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Groundwater Monitoring Report
Spring 2010 Semiannual Sampling Event
Municipal Service Center
7101 Edgewater Drive
Oakland, California

August 31, 2010
LC010060.0009

Prepared for:
City of Oakland, Public Works Agency
Environmental Services Division
250 Frank H. Ogawa Plaza, Suite 5301
Oakland, California

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August 31, 2010 LC010060.0009

Mr. Gopal Nair
City of Oakland, Public Works Department
Environmental Sciences Division
250 Frank H. Ogawa Plaza, Suite 5301
Oakland, California 94612

Subject: Groundwater Monitoring Report, Spring 2010 Semiannual Sampling Event, Municipal Service Center, 7101 Edgewater Drive, Oakland, California

Dear Mr. Nair:

ARCADIS U.S., Inc. (ARCADIS) is pleased to present this report summarizing data collected during the Spring 2010 semiannual groundwater monitoring event at the Municipal Service Center, located at 7101 Edgewater Drive in Oakland, California ("the Site"). These activities were performed in a manner consistent with previous sampling events conducted at the Site.

If you have any questions regarding this report, please call me at (510) 596-9536.

Sincerely,

Charles H. Pardini, P.G. (6444)
Principal Geologist

Attachment

650.469.7230 m
650.469.7235 f
www.lfr.com
5150 El Camino Real, Suite D-21
Los Altos, California 94022
Offices Nationwide

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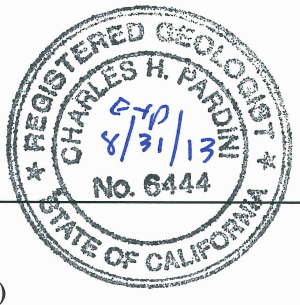
CERTIFICATION

All hydrogeologic and geologic information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by an ARCADIS U.S., Inc., California Professional Geologist.*



Charles H. Pardini
Principal Geologist
California Professional Geologist (6444)

August 31, 2010

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1.0 INTRODUCTION

This report presents the results of the Spring 2010 semiannual groundwater monitoring event conducted on April 8 and 29, 2010 ("the current monitoring event") at the Municipal Service Center (MSC), located at 7101 Edgewater Drive in Oakland, California ("the Site"; Figure 1). ARCADIS U.S., Inc. (ARCADIS) conducted monitoring activities at the Site in accordance with Assignment No. G08-LFR-08.

This report summarizes the monitoring activities conducted during the current monitoring event as well as the analytical results, distribution of contaminants in groundwater, conclusions, and recommendations. Also discussed are the anticipated semiannual monitoring activities to be performed in Fall 2010.

2.0 SITE BACKGROUND AND CORRECTIVE ACTION MEASURES

Eighteen 2-inch-diameter groundwater monitoring wells (MW-1 through MW-18) were installed on and off site to depths ranging from 13 feet below ground surface (bgs) to 20 feet bgs, at various times from 1989 to 2003. These wells have been monitored regularly since their installation. MW-3 and MW-4 were abandoned and sealed in 1999 (Ninyo & Moore 2004). In addition, six 6-inch-diameter wells (TBW-1 through TBW-6) were installed during backfilling of the excavation of former fuel hydrant lines in the early 1990s. TBW-1 through TBW-4 were abandoned and sealed in June 2007 by Baseline Environmental Consulting ("Baseline").

Eighteen 4-inch-diameter remediation wells and four 2-inch-diameter test/observation wells were installed on site to depths ranging from 13 feet bgs to 17 feet bgs, in December 2001 and January 2002 by others, according to Uribe & Associates' ("Uribe's") "Test/Observation Well Installation Report, U & A Project 291-03," dated April 2, 2002 (Uribe 2002). Seven of the wells (RW-Al, RW-A2, OB-A1, RW-B1, RW-B2, RW-B3, and RW-B4) were installed in the vicinity of Plumes A and B. Fifteen of the wells (RW-C1, RW-C2, RW-C3, RW-C4, RW-C5, RW-C6, RW-C7, OB-C1, RW-D1, RW-D2, RW-D3, RW-D4, RW-D5, OB-D1, and OB-D2) were installed in the vicinity of Plumes C and D. Each well, except OB-A1, was surveyed subsequent to the installation event. Six additional extraction wells (RW-D6 through RW-D11) were installed within the Plume D area in March 2007 by URS Corporation. These six wells are 6 inches in diameter and installed to an approximate depth of 20 feet bgs. The well locations are shown on Figures 2 and 3. The plume locations are shown on Figure 3.

According to the "Second Quarter 2003 Monitoring Report" (Uribe 2003), approximately 10,000 gallons of a groundwater/free product mixture were removed from on-site wells RW-B3 and RW-B4 (Plume B) in September and October 2002, using a trailer-mounted, dual-phase extraction (DPE) unit with a 10-horsepower vacuum pump. Additionally, approximately 10,000 gallons of liquid were removed

from wells RW-C3, RW-C4, RW-C5, and RW-C7 (Plume C) through five daily extractions over a two-month period. The liquid was pumped into a 21,000-gallon aboveground storage tank to allow separation of oil from water and drained through three 2,000-pound granular-activated carbon filters (in series). After filtration, the wastewater was discharged into a local storm drain. A National Pollutant Discharge Elimination System (NPDES) permit was issued prior to discharge.

Within the same time period, hydrogen peroxide, followed by water, was injected periodically into wells OB-Al, RW-Al, RW-A2, TBW-3, and TBW-4 (Plume A); MW-16 and MW-17 (Plume B); and MW-5 (active tank area), to promote in situ bioremediation. Hydrogen peroxide was also injected periodically into wells in the Plume C area from July 2004 through January 2009.

Construction of an extraction system to remove separate-phase hydrocarbons (SPH) within the vicinity of Plume D began in March 2006. Seven existing wells (RW-D1, RW-D2, RW-D3, RW-D4, RW-D5, TBW-5, and RW-1) were converted to extraction wells by URS Corporation. The extraction system was completed in April 2006, and the system began operation in mid-May 2006. Groundwater extracted from the seven wells was treated through an oil/water separator, followed by three 2,000-pound liquid-phase activated carbon units in series, and was discharged into the local storm drain via an NPDES permit. Extracted soil vapor was treated through a thermal oxidizer and discharged into the atmosphere via a permit issued by the Bay Area Air Quality Management District. Six additional wells were installed within the vicinity of Plume D in March 2007 (RW-D6, RW-D7, RW-D8, RW-D9, RW-D10, and RW-D11) and were connected to the extraction system on June 11, 2007. In addition, six existing wells in the Plume C area (RW-C2, RW-C4 through RW-C7, and OB-C1) were connected to the DPE system in May 2009 and extraction from these wells commenced on May 26, 2009.

The extraction remediation system was shutdown on December 23, 2009. It may be restarted if free phase product is again detected or significant rebound of dissolved concentration of petroleum hydrocarbons is determined in subsequent groundwater monitoring events. Quarterly remediation system performance reports were submitted separately from this monitoring report to Alameda County Environmental Health (ACEH) and to the Regional Water Quality Control Board – San Francisco Bay Region (RWQCB).

3.0 SPRING 2010 SEMIANNUAL MONITORING ACTIVITIES

3.1 Field Activities

The field activities, which included depth-to-groundwater/product measurement and well sampling, were conducted in accordance with the revised City of Oakland MSC Schedule and Protocol Table that was included in the November 6, 2009 letter to the

Alameda County Environmental Health Services proposing a revised groundwater monitoring schedule (Appendix A).

On April 8, 2010, ARCADIS personnel measured depth to water and depth to SPH using an electric oil/water interface probe in the following wells: MW-1, MW-2, MW-5 through MW-17, TBW-5, TBW-6, RW-1, RW-A1, RW-A2, OB-A1, RW-B1 through RW-B4, RW-C1 through RW-C3, RW-D1 through RW-D11, OB-D1, and OB-D2. A number of monitoring wells have been eliminated from the monitoring program. Monitoring wells MW-3 and MW-4 have been abandoned and sealed (Ninyo & Moore 2004). Wells TBW-1, TBW-2, TBW-3, and TBW-4 were abandoned and sealed by Baseline in June 2007.

ARCADIS personnel measured depth to water and depth to SPH using an electric oil/water interface probe in wells RW-C4 through RW-C7, and OB-C1 on April 29, 2010. Well boxes on these locations were replaced by heavy-duty well boxes prior to this monitoring event and could not be opened on April 8.

The oil/water interface probe was decontaminated with liquinox and distilled water before use in each well to avoid potential cross contamination. Current and historical product thickness measurements, depth-to-groundwater measurements, and groundwater elevations calculated from groundwater measurements are presented in Table 1. Monitoring and remediation well locations are shown on Figures 2 and 3.

On April 8, 2010, ARCADIS personnel collected groundwater samples from monitoring wells MW-1, MW-5, MW-9, MW-10, MW-12 through MW-14, and MW-17.

Due to a malfunction in the analytical laboratory sample storage room, the temperature dropped to below freezing. The water within the VOAs from well MW-9, and its duplicate sample MW-9D, froze, breaking the sample containers and resulting in a total loss of the sample. On April 29, 2010, ARCADIS returned to the Site and re-sampled well MW-9. Due to the amount of time between sampling events, samples were collected for all analytes. A duplicate sample was also collected at well MW-9 on April 29, 2010. The results for both sample dates are included in Table 1.

Prior to sampling, a clean, disposable, polyvinyl chloride (PVC) sampling bailer was used to purge a minimum of three well-casing volumes of groundwater from each of the eight monitoring wells sampled during the current monitoring event. The wells were allowed to recover to at least 80 percent of their original static groundwater levels before sampling. Dissolved oxygen, temperature, pH, conductivity, and oxidation-reduction potential (ORP) were measured for each well volume purged. Additionally, characteristics of the water (color, turbidity, odor, sheen) were noted on the field data sheets, which are included in Appendix B.

After the wells were purged, samples were collected using the disposable, PVC, bottom-discharging bailer that was used to purge the well. The samples were transferred from the bailer to the appropriate sample containers, labeled, and placed in

a "wet chilled" cooler containing ice, under chain-of-custody protocol. The samples were secured in the cooler and transferred to Curtis & Tompkins, Ltd., Analytical Laboratories (C&T), a California Department of Health Services–certified environmental laboratory located in Berkeley, California. Purged and decontamination water generated during sampling activities was transferred into an on-site storage tank that was part of the on-site extraction and treatment system maintained by the City of Oakland.

3.2 Sample Analyses

The groundwater samples were analyzed by C&T for the following parameters:

- total petroleum hydrocarbons (TPH) as gasoline (TPHg) using U.S. Environmental Protection Agency (U.S. EPA) Method 8260B
- TPH as kerosene (TPHk), TPH as diesel (TPHd), and TPH as motor oil (TPHmo) using U.S. EPA Method 8015B, with a silica-gel cleanup
- the aromatic hydrocarbons benzene, toluene, ethylbenzene, and total xylenes (collectively known as BTEX) and methyl tertiary-butyl ether (MTBE) using U.S. EPA Method 8260B

4.0 MONITORING RESULTS

4.1 Shallow Groundwater Topography

Depth to groundwater was measured on April 8 and April 29, 2010, using a Solinst oil/water interface meter (Table 1). Prior to groundwater measurement, the well caps were removed from all wells to allow the water column within each well to come into equilibrium with atmospheric pressure. Groundwater elevations were determined using well survey data from the "Second Quarter 2003 Monitoring Report, City of Oakland Municipal Service Center" (Uribe 2003).

Groundwater elevations in the monitoring wells ranged from 7.15 feet mean sea level (msl) at MW-1 to 0.71 foot msl at MW-17 (Figure 2). Groundwater flow direction, measured between wells MW-1 and MW-10, is toward the northwest in the northern section of the Site at approximately 0.010 foot/foot (ft/ft), and toward the southwest (measured between wells MW-11 and MW-15) at approximately 0.017 ft/ft in the southern portion of the Site. A groundwater high (groundwater elevation of 8.74 feet msl) is observed in the vicinity of remediation well RW-A2, located in the vicinity of Plume A in the southern portion of the Site (Figure 3). The variation in the groundwater gradient may be due to differences in lithologic characteristics in the subsurface or preferential pathways (possibly due to backfilled utility trenches and underground storage tank pits). The groundwater flow direction for this sampling period was similar to that reported by Ninyo & Moore in its July 14, 2004 Spring

Semiannual Groundwater Monitoring Report for the Site, and in more recent ARCADIS monitoring reports.

4.2 Occurrence of Separate-Phase Hydrocarbons

Floating SPH was not observed in any wells where depth-to-water and depth-to-SPH were measured during this monitoring event. The results of the SPH assessment are presented in Table 1. Plumes B, C, and D showed a significant decrease in lateral extent of SPH compared to the April 2004 monitoring event. The monitoring wells in the Plume A area continue to not contain measurable amounts of SPH. During the current monitoring event, a sheen was observed in extraction well RW-D11 in Plume D (Table 1).

4.3 Contaminant Distribution in Groundwater

The analytical data from this groundwater monitoring event are presented in Table 1, along with historical analytical results. Laboratory analytical data reports are included in Appendix C. Historical data for volatile organic compounds, semivolatile organic compounds, leaking underground fuel tank metals, and other metals are provided in Appendix D (Tables D-1, D-2, D-3, and D-4, respectively).

For quality assurance/quality control (QA/QC), ARCADIS collected a duplicate sample from well MW-9 (on both April 8 and April 29, 2010) and analyzed it for TPHg, TPHk, TPHd, TPHmo, BTEX, and MTBE. Analytical results for the duplicate sample were consistent with those for the primary samples collected from well MW-9 with the following exceptions:

- The relative percent difference (RPD) between the April 8, 2010 primary sample MW-9 and duplicate sample MW-9-D results exceeded the 30% QA/QC criterion for TPHd and TPHk. These results were qualified.
- The relative percent difference (RPD) between the April 29, 2010 primary sample MW-9 and duplicate sample MW-9-D results exceeded the 30% QA/QC criterion for TPHd. These results were qualified.

4.3.1 Screening Criteria

In the June 12, 2009 semiannual monitoring report, ARCADIS recommended that groundwater quality results be compared to the RWQCB Environmental Screening Levels (ESLs) for Groundwater Screening Levels (groundwater is not a current or potential drinking water resource; RWQCB 2008; Table F-1b) because they are the most applicable screening criteria for the current site conditions. The groundwater quality results had previously been compared to the San Francisco Airport Ecological Protection Zone (SFAEPZ) Tier I Standard and the RWQCB ESL for Surface Water Screening Levels Marine Habitats. These standards/screening levels both relate to the quality of the water in San Francisco Bay but not groundwater.

A comparison of the previous screening criteria and the recommended screening criteria is included in the table below. The groundwater quality results will be compared to the recommended screening criteria in this semiannual monitoring report.

Analyte	Previous Screening Criteria		Recommended Screening Criteria
	SFAEPZ Tier 1 Standard (µg/l)	ESL Surface Water (Table F-2b) (µg/l)	ESL Groundwater (Table F-1b) (µg/l)
Benzene	71	71	46
Toluene	NA	40	130
Ethylbenzene	29,000	30	43
Total Xylenes	NA	100	100
MTBE	NA	180	1800
TPH gasoline	3700	210	210
TPH diesel	640	210	210
TPH motor oil	640	210	210
TPH kerosene	NA	NA	210

Notes:
µg/l = micrograms per liter
NA = screening criteria not previously applied to analyte

4.3.2 Benzene

Benzene concentrations detected above laboratory analytical detection limits (LADLs) were reported in groundwater samples collected from four of the eight monitoring wells sampled during the current monitoring event. The maximum benzene concentration was detected in well MW-5 at 6.5 micrograms per liter (µg/l).

Benzene was also reported in groundwater samples collected from wells MW-1 (2 µg/l), MW-9 (5.0 µg/l; 4.9 µg/l in the duplicate sample), and MW-17 (2.3 µg/l).

The benzene concentrations detected during the April 2010 sampling event were generally consistent with historical concentrations for most monitoring wells.

The RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for benzene is 46 µg/l (RWQCB 2008; Table F-1b).

Benzene concentrations were all below the RWQCB ESL for benzene (46 µg/l) in samples collected during the current monitoring event.

4.3.3 Toluene

Toluene was reported in groundwater samples collected from three of the eight monitoring wells sampled during the current monitoring event. The maximum toluene concentration was detected in MW-5 at 2.4 µg/l.

Toluene was also reported in groundwater samples collected from wells MW-1 (0.71 µg/l) and MW-9 (1.2 µg/l; 1.2 µg/l in the duplicate sample).

The RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for toluene is 130 µg/l (RWQCB 2008; Table F-1b). Concentrations of toluene above the ESL of 130 µg/l were not detected in samples collected from the monitoring wells during the current monitoring event.

4.3.4 Ethylbenzene

Ethylbenzene was reported in groundwater samples collected from two of the eight monitoring wells sampled during the current monitoring event. The maximum ethylbenzene concentration was detected in MW-5 (240 µg/l). Ethylbenzene was also reported in the groundwater sample collected from well MW-17 (2.2 µg/l).

The RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for ethylbenzene is 43 µg/l (RWQCB 2008; Table F-1b). Ethylbenzene was detected in a sample collected from one monitoring well (MW-5) above the ESL of 43 µg/l during the current monitoring event.

4.3.5 Total Xylenes

Total xylenes were reported in groundwater samples collected from three of the eight monitoring wells sampled during the current monitoring event. The maximum total xylenes concentration was detected in MW-5 at 12.0 µg/l.

Total xylenes were also reported in samples collected from wells MW-1 (1.6 µg/l) and MW-9 (1.8 µg/l; 1.7 µg/l in the duplicate sample).

The RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for total xylenes is 100 µg/l (RWQCB 2008; Table F-1b). Concentrations of total xylenes were not detected above the ESL of 100 µg/l in samples collected from the monitoring wells during the current monitoring event.

4.3.6 MTBE

MTBE was reported in the groundwater sample collected from one of the eight monitoring wells sampled during the current monitoring event. MTBE was detected in MW-5 at a concentration of 8.4 µg/l.

The RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for MTBE is 1,800 µg/l (RWQCB 2008; Table F-1b). Concentrations of MTBE were not detected above the ESL of 1,800 µg/l in samples collected from the monitoring wells during the current monitoring event.

4.3.7 TPHg

TPHg was reported in groundwater samples collected from five of the eight monitoring wells sampled during the current monitoring event. The maximum TPHg concentration was detected in MW-5 (4,500 µg/l). TPHg was also detected in wells MW-1 (380 µg/l), MW-9 (87 µg/l; 98 µg/l in the duplicate sample), MW-12 (140 µg/l), and MW-17 (77 µg/l).

The RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHg is 210 µg/l (RWQCB 2008; Table F-1b). TPHg was detected above the ESL of 210 µg/l in samples collected from two monitoring wells (MW-1 and MW-5).

4.3.8 TPHd

TPHd was reported in groundwater samples collected from five of the eight monitoring wells sampled during the current monitoring event. The maximum TPHd concentration was detected in MW-5 at 1,300 µg/l. TPHd was also detected in wells MW-1 (210 µg/l), MW-9 (90 µg/l; $<$50 µg/l in duplicate sample), MW-12 (320 µg/l), and MW-13 (61 µg/l).

The RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHd (middle distillates) is 210 µg/l (RWQCB 2008; Table F-1b). TPHd concentrations were at or above the ESL of 210 µg/l in samples collected from three monitoring wells (MW-1, MW-5, and MW-12).

4.3.9 TPHmo

TPHmo was reported in the groundwater sample collected from one of the eight monitoring wells sampled during the current monitoring event. TPHmo was detected in MW-13 at a concentration of was 330 µg/l. The RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHmo (middle distillates) is 210 µg/l (RWQCB 2008; Table F-1b). The TPHmo concentration was above the ESL of 210 µg/l in the sample collected from well MW-13.

The TPHmo concentration measured in MW-13 decreased relative to the concentration detected in October 2009 (610 µg/l).

4.3.10 TPHk

TPHk was reported in groundwater samples collected from three of the eight monitoring wells sampled during the current monitoring event. The maximum TPHk concentration was detected in MW-5 at 1,400 µg/l. TPHk was also detected in wells MW-1 (190 µg/l) and MW-12 (250 µg/l).

The RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHk (middle distillates) is 210 µg/l (RWQCB 2008; Table F-1b). TPHk concentrations were above the ESL of 210 µg/l in samples collected from two monitoring wells (MW-5 and MW-12).

4.4 Laboratory Analysis

Current laboratory analytical results and historical results are presented in Table 1. Copies of laboratory data sheets and chain-of-custody documents are included in Appendix C.

5.0 LABORATORY QUALITY ASSURANCE AND QUALITY CONTROL

A laboratory QA/QC review was performed on the laboratory analytical data to evaluate the quality and usability of the analytical results. The following sections summarize the QA/QC review.

5.1 Method Holding Times

The procedures used to extract and analyze the collected samples were reviewed by ARCADIS personnel and were found to be within the appropriate holding times for all samples.

5.2 Blanks

One field blank (MW-1-FB) was collected along with the corresponding groundwater sample and was analyzed for TPHg, TPHk, TPHd, TPHmo, BTEX, and MTBE. Additionally, laboratory method blank results were reviewed for detection of target analytes. No target analytes were detected in the field blank. These results indicate that sample collection methods were effective, and that transportation and laboratory procedures were not a source of contamination.

5.3 Laboratory Control Samples

Laboratory quality control samples were conducted by C&T for TPHg, TPHd, TPHk, TPHmo, and BTEX. All samples were within the percentage recovery range required by the laboratory.

5.4 Surrogates

All surrogates, including hexacosane, bromofluorobenzene, and trifluorotoluene for TPHg, TPHd, TPHk, and TPHmo, and bromofluorobenzene, 1,2-dichloroethane-d4, and toluene-d8 for BTEX, were used for laboratory QA/QC analysis. All of the surrogates were within the acceptable laboratory recovery limits.

5.5 False-Positive Petroleum Hydrocarbon Identification

Qualifiers were reported in the laboratory analytical reports and noted in Table 1 and Figure 2.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The following summarizes the data collected during the Spring 2010 sampling event and presents the recommendations for the Fall 2010 monitoring period.

- Groundwater elevations in the monitoring wells ranged from 7.15 feet msl at MW-1 to 0.71 foot msl at MW-17. The direction of shallow groundwater flow is toward the northwest in the northern section of the Site at a 0.010 ft/ft gradient and toward the southwest in the southern portion of the Site at 0.017 ft/ft. A groundwater high was observed in the vicinity of well RW-A2 (Plume A) in the southern portion of the Site. This groundwater high is probably the result of higher subsurface permeability in areas of excavation backfill.
- SPH was not observed in any wells where depth-to-SPH was measured during this monitoring event.
- Benzene was detected above LADL in four of the eight wells sampled. The maximum concentration of benzene detected in shallow groundwater was 6.5 μg/l in well MW-5. No concentrations of benzene exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for benzene of 46 μg/l during the current monitoring event.
- Toluene was detected above LADL in three of the eight wells sampled. The maximum concentration of toluene detected in shallow groundwater was 2.4 μg/l in well MW-5. No concentrations of toluene exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for toluene of 130 μg/l during the current monitoring event.

- Ethylbenzene was detected above LADL in two of the eight wells sampled. The maximum concentration of ethylbenzene was detected in shallow groundwater at 240 µg/l in well MW-5. The concentration of ethylbenzene was above the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for ethylbenzene of 43 µg/l in one well sampled.
- Total xylenes were detected above LADL in three of the eight wells sampled. The maximum concentration of xylenes detected in shallow groundwater was 12.0 µg/l in well MW-5. No concentrations of total xylenes exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for ethylbenzene of 100 µg/l during the current monitoring event.
- MTBE was detected above LADL in one of the eight wells sampled. MTBE was detected in well MW-5 at a concentration of 8.4 µg/l. No concentrations of MTBE exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for MTBE of 1,800 µg/l during the current monitoring event.
- TPHg was detected above LADL in five of the eight wells sampled. The maximum concentration of TPHg detected in shallow groundwater was 4,500 µg/l in well MW-5. TPHg concentrations were above the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHg of 210 µg/l in two of the wells sampled.
- TPHd was detected above LADL in five of the eight wells sampled. The maximum concentration detected was present in well MW-5 at a concentration of 1,300 µg/l. TPHd concentrations were at or above the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHd (middle distillates) of 210 µg/l in three of the wells sampled.
- TPHmo was detected above LADL in one of the eight wells sampled (MW-13) at a concentration of 330 µg/l. The TPHmo concentration detected in MW-13 was above the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHd (middle distillates) of 210 µg/l.
- TPHk was detected above LADL in three of the eight wells sampled. The maximum concentration of TPHk detected was present in well MW-5 (1,400 µg/l). TPHk concentrations were above the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHk (middle distillates) of 210 µg/l in two of the wells sampled.

Based on the results of the Spring 2010 groundwater monitoring event, ARCADIS makes the following recommendations:

- Continue semiannual groundwater monitoring on site due to the elevated concentrations of TPHg, TPHd, TPHmo, and benzene reported during the current monitoring event.
- Continue monitoring SPH.

7.0 LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard of care exercised by environmental consultants performing similar work in the project area. No other warranty, expressed or implied, is made regarding the professional opinions presented in this report. Please note this study did not include an evaluation of geotechnical conditions or potential geologic hazards.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions and the referenced literature. It should be understood that the conditions of a site can change with time as a result of natural processes or the activities of man at the site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which ARCADIS has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. ARCADIS should be contacted if the reader requires any additional information or has questions regarding the content, interpretations presented, or completeness of this document.

