Percent Difference

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**Batch QC Report**
**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	186056
Units:	ug/L	Analyzed:	04/30/12
Diln Fac:	1.000		

Type: BS Lab ID: QC637686

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	945.7	95	80-120
1,1-Dichloroethene		NA		
trans-1,2-Dichloroethene		NA		
cis-1,2-Dichloroethene		NA		
Trichloroethene		NA		
Tetrachloroethene		NA		

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-125
1,2-Dichloroethane-d4	102	69-145
Toluene-d8	91	80-120
Bromofluorobenzene	101	80-120

Type: BSD Lab ID: QC637687

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	937.3	94	80-120	1	20
1,1-Dichloroethene		NA				
trans-1,2-Dichloroethene		NA				
cis-1,2-Dichloroethene		NA				
Trichloroethene		NA				
Tetrachloroethene		NA				

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-125
1,2-Dichloroethane-d4	102	69-145
Toluene-d8	93	80-120
Bromofluorobenzene	98	80-120

NA= Not Analyzed

RPD= Relative Percent Difference

**Batch QC Report**
**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC637688	Batch#:	186056
Matrix:	Water	Analyzed:	04/30/12
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-125
1,2-Dichloroethane-d4	100	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

## Purgeable Organics by GC/MS

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	186101
Units:	ug/L	Analyzed:	05/01/12
Diln Fac:	1.000		

Type: BS Lab ID: QC637868

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	101.3	81	47-136
Isopropyl Ether (DIPE)	25.00	23.33	93	54-136
Ethyl tert-Butyl Ether (ETBE)	25.00	23.63	95	57-133
Methyl tert-Amyl Ether (TAME)	25.00	22.39	90	65-120
1,1-Dichloroethene	25.00	25.13	101	66-131
MTBE	25.00	23.98	96	61-121
trans-1,2-Dichloroethene	25.00	27.24	109	72-130
cis-1,2-Dichloroethene	25.00	26.66	107	73-130
1,2-Dichloroethane	25.00	28.42	114	70-136
Benzene	25.00	26.59	106	80-121
Trichloroethene	25.00	27.55	110	79-120
Toluene	25.00	25.13	101	80-120
Tetrachloroethene	25.00	27.29	109	79-127
1,2-Dibromoethane	25.00	23.81	95	80-120
Ethylbenzene	25.00	26.75	107	80-120
m,p-Xylenes	50.00	50.85	102	80-121
o-Xylene	25.00	24.53	98	80-121

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-125
1,2-Dichloroethane-d4	109	69-145
Toluene-d8	92	80-120
Bromofluorobenzene	97	80-120

Type: BSD Lab ID: QC637869

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	119.7	96	47-136	17	28
Isopropyl Ether (DIPE)	25.00	22.97	92	54-136	2	20
Ethyl tert-Butyl Ether (ETBE)	25.00	23.85	95	57-133	1	20
Methyl tert-Amyl Ether (TAME)	25.00	22.89	92	65-120	2	20
1,1-Dichloroethene	25.00	23.61	94	66-131	6	20
MTBE	25.00	23.97	96	61-121	0	20
trans-1,2-Dichloroethene	25.00	26.27	105	72-130	4	20
cis-1,2-Dichloroethene	25.00	25.29	101	73-130	5	20
1,2-Dichloroethane	25.00	28.27	113	70-136	1	20
Benzene	25.00	24.51	98	80-121	8	20
Trichloroethene	25.00	25.65	103	79-120	7	20
Toluene	25.00	23.96	96	80-120	5	20
Tetrachloroethene	25.00	25.59	102	79-127	6	20
1,2-Dibromoethane	25.00	23.58	94	80-120	1	20
Ethylbenzene	25.00	25.32	101	80-120	5	20
m,p-Xylenes	50.00	47.22	94	80-121	7	20
o-Xylene	25.00	23.30	93	80-121	5	20

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-125
1,2-Dichloroethane-d4	109	69-145
Toluene-d8	95	80-120
Bromofluorobenzene	99	80-120

RPD= Relative Percent Difference

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**Batch QC Report**
**Purgeable Organics by GC/MS**

Lab #:	235758	Location:	1409-1417 12th St., Oakland
Client:	Impact Environmental	Prep:	EPA 5030B
Project#:	1409-1417	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC637872	Batch#:	186101
Matrix:	Water	Analyzed:	05/01/12
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
1,1-Dichloroethene	ND	0.50
MTBE	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Trichloroethene	ND	0.50
Toluene	ND	0.50
Tetrachloroethene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-125
1,2-Dichloroethane-d4	103	69-145
Toluene-d8	95	80-120
Bromofluorobenzene	104	80-120