8.0 SELECTED REFERENCES

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Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
MW-1														
10/4/89	10.20	---	---	8020		---	---	---	540	65	26	14	22	---
10/4/89	10.20	---	---	8240		---	---	---	---	120	46	43	78	---
4/27/93	10.20	---	---	8020		---	---	---	<1,000	<1.0	<1.0	<1.0	<1.0	---
4/19/95	10.20	---	---	8020		---	---	---	3,200	880	15	23	21	---
7/27/95	10.20	4.62	5.58	8020		---	---	---	980	130	3.6	1.4	5.6	---
11/20/95	10.20	6.08	4.12	8020		---	---	---	400	99	2.8	1.1	4.6	---
2/21/96	10.20	4.62	5.58	8020		---	---	---	1,700	340	8.4	5.3	16	---
5/13/96	10.20	4.33	5.87	8020		---	---	---	7,300	2,000	30	42	38	---
8/27/96	10.20	5.25	4.95	8020		---	---	---	380	61	2.4	<0.5	4.2	---
2/23/98	10.20	1.75	8.45	8020		<50	<500	<50	820	160	4.9	3	9.7	---
8/19/98	10.20	4.78	5.42	8020	SGC	1,200	---	---	780	69	4.1	0.84	8.5	<5.0
11/11/98	10.20	5.64	4.56	---		---	---	---	---	---	---	---	---	---
2/23/99	10.20	3.41	6.79	8020	SGC	1,200	1,600	<50	1,100	190	5	3	12	<5.0
5/27/99	10.20	3.96	6.24	---		---	---	---	---	---	---	---	---	---
8/24/99	10.20	4.92	5.28	8020	SGC	640	1,900	<50	370	37	0.9	<0.5	1.9	<5.0
11/22/99	10.20	5.46	4.74	---		---								
1/18/00	10.05	5.41	4.64	---		---	---	---	---	---	---	---	---	---
1/19/00	10.05	---	---	8020	SGC	50	<200	<50	660	43	2.3	1.1	6	<5.0
5/11/00	10.05	4.63	5.42	---		---	---	---	---	---	---	---	---	---
8/24/00	10.05	5.07	4.98	---		---	---	---	---	---	---	---	---	---
8/25/00	10.05	---	---	8020	SGC	340	<250	290	480	53	1.4	<0.5	2.9	<5.0
11/28/00	10.05	5.60	4.45	---		---	---	---	---	---	---	---	---	---
2/27/01	10.05	3.95	6.10	8020	Filtered+SGC	270	<250	<61	1,500	110	6.3	<1.5	9.9	<15
5/17/01	10.05	4.00	6.05	---		---	---	---	---	---	---	---	---	---
8/16/01	10.05	4.17	5.88		Filtered+SGC	280	<200B	<100	4,000	640	9.7	5.7	13	<5.0
12/15/01	10.05	5.52	4.53	---		---	---	---	---	---	---	---	---	---
4/9/02	10.05	3.78	6.27	8021	SGC	1,100	1,000	---	2,000	320	5.38	3.08	6.24	<5
6/21/02	10.05	4.92	5.13	---		---	---	---	---	---	---	---	---	---
9/13/02	10.05	5.52	4.53	8021	SGC	88 b,c	<300	88	260	9.6	<0.5	<0.5	1.0	<2
4/22/03	10.05	4.41	5.64	8021B	SGC	570 L Y	<300	660	1,900 Z	400.0	9.6	5.4	8.1	<2.0
4/28/04	10.05	3.95	6.10	8260B	SGC	<100	<400	<100	154	20	<1.0	<1.0	2.3	<1.0
10/29/04	10.05	5.68	4.37	8260B	SGC	230 L Y	<300	240	340 H Z	6.4	0.6	<0.5	1.4	<0.5
9/2/05 [1]	10.05	4.35	5.70	8260B	SGC	140 L Y	<300	170	350	6.6	1.0	<0.5	2.3	<0.5
4/4/2006 [3]	10.05	2.24	7.81	8260B	SGC	830 L Y	<300	1,100 L Y	3,700	470	13	7.8	6.3	<3.6
9/6/06	10.05	4.98	5.07	8260B	SGC	3,400 H L	400 L	3,100 H	480	4.2	1.0	<0.5	1.9	<0.5
4/5/07	10.05	3.56	6.49	8260B	SGC	500 L Y	<300	490 L Y	1,500 Y	170	7.2	3.6	5.7	<1.3
10/2/07	10.05	5.59	4.46	8260B	SGC	600 Y	<300	710 Y	460 Y	6.1	1.1	<0.5	1.2	<0.5
3/20/08 [8]	10.05	3.53	6.52	8260B	SGC	1,000 Y	<300	960	1,600 Y	53	4.1	1.2	6.3	<0.5
11/21/08 [10]	10.05	5.48	4.57	8260B	SGC	110 Y	<300	87 Y	210 Y	2.4	0.52	<0.50	1.3	<0.50
4/1/09	10.05	3.30	6.75	8260B	SGC	480 Y	<300	540	1,300 Y	79	6.40	2.9	5.1	<0.50
10/30/09	10.05	4.52	5.53	8260B	SGC	810Y	<300	820Y	1,800Y	59	9.40	3.5	10.7	<0.50

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Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
4/8/10	10.05	2.90	7.15	8260B	SPH: None; Odor	210 Y	<300	190 Y	380	2.4	0.71	<0.50	1.6	<0.50
MW-2														
10/4/89	10.47	---	---	8020		---	---	---	<30	<0.3	<0.3	<0.3	<0.3	---
10/4/89	10.47	---	---	8240		---	---	---	---	2	<2.0	<2.0	<2.0	---
4/27/93	10.47	---	---	8020		---	---	---	<1,000	<1.0	<1.0	<1.0	<1.0	---
4/19/95	10.47	---	---	8020		---	---	---	<50	1.8	<0.5	<0.5	<0.5	---
7/27/95	10.47	6.22	4.25	8020		---	---	---	<50	2.3	<0.5	<0.5	<0.5	---
11/20/95	10.47	7.49	2.98	8020		---	---	---	<50	2.2	<0.5	<0.5	<0.5	---
2/12/96	10.47	6.68	3.79	8020		---	---	---	<50	1.7	<0.5	<0.5	0.5	---
5/13/96	10.47	6.32	4.15	8020		---	---	---	---	2	<0.5	<0.5	<0.5	---
8/27/96	10.47	6.84	3.63	8020		---	---	---	---	2.4	<0.5	<0.5	<0.5	---
2/24/98	10.47	5.44	5.03	8020		<50	<500	<50	---	1.6	<0.5	<0.5	<0.5	---
8/19/98	10.47	6.56	3.91	8020	SGC	330	---	---	<50	4.1	3.4	0.8	2.6	<5.0
11/11/98	10.47	7.37	3.10	---		---	---	---	---	---	---	---	---	---
2/23/99	10.47	8.68	1.79	8020	SGC	200	900	<50	<50	3.5	0.6	0.6	1.2	<5.0
5/27/99	10.47	5.20	5.27	---		---	---	---	---	---	---	---	---	---
8/24/99	10.47	6.75	3.72	8020	SGC	140	700	<50	<50	2.6	<0.5	<0.5	<0.5	<5.0
11/22/99	10.47	7.58	2.89	---		---	---	---	---	---	---	---	---	---
1/18/00	10.47	7.41	3.06	8020	SGC	60 a	660	<50	<50	2.1	<0.5	<0.5	<0.5	<5.0
5/11/00	10.47	6.43	4.04	---		---	---	---	---	---	---	---	---	---
8/24/00	10.47	8.91	1.56	8020	SGC	170	440	130	<50	2.4	<0.5	<0.5	<0.5	<5.0
11/28/00	10.47	7.35	3.12	---		---	---	---	---	---	---	---	---	---
2/27/01	10.47	6.70	3.77	8020	Filtered+SGC	<59	<240	<59	<50	3.6	<0.5	<0.5	<0.5	<5
5/17/01	10.47	6.90	3.57	---		---	---	---	---	---	---	---	---	---
8/16/01	10.47	6.95	3.52		Filtered+SGC	<50	200B	<100	<50	<0.5	<0.5	<0.5	<0.5	<5.0
12/15/01	10.47	7.21	3.26	---		---	---	---	---	---	---	---	---	---
4/5/02	10.47	6.02	4.45	8021	SGC	200	400	---	<50	2.9	<0.5	<0.5	<0.5	<5
6/21/02	10.47	8.07	2.40	---		---	---	---	---	---	---	---	---	---
9/17/02	10.47	7.12	3.35	8021	SGC	<50	<300	<50	<50	2.1	<0.5	<0.5	<0.5	<2
4/23/03	10.47	6.36	4.11	8021B	SGC	<50	<300	<50	<50	1.6	<.50	<.50	<.50	<2.0
4/28/04	10.47	5.99	4.48	8260B	SGC	<100	<400	<100	<100	<0.5	<1.0	<1.0	1.3	<1.0
9/1/05 [1]	10.47	6.08	4.39	8260B	SGC	<50	<300	<50	<50	2.8	<0.5	<0.5	<0.5	0.8
4/4/2006 [3]	10.47	4.96	5.51	8260B	SGC	<50	<300	<50	<50	2.1	<0.5	<0.5	0.5	0.5
9/6/06	10.47	9.31	1.16	---	---	---	---	---	---	---	---	---	---	---
4/5/07	10.47	9.21	1.26	8260B	SGC	<50	<300	<50	<50	1.6	<0.5	<0.5	<0.5	<0.5
10/2/07	10.47	10.81	-0.34	---	---	---	---	---	---	---	---	---	---	---
3/20/08 [8]	10.47	12.36	-1.89	8260B	SGC	<50	<300	<50	<50	1.5	<0.5	<0.5	<0.5	<0.5
11/18/08	10.47	11.07	-0.60	8260B	---	---	---	---	---	---	---	---	---	---
4/1/09	10.47	10.80	-0.33	8260B	SGC	<50	<300	<50	<50	1.3	<0.5	<0.5	<0.5	<0.5
4/1/09 dup	---	---	---	8260B	SGC	<50	<300	<50	<50	1.5	<0.5	<0.5	<0.5	<0.5
10/29/09	10.47	9.88	0.59	---	---	---	---	---	---	---	---	---	---	---

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Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
4/8/10	10.47	8.00	2.47	---	SPH: None	---	---	---	---	---	---	---	---	---
MW-3														
10/4/89	---	---	---	8020		---	---	---	<30	<0.3	<0.3	<0.3	<0.3	---
10/4/89	---	---	---	8240		---	---	---	---	<2.0	<2.0	<2.0	<2.0	---
2/23/98	---	---	---	---		<50	<500	<50	---	---	---	---	---	---
11/11/98	---	5.83	---	---		---	---	---	---	---	---	---	---	---
2/23/99	---	---	---	---	Submerged	---	---	---	---	---	---	---	---	---
5/27/99	---	1.68	---	---		---	---	---	---	---	---	---	---	---
8/24/99	---	4.76	---	---		---	---	---	---	---	---	---	---	---
11/22/99	---	6.46	---	---		---	---	---	---	---	---	---	---	---
11/22/99	---	---	---	---	Destroyed	---	---	---	---	---	---	---	---	---
MW-4														
10/4/89	7.89	---	---	8020		---	---	---	<30	<0.3	<0.3	<0.3	<0.3	---
10/4/89	7.89	---	---	8240		---	---	---	---	<2.0	<2.0	<2.0	<2.0	---
11/11/98	7.89	6.25	1.64	---		---	---	---	---	---	---	---	---	---
2/23/99	7.89	3.10	4.79	---		---	---	---	---	---	---	---	---	---
5/27/99	7.89	4.03	3.86	---		---	---	---	---	---	---	---	---	---
8/24/99	7.89	5.07	2.82	---		---	---	---	---	---	---	---	---	---
11/22/99	7.89	6.32	1.57	---		---	---	---	---	---	---	---	---	---
11/22/99	---	---	---	---	Destroyed	---	---	---	---	---	---	---	---	---
MW-5														
12/13/91	11.15	---	---	8020		1,900	---	---	13,000	1,500	190	970	2,500	---
12/13/91	11.15	---	---	8020	Dup	---	---	---	16,000	1,400	180	870	2,500	---
12/13/91	11.15	---	---	8240		---	---	---	---	1,800	<250	1,000	3,800	---
12/13/91	11.15	---	---	8240	Dup	---	---	---	---	1,600	<250	980	3,500	---
4/27/93	11.15	---	---	8240		12,000	---	---	35,000	2,100	<1.0	1,800	2,700	---
4/19/95	11.15	---	---	8240		880	4,700	---	14,000	490	51	610	1,200	---
7/27/95	11.15	6.29	4.86	8240		590	5,000	---	22,000	1,300	54	1,500	2,400	---
11/20/95	11.15	6.98	4.17	8020		<50	<50	<50	8,900	430	31	610	880	---
2/21/96	11.15	5.97	5.18	8020		480	<50	<50	1,000	540	65	700	970	---
5/13/96	11.15	6.25	4.90	8020		<50	<50	<50	5,900	430	26	580	760	---
5/13/96	11.15	---	---	8020	Dup	<50	<50	<50	7,300	360	22	49	640	---
8/27/96	11.15	6.40	4.75	8020		2,000	<51	<51	6,600	430	27	600	650	---
8/27/96	11.15	---	---	8020	Dup	6,600	<51	<51	6,300	410	25	580	620	---
2/23/98	11.15	4.22	6.93	8020		<50	<500	<50	740	19	1.4	41	34	---
8/19/98	11.15	6.14	5.01	8020		1,400	<250	1700	5,800	500	25	730	300	5,900
8/19/98	11.15	6.14	5.01	8260	SGC	---	---	---	---	---	---	---	---	6,700
11/11/98	11.15	6.51	4.64	---		---	---	---	---	---	---	---	---	---

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Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
2/23/99	11.15	3.59	7.56	8020	SGC	2,000	700	<50	6,700	300	26	800	690	1,600
5/27/99	11.15	5.71	5.44	---		---	---	---	---	---	---	---	---	---
8/24/99	11.15	6.02	5.13	8020	SGC	220	2,000	<50	2,100 e	190 e	5.5	340 e	78	380 e
11/22/99	11.15	6.16	4.99	---		---	---	---	---	---	---	---	---	---
1/18/00	11.15	6.60	4.55	---		---	---	---	---	---	---	---	---	---
1/19/00	11.15	---	---	8020	SGC	100	320	<50	3,000	66 e	6.3	400 e	90	300 E (1,300)
5/11/00	11.15	5.62	5.53	---		---	---	---	---	---	---	---	---	---
8/24/00	11.15	6.32	4.83	8020	SGC	4,800	560	6,600	12,000	220	21	430	91	1,200 (1,400)
11/28/00	11.15	6.47	4.68	---		---	---	---	---	---	---	---	---	---
2/27/01	11.15	4.40	6.75	8020	Filtered+SGC	230	<250	<61	6,300	150	7	350	55	830
5/17/01	11.15	5.77	5.38	8020	Filtered+SGC	190	<200	<50	7,500	140	7	580	101	170
8/16/01	11.15	4.87	6.28		Filtered+SGC	320	500B	<100	2,300	46	<5	110	24	850
12/15/01	11.15	5.50	5.65	---		---	---	---	---	---	---	---	---	---
4/9/02	11.15	5.15	6.00	8021	SGC	480	260	---	8,000	110	5.95	650	53.9	166
6/21/02	11.15	6.01	5.14	8021	SGC	200 a,b,c	<300	190	4,600	130	33	380	56	440
9/12/02	11.15	6.40	4.75	8021	SGC	620 b,c	<300	650	4,000 J	120	<0.5	260	16	580
4/22/03	11.15	4.69	6.46	8021B	SGC	1600 L Y	<300	1800	6000	91	<1.0	870	59.4	150 C
4/28/04	11.15	5.70	5.45	8260B	SGC	<650	<400	<810	4780	34	<1.0	560	44	47
10/29/04	11.15	5.73	5.42	8260B	SGC	840 L Y	<300	940	3000	18	2.1	280	16.1	94
9/2/05 [1]	11.15	6.08	5.07	8260B	SGC	510 L Y	<300	640	1600	13	1.4	55	8.6	92
4/5/06 [3]	11.15	3.64	7.51	8260B	SGC	840 L Y	<300	850 H	3,400	14	2.1	280	13	31
9/6/06	11.15	6.21	4.94	8260B	SGC	340 Y	<300	400 Y	2000	8.3	1.1	8.2	6.8	50
4/5/07	11.15	5.31	5.84	8260B	SGC	340 L Y	<300	310 L Y	3,100 Y	9.3	<2.0	230	13	38
10/2/07	11.15	6.51	4.64	8260B	SGC	400 Y	<300	440	3,000 Y	11	1.4	100	6.8	46
3/20/08 [8]	11.15	5.37	5.78	8260B	SGC	1,400 Y	<300	1,400	4,100 Y	8.4	1.7	270	12	23
11/21/08 [10]	11.15	6.51	4.64	8260B	SGC	660 Y	<300	690 Y	2,600	11	1.7	240	6.5	20
4/2/09 [12]	11.15	4.89	6.26	8260B	SGC	730 Y	<300	840	4,800 Y	8.8	2.5	380	13.3	15
10/30/09	11.15	5.86	5.29	8260B	SGC	1,100Y	<300	1,100Y	3,100	5.2	<1.7	200	8.1	23
10/30/09dup	---	---	---	8260B	Dup	600Y	<300	620Y	3,300	5.3	<1.7	210	8.7	20
4/8/10	11.15	4.16	6.99	8260B	SPH: None	1300 Y	<300	1400 Y	4,500	6.5	2.4	240	12	8.4
MW-6														
12/13/91	10.98	---	---	8020		520	---	---	780	110	2.7	<2.5	5.5	---
12/13/91	10.98	---	---	8240		---	---	---	---	95	5	<5	<5	---
4/27/93	10.98	---	---	8020		<1,000	---	---	<1,000	430	4	5	10	---
4/19/95	10.98	---	---	8020		6,700	---	---	5,700	40	<0.8	3.9	29	---
4/19/95	10.98	---	---	8020	Dup	3,700	---	---	3,000	310	3.1	2.7	100	---
7/27/95	10.98	7.09	3.89	8020		3,900	---	---	6,100	430	15	200	600	---
7/27/95	10.98	---	---	8020	Dup	2,600	---	---	6,300	420	15	200	600	---
11/20/95	10.98	7.89	3.09	8020		850	---	---	6,800	160	4.6	8	240	---
11/20/95	10.98	---	---	8020	Dup	---	---	---	3,600	130	11	4.4	200	---

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
2/21/96	10.98	7.40	3.58	8020	Filtered+SGC	1,700	---	---	2,800	230	2.8	3.8	44	---
2/21/96	10.98	---	---	8020	Dup	2,500	---	---	2,200	280	3	4	4.6	---
5/13/96	10.98	7.10	3.88	8020		400	<50	<50	3,100	430	12	5.2	67	---
8/27/96	10.98	7.42	3.56	8020		3,100	---	---	4,200	300	9.3	110	110	---
8/19/98	10.98	---	---	---	SPH: 0.125 ft.	---	---	---	---	---	---	---	---	---
11/11/98	10.98	7.09	3.93	---	SPH: 0.05 ft.	---	---	---	---	---	---	---	---	---
2/23/99	10.98	7.31	3.67	---	SPH: NM	---	---	---	---	---	---	---	---	---
5/27/99	10.98	6.91	4.25	---	SPH: 0.20 ft.	---	---	---	---	---	---	---	---	---
8/24/99	10.98	7.46	3.72	---	SPH: 0.03 ft.	---	---	---	---	---	---	---	---	---
11/22/99	10.98	7.96	3.15	---	SPH: 0.16 ft.	---	---	---	---	---	---	---	---	---
1/18/00	10.98	8.08	3.05	---	SPH: 0.19 ft.	---	---	---	---	---	---	---	---	---
5/11/00	10.98	7.52	4.47	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
8/24/00	10.98	7.50	3.53	---	SPH: 0.06 ft.	---	---	---	---	---	---	---	---	---
11/28/00	10.98	6.39	4.62	---	SPH: 0.04 ft.	---	---	---	---	---	---	---	---	---
2/26/01	10.98	7.80	3.50	8020	SPH: 0.40 ft., f	820	<240	<60	6,100	181	<5	14.2	<5	<50
2/26/01	10.98	---	---	8260B		---	---	---	---	270	3	9	3	(19)
5/17/01	10.98	7.57	3.66	---	SPH: 0.32 ft.	---	---	---	---	---	---	---	---	---
8/16/01	10.98	7.75	3.49		SPH: 0.32 ft., f	740	200B	<100	4,200	360	4.6	13	12	14
12/15/01	10.98	7.58	3.40	---	SPH: 0.07 ft.	---	---	---	---	---	---	---	---	---
4/3/02	10.98	6.92	4.06	---	SPH: 0.11 ft.	---	---	---	---	---	---	---	---	---
6/21/02	10.98	7.05	3.93	---	SPH: 0.19 ft.	---	---	---	---	---	---	---	---	---
9/12/02	10.98	7.22	4.02	---	SPH: 0.33 ft.	---	---	---	---	---	---	---	---	---
4/22/03	10.98	4.71	6.27	---	SPH: 0.16 ft.	---	---	---	---	---	---	---	---	---
4/28/04	10.98	5.09	5.89		SPH: 0.23 ft.	---	---	---	---	---	---	---	---	---
10/27/04	10.98	6.12	4.86	--	SPH: product on probe	---	---	---	---	---	---	---	---	---
8/31/05	10.98	6.11	4.87	--	SPH: 0.95 ft.	---	---	---	---	---	---	---	---	---
3/27/06	10.98	4.11	---	--	SPH: 0.57 ft.	---	---	---	---	---	---	---	---	---
9/6/06	10.98	5.42	5.56	8260B	SPH: 0.01 ft.	180 Y	<300	200 Y	1,300	330	3.9	<1.7	3.7	4.8
9/6/06	10.98	---	---	8260B	Dup	2,400 H L	<300	2,300 H	1,200	350	3.6	<1.3	3.4	4.7
4/4/07	10.98	4.37	6.61	8260B	SGC	3,300	<300	3,000 H	1,400 H Y	520	<4.2	<4.2	<4.2	4.5
10/2/07	10.98	7.25	3.73	8260B	SGC	2,400	340 Y	2000	890 Y	270	3.8	5.5	3	7.8
3/20/08 [8]	10.98	6.59	4.39	8260B	SPH: Residual Product noted while bailing/ SGC	7,200	820	5,900	1,100 Y	500	3.5	5.9	3.1	7.7
11/21/08 [10]	10.98	6.06	4.92	8260B	SPH: Residual Product noted while bailing/ SGC	1,500 Y	<300	1,200 Y	450 Y	96	1.9	<0.50	1.2	5.7
4/1/09	10.98	4.48	6.50	---	SPH: 0.03 ft.	---	---	---	---	---	---	---	---	---
10/30/09	10.98	6.97	4.01	8260B	SGC	1,200Y	<300	1,000Y	560Y	98	4.1	3.0	4.76	5.0
4/8/10	10.98	4.20	6.78	---	SPH: None	---	---	---	---	---	---	---	---	---

Table 1
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Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
MW-7														
12/13/91	11.51	---	---	8020		<50	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
12/13/91	11.51	---	---	8240		---	---	---	---	<5	<5	<5	<5	---
4/27/93	11.51	---	---	8240		<1,000	---	---	<1,000	<1.0	<1.0	<1.0	<1.0	---
4/19/95	11.51	---	---	8240		<50	<1,000	---	<50	<2.0	<2.0	<2.0	<2.0	---
7/27/95	11.51	6.87	4.64	8240		<50	<1,000	---	<50	<2.0	<2.0	<2.0	<2.0	---
11/20/95	11.51	8.48	3.03	8020		<50	---	---	<50	<0.5	<0.5	<0.5	1.5	---
2/21/96	11.51	6.29	5.22	8020		<50	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
5/13/96	11.51	6.95	4.56	8020		<50	---	---	---	<0.5	<0.5	<0.5	<0.5	---
8/27/96	11.51	6.80	4.71	8020		---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
8/19/98	11.51	6.88	4.63	---		---	---	---	---	---	---	---	---	---
11/11/98	11.51	7.40	4.11	---		---	---	---	---	---	---	---	---	---
2/23/99	11.51	5.57	5.94	8020		<50	<200	<50	80	<0.5	<0.5	<0.5	1	<5.0
5/27/99	11.51	6.56	4.95	---		---	---	---	---	---	---	---	---	---
8/24/99	11.51	6.29	5.22	8020	SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	5
11/22/99	11.51	6.80	4.71	---		---	---	---	---	---	---	---	---	---
1/18/00	11.51	7.31	4.20	---		---	---	---	---	---	---	---	---	---
1/19/00	11.51	---	---	8020	SGC	<50	<200	<50	54	1.5	1.5	2.4	3.8	<5.0
5/11/00	11.51	6.41	5.10	---		---	---	---	---	---	---	---	---	---
8/24/00	11.51	7.11	4.40	8020		<50	<250	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	11.51	7.30	4.21	---		---	---	---	---	---	---	---	---	---
2/27/01	11.51	5.75	5.76	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5
5/17/01	11.51	6.65	4.86	---		---	---	---	---	---	---	---	---	---
8/16/01	11.51	5.97	5.54		Filtered+SGC	<50	600B	<100	<50	<0.5	<0.5	<0.5	<0.5	<5
12/15/01	11.51	6.43	5.08	---		---	---	---	---	---	---	---	---	---
4/8/02	11.51	6.17	5.34	8021	SGC	80	<200	---	<50	<0.5	0.5	0.6	<0.5	<5
6/21/02	11.51	6.75	4.76	8021	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	3.3
9/12/02	11.51	7.05	4.46	8021	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	2.6
4/22/03	11.51	6.24	5.27	8021B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	4 C
4/28/04	11.51	6.61	4.90	8260B	SGC	<100	<400	<100	<100	1.6	<1.0	<1.0	<1.0	<1.0
9/2/05 [1]	11.51	6.56	4.95	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	3.2
4/5/06 [3]	11.51	4.58	6.93	8260B	SGC	<50	<300	<50	<50	2.7	<0.5	<0.5	<0.5	<0.5
9/6/06	11.51	6.67	4.84	---	---	---	---	---	---	---	---	---	---	---
4/5/07	11.51	6.13	5.38	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	2.7
10/2/07	11.51	7.07	4.44	---	---	---	---	---	---	---	---	---	---	---
3/20/08 [8]	11.51	6.24	5.27	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	2.7
3/20/08 dup	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	2.6
11/18/08	11.51	7.40	4.11	---	---	---	---	---	---	---	---	---	---	---
4/2/09 [12]	11.51	6.95	4.56	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	1.3
10/29/09	11.51	6.60	4.91	8260B	SGC	---	---	---	---	---	---	---	---	---

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
4/8/10	11.51	5.11	6.4	---	SPH: None	---	---	---	---	---	---	---	---	---
MW-8														
11/20/96	12.22	---	---	8020		880	---	---	<50	0.66	<0.5	<0.5	<0.5	---
11/20/97	12.22	9.59	2.63	8020		200	---	---	<50	<0.5	<0.5	<0.5	<0.5	2
2/24/98	12.22	8.42	3.80	8020		<50	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	---
6/8/98	12.22	9.57	2.65	8020		1,200	1,000	<50	<50	<0.5	<0.5	<0.5	<0.5	---
8/19/98	12.22	9.49	2.73	8020	SGC	<50	<250	<50	<50	1.6	3.4	1	2.8	<5.0
11/11/98	12.22	9.64	2.58	8020	SGC	<50	<200	<50	<50	0.9	0.8	0.6	2.3	<5.0
2/23/99	12.22	11.53	0.69	8020		700	1,500	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/27/99	12.22	9.65	2.57	8020		<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
8/24/99	12.22	9.62	2.60	8020	SGC	70	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/22/99	12.22	9.64	2.58	8020	SGC	57	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
1/18/00	12.22	8.31	3.91	8020	SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/11/00	12.22	9.69	2.53	8020	SGC	<50	<200	<50	<50	<0.5	1.3	<0.5	2.1	<5.0
8/24/00	12.22	9.40	2.82	---		---	---	---	---	---	---	---	---	---
8/25/00	12.22	---	---	8020	SGC	85	<250	<50	<50					
11/28/00	12.22	9.40	2.83	8020	SGC	<50	910	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
2/27/01	12.22	9.50	2.72	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/17/01	12.22	9.71	2.51	---		---	---	---	---	---	---	---	---	---
5/18/01	12.22	---	---	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
8/16/01	12.22	9.80	2.42		Filtered+SGC	<50	<200	<100	<50	<0.5	<0.5	<0.5	<0.5	<5
12/15/01	12.22	9.28	2.94	8021	SGC	390	1,300	<50	<50	<0.5	<0.5	<0.5	<0.5	<5
4/8/02	12.22	9.55	2.67	8021	SGC	440	800	---	<50	<0.5	<0.5	<0.5	<0.5	<5
6/21/02	12.22	9.71	2.51	---		---	---	---	---	---	---	---	---	---
9/18/02	12.22	9.86	2.36	8021	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<2
4/22/03	12.22	9.54	2.68	8021B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<2
4/28/04	12.22	---	---	---		---	---	---	---	---	---	---	---	---
10/27/04	12.22	NM[4]	---	---		---	---	---	---	---	---	---	---	---
4/5/06 [3]	12.22	8.73	3.49	8260B	SGC	54 Y	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/6/06	12.22	9.50	2.72	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
4/3/07	12.22	9.58	2.64	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
10/3/07	12.22	9.54	2.68	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
3/21/08 [8]	12.22	9.61	2.61	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/19/08 [10]	12.22	9.58	2.64	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/2/09 [12]	12.22	9.54	2.68	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
10/30/09	12.22	9.67	2.55	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/8/10	12.22	9.57	2.65	---	SPH: None	---	---	---	---	---	---	---	---	---
MW-9														

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
11/20/96	10.77	---	---	8020		1,900	---	---	240	21	0.81	1.8	2.2	---
11/20/97	10.77	7.91	2.86	8020		---	---	---	300	20	<0.5	<0.5	1.8	<1.0
2/24/98	10.77	6.11	4.66	8020		<50	<500	<50	2,200	540	5.6	1.6	4.9	---
6/8/98	10.77	7.14	3.63	8020		1,800	890	<50	840	450	6.1	3.3	5.3	---
8/19/98	10.77	7.88	2.89	8020	SGC	190	<250	160	740	370	8.6	0.99	7.3	<5.0
11/11/98	10.77	8.23	2.54	8020	SGC	<50	230	<50	700	130	4.3	<0.5	3.9	<5.0
2/23/99	10.77	6.65	4.12	8020		1,100	3,700	<50	1,100	620	9.7	1.5	7.7	<5.0
5/27/99	10.77	7.70	3.07	8020	SGC	70	300	<50	950	470	11	1.5	9.2	<5.0
8/24/99	10.77	8.12	2.65	8020	SGC	890	1,700	<50	290	45	2.8	<0.5	3	<5.0
11/22/99	10.77	8.33	2.44	8020	SGC	1,000	6,000	<50	170	12	1.8	<0.5	2	<5.0
1/18/00	10.77	8.63	2.14	8020	SGC	200 a	2,300	<50	160	5.7	1.9	0.6	4.2	<5.0
5/11/00	10.77	7.70	3.07	8020	SGC	180 a	980	<100	1,050	280	7.0	<2.5	5.9	<25
8/24/00	10.77	8.31	2.46	---		---	---	---	---	---	---	---	---	---
8/25/00	10.77	---	---	8020	SGC	580	2,200	170	180	23	2.4	<0.5	2.7	<5.0
11/28/00	10.77	8.45	2.32	8020	SGC	200	1,600	<50	130	1.9	<0.5	<0.5	<0.5	<5.0
11/28/00	10.77	8.45	2.32	---	Filtered+SGC	<50	<200	<50	---	---	---	---	---	---
2/26/01	10.77	6.40	4.37	8020	Filtered+SGC	120	<200	<50	142	33	1.8	<0.5	<0.5	<5.0
5/17/01	10.77	9.88	0.89	---		---	---	---	---	---	---	---	---	---
5/18/01	10.77	---	---	8020	Filtered+SGC	<50	<200	<50	74	4.6	<0.5	<0.5	<0.5	<5.0
8/16/01	10.77	8.05	2.72		Filtered+SGC	<50	<200	<100	70	0.62	<0.5	<0.5	<0.5	<5
12/16/01	10.77	7.75	3.02	8021	SGC	1,400	4,100	<50	210	15	1.6	<0.5	2.2	<5
4/5/02	10.77	7.50	3.27	8021	SGC	870	1,000	---	1,498	367	11	2.1	7.8	<5
6/20/02	10.77	8.27	2.50	8021	SGC	<50	<300	<50	430	180	5.7	2.4	4.15	<2
9/18/02	10.77	8.25	2.52	8021	SGC	63 b,c	<300	60	250	49	5.8	<0.5	3.1	<2
4/22/03	10.77	7.25	3.52	8021B	SGC	<50	<300	<50	69	4.1 C	<0.5	<0.5	0.9	<2
4/28/04	10.77	---	---	---		---	---	---	---	---	---	---	---	---
10/27/04	10.77	NM[4]	---	---		---	---	---	---	---	---	---	---	---
9/6/06	10.77	8.44	2.33	8260B	SGC	210 Y	<300	150 Y	240	58	5.3	<0.5	5.68	<0.5
4/3/07	10.77	8.28	2.49	8260B	SGC	180 H Y	<300	140 H	240 Z	27	4.2	<0.5	5.32	<0.5
4/3/07	10.77	---	---	8260B	Dup	190 H Y	<300	160 H	260 Z	28	4.5	<0.5	5.87	<0.5
10/3/07	10.77	8.58	2.19	8260B	SGC	110 Y	<300	110 Y Z	240 Y	1	2.4	<0.5	3.53	<0.5
3/20/08 [8]	10.77	8.46	2.31	8260B	SGC	170 Y	<300	150 Y	230	65	4.2	<0.5	5.13	<0.5
3/20/08 dup	---	---	---	8260B	SGC	190 Y	<300	180 Y	250	66	4.4	<0.5	5.5	<0.5
11/21/08 [10]	10.77	8.63	2.14	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/2/09 [12]	10.77	8.08	2.69	8260B	SGC	130 Y	380	53 Y	70 Y	82	1.4	<0.50	1.0	<0.50
10/30/09	10.77	8.91	1.86	8260B	SGC	220Y	<300	130Y	<50	<0.50	<0.50	<0.50	0.61	<0.50
4/8/10	10.77	7.37	3.4	8260B	SPH: None	110 Y, F	<300	52 Y, F	---	---	---	---	---	---
4/8/10 dup	---	---	---	8260B		250 Y, F	<300	170 Y, F	---	---	---	---	---	---
4/29/10	10.77	7.3	3.47	8260B	SPH: None	90 Y, F	<300	<50	87	5.0	1.2	<0.50	1.8	<0.50
4/29/10 dup	---	---	---	8260B		<50 F	<300	<50	98	4.9	1.2	<0.50	1.7	<0.50

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Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
MW-10														
11/20/96	10.59	---	---	8020		940	---	---	<50	49	0.59	0.54	1.2	---
11/20/97	10.59	7.70	2.89	8020		---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
2/24/98	10.59	4.39	6.20	8020		<50	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	---
6/8/98	10.59	6.94	3.65	8020		500	<500	<50	<50	7.3	<0.5	<0.5	<0.5	---
8/19/98	10.59	6.99	3.60	8020	SGC	240	520	110	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/11/98	10.59	7.57	3.02	8020	SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
2/23/99	10.59	5.51	5.08	8020		170	1,200	<50	<50	1.3	<0.5	<0.5	<0.5	<5.0
5/27/99	10.59	6.72	3.87	8020	SGC	<50	<200	<50	350	170	1.5	0.5	2.3	<5.0
8/24/99	10.59	7.27	3.32	8020	SGC	140	300	<50	380	160 e	<0.5	<0.5	2.6	<5.0
11/22/99	10.59	7.71	2.88	8020	SGC	570	3,400	<50	110	5.1	<0.5	<0.5	0.72	<5.0
1/18/00	10.59	7.77	2.82	---		---	---	---	---	---	---	---	---	---
1/19/00	10.59	---	---	8020	SGC	120 a,b	1,200	<50	100	<0.5	<0.5	0.8	<0.5	<5.0
5/11/00	10.59	7.00	3.59	8020	SGC	110 a	990	<50	145	1.62	0.5	0.5	0.9	<5.0
8/24/00	10.59	7.31	3.28	---		---	---	---	---	---	---	---	---	---
8/25/00	10.59	---	---	8020	SGC	430	1,300	110	<50	1.0	<0.5	<0.5	<0.5	<5.0
11/28/00	10.59	7.90	2.69	8020	SGC	220	1,500	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
2/27/01	10.59	5.80	4.79	8020	Filtered+SGC	85	<230	<57	<50	1.3	<0.5	<0.5	<0.5	<5.0
5/17/01	10.59	6.27	4.32	---		---	---	---	---	---	---	---	---	---
5/18/01	10.59	---	---	8020	Filtered+SGC	<50	<200	<50	<50	0.7	<0.5	<0.5	<0.5	<5.0
8/16/01	10.59	8.75	1.84		Filtered+SGC	<50	<200	<100	<50	<0.5	<0.5	<0.5	<0.5	<5
12/16/01	10.59	6.97	3.62	8021	SGC	410	2,100	<50	<50	2.4	<0.5	<0.5	<0.5	<5
4/8/02	10.59	6.51	4.08	8021	SGC	220	300	---	<50	1.1	<0.5	<0.5	<0.5	<5
6/20/02	10.59	8.10	2.49	8021	SGC	1,100 a,c	6,200	<50	120	34	<0.5	<0.5	<0.5	<2
9/17/02	10.59	7.66	2.93	8021	SGC	150 a,c	880	<50	130 a,c,j	32	<0.5	2.3	<0.5	<2
4/22/03	10.59	6.81	3.78	8021B	SGC	<50	<300	<50	51	1.0 C	<.50	1.2	<.50	<2
4/28/04	10.59	6.70	3.89	8260B	SGC	<100	<400	<100	114	14	<1.0	6.9	5.2	3.5
10/28/04	10.59	6.98	3.61	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/1/05 [1]	10.59	6.76	3.83	8260B	SGC	<50	<300	<50	110	2.4	<0.5	<0.5	0.7	<0.5
4/5/06 [3]	10.59	4.86	5.73	8260B	SGC	<50	<300	<50	<50	2.1	<0.5	<0.5	<0.5	<0.5
9/6/06	10.59	9.01	1.58	8260B	SGC	98 H Y	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
4/4/07	10.59	8.99	1.60	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
10/3/07	10.59	9.78	0.81	8260B	SGC	<50	<300	<50	<50	30	<0.5	<0.5	<0.5	<0.5
3/21/08 [8]	10.59	10.20	0.39	8260B	SGC	<50	<300	<50	<50	3.9	<0.5	<0.5	<0.5	<0.5
11/19/08 [10]	10.59	9.55	1.04	8260B	SGC	<50	<300	<50	<50	11	<0.50	<0.50	<0.50	<0.50
11/19/08 dup	---	---	---	8260B	SGC	<50	<300	<50	<50	11	<0.50	<0.50	<0.50	<0.50
4/1/09	10.59	7.52	3.07	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
10/30/09	10.59	8.80	1.79	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/8/10	10.59	6.23	4.36	---	SPH: None	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-11														
1/18/00	11.60	7.08	4.52	---		---	---	---	---	---	---	---	---	---

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Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
1/19/00	11.60	---	---	8020	SGC	<50	500	<50	220	<0.5	<0.5	<0.5	<0.5	<5.0
5/11/00	11.60	5.95	5.65	8020	SGC	<50	430	<50	600	23	2.1	18	15	<5.0
8/24/00	11.60	6.58	5.02	8020		<50	<250	<50	110	5.9	<0.5	0.73	0.64	<5.0
11/28/00	11.60	6.91	4.69	8020	SGC	<50	<200	<50	180	4	<0.5	1.9	<0.5	<5.0
2/27/01	11.60	5.65	5.95	8020	Filtered+SGC	86	<240	<60	720	29	5.2	38	36	<5.0
5/17/01	11.60	6.85	4.75	8020	Filtered+SGC	<50	<200	<50	720	36	3.4	15	18	9.7
8/16/01	11.60	6.01	5.59		Filtered+SGC	<50	500B	<100	110	4.8	<0.5	1.4	<0.5	<5
12/15/01	11.60	6.26	5.34	8021	SGC	200	300	<50	170	1.7	0.6	2.4	1.8	<2
4/5/02	11.60	5.47	6.13	8021	SGC	160	<200	---	330	8.9	2.0	6.9	8.7	<5
6/21/02	11.60	6.17	5.43	8021	SGC	<50	<300	<50	280	16	1.8	8.7	9.6	3.6
9/12/02	11.60	6.60	5.00	8021	SGC	<50	<300	<50	93	<0.5	<0.5	1.1	<0.5	2.1
4/24/03	11.60	5.71	5.89	8021B	SGC	<50	<300	<50	320	21	2.1	12	6.13	8.9
4/28/04	11.60	5.92	5.68	8260B	SGC	<100	<400	<100	360	18	<1.0	6.5	4.5	4
10/27/04	11.60	6.59	5.01	8260B	SGC	---	---	---	---	---	---	---	---	---
9/2/05 (1)	11.60	6.22	5.38	8260B	SGC	<50	<300	<50	85	<0.5	<0.5	<0.5	<0.5	4.5
4/4/06 (3)	11.60	4.17	7.43	8260B	SGC	71 L Y	<300	75 L Y	230	5.7	0.9	14	7.0	6.5
4/4/06	11.60	---	---	8260B	dup	<50	<300	55 L Y	220	6.5	1.0	15	7.3	7.4
9/6/06	11.60	6.46	5.14	---	---	---	---	---	---	---	---	---	---	---
4/5/07	11.60	5.60	6.00	8260B	SGC	66 Y	<300	55 Y	270 Y	9.6	0.7	7.3	2.4	11
10/2/07	11.60	6.83	4.77	---	---	---	---	---	---	---	---	---	---	---
3/20/08 (8)	11.60	6.83	4.77	8260B	SGC	<50	<300	<50	160	3.5	<0.5	5.4	0.92	13
11/18/08	11.60	7.00	4.60	---	---	---	---	---	---	---	---	---	---	---
4/2/09 (12)	11.60	5.24	6.36	8260B	SGC	<50	<300	<50	94 Y	0.98	<0.50	2.9	<0.50	13
10/29/09	11.60	6.33	5.27	8260B	SGC	---	---	---	---	---	---	---	---	---
4/8/10	11.60	4.51	7.09	---	SPH: None	---	---	---	---	---	---	---	---	---
MW-12														
1/18/00	10.43	8.11	2.32	---		---	---	---	---	---	---	---	---	---
1/19/00	10.43	---	---	8020	SGC	1,800 a	11,000	<50	200	<0.5	3.4	1.5	8.4	<5.0
5/11/00	10.43	6.78	3.65	8020	SGC	2,400 a	4,900	<100	370	<0.5	<0.5	<0.5	0.9	<5.0
8/24/00	10.43	7.56	2.87	---		---	---	---	---	---	---	---	---	---
8/25/00	10.43	---	---	8020	SGC	3,500	5,000	3,700	170	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	10.43	8.13	2.30	8020	SGC	2,100	14,000	<50	290	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	10.43	8.13	2.30	---	Filtered+SGC	50	<200	<50	---	---	---	---	---	---
2/27/01	10.43	6.00	4.43	8020	Filtered+SGC	320	<250	66	110	1.4	<0.5	<0.5	<0.5	<5.0
5/17/01	10.43	7.01	3.42	8020	Filtered+SGC	<50	<200	<50	220	<0.5	<0.5	<0.5	<0.5	<5.0
8/16/01	10.43	8.47	1.96	8020	Filtered+SGC	200	300B	<100	160	<0.5	<0.5	<0.5	<0.5	<5
4/8/02	10.43	6.65	3.78	8021	SGC	500	500	---	180	<0.5	<0.5	0.7	<1.5	<5
6/21/02	10.43	7.10	3.33	8021	SGC	1,100 a,b,c	3,000 h	640	180	<0.5	<0.5	0.63	1.62	<2
9/17/02	10.43	7.75	2.68	8021	SGC	220 a,b,c	360	190	130	<0.5	<0.5	<0.5	<0.5	<2
4/22/03	10.43	6.60	3.83	8021B	SGC	140 L Y	<300	120	150	<0.5	<0.5	<0.5	<0.5	<2
4/28/04	10.43	6.60	3.83	8260B	SGC	<550	1,020	<100	<100	<0.5	<1.0	<1.0	<1.0	<1.0

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Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
10/29/04	10.43	7.87	2.56	8260B	SGC	240 H L Y	460	180	170 H	<0.5	<0.5	<0.5	<0.5	<0.5
9/2/05 (1)	10.43	7.04	3.39	8260B	SGC	<50	<300	<50	170	<0.5	<0.5	<0.5	<0.5	<0.5
9/2/05 (1)	10.43	7.04	3.39	8260B	SGC	110 L Y	<300	120	150	<0.5	<0.5	<0.5	<0.5	<0.5
4/4/06 (3)	10.43	4.49	5.94	8260B	SGC	110 Y	<300	110 Y	110	<0.5	<0.5	<0.5	<0.5	<0.5
9/6/06	10.43	7.43	3.00	8260B	SGC	230 Y	<300	200 Y	120	<0.5	<0.5	<0.5	<0.5	<0.5
4/5/07	10.43	6.58	3.85	8260B	SGC	340 H Y	360 H L	230 H Y	160 Y	<0.5	<0.5	<0.5	<0.5	<0.5
10/2/07	10.43	8.14	2.29	8260B	SGC	290 Y	<300	230	160 Y	<0.5	<0.5	<0.5	<0.5	<0.5
3/19/08	10.43	6.45	3.98	8260B	SGC	620 Y	340	430	130 Y	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/08 (10)	10.43	8.27	2.16	8260B	SGC	170 Y	<300	120 Y	59 Y	<0.50	<0.50	<0.50	<0.50	<0.50
4/1/09	10.43	6.30	4.13	8260B	SGC	330 Y	<300	300	100 Y	<0.50	<0.50	<0.50	<0.50	<0.50
10/29/09	10.43	7.73	2.70	8260B	SGC	280Y	<300	220Y	160Y	<0.50	<0.50	<0.50	<0.50	<0.50
4/8/10	10.43	6.07	4.36	8260B	SPH: None	320 Y	<300	250	140	<0.50	<0.50	<0.50	<0.50	<0.50
MW-13														
1/18/00	11.34	9.63	1.71	8020	SGC	8,800 a	120,000	<50	<50	<0.5	0.8	<0.5	<0.5	<5.0
5/11/00	11.34	10.12	1.22	8020	SGC	11,000 a	110,000	<500	70	1.6	5.4	1.2	7.6	<5.0
8/24/00	11.34	10.22	1.12	---		---	---	---	---	---	---	---	---	---
8/25/00	11.34	---	---	8020	SGC	3,100	13,000	1,200	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	11.34	10.50	0.84	8020	SGC	2,400	36,000	<1300	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	11.34	10.50	0.84	---	Filtered+SGC	280	1,100	<50	---	---	---	---	---	---
2/26/01	11.34	9.60	1.74	8020	Filtered+SGC	100	<260	<64	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/17/01	11.34	10.10	1.24	---		---	---	---	---	---	---	---	---	---
5/18/01	11.34	---	---	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
8/16/01	11.34	10.50	0.84		Filtered+SGC	<50	300B	<100	<50	<0.5	<0.5	<0.5	<0.5	<5
12/16/01	11.34	9.43	1.91	8021	SGC	1,900	18,000	<250	<50	<0.5	<0.5	<0.5	<0.5	<5
4/8/02	11.34	10.24	1.10	8021	SGC	440	900	---	<50	<0.5	<0.5	<0.5	<0.5	<5
6/20/02	11.34	10.75	0.59	8021	SGC	270 a,c	1,500 h	<50	<50	<0.5	<0.5	<0.5	<0.5	<2
9/18/02	11.34	10.60	0.74	8021	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<2
4/22/03	11.34	10.46	0.88	8021B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0
4/28/04	11.34	10.22	1.12	8260B	SGC	<100	799	<100	<100	<0.5	<1.0	<1.0	<1.0	<1.0
10/28/04	11.34	9.50	1.84	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/1/05 (1)	11.34	9.56	1.78	8260B	SGC	<50	320	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
4/5/06 (3)	11.34	7.86	3.48	8260B	SGC	180 H Y	910	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/6/06	11.34	10.53	0.81	8260B	SGC	150 H Y	730	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
4/4/07	11.34	9.73	1.61	8260B	SGC	58 H Y	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
10/3/07	11.34	10.18	1.16	8260B	SGC	120 Y	460	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
3/20/08 (8)	11.34	9.54	1.80	8260B	SGC	53 Y	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/08 (10)	11.34	10.41	0.93	8260B	SGC	120 Y	630	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/2/09 (12)	11.34	10.41	0.93	8260B	SGC	110 Y	610	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
10/30/09	11.34	9.65	1.69	8260B	SGC	81Y	650	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/8/10	11.34	9.96	1.38	8260B	SPH: None	61 Y	330	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50