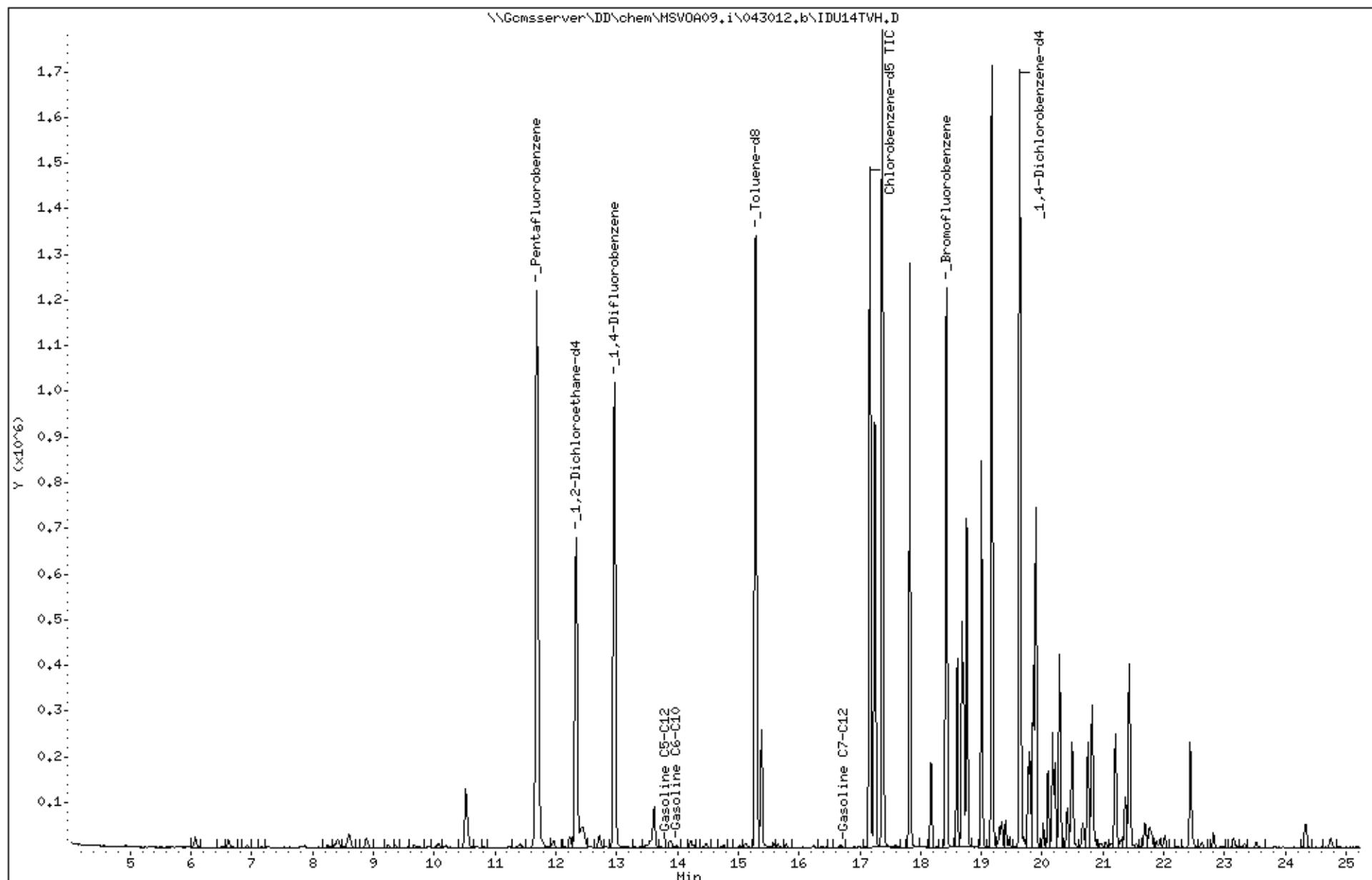
ND= Not Detected

RL= Reporting Limit

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Client ID: DYNAP&T  
Sample Info: S,235758-013

Instrument: MSV0A09.i  
Operator: VOC  
Column diameter: 2.00

Column phase:



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Date : 30-APR-2012 20:13  
Client ID: DYNAP&T  
Sample Info: S,235758-017

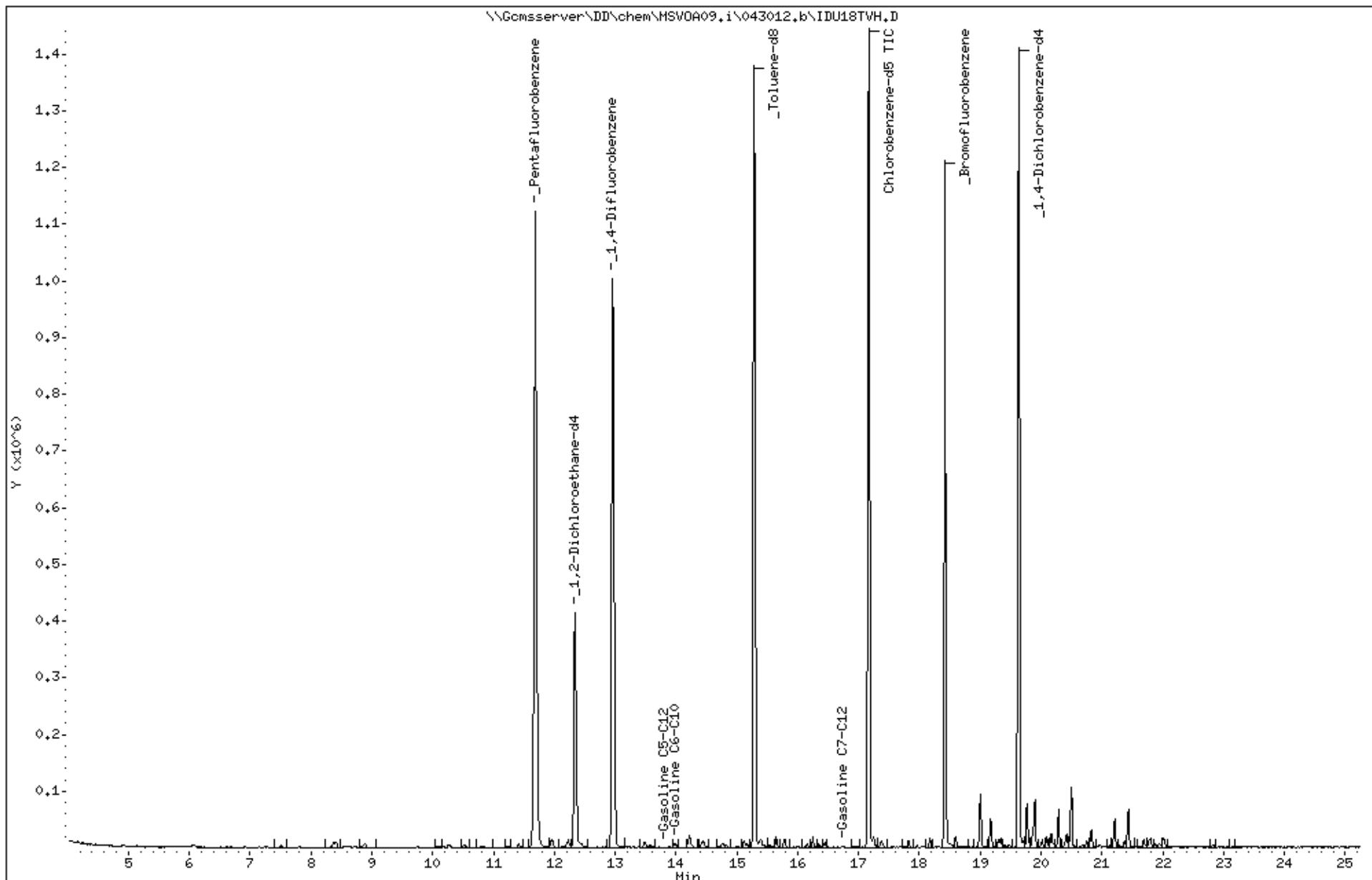
Column phase:

Instrument: MSV0A09.i

Operator: VOC  
Column diameter: 2.00

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 Date : 30-APR-2012 13:20  
 Client ID: DYNAP&T  
 Sample Info: BS, QC637674, 186053, S19732, .01/100  
 Purge Volume: 5.0  
 Column phase: RTX 624

Instrument: MSV0A08.i  
 Operator: VOC  
 Column diameter: 0.25