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Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
MW-14														
1/18/00	10.05	7.37	2.68	8020	SGC	1,700 a	22,000	<50	120	<0.5	<0.5	<0.5	<0.5	<5.0
5/11/00	10.05	6.73	3.32	8020	SGC	360 a	4,300	<100	120	<0.5	<0.5	<0.5	0.5	<5.0
8/24/00	10.05	7.30	2.75	---		---	---	---	---	---	---	---	---	---
8/25/00	10.05	---	---	8020	SGC	1,000	3,100	460	90	6.3	<0.5	<0.5	<0.5	<5.0
11/28/00	10.05	7.40	2.65	8020	SGC	380	6,400	<250	140	7.4	<0.5	<0.5	<0.5	<5.0
11/28/00	10.05	7.40	2.65	---	Filtered+SGC	<50	<200	<50	---	---	---	---	---	---
2/26/01	10.05	6.20	3.85	8020	Filtered+SGC	150	<230	<58	73	2.3	<0.5	<0.5	<0.5	<5.0
5/17/01	10.05	7.74	2.31	---		---	---	---	---	---	---	---	---	---
5/18/01	10.05	---	---	8020	Filtered+SGC	120	<200	<50	100	11	<0.5	<0.5	<0.5	<5.0
8/16/01	10.05	7.85	2.20		Filtered+SGC	<50	<200	<100	60	<0.5	<0.5	<0.5	<0.5	<5
12/16/01	10.05	6.60	3.45	8021	SGC	1,110	3,000	<50	<50	<0.5	<0.5	<0.5	<0.5	<5
4/9/02	10.05	6.58	3.47	8021	SGC	870	1,100	---	250	<0.5	<0.5	<0.5	<0.5	<5
6/20/02	10.05	7.52	2.53	8021	SGC	<50	310 h	<50	<50	<0.5	<0.5	<0.5	<0.5	<2
9/18/02	10.05	7.55	2.50	8021	SGC	<50	<300	<50	<50	1.3	<0.5	0.80	<0.5	<2
4/22/03	10.05	6.71	3.34	8021B	SGC	<50	<300	<50	61	4.2	<0.5	1.0	<0.5	12.0
4/28/04	10.05	6.81	3.24	8260B	SGC	<230	<400	<100	241	1.4	<1.0	<1.0	<1.0	<1.0
10/28/04	10.05	6.99	3.06	8260B	SGC	<50	<300	<50	56	3.5	<0.5	<0.5	<0.5	0.5
10/28/04	10.05	---	---	8260B	dup	<50	<300	<50	53	1.9	<0.5	<0.5	<0.5	<0.5
9/1/05 [1]	10.05	7.60	2.45	8260B	SGC	<50	<300	<50	79	6.7	<0.5	<0.5	<0.5	0.7
4/5/06 [3]	10.05	5.91	4.14	8260B	SGC	50 Y	<300	<50	<50	1.7	<0.5	<0.5	<0.5	<0.5
9/6/06	10.05	7.70	2.35	8260B	SGC	140 H Y	<300	79 H Y	60	<0.5	<0.5	<0.5	<0.5	0.51
4/4/07	10.05	7.52	2.53	8260B	SGC	100 H Y	<300	50 H Y	<50	<0.5	<0.5	<0.5	<0.5	<0.5
4/4/07	10.05	---	---	8260B	Dup	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
10/3/07	10.05	8.45	1.60	8260B	SGC	61 Y	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
3/20/08 [8]	10.05	7.80	2.25	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/08 [10]	10.05	8.45	1.60	8260B	SGC	150 Y	660	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/2/09 [12]	10.05	7.20	2.85	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
10/30/09	10.05	9.11	0.94	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/8/10	10.05	6.62	3.43	8260B	SPH: None	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-15														
1/18/00	12.36	10.56	1.80	8020	SGC	12,000 a	89,000	<50	110	3.8	2.1	1	4.6	<5.0
5/11/00	12.36	10.03	2.33	8020	SGC	120 a	590	<50	90	0.9	0.9	<0.5	3.3	<5.0
8/24/00	12.36	10.22	2.14	---		---	---	---	---	---	---	---	---	---
8/25/00	12.36	---	---	8020	SGC	1,900	8,600	1,000	<50	1.9	<0.5	<0.5	1.5	<5.0
11/28/00	12.36	10.30	2.06	8020	SGC	2,500	36,000	<1300	80	1.7	<0.5	<0.5	1.6	<5.0
11/28/00	12.36	10.30	2.06	---	Filtered+SGC	73	<200	<50	---	---	---	---	---	---
2/26/01	12.36	9.30	3.06	8020	Filtered+SGC	190	<240	<60	55	0.6	<0.5	<0.5	0.5	<5.0
5/17/01	12.36	10.09	2.27	---		---	---	---	---	---	---	---	---	---

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Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
5/18/01	12.36	---	---	8020	Filtered+SGC	210	<230	<57	66	1.5	<0.5	<0.5	2.1	<5.0
8/16/01	12.36	10.20	2.16		Filtered+SGC	<50	B500	<100	<50	<0.5	<0.5	<0.5	2.4	<5
12/16/01	12.36	9.80	2.56	8021	SGC	3,800	15,000	<250	<50	<0.5	<0.5	<0.5	2	<5
4/5/02	12.36	9.58	2.78	8021	SGC	1,000	1,400	---	<50	<0.5	<0.5	<0.5	2.3	<5
6/20/02	12.36	10.24	2.12	8021	SGC	670 a,c	2,700 h	95 c,i	<50	0.83	<0.5	<0.5	2.20	<2
9/18/02	12.36	9.89	2.47	8021	SGC	70 a,c	<300	<50	<50	<0.5	<0.5	1.5	1.71	<2
4/22/03	12.36	9.55	2.81	8021B	SGC	<50	<300	<50	<50	1 C	<.50	1.4	1.9	<2
4/28/04	12.36	9.68	2.68	8260B	SGC	<250	567	<100	<100	<0.5	<1.0	<1.0	<1.0	2.8
10/28/04	12.36	9.58	2.78	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	2.2	<0.5
9/1/05 [1]	12.36	9.56	2.80	8260B	SGC	420 Y	<300	120 H Y	55	<0.5	<0.5	<0.5	2.0	<0.5
4/5/06 [3]	12.36	8.76	3.60	8260B	SGC	300 H Y	760	87 H Y	<50	<0.5	<0.5	<0.5	2.4	<0.5
9/6/06	12.36	9.98	2.38	8260B	SGC	220 H Y	400	80 H Y	<50	<0.5	<0.5	<0.5	2.06	<0.5
4/3/07	12.36	10.05	2.31	8260B	SGC	130 H Y	<300	63 H Y	<50	<0.5	<0.5	<0.5	2.38	<0.5
10/3/07	12.36	10.16	2.20	8260B	SGC	150 Y	550	<50	55 Y	<0.5	<0.5	<0.5	1.96	<0.5
3/20/08 [8]	12.36	10.08	2.28	8260B	SGC	88 Y	<300	<50	<50	<0.5	<0.5	<0.5	2.02	<0.5
11/19/08 [10]	12.36	10.28	2.08	8260B	SGC	110 Y	<300	<50	<50	<0.50	<0.50	<0.50	1.78	<0.50
4/2/09 [12]	12.36	9.91	2.45	8260B	SGC	85 Y	<300	<50	<50	<0.50	<0.50	<0.50	0.82	<0.50
10/30/09	12.36	10.24	2.12	8260B	SGC	110Y	<300	<50	81Y	<0.50	<0.50	<0.50	2.41	<0.50
4/8/10	12.36	9.59	2.77	---	SPH: None	---	---	---	---	---	---	---	---	---
MW-16														
1/18/00	13.57	10.22	3.43	---	SPH: 0.1 ft.	---	---	---	---	---	---	---	---	---
5/11/00	13.57	13.31	0.27	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
8/24/00	13.57	8.91	4.66	---	SPH: NM	---	---	---	---	---	---	---	---	---
11/28/00	13.57	13.05	0.86	---	SPH: 0.42 ft.	---	---	---	---	---	---	---	---	---
2/26/01	13.57	13.10	0.79	---	SPH: 0.40 ft.	---	---	---	---	---	---	---	---	---
5/17/01	13.57	12.62G	---	---	SPH: NM	---	---	---	---	---	---	---	---	---
8/16/01	13.57	11.94G	---	---	SPH: NM	---	---	---	---	---	---	---	---	---
12/15/01	13.57	NM	---	---	SPH: NM	---	---	---	---	---	---	---	---	---
4/3/02	13.57	12.88	0.69	---		---	---	---	---	---	---	---	---	---
6/21/02	12.22	NM	---	---	SPH: NM	---	---	---	---	---	---	---	---	---
4/22/03	12.22				Well cap stuck									
4/28/04	12.22	12.48	-0.26	8260B	SGC	<230	1030	<260	2000	150	<1.0	46	<1.0	<1.0
10/28/04	12.22	11.97	0.25	8260B	SGC	450 L Y	<300	480	1100	18	1.7	29	1.7	<0.5
8/31/05	12.22	12.09	0.13	---	SPH: None	---	---	---	---	---	---	---	---	---
4/5/06 [3]	12.22	3.80	8.42	8260B	SGC	95 H Y	420	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/6/06	12.22	---	---	---	Dry	---	---	---	---	---	---	---	---	---
4/4/07 [5]	12.22	10.72	1.5	8260B	SGC	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<0.5
10/3/07	12.22	10.92	1.3	8260B	SGC	2,300 Y	4300	1700	480 Y	31	1.7	4.5	1.6	<0.5
3/19/08 [9]	12.22	10.72	1.5	---	---	---	---	---	---	---	---	---	---	---

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7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
11/19/08 (10)	12.22	12.33	-0.11	8260B	SGC	52,000 Y	110,000	31,000	150 Y	21	1.7	2.7	1.1	<0.50
4/2/09 (12)	12.22	11.25	0.97	8260B	SGC	---	---	---	59 Y	<0.5	<0.5	<0.5	<0.5	<0.5
10/30/09	12.22	11.37	0.85	8260B	SGC	5,600Y	12,000	4,100Y	590	59	3.5	3.1	3.03	<0.50
4/8/10	12.22	10.45	1.77	---	SPH: None	---	---	---	---	---	---	---	---	---
MW-17														
1/18/00	9.86	5.35	4.51	8020	SGC	850 a	21,000	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/11/00	9.86	9.85	0.01	8020	SGC	150 a	2,900	<100	<50	<0.5	<0.5	<0.5	<0.5	<5.0
8/24/00	9.86	8.59	1.27	---		---	---	---	---	---	---	---	---	---
8/25/00	9.86	---	---	8020	SGC	190	610	71	<50	0.58	<0.5	<0.5	<0.5	<5.0
11/28/00	9.86	9.25	0.61	8020	SGC	<250	2,400	<250	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	9.86	9.25	0.61	---	Filtered+SGC	<50	<200	<50	---	---	---	---	---	---
2/26/01	9.86	9.40	0.46	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/17/01	9.86	8.32	1.54	---		---	---	---	---	---	---	---	---	---
5/18/01	9.86	---	---	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
8/16/01	9.86	10.35	-0.49		Filtered+SGC	<50	400B	<100	<50	<0.5	<0.5	<0.5	<0.5	<5.0
12/16/01	9.86	8.01	1.85	8021	SGC	940	1,000	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
4/9/02	9.86	9.76	0.10	8021	SGC	590	880	---	60	<0.5	<0.5	1.6	<0.5	<5.0
6/21/02	9.86	9.79	0.07	8021	SGC	99 a,c	650 h	<50	<50	<0.5	<0.5	<0.5	<0.5	<2
9/18/02	9.86	8.25	1.61	8021	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<2
4/23/03	9.86	9.75	0.11	8021B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<2
4/28/04	9.86	8.90	0.96	8260B	SGC	<100	<400	<100	<100	<0.5	<1.0	2.4	<1.0	<1.0
10/28/04	9.86	8.32	1.54	`	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/1/05 (1)	9.86	8.38	1.48	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
4/5/06 (3)	9.86	6.86	3.00	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/6/06	9.86	9.85	0.01	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
4/3/07	9.86	7.67	2.19	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
10/3/07	9.86	7.97	1.89	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
10/3/07 dupe	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
3/20/08 (8)	9.86	6.70	3.16	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/19/08 (10)	9.86	9.53	0.33	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/2/09 (12)	9.86	9.56	0.30	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
10/30/09	9.86	7.21	2.65	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/8/10	9.86	9.15	0.71	8260B	SPH: None	<50	<300	<50	77	2.3	<0.50	2.2	<0.50	<0.50
MW-18														
4/24/03	---	6.49		8021B	SGC	<50	<300	<50	<50	<0.5	<0.5	2.4	<0.5	<2
4/28/04	---				Developed to monitor a utility trench, not sampled									

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Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
8/31/05	---	---	---	---		---	---	---	---	---	---	---	---	---
3/27/06	---	---	---	---		---	---	---	---	---	---	---	---	---
9/6/06	---	---	---	---		---	---	---	---	---	---	---	---	---
TBW-1														
2/23/99	---	6.25	---	---	SPH: 0.10 ft.	---	---	---	---	---	---	---	---	---
5/27/99	---	5.29	---	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
8/24/99	---	6.99	---	---	SPH: 0.18 ft.	---	---	---	---	---	---	---	---	---
11/22/99	---	---	---	---	Inaccessible	---	---	---	---	---	---	---	---	---
1/18/00	---	---	---	---	Inaccessible	---	---	---	---	---	---	---	---	---
5/11/00	---	6.90	---	---	SPH: 0.10 ft.	---	---	---	---	---	---	---	---	---
8/24/00	---	7.12	---	---	SPH: NM	---	---	---	---	---	---	---	---	---
11/28/00	---	7.75	---	---	SPH: 0.36 ft.	---	---	---	---	---	---	---	---	---
2/27/01	---	9.06	---	---	SPH: 0.51 ft.	---	---	---	---	---	---	---	---	---
5/17/01	---	6.98	---	---	SPH: 0.28 ft.	---	---	---	---	---	---	---	---	---
8/16/01	---	6.62	---	---	SPH: 0.66 ft., f	1,100	700B	< 100	17,000	2,100	75	730	850	< 1
12/15/01	---	6.86	---	---	SPH 0.35 ft.	---	---	---	---	---	---	---	---	---
4/3/02	---	6.14	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/02	---	7.52	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/22/03	---	6.41	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/28/04	---	6.33	---	---	SPH: None	---	---	---	---	---	---	---	---	---
10/28/04	---	NM	---	---		---	---	---	---	---	---	---	---	---
8/31/05	---	6.50	---	---	Well cap smashed 6"	---	---	---	---	---	---	---	---	---
3/27/06	---	5.20	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	---	NM	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/4/07	---	8.26	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	---	NM	---	---	Abandoned	---	---	---	---	---	---	---	---	---
TBW-2														
6/21/02	---	8.28	---	---		**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
4/22/03	---	6.70	---	---	SPH globules	---	---	---	---	---	---	---	---	---
4/28/04	---	6.61	---	---	SPH: None	---	---	---	---	---	---	---	---	---
10/28/04	---	7.31	---	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	---	NM	---	---		---	---	---	---	---	---	---	---	---
3/27/06	---	NM[4]	---	---		---	---	---	---	---	---	---	---	---
9/6/06	---	NM[4]	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/4/07	---	NM[4]	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	---	NM	---	---	Abandoned	---	---	---	---	---	---	---	---	---
TBW-3														
8/19/98	---	2.67	---	8020	SGC	810,000	---	---	920	3.2	< 0.5	< 0.5	0.77	< 10
8/19/98	---	2.67	---	8260		---	---	---	---	---	---	---	---	< 5.0

Table 1
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Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
2/23/98	---	1.25	---	8020		3,800	3,000	<50	110	1.6	<0.5	<0.5	<0.5	<5.0
5/27/99	---	---	---	---	DTW: NM	---	---	---	---	---	---	---	---	---
8/24/99	---	3.25	---	---	SPH globules	---	---	---	---	---	---	---	---	---
11/22/99	---	3.68	---	---		---	---	---	---	---	---	---	---	---
1/18/00	9.92	3.73	6.19	---	SPH globules	---	---	---	---	---	---	---	---	---
5/11/00	9.92	2.07	7.85	---		---	---	---	---	---	---	---	---	---
8/24/00	9.92	2.82	7.10	---	SPH: sheen	44,000	13,000	34,000	570	4.7	<0.5	<0.5	<0.5	<5.0
11/28/00	9.92	---	---	---		---	---	---	---	---	---	---	---	---
2/27/01	9.92	1.29	8.63	8020	Filtered+SGC	560	<230	<57	120	1.5	<0.5	<0.5	<0.5	<5.0
5/17/01	9.92	2.47	7.45	---		---	---	---	---	---	---	---	---	---
8/16/01	9.92	1.81	8.11		Filtered+SGC	1,500	400B	<100	180	<0.5	<0.5	<0.5	<0.5	<1
12/15/01	9.92	2.52	---	---	SPH: 0.02 ft.	---	---	---	---	---	---	---	---	---
4/3/02	9.92	1.50	---	---	SPH: None	---	---	---	---	---	---	---	---	---
6/21/02	9.92	2.37	7.55	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/02	9.92	3.48	6.44	---	SPH: None	---	---	---	---	---	---	---	---	---
4/22/03	9.92	1.45	8.47	---	Sheen	---	---	---	---	---	---	---	---	---
4/28/04	9.92	2.26	7.66	---	SPH: None	---	---	---	---	---	---	---	---	---
10/28/04	9.92	3.42	6.50	---	Sheen	---	---	---	---	---	---	---	---	---
8/31/05	9.92	2.99	6.93	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	9.92	0.49	9.43	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	9.92	3.42	6.50	---	SPH:0.01 ft.	---	---	---	---	---	---	---	---	---
4/4/07	9.92	1.93	7.99											
10/2/07	---	NM	---	---	Abandoned	---	---	---	---	---	---	---	---	---
TBW-4														
2/27/01	---	1.35	---	8020	Filtered+SGC	410	<230	<57	250	1.9	<0.5	<0.5	<0.5	<5.0
5/17/01	---	2.52	---	---		**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
8/16/01	---	1.88	---	---	Filtered+SGC	2,600	700B	<100	390	<0.5	<0.5	<0.5	<0.5	<5
6/21/02	---	2.32	---	---		---	---	---	---	---	---	---	---	---
4/22/03	---	1.41	---	---	Sheen	---	---	---	---	---	---	---	---	---
4/28/04	---	2.21	---	---		---	---	---	---	---	---	---	---	---
10/27/04	---	3.37	---	---	Sheen	---	---	---	---	---	---	---	---	---
8/31/05	---	2.92	---	---		---	---	---	---	---	---	---	---	---
3/27/06	---	0.49	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	---	3.37	---	---	SPH:0.01 ft.	---	---	---	---	---	---	---	---	---
4/4/07	---	1.88	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	---	NM	---	---	Abandoned	---	---	---	---	---	---	---	---	---
TBW-5														
2/23/99	---	9.72	---	---	SPH: 1.45 ft.	---	---	---	---	---	---	---	---	---
5/27/99	---	7.03	---	---	SPH: 1.13 ft.	---	---	---	---	---	---	---	---	---
8/24/99	---	6.52	---	---	SPH: 1.33 ft.	---	---	---	---	---	---	---	---	---

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Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
11/22/99	---	8.31	---	---	SPH: 1.29 ft.	---	---	---	---	---	---	---	---	---
1/18/00	10.22	6.20	4.74	---	SPH: 0.90 ft.	---	---	---	---	---	---	---	---	---
5/11/00	10.22	9.41	1.05	---	SPH: 0.30 ft.	---	---	---	---	---	---	---	---	---
8/24/00	10.22	9.62	0.81	---	SPH: 0.26 ft.	---	---	---	---	---	---	---	---	---
11/28/00	10.22	10.25	0.34	---	SPH: 0.46 ft.	---	---	---	---	---	---	---	---	---
2/27/01	10.22	9.06	1.45	---	SPH: 0.36 ft.	---	---	---	---	---	---	---	---	---
5/17/01	10.22	8.75	1.47	---	SPH: 0.67 ft.	---	---	---	---	---	---	---	---	---
8/16/01	10.22	8.32	2.51	8020	SPH: 0.76 ft., f	550	400B	<100	30,000	2,900	100	1,500	5,100	<1
12/15/01	10.22	9.09	1.13	---	SPH: 0.36 ft.	---	---	---	---	---	---	---	---	---
4/3/02 [6]														
6/21/02	10.22	7.87	2.35	---	SPH: 0.03 ft.	---	---	---	---	---	---	---	---	---
9/12/01	10.22	7.26	2.97	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
4/22/03	10.22	6.22	4.00	---	SPH: 0.06 ft.	---	---	---	---	---	---	---	---	---
4/28/04	10.22	6.26	3.96	---	SPH: 0.21 ft.	---	---	---	---	---	---	---	---	---
10/27/04	10.22	3.62	6.60	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	10.22	6.41	---	---	SPH: 0.30 ft.	---	---	---	---	---	---	---	---	---
3/27/06	10.22	NM[2]	---	---		---	---	---	---	---	---	---	---	---
9/6/06	10.22	NM[2]	---	---	---	---	---	---	---	---	---	---	---	---
4/4/07	10.22	NM[2]	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	---	NM	---	---	SPH: viscous residual	---	---	---	---	---	---	---	---	---
3/19/08	---	NM	---	---	SPH: None	---	---	---	---	---	---	---	---	---
11/18/08	10.22	9.32	0.9	---	---	---	---	---	---	---	---	---	---	---
4/1/09	---	NM	---	---	NA	---	---	---	---	---	---	---	---	---
10/29/09	10.22	8.50	1.72	---	---	---	---	---	---	---	---	---	---	---
4/8/10	10.22	5.54	4.68	---	SPH: None	---	---	---	---	---	---	---	---	---
TBW-6														
2/23/99	---	2.09	---	8020		160	600	<50	60	<0.5	<0.5	<0.5	<0.5	<5.0
5/27/99	---	3.31	---	---		---	---	---	---	---	---	---	---	---
8/24/99	---	7.29	---	8020	SGC	180	400	<50	130	<0.5	<0.5	<0.5	<0.5	<5.0
11/22/99	---	4.37	---	---		---	---	---	---	---	---	---	---	---
1/18/00	9.49	3.83	5.66	---		---	---	---	---	---	---	---	---	---
1/19/00	9.49	---	---	8020	SGC	55 C	<200	<50	170	0.6	<0.5	<0.5	<0.5	<5.0
5/11/00	9.49	2.51	6.98	---		---	---	---	---	---	---	---	---	---
8/24/00	9.49	4.34	5.15	---		---	---	---	---	---	---	---	---	---
8/25/00	9.49	---	---	8020	SGC	320	<250	200	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	9.49	4.74	4.75	---		---	---	---	---	---	---	---	---	---
2/27/01	9.49	2.30	7.19	8020	Filtered+SGC	<57	<230	<57	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/17/01	9.49	3.35	6.14	---		---	---	---	---	---	---	---	---	---
8/16/01	9.49	3.85	5.64		Filtered+SGC	<50	<200	<100	<50	<0.5	<0.5	<0.5	<0.5	<5

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Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
12/15/01	9.49	3.96	5.53	---		---	---	---	---	---	---	---	---	---
4/3/02	9.49	2.51	6.98	---		---	---	---	---	---	---	---	---	---
6/21/02	9.49	3.58	5.91	---		---	---	---	---	---	---	---	---	---
9/12/02	9.49	6.07	4.56	---	SPH: 1.42 ft.	---	---	---	---	---	---	---	---	---
4/23/03	9.49	2.42	7.07	---		---	---	---	---	---	---	---	---	---
4/28/04	9.49	3.21	6.28	---		---	---	---	---	---	---	---	---	---
10/27/04	9.49	4.49	5.00	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	9.49	4.43	---	---	SPH: 0.52 ft.	---	---	---	---	---	---	---	---	---
3/27/06	9.49	1.90	7.59	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	9.49	4.33	5.16	---	SPH:0.01 ft.	---	---	---	---	---	---	---	---	---
4/4/07	9.49	3.08	6.41	---	---	---	---	---	---	---	---	---	---	---
10/2/07	9.49	4.98	4.51	---	SPH: None	---	---	---	---	---	---	---	---	---
3/19/08	9.49	3.16	6.33	---	SPH: None	---	---	---	---	---	---	---	---	---
11/18/08	9.49	5.32	4.17	---	SPH: None	---	---	---	---	---	---	---	---	---
4/1/09	9.49	2.87	6.62	---	SPH: sheen	---	---	---	---	---	---	---	---	---
10/29/09	---	---	---	---	No Access	---	---	---	---	---	---	---	---	---
4/8/10	9.49	1.87	7.62	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-A1														
4/22/03	---	1.81	---	---		---	---	---	---	---	---	---	---	---
4/28/04	10.09	2.52	7.57	---		---	---	---	---	---	---	---	---	---
10/27/04	10.09	3.03	7.06	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	10.09	3.31	6.78	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	10.09	0.62	9.47	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	10.09	3.52	6.57	---	SPH: None	---	---	---	---	---	---	---	---	---
4/3/07	10.09	2.93	7.16	---	---	---	---	---	---	---	---	---	---	---
10/2/07	10.09	NM[7]	---	---	---	---	---	---	---	---	---	---	---	---
3/19/08	10.09	3.16	6.93	---	SPH: None	---	---	---	---	---	---	---	---	---
11/20/08 [10]	10.09	4.49	5.60	8260B	SGC	56 Y	<300	<50	<50	8.8	<0.50	<0.50	<0.50	4.5
4/1/09	10.09	2.48	7.61	---	SPH: None	---	---	---	---	---	---	---	---	---
10/29/09	10.09	3.49	6.60	---	---	---	---	---	---	---	---	---	---	---
4/8/10	10.09	1.54	8.55	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-A2														
4/22/03	---	1.22	---	---	Sheen	---	---	---	---	---	---	---	---	---
4/28/04	9.67	2.01	7.66	---		---	---	---	---	---	---	---	---	---
10/27/04	9.67	3.20	6.47	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	9.67	2.75	6.92	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	9.67	0.30	9.37	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	9.67	3.19	6.48	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
4/4/07	9.67	1.70	7.97	8260B	SGC	200 Y	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
10/2/07	9.67	3.81	5.86	---	SPH: None	---	---	---	---	---	---	---	---	---

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Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
3/19/08	9.67	1.71	7.96	---	SPH: None	---	---	---	---	---	---	---	---	---
11/20/08 [10]	9.67	3.96	5.71	8260B	SGC	590 Y	<300	160 Y	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/1/09	9.67	1.58	8.09	---	SPH: None	---	---	---	---	---	---	---	---	---
10/29/09	9.67	2.89	6.78	---	---	---	---	---	---	---	---	---	---	---
4/8/10	9.67	0.93	8.74	---	SPH: None	---	---	---	---	---	---	---	---	---
OB-A1														
4/22/03	---	2.24	---	---	SPH: .01 ft.	---	---	---	---	---	---	---	---	---
4/28/04	---	3.01	---	---	SPH: None	---	---	---	---	---	---	---	---	---
10/27/04	---	5.11	---	---	SPH: None (strong odor)	---	---	---	---	---	---	---	---	---
8/31/05	---	4.10	---	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	---	1.25	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/7/06	---	4.49	---	---		---	---	---	---	---	---	---	---	---
4/4/07	---	2.72	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	---	5.34	---	---	---	---	---	---	---	---	---	---	---	---
3/19/08	---	2.73	---	---	SPH: None	---	---	---	---	---	---	---	---	---
11/18/08	---	5.31	---	---	---	---	---	---	---	---	---	---	---	---
4/1/09	---	2.61	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	4.68	---	---	---	---	---	---	---	---	---	---	---	---
4/8/10	---	1.95	---	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-B1														
4/22/03	---	7.26	---	---	Sheen	---	---	---	---	---	---	---	---	---
4/28/04	11.22	7.20	4.02	---		---	---	---	---	---	---	---	---	---
10/27/04	11.22	7.80	3.42	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	11.22	7.14	4.08	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	11.22	6.10	5.12	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	11.22	7.39	3.83	---	SPH:0.01 ft.	---	---	---	---	---	---	---	---	---
4/4/07	11.22	7.06	4.16	8260B	SGC	130 L	<300	100 H	220	410	23	9.4	16	6.3
10/2/07	11.22	7.70	3.52	---	SPH: None	---	---	---	---	---	---	---	---	---
3/19/08	11.22	7.06	4.16	---	SPH: None	---	---	---	---	---	---	---	---	---
11/18/08	11.22	7.90	3.32	---	SPH: None	---	---	---	---	---	---	---	---	---
4/1/09	11.22	7.15	4.07	---	SPH: None	---	---	---	---	---	---	---	---	---
10/29/09	11.22	7.76	3.46	---	---	---	---	---	---	---	---	---	---	---
4/8/10	11.22	6.78	4.44	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-B2														
4/22/03	---	7.29	---	---	Sheen, Odor	---	---	---	---	---	---	---	---	---
4/28/04	11.23	7.20	4.03	---		---	---	---	---	---	---	---	---	---
10/27/04	11.23	7.81	3.42	---	SPH: None	---	---	---	---	---	---	---	---	---

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
8/31/05	11.23	7.14	4.09	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	11.23	6.09	5.14	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	11.23	7.39	3.84	---	SPH: None	---	---	---	---	---	---	---	---	---
4/4/07	11.23	9.84	1.39	8260B	SGC	500 L Y	<300	500 L	11000	3400	2700	190	1100	<10
10/2/07	11.23	7.71	3.52	---	SPH: None	---	---	---	---	---	---	---	---	---
3/19/08	11.23	7.07	4.16	---	SPH: None (strong odor)	---	---	---	---	---	---	---	---	---
11/20/08 [10]	11.23	7.92	3.31	8260B	SGC	190 Y	<300	150 Y	7,900 Y	3,200	2,100	140	720	<25
4/1/09	11.23	7.16	4.07	---	SPH: None	---	---	---	---	---	---	---	---	---
10/29/09	11.23	7.78	3.45	---	---	---	---	---	---	---	---	---	---	---
4/8/10	11.23	6.80	4.43	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-B3														
4/22/03	---	9.90	---	---	visible Product	---	---	---	---	---	---	---	---	---
4/28/04	11.14	13.20	-2.06	---	SPH: 3.09	---	---	---	---	---	---	---	---	---
10/27/04	11.14	9.33	1.81	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	11.14	9.60	1.54	---	SPH: 0.01	---	---	---	---	---	---	---	---	---
3/27/06	11.14	9.08	2.06	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	11.14	9.61	1.53	---	SPH: None	---	---	---	---	---	---	---	---	---
4/4/07	11.14	9.84	1.30	8260B	SGC	3,600 L Y	880	4,000 L	7900	4300	130	520	357	<31
10/2/07	11.14	9.56	1.58	---	SPH: None	---	---	---	---	---	---	---	---	---
3/19/08	---	NM[7]	---	---	NM	---	---	---	---	---	---	---	---	---
11/18/08	11.14	9.57	1.57	---	---	---	---	---	---	---	---	---	---	---
4/1/09	11.14	9.80	1.34	---	---	---	---	---	---	---	---	---	---	---
10/29/09	11.14	9.61	1.53	---	---	---	---	---	---	---	---	---	---	---
4/8/10	11.14	9.61	1.53	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-B4														
4/22/03	---	10.55	---	---	SPH: .55 ft.	---	---	---	---	---	---	---	---	---
4/28/04	11.29	10.22	1.07	---	SPH: None	---	---	---	---	---	---	---	---	---
10/27/04	11.29	9.55	1.74	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	11.29	9.70	1.59	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	11.29	9.23	2.06	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	11.29	9.69	1.60	---	SPH: None	---	---	---	---	---	---	---	---	---
4/4/07	11.29	10.04	1.25	8260B	SGC	3,500 Y	360	4,000 L	16000	3200	150	460	1430	<8.3
10/2/07	11.29	9.72	1.57	---	SPH: None	---	---	---	---	---	---	---	---	---
3/19/08	11.29	9.87	1.42	---	SPH: None (odor)	---	---	---	---	---	---	---	---	---
11/20/08 [10]	11.29	9.75	1.54	8260B	SGC	3,100 Y	2,900	930	6,000 Y	3,100	100	270	679	<25
4/1/09	11.29	9.87	1.42	---	SPH: None	---	---	---	---	---	---	---	---	---
10/29/09	11.29	9.85	1.44	---	---	---	---	---	---	---	---	---	---	---
4/8/10	11.29	9.72	1.57	---	SPH: None	---	---	---	---	---	---	---	---	---

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
RW-C1														
4/24/03	---	8.34	---	---		---	---	---	---	---	---	---	---	---
4/28/04	10.44	8.00	2.44	---		---	---	---	---	---	---	---	---	---
10/27/04	10.44	7.59	2.85	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	10.44	5.81	4.63	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	10.44	1.94	8.50	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	10.44	6.71	3.73	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
4/5/07	10.44	6.66	3.78	8260B	---	220 H Y	1300	63 H Y	<50	<0.50	<0.50	<0.50	<0.50	<0.50
10/2/07	10.44	8.48	1.96	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
3/19/08	10.44	8.56	1.88	---	SPH: None	---	---	---	---	---	---	---	---	---
11/20/08 [10]	10.44	8.29	2.15	8260B	SGC	290 Y	1,200	76 Y	<50	6.4	<0.50	<0.50	0.51	<0.50
4/1/09	10.44	8.16	2.28	---	SPH: None	---	---	---	---	---	---	---	---	---
10/29/09	10.44	8.64	1.80	---	---	---	---	---	---	---	---	---	---	---
4/8/10	10.44	5.62	4.82	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-C2														
4/24/03	---	6.22	---	---	SPH: .03 ft.	---	---	---	---	---	---	---	---	---
4/28/04	10.58	6.19	4.39	---	SPH: 0.06 ft	---	---	---	---	---	---	---	---	---
10/27/04	10.58	7.00	3.58	---	SPH: Present	---	---	---	---	---	---	---	---	---
8/31/05	10.58	6.30	4.28	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
3/27/06	10.58	5.10	5.48	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	10.58	8.19	2.39	---	SPH: 0.12 ft.	---	---	---	---	---	---	---	---	---
4/4/07	10.58	8.28	2.30	---	---	---	---	---	---	---	---	---	---	---
10/2/07	10.58	9.75	0.83	---	SPH: 0.015 ft.	---	---	---	---	---	---	---	---	---
10/3/07	10.58	9.39	1.19	---	SPH: None	---	---	---	---	---	---	---	---	---
11/18/08	10.58	9.38	1.20	---	---	---	---	---	---	---	---	---	---	---
4/1/09	10.58	7.64	2.94	---	---	---	---	---	---	---	---	---	---	---
10/29/09	10.58	8.90	1.68	---	---	---	---	---	---	---	---	---	---	---
4/8/10	10.58	5.86	4.72	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-C3														
4/24/03	---	6.36	---	---		---	---	---	---	---	---	---	---	---
4/28/04	10.71	6.25	4.46	---		---	---	---	---	---	---	---	---	---
10/27/04	10.71	7.10	3.61	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	10.71	6.39	4.32	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	10.71	5.30	5.41	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	10.71	8.10	2.61	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
4/5/07	10.71	7.97	2.74	8260B	SPH: None	540 H L Y	360 H L	430 H L Y	520	13	14	32	54	<0.5
10/2/07	10.71	8.59	2.12	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
3/19/08	10.71	8.38	2.33	---	SPH: None	---	---	---	---	---	---	---	---	---
11/20/08 [10]	10.71	8.61	2.10	8260B	SGC	720 Y [11]	1600 [11]	170 Y [11]	<50	1.1	<0.50	0.67	<0.50	<0.50
4/1/09	10.71	6.98	3.73	---	SPH: None	---	---	---	---	---	---	---	---	---

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Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
10/29/09	10.71	8.56	2.15	---	---	---	---	---	---	---	---	---	---	---
4/8/10	10.71	5.93	4.78	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-C4														
4/22/03	---	7.15	---	---	Strong odor	---	---	---	---	---	---	---	---	---
4/28/04	11.32	6.95	4.37	---	SPH: 0.01 ft	---	---	---	---	---	---	---	---	---
10/27/04	11.32	7.45	3.87	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	11.32	6.71	4.61	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	11.32	6.47	4.85	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	11.32	8.16	3.16	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
4/4/07	11.32	8.50	2.82	---	---	---	---	---	---	---	---	---	---	---
10/2/07	11.32	8.62	2.70	---	SPH: None	---	---	---	---	---	---	---	---	---
3/19/08	11.32	9.13	2.19	---	SPH: None	---	---	---	---	---	---	---	---	---
11/18/08	11.32	8.99	2.33	---	---	---	---	---	---	---	---	---	---	---
4/1/09	11.32	8.52	2.80	---	---	---	---	---	---	---	---	---	---	---
10/29/09	11.32	8.53	2.79	---	---	---	---	---	---	---	---	---	---	---
4/8/10	11.32	NM	---	---	Could not open	---	---	---	---	---	---	---	---	---
4/29/10	11.32	6.07	5.25	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-C5														
4/22/03	---	6.46	---	---		---	---	---	---	---	---	---	---	---
4/28/04	10.79	6.39	4.40	---		---	---	---	---	---	---	---	---	---
10/27/04	10.79	7.21	3.58	---	SPH: Present	---	---	---	---	---	---	---	---	---
8/31/05	10.79	6.51	4.28	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	10.79	5.33	5.46	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	10.79	8.03	2.76	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
4/4/07	10.79	8.27	2.52	8260B	SGC	3,800 Y	310	4,100 L	12000	3400	170	520	1300	< 25
10/2/07	10.79	8.95	1.84	---	SPH: None	---	---	---	---	---	---	---	---	---
3/19/08	10.79	8.82	1.97	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
11/20/08 [10]	10.79	8.92	1.87	8260B	SPH: None/ SGC	3,700 Y	430	3,300	5,800 Y	2,900	91	120	437	< 20
11/20/08 dup	---	---	---	8260B	SGC: Oder	3,400 Y	< 300	3,100	3,900 Y	2,700	78	91	358	< 25
4/1/09	10.79	7.88	2.91	---	SPH: None	---	---	---	---	---	---	---	---	---
10/29/09	---	---	---	---	No Access	---	---	---	---	---	---	---	---	---
4/8/10	10.79	NM	---	---	Could not open	---	---	---	---	---	---	---	---	---
4/29/10	10.79	5.59	5.2	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-C6														
4/22/03	---	6.05	---	---	SPH: 0.07 ft.	---	---	---	---	---	---	---	---	---
4/28/04	10.31	6.30	4.01	---	SPH: 0.05 ft.	---	---	---	---	---	---	---	---	---
10/27/04	10.31	6.85	---	---	SPH: 0.15 ft.	---	---	---	---	---	---	---	---	---
8/31/05	10.31	6.81	---	---	SPH: 0.93 ft.	---	---	---	---	---	---	---	---	---
3/27/06	10.31	5.66	---	---	SPH: 0.96 ft.	---	---	---	---	---	---	---	---	---

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Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
9/6/06	10.31	7.96	2.35	---	SPH: 0.18ft.	---	---	---	---	---	---	---	---	---
4/4/07	10.31	NM[4]	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	10.31	8.45	1.86	---	SPH: residual	---	---	---	---	---	---	---	---	---
3/19/08	10.31	8.32	1.99	---	SPH: None	---	---	---	---	---	---	---	---	---
11/18/08	10.31	8.42	1.89	---	SPH: Oder	---	---	---	---	---	---	---	---	---
4/1/09	10.31	7.36	2.95	---	SPH: None	---	---	---	---	---	---	---	---	---
10/29/09	---	---	---	---	No Access	---	---	---	---	---	---	---	---	---
4/8/10	10.31	NM	---	---	Could not open	---	---	---	---	---	---	---	---	---
4/29/10	10.31	5.43	4.88	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-C7														
4/22/03	---	6.51	---	---	visible Product	---	---	---	---	---	---	---	---	---
4/28/04	10.12	6.60	3.52	---	SPH: 0.02 ft.	---	---	---	---	---	---	---	---	---
10/27/04	10.12	NM	---	---	---	---	---	---	---	---	---	---	---	---
8/31/05	10.12	NM	---	---	---	---	---	---	---	---	---	---	---	---
3/27/06	10.12	NM[4]	---	---	---	---	---	---	---	---	---	---	---	---
9/6/06	10.12	8.34	1.78	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
4/4/07	10.12	NM[4]	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	10.12	9.01	1.11	---	SPH: None	---	---	---	---	---	---	---	---	---
3/19/08	10.12	8.85	1.27	---	SPH: None	---	---	---	---	---	---	---	---	---
11/18/08	10.12	8.97	1.15	---	---	---	---	---	---	---	---	---	---	---
4/1/09	10.12	7.89	2.23	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
10/29/09	---	9.23	---	---	---	---	---	---	---	---	---	---	---	---
4/8/10	10.12	NM	---	---	Could not open	---	---	---	---	---	---	---	---	---
4/29/10	10.12	5.71	4.41	---	SPH: None	---	---	---	---	---	---	---	---	---
OB-C1														
4/22/03	---	6.26	---	---		---	---	---	---	---	---	---	---	---
4/28/04	10.39	7.39	3.00	---	SPH: 1.27 ft.	---	---	---	---	---	---	---	---	---
10/27/04	10.39	8.06	2.33	---	SPH: 1.08 ft.	---	---	---	---	---	---	---	---	---
8/31/05	10.39	7.84	---	---	SPH: 1.55 ft.	---	---	---	---	---	---	---	---	---
3/27/06	10.39	6.15	---	---	SPH: 1.05 ft.	---	---	---	---	---	---	---	---	---
9/6/06	---	NM[4]	---	---	Buried	---	---	---	---	---	---	---	---	---
4/4/07	10.39	7.78	2.61	---	---	---	---	---	---	---	---	---	---	---
10/2/07	10.39	8.67	1.72	---	SPH: 0.02 ft.	---	---	---	---	---	---	---	---	---
3/19/08	10.39	8.49	1.90	---	SPH: 0.29 ft.	---	---	---	---	---	---	---	---	---
11/18/08	10.39	8.57	1.82	---	SPH: 0.03 ft.	---	---	---	---	---	---	---	---	---
4/1/09	10.39	7.96	2.43	---	SPH: 0.64 ft.	---	---	---	---	---	---	---	---	---
10/29/09	---	---	---	---	No Access	---	---	---	---	---	---	---	---	---
4/8/10	10.39	NM	---	---	Could not open	---	---	---	---	---	---	---	---	---
4/29/10	10.39	5.95	4.44	---	SPH: None	---	---	---	---	---	---	---	---	---

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Municipal Service Center
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Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
RW-D1														
4/22/03	---	6.97	---	---		---	---	---	---	---	---	---	---	---
4/28/04	10.18	5.62	4.56	---		---	---	---	---	---	---	---	---	---
10/27/04	10.18	6.67	3.51	---	SPH: Present	---	---	---	---	---	---	---	---	---
8/31/05	10.18	5.75	---	---	SPH: 0.02 ft.	---	---	---	---	---	---	---	---	---
3/27/06	10.18	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
9/6/06	10.18	NM(2)	---	---	No Access	---	---	---	---	---	---	---	---	---
4/4/07	10.18	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	10.18	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
3/19/08	---	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
11/19/08	10.18	11.29	-1.11	6260B	SGC	11,000 Y	4,900	9,400	5,100 Y	270	85	150	710	<2.0
4/1/09	---	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	NM(2)	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	10.18	7.70	2.48	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-D2														
4/22/03	---	7.15	---	---	SPH 1.25 ft.	---	---	---	---	---	---	---	---	---
4/28/04	10.33	7.45	2.88	---	SPH: 0.1 ft.	---	---	---	---	---	---	---	---	---
10/27/04	10.33	6.41	3.92	---	SPH: Present	---	---	---	---	---	---	---	---	---
8/31/05	10.33	8.44	---	---	SPH: 3.12 ft.	---	---	---	---	---	---	---	---	---
3/27/06	10.33	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
9/6/06	10.33	NM(2)	---	---	No Access	---	---	---	---	---	---	---	---	---
4/4/07	10.33	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	10.33	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
3/19/08	---	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
11/18/08	10.33	10.95	-0.62	---	---	---	---	---	---	---	---	---	---	---
4/1/09	---	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	NM(2)	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	10.33	7.21	3.12	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-D3														
4/22/03	---	6.89	---	---	SPH: 1.58 ft.	---	---	---	---	---	---	---	---	---
4/28/04	10.07	8.18	1.89	---	SPH: 3.25 ft.	---	---	---	---	---	---	---	---	---
10/27/04	10.07	6.37	3.70	---	SPH: Present	---	---	---	---	---	---	---	---	---
8/31/05	10.07	7.72	---	---	SPH: 2.46	---	---	---	---	---	---	---	---	---
3/27/06	10.07	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
9/6/06	10.07	NM(2)	---	---	No Access	---	---	---	---	---	---	---	---	---
4/4/07	10.07	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	10.07	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
3/19/08	---	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
11/18/08	10.07	10.10	-0.03	---	---	---	---	---	---	---	---	---	---	---
4/1/09	---	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	NM(2)	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	10.07	7.43	2.64	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-D4														
4/22/03	---	8.11	---	---	SPH: 1.98 ft.	---	---	---	---	---	---	---	---	---
4/28/04	10.22	7.99	2.23	---	SPH: 2.09 ft.	---	---	---	---	---	---	---	---	---
10/27/04	10.22	6.49	3.73	---	SPH: Present	---	---	---	---	---	---	---	---	---
8/31/05	10.22	8.09	---	---	SPH: 2.12 ft.	---	---	---	---	---	---	---	---	---
3/27/06	10.22	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
9/6/06	10.22	NM(2)	---	---	No Access	---	---	---	---	---	---	---	---	---
4/4/07	10.22	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	10.22	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
3/19/08	---	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
11/19/08 (10)	10.22	9.10	1.12	8260B	SGC	55,000	9,700	46,000	7,600 Y	210	17	270	280	<1.7
4/1/09	---	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	NM(2)	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	10.22	5.00	5.22	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-D5														
4/22/03	---	6.04	---	---	SPH: 0.07 ft.	---	---	---	---	---	---	---	---	---
4/28/04	9.99	5.96	4.03	---	SPH: None	---	---	---	---	---	---	---	---	---
10/27/04	9.99	6.48	3.51	---	SPH: Present	---	---	---	---	---	---	---	---	---
8/31/05	9.99	7.02*	---	---	SPH: 1.01 ft.	---	---	---	---	---	---	---	---	---
3/27/06	9.99	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
9/6/06	9.99	NM(2)	---	---	No Access	---	---	---	---	---	---	---	---	---
4/4/07	9.99	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	9.99	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
3/19/08	---	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
11/18/08	9.99	9.45	0.54	---	---	---	---	---	---	---	---	---	---	---
4/1/09	---	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	NM(2)	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	9.99	4.97	5.02	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-D6														
11/18/08	---	11.10	---	---	---	---	---	---	---	---	---	---	---	---
4/1/09	---	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	NM(2)	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	---	7.10	---	---	SPH: None; Odor	---	---	---	---	---	---	---	---	---

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7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
RW-D7														
11/19/08 [10]	---	9.62	---	8260B	SGC	54,000 Y	59,000	43,000	3,400	100	54	13	830	<3.1
4/1/09	---	NM[2]	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	NM[2]	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	---	5.55	---	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-D8														
11/18/08	---	8.48	---	---	---	---	---	---	---	---	---	---	---	---
4/1/09	---	NM[2]	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	NM[2]	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	---	4.27	---	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-D9														
11/18/08	---	9.70	---	---	---	---	---	---	---	---	---	---	---	---
4/1/09	---	NM[2]	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	NM[2]	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	---	6.92	---	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-D10														
11/18/08	---	8.84	---	8260B	SGC	1,000 Y	650	760	640 Y	2.7	0.69	5.6	17.71	<0.50
4/1/09	---	NM[2]	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	NM[2]	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	---	4.87	---	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-D11														
11/18/08	---	8.66	---	---	---	---	---	---	---	---	---	---	---	---
4/1/09	---	NM[2]	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	NM[2]	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	---	4.71	---	---	SPH: Sheen	---	---	---	---	---	---	---	---	---
OB-D1														
4/22/03	---	5.41	---	---	Strong Odor	---	---	---	---	---	---	---	---	---
4/28/04	9.46	5.31	4.15	---	Strong Odor	---	---	---	---	---	---	---	---	---
10/27/04	9.46	5.89	3.57	---	---	---	---	---	---	---	---	---	---	---
8/31/05	9.46	5.42	---	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	9.46	3.09	6.37	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	9.46	8.31	1.15	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
4/4/07	9.46	7.77	1.69	---	---	---	---	---	---	---	---	---	---	---
10/2/07	9.46	8.66	0.80	---	SPH: None	---	---	---	---	---	---	---	---	---
3/19/08	9.46	8.90	0.56	---	SPH: None	---	---	---	---	---	---	---	---	---

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Municipal Service Center
7101 Edgewater Drive, Oakland, California
Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
11/18/08	9.46	8.41	1.05	---	---	---	---	---	---	---	---	---	---	---
4/1/09	9.46	8.50	0.96	---	SPH: sheen	---	---	---	---	---	---	---	---	---
10/29/09	9.46	7.65	1.81	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	9.46	4.71	4.75	---	Strong Odor	---	---	---	---	---	---	---	---	---
OB-D2														
4/22/03	---	5.14	---	---		---	---	---	---	---	---	---	---	---
4/28/04	9.95	5.25	4.70	---		---	---	---	---	---	---	---	---	---
10/27/04	9.95	6.42	3.53	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	9.95	5.71	---	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
3/27/06	9.95	2.32	7.63	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	9.95	8.39	1.56	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
4/4/07	9.95	7.94	2.01	---	---	---	---	---	---	---	---	---	---	---
10/2/07	9.95	9.07	0.88	---	SPH: None	---	---	---	---	---	---	---	---	---
3/19/08	9.95	8.64	1.31	---	SPH: None	---	---	---	---	---	---	---	---	---
11/18/08	9.95	8.94	1.01	---	---	---	---	---	---	---	---	---	---	---
4/1/09	9.95	7.00	2.95	---	SPH: None	---	---	---	---	---	---	---	---	---
10/29/09	9.95	8.24	1.71	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	9.95	5.38	4.57	---	SPH: None	---	---	---	---	---	---	---	---	---
RW-1														
4/22/03	---	6.43	---	---		---	---	---	---	---	---	---	---	---
4/28/04	---	5.73	---	---		---	---	---	---	---	---	---	---	---
10/27/04	---	6.34	---	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	---	5.83	---	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	---	NM[(2)]	---	---	---	---	---	---	---	---	---	---	---	---
9/6/06	---	NM[(2)]	---	---	No Access	---	---	---	---	---	---	---	---	---
4/4/07	---	NM[(2)]	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	---	NM[(2)]	---	---	---	---	---	---	---	---	---	---	---	---
3/19/08	---	NM[(2)]	---	---	---	---	---	---	---	---	---	---	---	---
11/18/08	---	8.81	---	---	---	---	---	---	---	---	---	---	---	---
4/1/09	---	NM[(2)]	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	8.17	---	---	---	---	---	---	---	---	---	---	---	---
4/8/10	---	5.21	---	---	SPH: None	---	---	---	---	---	---	---	---	---
Field Blank														
10/28/04	---	---	---	8260B		---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/1/05	---	---	---	8260B		<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/2/05	---	---	---	8260B		---	---	---	<50	---	---	---	---	---
4/4/06	---	---	---	8260B		<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/7/06	---	---	---	8260B		<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5

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Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
4/3/07	---	---	---	8260B		<50	<300	<50	<50	<0.5	0.54	<0.5	<0.5	<0.5
10/2/07	---	---	---	8260B		<50	<300	<50	<50	<0.5	0.5	<0.5	<0.5	<0.5
3/20/08	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/19/08	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
11/20/08	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
11/21/08	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/1/09	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
10/30/09	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/8/10	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
Trip Blank														
8/19/98	---	---	---	8020		---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/22/99	---	---	---	8020		---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	---	---	---	8020		---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5.0
2/27/01	---	---	---	8020	Filtered+SGC	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/17/01	---	---	---	8020	SGC	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5.0
12/16/01	---	---	---	8021		---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5.0
4/5/02	---	---	---	8021	Trip Blank 1	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5
4/5/02	---	---	---	8021	Trip Blank 2	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5
6/21/02	---	---	---	8021	Trip Blank 1	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5
9/12/02	---	---	---	8021	Trip Blank 1	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<2
9/13/02	---	---	---	8021	Trip Blank 2	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<2
4/23/03	---	---	---	8021B	Trip Blank 1	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<2
4/28/04	---	---	---	8260B	Trip Blank 1	---	---	---	<100	<0.5	<1.0	<1.0	<1.0	<1.0
10/29/04	---	---	---	8260B	Trip Blank 2	---	---	---	<50	---	---	---	---	---
4/3/07	---	---	---	8260B	Trip Blank 1	---	---	---	---	<0.5	<0.5	<0.5	<0.5	<0.5
10/2/07	---	---	---	8260B	Trip Blank 1	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

Groundwater elevations corrected for the presence of free product according to the calculation: GW Elevation = TOC - DTW + (0.8 x SPH thickness)

(1) = Depth to groundwater measured on August 31, 2005.
(2) = Converted to an extraction well, and access port is too small for the oil/water probe.
(3) = Depth to groundwater measured on March 27, 2006.
(4) = Could not locate well.
(5) = Well dewatered, field staff unable to collect all samples.
(6) = Well has active remediation unit/recovery.
(7) = Well was covered by car or heavy equipment.
(8) = Depth to groundwater measured on March 19, 2008.
(9) = Well dewatered, field staff unable to collect samples.
(10) = Depth to groundwater measured on 11/18/2008.

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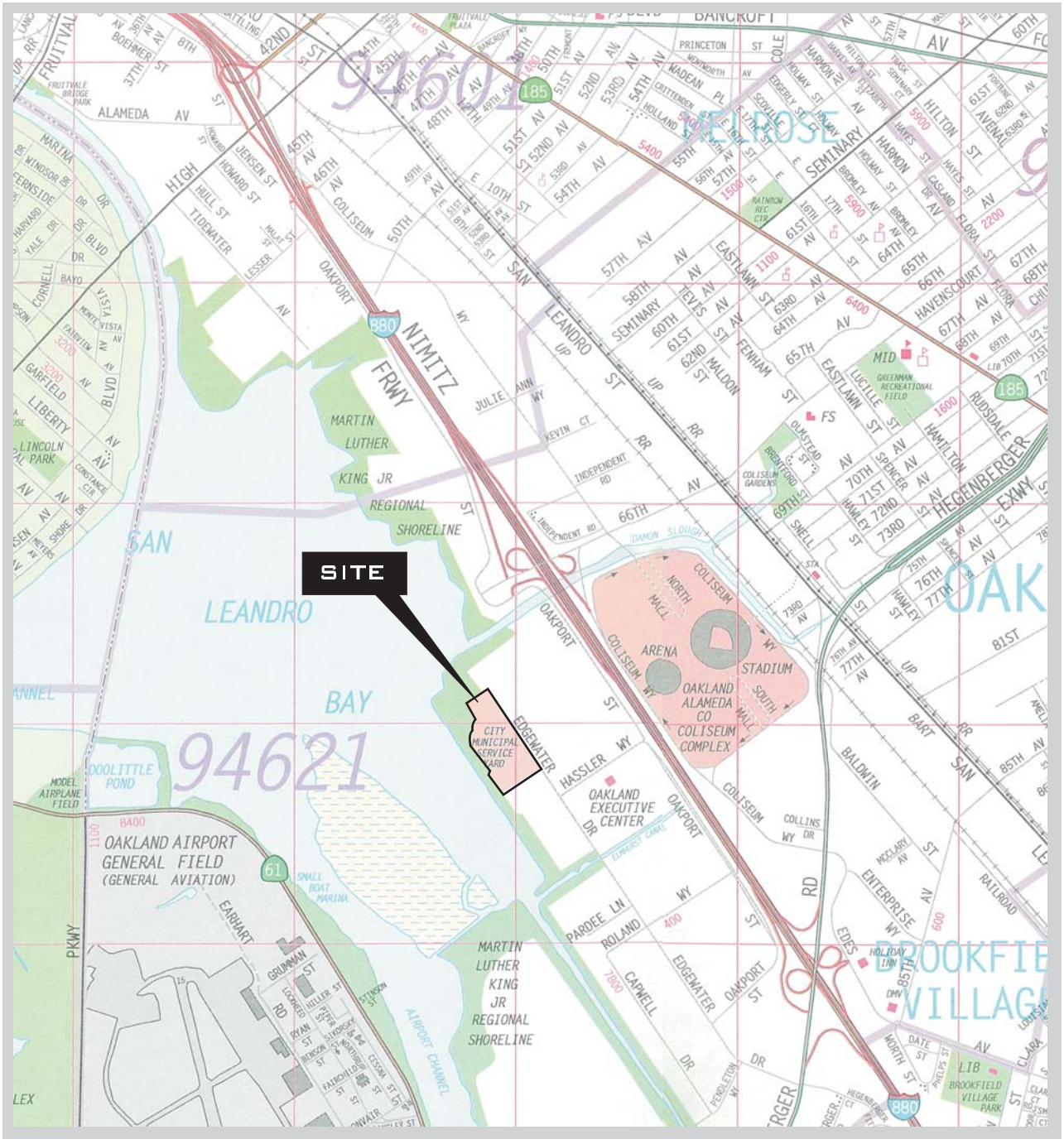
Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)

(11) = Low surrogate recovery was observed for hexacosane. The sample was re extracted, but was outside the EPA recommended hold time.
(12) = Depth to groundwater measured on 4/1/2009

--- = Not measured/analyzed
BTEX = Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020 or 8240/8260
DTW = Depth to water
Dup = Duplicate sample
Filtered = Groundwater samples were filtered through a 0.45-micron glass membrane filter.
ID = Identification
MTBE = Methyl tertiary-butyl ether by EPA Method 8020 or 8260. Confirmation 8260 results shown in parentheses.
NM = Not measured. Well obstructed or could not be located.
SPH = Separate-phase hydrocarbons; measured thickness
SGC = Silica-gel cleanup based on Method 3630B prior to TPH-d, TPH-k, or TPH-mo analysis, following California Regional Water Quality Control Board February 16, 1999 memorandum
TBW = Tank backfill well
TOC = Top of casing
TPH-d = Total petroleum hydrocarbons quantitated as diesel - analyzed by EPA Method 8015B
TPH-g = Total petroleum hydrocarbons quantitated as gasoline - analyzed by EPA Method 8015B
TPH-k = Total petroleum hydrocarbons quantitated as kerosene - analyzed by EPA Method 8015B
TPH-mo = Total petroleum hydrocarbons quantitated as motor oil - analyzed by EPA Method 8015B

a = The analytical laboratory reviewed the data and noted that petroleum hydrocarbons quantified in the diesel range actually resemble heavier fuels at the front end of the motor oil pattern.
b= The analytical laboratory reviewed the data and noted that petroleum hydrocarbons quantified in the diesel range actually resemble lighter fuels; the response looks like lower carbon chain compounds close to the gasoline range.
c= The analytical laboratory reviewed the data and noted that the sample exhibits a fuel pattern that does not resemble the standard.
e= Results are estimated due to concentrations exceeding the calibration range
f= Filtration with 0.45-micron glass membrane filter and silica gel treatment
h= The analytical laboratory reviewed the data and noted that petroleum hydrocarbons quantified in the motor oil range are actually from the front end of the kerosene oil pattern.
i= The analytical laboratory reviewed the data and noted that petroleum hydrocarbons quantified in the motor oil range are actually from the back end of the kerosene oil pattern.
j= The analytical laboratory reviewed the data and noted that the sample exhibited an unknown peak or peaks.
B= Results flagged with "B" indicate motor oil was detected in the method blank.
C= Footnote assigned by Ninyo and Moore, not defined in their historical tables.
E= Footnote assigned by Ninyo and Moore, not defined in their historical tables.
F = Original and duplicate sample results RPD was greater than 30 percent
H= Heavier hydrocarbons contributed to the quantitation.
J= Value qualified as "estimated"
L= Lighter hydrocarbons contributed to the quantitation.
Y= Sample exhibits chromatographic pattern that does not resemble standard.
Z= Sample exhibits unknown single peak or peaks



0 2400 4800

APPROXIMATE SCALE IN FEET

SOURCE: 2002 THOMAS GUIDE FOR ALAMEDA AND CONTRA COSTA COUNTIES

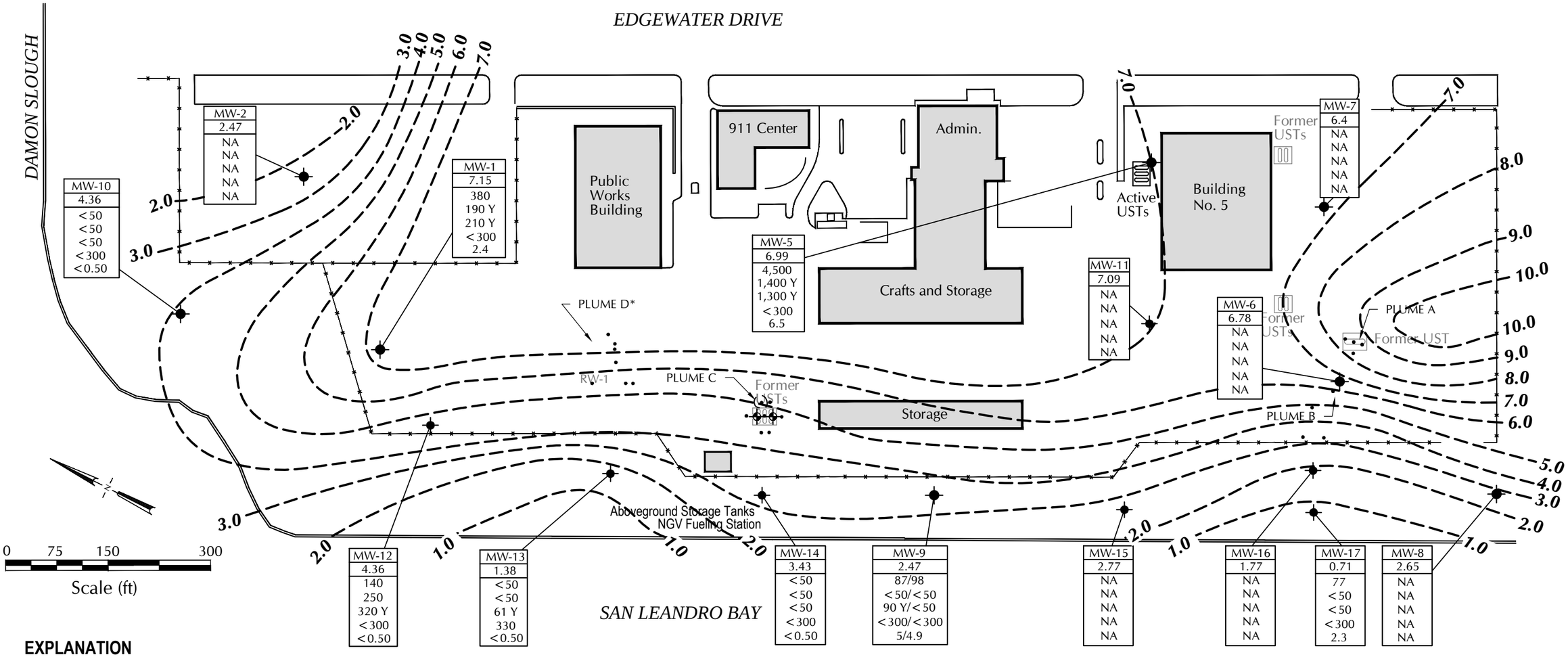
MUNICIPAL SERVICE CENTER
7101 EDGEWATER DRIVE, OAKLAND, CALIFORNIA

SITE VICINITY MAP

ARCADIS

FIGURE
1

DESIGN\092251\11\000\09225 MSC SiteVicinity.CDR



EXPLANATION

MW-1 ⊕	Monitoring well location
•	Remediation well location
Y	Sample exhibits chromatographic pattern that does not resemble standard
NA	Not sampled in this event
FT / FT	Foot per foot
——x——x——	Fence
3.0 – – –	Groundwater elevation contour; dashed where inferred

M2-2 — Monitoring Well ID
0.59 — Groundwater elevation, feet above mean sea level (msl)
TPHg/TPHg
TPHk/TPHk
TPHd/TPHd
TPHmo/TPHmo
B/B — TPHg, TPHk TPHd, TPHmo, and benzene concentrations in Micrograms per Liter (ug/L)
Duplicate sample
Sample

TPHg	Total Petroleum Hydrocarbons as Gasoline
TPHk	Total Petroleum Hydrocarbons as Kerosene
TPHd	Total Petroleum Hydrocarbons as Diesel
TPHmo	Total Petroleum Hydrocarbons as Motor Oil
B	Benzene

UST = Underground Storage Tank

Source: CAMBRIA

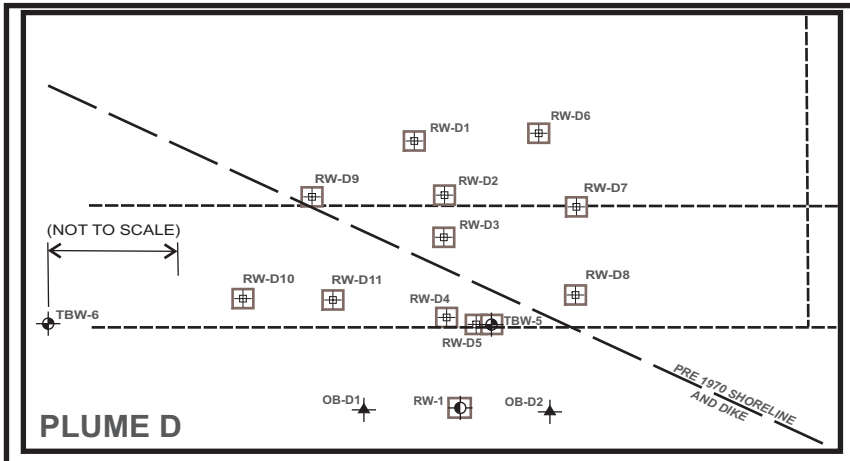
MUNICIPAL SERVICE CENTER, OAKLAND, CALIFORNIA

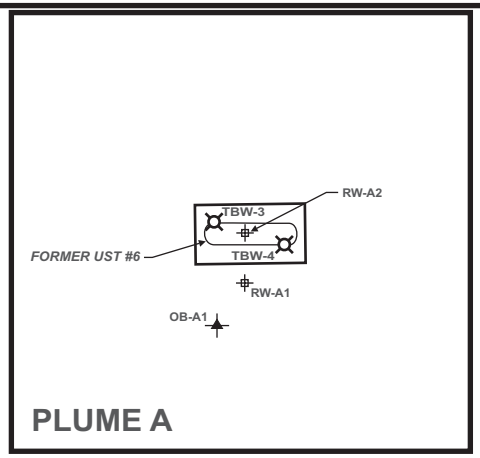
GROUNDWATER ELEVATION CONTOUR MAP AND HYDROCARBON CONCENTRATIONS IN SHALLOW GROUNDWATER, APRIL 2010

ARCADIS

FIGURE 2

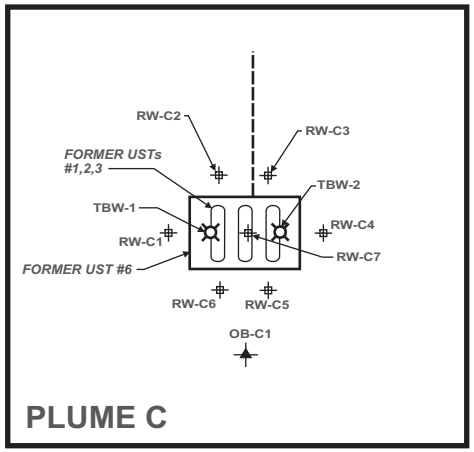
DESIGN\001\09225\11\000\09225 Plume Detail rev6.CDR

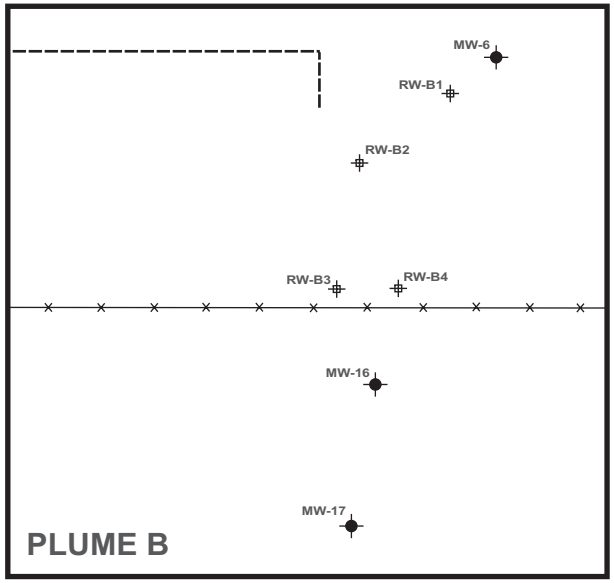




EXPLANATION

- RW-D1 — EXTRACTION WELL LOCATION
- RW-A1 — TEST/OBSERVATION WELL LOCATION
- OB-A1 — OBSERVATION WELL LOCATION
- MW-A6 — MONITORING WELL LOCATION
- RW-1 — REMEDIATION WELL LOCATION
- TBW-1 — TANK BACKFILL WELL
- ABANDONED WELL
- FENCE
- FORMER UNDERGROUND PIPING

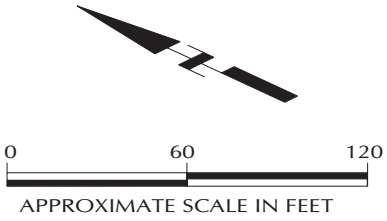




NOTES:

SPH WAS NOT DETECTED IN ANY WELLS WHERE DEPTH-TO-SPH MEASUREMENTS WERE COLLECTED IN APRIL 2010

SPH = SEPARATE PHASE HYDROCARBONS



NOTE: ALL DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE
SOURCE: NINYO & MOORE - JULY 2004

MUNICIPAL SERVICE CENTER
7101 EDGEWATER DRIVE, OAKLAND, CALIFORNIA

DETAIL PLUME MAP
APRIL 2010

ARCADIS

FIGURE
3

APPENDIX A

City of Oakland MSC Schedule and Protocol

Oakland
All-America City
1993

CITY OF OAKLAND

DALZIEL BUILDING • 250 FRANK H. OGAWA PLAZA, SUITE 5301 • OAKLAND, CALIFORNIA 94612-2034

Public Works Agency
Environmental Services

FAX (510) 238-7286
TDD (510) 238-7644

November 6, 2009

Mr. Paresh Khatri
Hazardous Materials Specialist
Alameda County- Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Re: Revised Groundwater Monitoring Schedule- Fuel Leak Case No. RO0000293-7101 Edgewater Drive, Municipal Service Center, Oakland, CA

Dear Mr. Khatri:

Thank you very much for our meeting on October 7, 2009 related to the above referenced project. Based on our discussions, we have reviewed the groundwater monitoring program, and have revised the sampling schedule. The recommendations for the revised sampling schedule are based on the contaminants concentrations, the site history, and the well locations.

Please see the attached table (Table 1) showing the revised monitoring schedule. It shows the proposed groundwater monitoring schedule for the sampling events in March 2010, September 2010, and September 2011 (annual) and thereafter. I have also attached a well location map as well as the existing monitoring schedule (Table 2) for comparison. Groundwater elevation and floating product (if any) measurements will be continued at all well locations, including the locations proposed for reduction in groundwater sampling and analysis. I request you to review and approve this revised monitoring plan.

If you have any questions, or would like additional information, please call me at (510) 238-6361.

Sincerely,

Gopal Nair
Environmental Specialist

cc: Charles Pardini, LFR, Inc. (sent via email)

Table 1 - Revised Well Sampling Schedule and Protocol

City of Oakland Municipal Services Center

Well ID	Parameters to be Monitored											Notes
	March-2010 semi-annual	Sept-2010 semi-annual	Sept-2011 annual thereafter	Elevation	Floating Product Thickness	pH	Dissolved Oxygen	Temp.	Specific Conduct.	TPH gas BTEX & MTBE	TPH d/k/mo	
MW-1	X	gauge only	X	X	X	X	X	X	X	X	X	benzene at 79 ug/L in April 09; interior well
MW-2	gauge only	gauge only	gauge only	X	X							up/cross gradient well, benzene <2 ug/L since 07
MW-3	closed/destroyed											
MW-4	closed/destroyed											
MW-5	X	gauge only	X	X	X	X	X	X	X	X	X	TPH-g still over 2,000 ug/L; near active USTs
MW-6	gauge only	X	X	X	X	X	X	X	X	X	X	0.03" free-phase product in April 09
MW-7	gauge only	gauge only	gauge only	X	X							upgradient well, only MTBE around 2 ug/L since 06
MW-8	gauge only	gauge only	gauge only	X	X							ND for all constituents since Sept 02
MW-9	X	X	X	X	X	X	X	X	X	X	X	benzene still at 82 ug/L in April 09; perimeter/sentinel well
MW-10	X	gauge only	X	X	X	X	X	X	X	X	X	ND for everything except benzene around 10 ug/L since 08
MW-11	gauge only	gauge only	gauge only	X	X							interior/upgradient well, only benzene around 5 ug/L since 05
MW-12	X	gauge only	gauge only	X	X	X	X	X	X	X	X	TPH-g around 150 ug/L, benzene ND (<0.5) since 2002
MW-13	X	X	X	X	X	X	X	X	X	X	X	only TPH-d around 100 ug/L, TPH-mo 600 ug/L since 06; perimeter/sentinel well
MW-14	X	X	X	X	X	X	X	X	X	X	X	all ND in April 09, but TPHmo at 660 ug/l in Nov 08; perimeter/sentinel well
MW-15	gauge only	gauge only	gauge only	X	X	X	X	X	X	X	X	only TPH-d around 100 ug/L since Sept 02; bezene ND since 04
MW-16	gauge only	gauge only	gauge only	X	X							often dry/no water, MW-17 directly downgradient as sentinel well
MW-17	X	gauge only	X	X	X	X	X	X	X	X	X	ND for all since 02, but directly downgredient of Plume B; perimeter/sentinel well
MW-18	gauge only	gauge only	gauge only	X	X							not located since 2003, seach & apply for closure in 2010
TBW-1	closed/destroyed											
TBW-2	closed/destroyed											
TBW-3	closed/destroyed											
TBW-4	closed/destroyed											
TBW-5	gauge only	gauge only	gauge only	X	X							remediation well
TBW-6	gauge only	gauge only	gauge only	X	X							excavation backfill well
RW-A1	gauge only	gauge only	gauge only	X	X							remediation well
RW-A2	gauge only	gauge only	gauge only	X	X							remediation well
OB-A1	gauge only	gauge only	gauge only	X	X							remediation observation well
RW-B1	gauge only	gauge only	gauge only	X	X							remediation well
RW-B2	gauge only	gauge only	gauge only	X	X							remediation well
RW-B3	gauge only	gauge only	gauge only	X	X							remediation well
RW-B4	gauge only	gauge only	gauge only	X	X							remediation well
RW-C1	gauge only	gauge only	gauge only	X	X							remediation well
RW-C2	gauge only	gauge only	gauge only	X	X							remediation well
RW-C3	gauge only	gauge only	gauge only	X	X							remediation well
RW-C4	gauge only	gauge only	gauge only	X	X							remediation well
RW-C5	gauge only	gauge only	gauge only	X	X							remediation well
RW-C6	gauge only	gauge only	gauge only	X	X							remediation well
RW-C7	gauge only	gauge only	gauge only	X	X							remediation well
OB-C1	gauge only	gauge only	gauge only	X	X							remediation observation well
RW-D1	gauge only	gauge only	gauge only	X	X							remediation well
RW-D2	gauge only	gauge only	gauge only	X	X							remediation well
RW-D3	gauge only	gauge only	gauge only	X	X							remediation well
RW-D4	gauge only	gauge only	gauge only	X	X							remediation well
RW-D5	gauge only	gauge only	gauge only	X	X							remediation well
RW-D6	gauge only	gauge only	gauge only	X	X							remediation well
RW-D7	gauge only	gauge only	gauge only	X	X							remediation well
RW-D8	gauge only	gauge only	gauge only	X	X							remediation well
RW-D9	gauge only	gauge only	gauge only	X	X							remediation well
RW-D10	gauge only	gauge only	gauge only	X	X							remediation well
RW-D11	gauge only	gauge only	gauge only	X	X							remediation well
RW-1	gauge only	gauge only	gauge only	X	X							remediation well
OB-D1	gauge only	gauge only	gauge only	X	X							remediation observation well
OB-D2	gauge only	gauge only	gauge only	X	X							remediation observation well

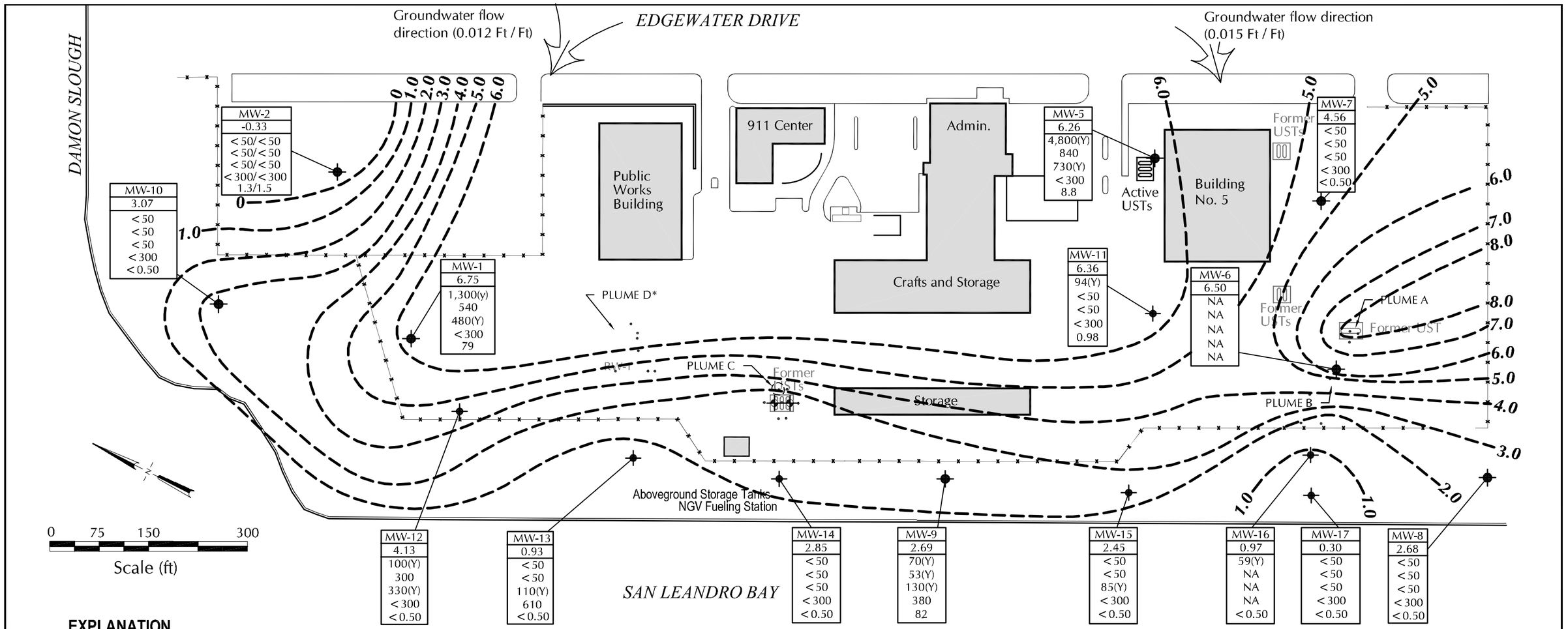
Notes:

gauge only = measure groundwater elevation and floating product thickness only

TPH d/k/mo = total petroleum hydrocarbons as diesel, kerosene, and motor oil after silica gel cleanup.

an "X" in the column means the well will be sampled.

Table 2 - Existing Well Sampling Schedule and Protocol as of October 2009										
City of Oakland Municipal Services Center										
Well ID	Monitoring Schedule		Parameters to be Monitored							
	March	September	Elevation	Floating	pH	Dissolved	Temp.	Specific	TPH gas	TPH
				Product		Oxygen		Conduct.	BTEX &	d/k/mo
				Thickness					MTBE	
MW-1	X	X	X	X	X	X	X	X	X	X
MW-2	X	gauge only	X	X	X	X	X	X	X	X
MW-3	closed/destroyed									
MW-4	closed/destroyed									
MW-5	X	X	X	X	X	X	X	X	X	X
MW-6	X	X	X	X	X	X	X	X	X	X
MW-7	X	gauge only	X	X	X	X	X	X	X	X
MW-8	X	X	X	X	X	X	X	X	X	X
MW-9	X	X	X	X	X	X	X	X	X	X
MW-10	X	X	X	X	X	X	X	X	X	X
MW-11	X	gauge only	X	X	X	X	X	X	X	X
MW-12	X	X	X	X	X	X	X	X	X	X
MW-13	X	X	X	X	X	X	X	X	X	X
MW-14	X	X	X	X	X	X	X	X	X	X
MW-15	X	X	X	X	X	X	X	X	X	X
MW-16	X	X	X	X	X	X	X	X	X	X
MW-17	X	X	X	X	X	X	X	X	X	X
MW-18	gauge only	gauge only	X	X						
TBW-1	gauge only	gauge only	X	X						
TBW-2	gauge only	gauge only	X	X						
TBW-3	gauge only	gauge only	X	X						
TBW-4	gauge only	gauge only	X	X						
TBW-5	gauge only	gauge only	X	X						
TBW-6	gauge only	gauge only	X	X						
RW-A1	gauge only	gauge only	X	X						
RW-A2	gauge only	gauge only	X	X						
OB-A1	gauge only	gauge only	X	X						
RW-B1	gauge only	gauge only	X	X						
RW-B2	gauge only	gauge only	X	X						
RW-B3	gauge only	gauge only	X	X						
RW-B4	gauge only	gauge only	X	X						
RW-C1	gauge only	gauge only	X	X						
RW-C2	gauge only	gauge only	X	X						
RW-C3	gauge only	gauge only	X	X						
RW-C4	gauge only	gauge only	X	X						
RW-C5	gauge only	gauge only	X	X						
RW-C6	gauge only	gauge only	X	X						
RW-C7	gauge only	gauge only	X	X						
OB-C1	gauge only	gauge only	X	X						
RW-D1	gauge only	gauge only	X	X						
RW-D2	gauge only	gauge only	X	X						
RW-D3	gauge only	gauge only	X	X						
RW-D4	gauge only	gauge only	X	X						
RW-D5	gauge only	gauge only	X	X						
OB-D1	gauge only	gauge only	X	X						
OB-D2	gauge only	gauge only	X	X						
Notes:										
gauge only = measure groundwater elevation and floating product thickness only										
TPH d/k/mo = total petroleum hydrocarbons as diesel, kerosene, and motor oil after silica gel cleanup.										



EXPLANATION

MW-1 — Monitoring well location

• — Remediation well location

Y — Sample exhibits chromatographic pattern that does not resemble standard

NA — Not sampled in this event

FT / FT — Foot per foot

Fence

3.0 — Groundwater elevation contour; dashed where inferred

* Wells TBW-5, RW-D1 through RW-D11 and RW-1 (PLUMB D), were converted to extraction wells and could not be accessed for DEPTH-TO -WATER and DEPTH-TO-SPH measurements.

Well
ELEV
TPHg/TPHg
TPHk/TPHk
TPHd/TPHd
TPHmo/TPHmo
B/B

Well — Monitoring Well ID

ELEV — Groundwater elevation, feet above mean sea level (msl)

TPHg/TPHg, TPHk/TPHk, TPHd/TPHd, TPHmo/TPHmo, B/B — TPHg, TPHk TPHd, TPHmo, and benzene concentrations in Micrograms per Liter (ug/L)

Duplicate sample

Sample

TPHg	Total Petroleum Hydrocarbons as Gasoline
TPHk	Total Petroleum Hydrocarbons as Kerosene
TPHd	Total Petroleum Hydrocarbons as Diesel
TPHmo	Total Petroleum Hydrocarbons as Motor Oil
B	Benzene

SPH = Separate Phase Hydrocarbons

UST = Underground Storage Tank

Source: CAMBRIA

Groundwater Elevation Contour Map and Hydrocarbon Concentrations in Shallow Groundwater, April 2009

Municipal Service Center, Oakland, California

LFR

Figure 2

I:\Design\001\09225\11\000\dwg\GW Elev April 2009.dwg May 01,2009-9:47am

APPENDIX B

Groundwater Sampling Field Data Sheets

LFR LEVINE-FRICKE

WATER-LEVEL MEASUREMENTS LOG

Project No. LC010060.0009.00000 Date April 8, 2010 Page 1 of ___

Project Name Oakland MSC Day: ☐ Sun ☐ Mon ☐ Tues ☐ Weds ☒ Thurs ☐ Fri ☐ Sat

Field Personnel Michael Sullivan and Miljan Draganic

General Observations Sunny

WELL NO.	Time Opened	DEPTH TO WATER 1	DEPTH TO WATER 2	WATER ELEVATION (Time Measured)	WELL SECURE? Y	WELL SECURE? N	REMARKS (UNITS = FEET)
MW-10	835	6.23	6.23	1210	X		water in well box
MW-13	846	9.96	9.96	1215		X	Missing bolts
MW-9 (4.39)	849	[redacted]	[redacted]	[redacted]1225	X		one bolt Missing one stripped
MW-15	853	9.59	9.59	1230	X		one bolt Missing, cracked well seal
MW-17 (7.41)	856	9.15	9.15	1235		X	No Bolts, cracked seal
MW-8	857	9.57	9.57	1245	X		
MW-16	900	10.45	10.45	1240			No Bolts
MW-14 (1.63)	905	6.62	6.62	1220	X		Missing one bolt, overgrown w/grass
MW-2	916	8.00	8.00	1302	N/A		well box flooded
MW-1 (5.81)	920	2.90	2.90	1310	NA		well box flooded, oder, pressurized
MW-12 (4.45)	923	6.07	6.07	1314		X	No Screws, flooded
RW-D10	0936	4.87	4.87	1328	X		
RW-D09	0938	6.92	6.92	1331	X		
RW-D-01	940	7.70	7.70	1334	X		
RW-D2	947	7.21	7.21	1338	X		Flooded, Presurized
RW-D3	945	7.43	7.43	1341	X		
RW-D6	950	7.10	7.10	1418	X		oder
RW-D7	952	5.55	5.55	1414	X		
RW-D8	955	4.27	4.27	1410	X		
TBW5	958	5.54	5.54	1357			
RW-D5	1000	4.97	4.97	1353			
RW-D4	1005	5.00	5.00	1345			
TBW-6	1008	1.87	1.87	1315			6" well
RW-1	1010	5.21	5.21	1401			
OB-D1	1012	4.71	4.71	1403			strong oder
OB-D2	1014	5.38	5.38	1406			
RW-D11	1015	4.71	4.71	1349			Sheen
RW-C2	1025	5.86	5.86	1428			
RW-C3	1030	5.93	5.93	1425			
RW-C1	1039	5.62	5.62	1433			
RW-C4							Could not open
RW-C7							" " "

WELL NO.	~~WELL~~ opened ELEVATION	DEPTH TO WATER 1	DEPTH TO WATER 2	~~WATER~~ Measured ELEVATION	WELL SECURE? Y	WELL SECURE? N	REMARKS (UNITS = FEET)
RW-C5							could not open
RW-C6							" " "
OB-C1							" " "
RW-B3	1046	9.61	9.61	1451	NA		water in vault
RW-B4	1048	9.72	9.72	1453	NA		
MW-7	1100	5.11	5.11	1515	X	X	vault flooded, no bolts
4.38 MW-5	1104	4.16	4.16	1525			vault flooded
OB-A1	1455	1.95	1.95	1513		~~X~~ DH	Parked on
MW-11	1108	4.51	4.51	1520			
RW-B2	1052	6.80	6.80	1458	~~NA~~		
RW-B1	1055	6.78	6.78	1502	N/A		
MW-6	1058	4.20	4.20	1505			
RW-A1	1101	1.54	1.54	1507	X		
RW-A2	1105	0.93	0.93	1510	X		

LFR LEVINE-FRICKE

WATER-QUALITY SAMPLING LOG

Project No. LC010060.0009.00000 Date: 4/8/10 Page 1 of

Project Name: MSC Oakland Edgewater Sampling Location: 7101 Edgewater Drive, Oakland, Ca

Sampler's Name: Miljan D. / Michael S. Sample No.: MW-1 ~~MW-1-FB~~ ☒ FB MW-1-FB

Sampling Plan By: DCR Dated: 4/7/10 C.O.C. No.: ☐ DUP

Purge Method: ☐ Centrifugal Pump ☒ Disposable Bailer ☐ Hand Bail ☐ Submersible Pump ☐ Teflon Bailer ☐ Other

Purge Water Storage Container Type: 55 gallon drum Storage Location: On-site

Date Purge Water Disposed: Where Disposed: On-site

Analyses Requested	No. and Type of Bottles Used
TPHg / BTEX / MTBE by 8260	3 VOAs with HCl preservative
TPHd / TPHmo / TPHk by 8010 with silica gel clean-up	1/2 Liter Amber (x2)

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier ☒ Hand

Well No. MW-1 Depth of Water 2.90

Well Diameter: Well Depth 15.81

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 12.91

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 2.07

80% DTW

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1700									Start purging.
1705		7.59	2.0	1.32	17.69	6.87	10570	-147.5	
1711		9.64	4.0	0.86	17.97	6.77	13716	-147.6	
1718		13.65	6.0	0.99	18.33	6.74	17869	-150.5	
1721			7.0						Well purged dry;
									waiting to recharge
1745								→	Sampling

Continue remarks on reverse, if needed.

LFR LEVINE • FRICKE

WATER-QUALITY SAMPLING LOG

Project No. LC010060.0009.00000 Date: 4/8/10 Page 1 of 1

Project Name: MSC Oakland Edgewater Sampling Location: 7101 Edgewater Drive, Oakland, Ca

Sampler's Name: Miljan D. / Michael S. Sample No.: MW-5 ☐ FB

Sampling Plan By: DCR Dated: 4/7/10 C.O.C. No.: ☐ DUP

Purge Method: ☐ Centrifugal Pump ☒ Disposable Bailer ☐ Hand Bail ☐ Submersible Pump ☐ Teflon Bailer ☐ Other

Purge Water Storage Container Type: 55 gallon drum Storage Location: On-site

Date Purge Water Disposed: Where Disposed: On-site

Analyses Requested	No. and Type of Bottles Used
TPHg / BTEX / MTBE by 8260	3 VOAs with HCl preservative
TPHd / TPHmo / TPHk by 8010 with silica gel clean-up	1/2 Liter Amber (x2)

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier ☒ Hand

Well No. MW-5 Depth of Water 4.16

Well Diameter: 2" Well Depth 14.38

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 10.22

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.64

80% DTW

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1535									Start bail
1540		4.16	~1.75	1.00	16.65	6.86	947	4.6	
1556		4.16	~3.25	1.08	15.94	6.84	933	-14.7	
1600		"	~5.0	1.07	15.83	6.83	902	-27	
1603		"	~5.75	1.11	15.76	6.80	1101	-28.3	
1605		"	~6.5	1.10	15.68	6.81	1064	-24.7	
1607		"	~7.25	1.18	15.82	6.84	1008	-33.6	Strong odor
1611		"	~8.00	1.10	15.79	6.84	974	-32.9	
1612		"	~8.75	1.13	15.71	6.84	928	-39.6	
1614		"	~9.5	1.16	15.75	6.84	979	-44.4	
1616		"	~10.25	1.10	15.87	6.83	993	-43.9	
1620									Sampling

Continue remarks on reverse, if needed.

LFR LEVINE·FRICKE

WATER-QUALITY SAMPLING LOG

Project No. LC010060.0009.00000 Date: 4/9/10 Page 1 of 1

Project Name: MSC Oakland Edgewater Sampling Location: 7101 Edgewater Drive, Oakland, Ca

Sampler's Name: M Sullivan Sample No.: MW-9 ☐ FB

Sampling Plan By: DCR Dated: 4/7/10 C.O.C. No.: ☐ DUP - 1

Purge Method: ☐ Centrifugal Pump ☒ Disposable Bailer ☐ Hand Bail ☐ Submersible Pump ☐ Teflon Bailer ☐ Other

Purge Water Storage Container Type: 55 gallon drum Storage Location: On-site

Date Purge Water Disposed: Where Disposed: On-site

Analyses Requested	No. and Type of Bottles Used
TPHg / BTEX / MTBE by 8260	3 VOAs with HCl preservative
TPHd / TPHmo / TPHk by 8010 with silica gel clean-up	1 Liter Amber

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier ☒ Hand

Well No. MW-9 Depth of Water 7.37

Well Diameter: Well Depth 14.37

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.02

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.12

80% DTW

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
839		7.30							Start
842		8.25	1.25	1.30	16.53	6.93	11027	-181.1	sulfur smell
846		8.65	2.5	1.46	16.76	6.96	11256	-201.9	" "
852		8.80	3.75	1.28	16.71	7.02	11335	-193.9	
900									Sampled
910									Duplicate

Continue remarks on reverse, if needed.

LFR LEVINE•FRICKE

WATER-QUALITY SAMPLING LOG

Project No. LC010060.0009.00000 Date: 4/9/10 Page 1 of _____

Project Name: MSC Oakland Edgewater Sampling Location: 7101 Edgewater Drive, Oakland, Ca

Sampler's Name: _____ Sample No.: MW-10 ☐ FB

Sampling Plan By: DCR Dated: 4/7/10 C.O.C. No.: _____ ☐ DUP ___

Purge Method: ☐ Centrifugal Pump ☒ Disposable Bailer ☐ Hand Bail ☐ Submersible Pump ☐ Teflon Bailer ☐ Other _____

Purge Water Storage Container Type: 55 gallon drum Storage Location: On-site

Date Purge Water Disposed: _____ Where Disposed: On-site

Analyses Requested	No. and Type of Bottles Used
TPHg / BTEX / MTBE by 8260	3 VOAs with HCl preservative
TPHd / TPHmo / TPHk by 8010 with silica gel clean-up	1 Liter Amber

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier _____ ☒ Hand _____

Well No. MW-10 Depth of Water 6.17

Well Diameter: _____ Well Depth 15.12

☑ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.95

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.43

80% DTW _____

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1155		6.17							Start
1202		6.65	1.5	0.91	16.09	7.06	3192	-174.8	
1208		6.80	3.0	0.81	16.12	6.98	3442	-173.9	
1213		6.85	4.5	0.84	16.32	7.04	3303	-174.6	
1220		6.85	4.5	0.84	16.32	7.04	3303	-174.6	Sampled

Continue remarks on reverse, if needed.

MW-12-FB @ 1244

LFR LEVINE·FRICKE

WATER-QUALITY SAMPLING LOG

Project No. LC010060.0009.00000 Date: 4/9/10 Page 1 of 1

Project Name: MSC Oakland Edgewater Sampling Location: 7101 Edgewater Drive, Oakland, Ca

Sampler's Name: Miljan Draganic Sample No.: MW-12 ☒ FB

Sampling Plan By: DCR Dated: 4/7/10 C.O.C. No.: ☐ DUP

Purge Method: ☐ Centrifugal Pump ☒ Disposable Bailer ☐ Hand Bail ☐ Submersible Pump ☐ Teflon Bailer ☐ Other

Purge Water Storage Container Type: 55 gallon drum Storage Location: On-site

Date Purge Water Disposed: Where Disposed: On-site

Analyses Requested	No. and Type of Bottles Used
TPHg / BTEX / MTBE by 8260	3 VOAs with HCl preservative
TPHd / TPHmo / TPHk by 8010 with silica gel clean-up	1 Liter Amber (x2)

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier ☒ Hand

Well No. MW-12 Depth of Water 6.07

Well Diameter: 2" Well Depth 14.45

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.38

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.34

80% DTW

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1303		6.00							Start bail
1308		6.11	1.5	3.11	16.98	7.46	3847	-204.4	
1316		6.21	3.0	2.81	16.55	7.40	3993	-183.1	
1323		6.26	4.5	1.57	16.53	7.41	4159	-182.7	
1328		6.28	5.25	1.53	16.45	7.41	4137	-181.1	
1332		6.28	6.0	1.50	16.51	7.38	4011	-180.6	
1336		6.29	6.75	1.45	16.35	7.38	3931	-179.5	
1340		—	7.5	1.26	16.41	7.39	4149	-177.9	
1344		—	8.25	1.11	16.45	7.39	4232	-177.2	
1348		—	9.00	1.10	16.49	7.40	4286	-180.5	
1352		6.31	9.75	1.16	16.51	7.41	4317	-182.7	
1355								→	Sampling

Continue remarks on reverse, if needed.

LFR LEVINE • FRICKE

WATER-QUALITY SAMPLING LOG

Project No. LC010060.0009.00000 Date: 4/9/10 Page 1 of 1

Project Name: MSC Oakland Edgewater Sampling Location: 7101 Edgewater Drive, Oakland, Ca

Sampler's Name: M. Sullivan Sample No.: MW-13 ☐ FB

Sampling Plan By: DCR Dated: 4/7/10 C.O.C. No.: ____ ☐ DUP ____

Purge Method: ☐ Centrifugal Pump ☒ Disposable Bailer ☐ Hand Bail ☐ Submersible Pump ☐ Teflon Bailer ☐ Other ____

Purge Water Storage Container Type: 55 gallon drum Storage Location: On-site

Date Purge Water Disposed: ____ Where Disposed: On-site

Analyses Requested	No. and Type of Bottles Used
TPHg / BTEX / MTBE by 8260	3 VOAs with HCl preservative
TPHd / TPHmo / TPHk by 8010 with silica gel clean-up	1 Liter Amber

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier ____ ☒ Hand ____

Well No. MW-13 Depth of Water 9.96

Well Diameter: ____ Well Depth 19.50

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 10.2

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.63

80% DTW ____

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1035		9.30							start
1043		10.10	1.75	0.50	17.77	6.93	10494	-210.9	
1049		11.30	3.25	0.88	17.73	6.80	12770	-207.1	
~~1056~~		~~11.70~~	~~5.10~~	~~0.70~~	~~17.86~~	~~6.79~~	~~13121~~	~~-189.8~~	(MW3) Tide coming in
1056		11.70	5.10	0.42	17.55	6.78	13195	-206.3	
1102		11.30	6.10	0.52	17.45	6.79	13473	-201.3	
1110		11.0	6.75	0.58	17.78	6.79	13710	-204.8	
1120									Sample

Continue remarks on reverse, if needed.

LFR LEVINE • FRICKE

WATER-QUALITY SAMPLING LOG

Project No. LC010060.0009.00000 Date: 3/9/10 Page 1 of 1

Project Name: MSC Oakland Edgewater Sampling Location: 7101 Edgewater Drive, Oakland, Ca

Sampler's Name: Milan Draganic Sample No.: MW-14 ☐ FB

Sampling Plan By: DCR Dated: 4/7/10 C.O.C. No.: ☐ DUP

Purge Method: ☐ Centrifugal Pump ☒ Disposable Bailer ☐ Hand Bail ☐ Submersible Pump ☐ Teflon Bailer ☐ Other

Purge Water Storage Container Type: 55 gallon drum Storage Location: On-site

Date Purge Water Disposed: Where Disposed: On-site

Analyses Requested	No. and Type of Bottles Used
TPHg / BTEX / MTBE by 8260	3 VOAs with HCl preservative
TPHd / TPHmo / TPHk by 8010 with silica gel clean-up	1/2 Liter Amber (x2)

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier ☒ Hand

Well No. MW-14 Depth of Water 6.62

Well Diameter: 2" Well Depth 14.63

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.01

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.28

80% DTW

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1042		6.60							Start bail.
1049		6.65	~1.25	0.83	17.45	7.60	11291	-237	Water turns black
1055		6.70	~2.5	0.81	17.24	7.56	11112	-234.8	after pulled from well.
1102		6.75	~3.75	0.78	17.23	7.56	11082	-231.5	
		6.71	~4.00						
1105	→							→	Sampling.

Continue remarks on reverse, if needed.

LFR LEVINE • FRICKE

WATER-QUALITY SAMPLING LOG

Project No. LC010060.0009.00000 Date: 3/9/10 Page 1 of 1

Project Name: MSC Oakland Edgewater Sampling Location: 7101 Edgewater Drive, Oakland, Ca

Sampler's Name: Miljan Draganic Sample No.: MW-17 ☐ FB

Sampling Plan By: DCR Dated: 4/7/10 C.O.C. No.: ☐ DUP

Purge Method: ☐ Centrifugal Pump ☒ Disposable Bailer ☐ Hand Bail ☐ Submersible Pump ☐ Teflon Bailer ☐ Other

Purge Water Storage Container Type: 55 gallon drum Storage Location: On-site

Date Purge Water Disposed: Where Disposed: On-site

Analyses Requested	No. and Type of Bottles Used
TPHg / BTEX / MTBE by 8260	3 VOAs with HCl preservative
TPHd / TPHmo / TPHk by 8010 with silica gel clean-up	½ Liter Amber (x2)

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier ☒ Hand

Well No. MW-17 Depth of Water 9.15

Well Diameter: 2" Well Depth 17.41

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.26

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.32

80% DTW

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
0855		7.86							Start bail
0902		7.69	1.25	1.05	16.70	7.38	24105	-236.4	strong odor
0911		7.64	2.75	0.94	17.07	7.40	22736	-310.9	water turns
0917		7.60	4.00	0.91	16.91	7.39	23246	-319	black once pulled
0922		7.62	4.75	0.62	17.09	7.32	24315	-324	out of well.
0926		7.60	5.50	0.72	17.06	7.35	24325	-320.4	
0930		"	6.25	0.69	17.20	7.39	23901	-322.8	
0935									Sample

Continue remarks on reverse, if needed.

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

SAMPLE COLLECTOR:
LFR LEVINE•FRICKE
1900 Powell Street, 12th Floor
Emeryville, California 94608-1827
(510) 652-4500 Fax: (510) 652-2246

PROJECT NO.: LA100060.0009 | SECTION NO.: 00006 | DATE: 4/8/10 | SAMPLER'S INITIALS: MWS | SERIAL NO.: 202064

PROJECT NAME: MSC | SAMPLER (Signature): [signature]

SAMPLE ID.	DATE	TIME	Lab Sample No.	No. of Containers	TYPE: Soil	TYPE: Water		TPHd (EPA 8015M)	TPHmo (EPA 8015M)	TPHg (EPA 8015M)	BTEX (EPA 8021/602)	VOCs (EPA 8260/624)	Metals (EPA 6010/7000)	MTBE	TPH-k (EPA 8015)			TAT: Standard	RUSH:	HOLD	REMARKS
TB040810	4/8	—				X			H	OL	D									X	Silica Gel Cleanup
MW-5	↓	1620		3		X		X	X	X	X			X	X			X			on TPH samples
MW-1-FB	↓	1650		5		X			H	OL	D									X	
MW-1	↓	1745		5		X		X	X	X	X			X	X			X			TPH, BTEX MTBE
MW-9	4/9	900		5		X		X	X	X	X			X	X			X			by Method 8260
MW-9D	↓	910		5		X		X	X	X	X			X	X			X			
MW-17	↓	935		5		X		X	X	X	X			X	X			X			TPHd/mo/k EPA 8015
MW-13	↓	1120		5		X		X	X	X	X			X	X			X			(silica gel cleanup)
~~MW-14~~ MW-14	↓	1105		5		X		X	X	X	X			X	X			X			
MW-10	↓	1220		5		X		X	X	X	X			X	X			X			
MW-12-FB	↓	1244		5		X		X	X	X	X			X	X			X			
MW-12	4/9	1355		5		X		X	X	X	X			X	X			X			

MW-8

REMARKS: *VOCs: ☐ 8260 List ☐ 8240 List ☐ 8010 List ☐ 624 List — **Metals: ☐ CAM17 ☐ RCRA ☐ LUFT

SAMPLE RECEIPT: ☐ Intact ☒ Cold ☒ On Ice ☐ Ambient
Cooler Temp:
Cooler No.:
Preservative Correct? ☐ Yes ☐ No ☐ N/A

METHOD OF SHIPMENT:
LAB REPORT NO.:
FAX COC CONFIRMATION TO: Peter Roth
FAX RESULTS TO: " "
SEND HARDCOPY TO: " "
SEND EDD TO: EMV.LABEDDS.COM

ANALYTICAL LABORATORY: C+T

RELINQUISHED BY: 1	RELINQUISHED BY: 2	RELINQUISHED BY: 3
(SIGNATURE) [signature] (DATE) 4/9/10	(SIGNATURE) [signature] (DATE) 4/9/10	(SIGNATURE) (DATE)
(PRINTED NAME) Michael Sullivan (TIME) 1534	(PRINTED NAME) [illegible] (TIME) [illegible]	(PRINTED NAME) (TIME)
(COMPANY) Arcadis	(COMPANY) C+T	(COMPANY)

RECEIVED BY: 1	RECEIVED BY: 2	RECEIVED BY (LABORATORY): 3
(SIGNATURE) (DATE)	(SIGNATURE) (DATE)	(SIGNATURE) (DATE)
(PRINTED NAME) (TIME)	(PRINTED NAME) (TIME)	(PRINTED NAME) (TIME)
(COMPANY)	(COMPANY)	(COMPANY)

Shipping Copy (White) File Copy (Yellow) Field Copy (Pink)

ARCADIS

DAILY LOG

Well(s)/Boring(s) _____ Project Name and No. MSC LC010060.0009.00000

Site Location MSC, Oakland, CA

Prepared by Miljan Draganic

Date/Time	Description of Activities
4/29/10	
0700	Left the office; head to the shed to pick-up supplies.
0730	Left the shed; head on to C&T to pick up bottles.
0800	Back at the office; prepare paperwork, H&S tailgate.
0830	Ashted equipment delivered; head to the site.
0855	Get ice
0915	Plume C water levels. (Half hour)*
0945	Prep for GW sampling of MW-9.
1130	Clean-up
1150	Leave the Site.
1220	Samples delivered to C&T
1235	Arrive at the shed to return supplies
1245	Leave shed.
1300	Back at the garage/office.
	Draganic Miljan

*bill separately.

Site Activities Tailgate Safety Briefing - Sign-in Log

Date: 4/29/10	Time: 0800	
Briefing Conducted by: Miljan Draganic	**Signature:** Miljan	**Company:** Arcadis

This sign-in log documents the tailgate briefing conducted in accordance with the HASP. Personnel who perform work operations on Site are required to attend each briefing and to acknowledge receipt of each briefing, daily.

TOPICS COVERED (check all those covered):

- ☒ General PPE Usage
- ☒ Hearing Conservation
- ☐ Respiratory Protection
- ☐ Personal Hygiene
- ☐ Exposure Guidelines
- ☐ Decon Procedures
- ☐ Emergency Procedures; include route to hospital
- ☐ Smoking, Eating, Drinking, Chewing Prohibitions
- ☒ Slips, Trips, Falls
- ☐ Heat Stress
- ☐ Cold Stress
- ☐ Site Control
- ☐ Work Zones
- ☐ Lockout/Tagout
- ☐ Excavation Safety
- ☐ Confined Space
- ☒ Traffic Safety
- ☐ Changes to the HASP
- ☐ Initial Review of Hazard Evaluation (from Work Plan)
- ☒ Other (specify): Lifting

Personnel Sign-in List

Printed Name	Signature	Company Name
Miljan Draganic	Miljan	Arcadis

LFR LEVINE • FRICKE

WATER-LEVEL MEASUREMENTS LOG

Project No. LC010060.0009.00000 Date April 29, 2010 Page 1 of 1

Project Name Oakland MSC Day: ☐ Sun ☐ Mon ☐ Tues ☐ Weds ☒ Thurs ☐ Fri ☐ Sat

Field Personnel ~~Michael Sullivan and~~ Miljan Draganic

General Observations

WELL NO.	measured Time ~~Opened~~	DEPTH TO WATER 1	DEPTH TO WATER 2	WATER ELEVATION	WELL SECURE? Y	WELL SECURE? N	REMARKS (UNITS = FEET)
RW-C1							
RW-C2							
RW-C3							
RW-C4	0935	6.07	6.07				
RW-C5	0926	5.59	5.59				
RW-C6	0923	5.43	5.43				
RW-C7	0930	5.71	5.71				
OB-C1	0919	5.95	5.95				

LFR LEVINE•FRICKE

WATER-QUALITY SAMPLING LOG

Project No. LC010060.0009.00000 Date: 4/29/10 Page 1 of 1

Project Name: MSC Oakland Edgewater Sampling Location: 7101 Edgewater Drive, Oakland, Ca

Sampler's Name: Miljan Draganic Sample No.: MW-9 ☐ FB

Sampling Plan By: DCR Dated: 4/7/10 C.O.C. No.: ☒ DUP MW-9D

Purge Method: ☐ Centrifugal Pump ☒ Disposable Bailer ☐ Hand Bail ☐ Submersible Pump ☐ Teflon Bailer ☐ Other

Purge Water Storage Container Type: 55 gallon drum Storage Location: On-site

Date Purge Water Disposed: Where Disposed: On-site

Analyses Requested	No. and Type of Bottles Used
TPHg / BTEX / MTBE by 8260	3 VOAs with HCl preservative
TPHd / TPHmo / TPHk by 8010 with silica gel clean-up	1 Liter Amber

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier ☒ Hand

Well No. MW-9 Depth of Water 7.30 ft.

Well Diameter: 2" Well Depth 14.40 ft.

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.10 ft.

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.14 gal.

80% DTW

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1027									Start purging
1033			1.25	0.91	16.67	6.92	10078	-121.4	
1039			2.50	1.17	16.79	6.95	10948	-137.1	
1043			3.75	1.70	16.77	6.95	11020	-119.7	
1047			4.50	1.47	16.81	6.98	11361	-122.5	
1050			5.25	1.50	16.79	7.00	11152	-118.9	
1054			6.00	1.42	16.93	6.99	11155	-119.8	
1100									Sampling.
1110									DUP sampling.

Continue remarks on reverse, if needed.

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

SAMPLE COLLECTOR:
LFR
1900 Powell Street, 12th Floor
Emeryville, California 94608
(510) 652-4500 Fax: (510) 652-2246

PROJECT NO.:	SECTION NO.:	DATE:	SAMPLER'S INITIALS:	SERIAL
LC010060.0009	00000	4/29/10	MD	№ 5415

PROJECT NAME: MSC
SAMPLER (Signature): [signature]

SAMPLE ID.	DATE	TIME	Lab Sample No.	No. of Containers	TYPE: Soil	TYPE: Water	TPHd (EPA 8015)	TPHmo (EPA 8015)	TPHg (EPA 8015)	BTEX (EPA 8021/602)	VOCs (EPA 8260/624)	Metals (EPA 6010/7000)	MTBE	TPH-k (EPA 8015)	TAT: Standard	TAT: RUSH:	TAT: HOLD	REMARKS
TB042910	4/29	—		1		X	H	O	L	D	—						X	Silica gel clean-up for TPH samples
MW-9	4/29	1100		5		X	X	X	X	X			X	X				
MW-9D	4/29	1110		5		X	X	X	X	X			X	X				
																		TPHg, BTEX, MTBE by method 8260
																		TPHd/mo/k EPA 8015 (Silica gel clean-up)

*VOCs: ☐ 8260 List ☐ 8240 List ☐ 8010 List ☐ 624 List
**Metals: ☐ CAM17 ☐ RCRA ☐ LUFT

SAMPLE RECEIPT: ☐ Intact ☒ Cold ☒ On Ice ☐ Ambient
Cooler Temp:
Cooler No:
Preservative Correct? ☐ Yes ☐ No ☐ N/A

METHOD OF SHIPMENT:
LAB REPORT NO.:
FAX COC CONFIRMATION TO: Daren Roth

ANALYTICAL LABORATORY: C&T

FAX RESULTS TO: "
SEND HARDCOPY TO: "
SEND EDD TO: EMV.LABEDDS.COM

RELINQUISHED BY: 1	RELINQUISHED BY: 2	RELINQUISHED BY: 3
(SIGNATURE) [signature] (DATE) 4/29/10	(SIGNATURE) (DATE)	(SIGNATURE) (DATE)
(PRINTED NAME) Milan Draganic (TIME) 1220	(PRINTED NAME) (TIME)	(PRINTED NAME) (TIME)
(COMPANY) Arcadis	(COMPANY)	(COMPANY)
RECEIVED BY: 1	**RECEIVED BY: 2**	**RECEIVED BY (LABORATORY): 3**
(SIGNATURE) [signature] (DATE) 4/29/10	(SIGNATURE) (DATE)	(SIGNATURE) (DATE)
(PRINTED NAME) C&T Micah Smith (TIME) 11:20	(PRINTED NAME) (TIME)	(PRINTED NAME) (TIME)
(COMPANY) C&T	(COMPANY)	(COMPANY)

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APPENDIX C

Laboratory Results and Chain-of-Custody Documentation


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 219386
ANALYTICAL REPORT

Arcadis	Project : LC010060.0009.00000
1900 Powell St.	Location : Oakland MSC
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
TB040810	219386-001
MW-5	219386-002
MW-1-FB	219386-003
MW-1	219386-004
MW-9	219386-005
MW-9D	219386-006
MW-17	219386-007
MW-13	219386-008
MW-14	219386-009
MW-10	219386-010
MW-12-FB	219386-011
MW-12	219386-012

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.

Signature: Trig Bolger Date: 04/19/2010
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**219386**
Client:	**Arcadis**
Project:	**LC010060.0009.00000**
Location:	**Oakland MSC**
Request Date:	**04/09/10**
Samples Received:	**04/09/10**

This data package contains sample and QC results for ten water samples, requested for the above referenced project on 04/09/10. The samples were received cold and intact. All data were e-mailed to Daren Roth on 04/16/10.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
Samples MW-9 (CT# 219386-005) and MW-9D (CT# 219386-006) were not reported because all the vials were broken due to a cold room malfunction. No other analytical problems were encountered.

219386

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

SAMPLE COLLECTOR:
LFR LEVINE•FRICKE
1900 Powell Street, 12th Floor
Emeryville, California 94608-1827
(510) 652-4500 Fax: (510) 652-2246

PROJECT NO.:	SECTION NO.:	DATE:	SAMPLER'S INITIALS:	SERIAL NO.:
10060.009	00000	4/8/10	MWS	Nº 202064

PROJECT NAME: MSC
SAMPLER (Signature):

	SAMPLE ID.	DATE	TIME	Lab Sample No.	No. of Containers	TYPE: Soil	TYPE: Water	TPHd (EPA 8015)	TPHmo (EPA 8015)	TPHg (EPA 8015)	BTEX (EPA 8021/602)	VOCs (EPA 8260/624)	Metals (EPA 6010/7000)	MTBE	TPH-k (EPA 8015)	TAT: Standard	TAT: RUSH	TAT: HOLD	REMARKS
1	TB040810	4/8	—			X		HOLD						X	X			X	Silica Gel Cleanup for TPH samples
2	MW-5		1620		5	X		X	X	X	X			X	X	X			
3	~~FB~~ MW-1-FB		1650		5	X			HOLD									X	
4	MW-1		1745		5	X		X	X	X	X			X	X	X			TPH-g, BTEX, MTBE by Method 8260
5	MW-9	4/9	900		5	X		X	X	X	X			X	X	X			
6	MW-9D		910		5	X		X	X	X	X			X	X	X			
7	MW-17		935		5	X		X	X	X	X			X	X	X			TPHd/mo/k EPA 8015 (Silica Gel Cleanup)
8	MW-13		1120		5	X		X	X	X	X			X	X	X			
9	~~MW-14~~ MW-14		1105		5	X		X	X	X	X			X	X	X			
10	MW-10		1220		5	X		X	X	X	X			X	X	X			
11	MW-12-FB		1244		5	X		X	X	X	X			X	X	X			
12	MW-12	4/9	1355		5	X		X	X	X	X			X	X	X			

MWS

SAMPLE RECEIPT: ☐ Intact ☒ Cold ☒ On Ice ☐ Ambient
Cooler Temp:
Cooler No:
Preservative Correct? ☐ Yes ☐ No ☐ N/A

METHOD OF SHIPMENT:
LAB REPORT NO.:
FAX COC CONFIRMATION TO: Paren Roth

RELINQUISHED BY: 1
(SIGNATURE) (DATE) 4/9/10
Michael Sullivan 1534
(PRINTED NAME) (TIME)
Arcadis
(COMPANY)

RELINQUISHED BY: 2
(SIGNATURE) (DATE) 4/9/10
Pat Gonzalez 1574
(PRINTED NAME) (TIME)
CLT
(COMPANY)

RELINQUISHED BY: 3
(SIGNATURE) (DATE)
(PRINTED NAME) (TIME)
(COMPANY)

ANALYTICAL LABORATORY: C+T

FAX RESULTS TO: " "
SEND HARDCOPY TO: " "
SEND EDD TO: EMV.LABEDDS.COM

RECEIVED BY: 1
(SIGNATURE) (DATE)
(PRINTED NAME) (TIME)
(COMPANY)

RECEIVED BY: 2
(SIGNATURE) (DATE)
(PRINTED NAME) (TIME)
(COMPANY)

RECEIVED BY (LABORATORY): 3
(SIGNATURE) (DATE)
(PRINTED NAME) (TIME)
(COMPANY)

Shipping Copy (White) File Copy (Yellow) Field Copy (Pink)

CHAIN of CUSTODY - ANALYSES FORM.CDR 5/2003

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 219386 Date Received 4/9/10 Number of coolers 2
Client LFR Project MSC

Date Opened 4/9/10 By (print) M.VILLANUEVA (sign) [signature]
Date Logged in 4-12-10 By (print) S.EVANS (sign) [signature]

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:

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) ___

☒ Samples Received on ice & cold without a temperature blank

☐ 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 samples in the appropriate containers for indicated tests? (YES) NO
11. Are sample labels present, in good condition and complete? (YES) NO
12. Do the sample labels agree with custody papers? (YES) NO
13. Was sufficient amount of sample sent for tests requested? (YES) NO
14. Are the samples appropriately preserved? (YES) NO N/A
15. Are bubbles > 6mm absent in VOA samples? (YES) NO N/A
16. Was the client contacted concerning this sample delivery? YES NO
   If YES, Who was called? Dean Roth By [signature] Date: 4-14-10

COMMENTS

Samples MW-9 (CT# 219386-005) and MW-9P (CT# 219386-006) will not be reported for TVH/MBTXE due to a malfunction of the cold room causing all the vials to break –

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	219386	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0009.00000	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	161908
Units:	ug/L	Received:	04/09/10
Diln Fac:	1.000	Prepared:	04/12/10

Field ID:	MW-5	Sampled:	04/08/10
Type:	SAMPLE	Analyzed:	04/14/10
Lab ID:	219386-002	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	1,400 Y	50
Diesel C10-C24	1,300 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	96	39-150

Field ID:	MW-1	Sampled:	04/08/10
Type:	SAMPLE	Analyzed:	04/14/10
Lab ID:	219386-004	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	190 Y	50
Diesel C10-C24	210 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	107	39-150

Field ID:	MW-9	Sampled:	04/09/10
Type:	SAMPLE	Analyzed:	04/14/10
Lab ID:	219386-005	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	52 Y	50
Diesel C10-C24	110 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	112	39-150

Field ID:	MW-9D	Sampled:	04/09/10
Type:	SAMPLE	Analyzed:	04/15/10
Lab ID:	219386-006	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	170 Y	50
Diesel C10-C24	250 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	95	39-150

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	219386	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0009.00000	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	161908
Units:	ug/L	Received:	04/09/10
Diln Fac:	1.000	Prepared:	04/12/10

Field ID:	MW-17	Sampled:	04/09/10
Type:	SAMPLE	Analyzed:	04/15/10
Lab ID:	219386-007	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	121	39-150

Field ID:	MW-13	Sampled:	04/09/10
Type:	SAMPLE	Analyzed:	04/15/10
Lab ID:	219386-008	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	61 Y	50
Motor Oil C24-C36	330	300

Surrogate	%REC	Limits
o-Terphenyl	106	39-150

Field ID:	MW-14	Sampled:	04/09/10
Type:	SAMPLE	Analyzed:	04/15/10
Lab ID:	219386-009	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	118	39-150

Field ID:	MW-10	Sampled:	04/09/10
Type:	SAMPLE	Analyzed:	04/15/10
Lab ID:	219386-010	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	118	39-150

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	219386	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0009.00000	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	161908
Units:	ug/L	Received:	04/09/10
Diln Fac:	1.000	Prepared:	04/12/10

Field ID:	MW-12-FB	Sampled:	04/09/10
Type:	SAMPLE	Analyzed:	04/15/10
Lab ID:	219386-011	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	122	39-150

Field ID:	MW-12	Sampled:	04/09/10
Type:	SAMPLE	Analyzed:	04/15/10
Lab ID:	219386-012	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	250	50
Diesel C10-C24	320 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	118	39-150

Type:	BLANK	Analyzed:	04/14/10
Lab ID:	QC540074	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	105	39-150

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

Curtis & Tompkins, Ltd.

Batch QC Report

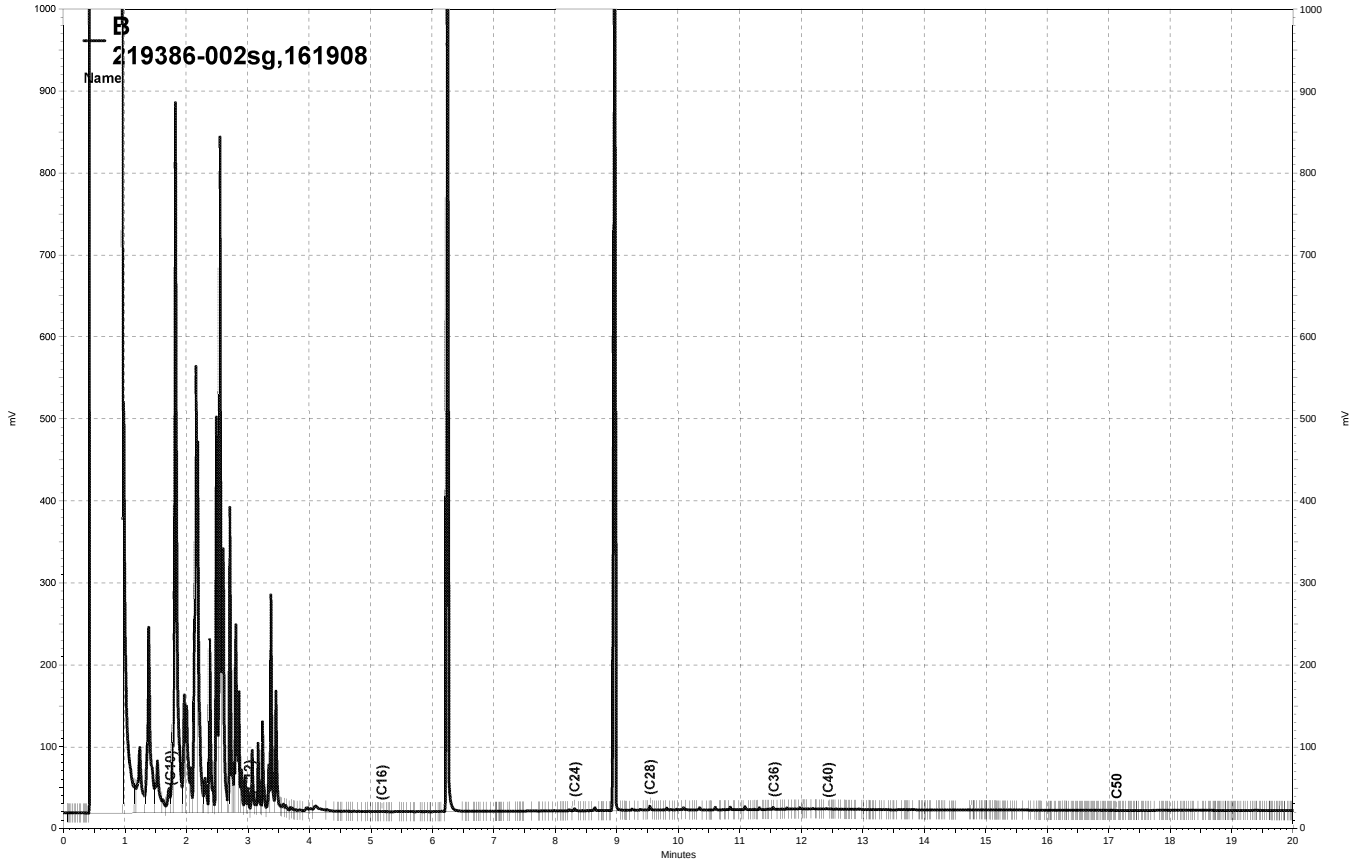
Total Extractable Hydrocarbons

Lab #:	219386	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0009.00000	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC540075	Batch#:	161908
Matrix:	Water	Prepared:	04/12/10
Units:	ug/L	Analyzed:	04/14/10

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,497	100	34-144

Surrogate	%REC	Limits
o-Terphenyl	112	39-150



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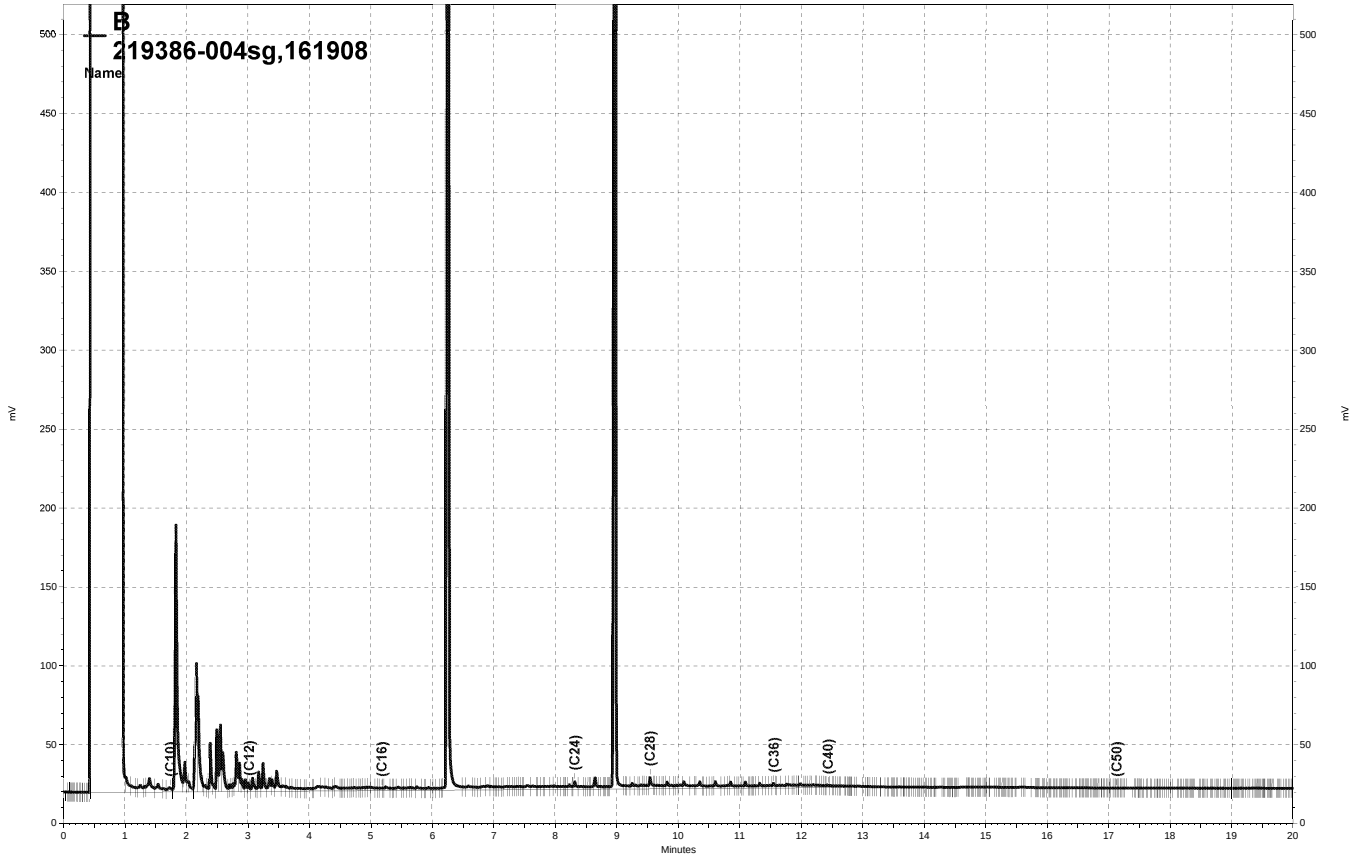

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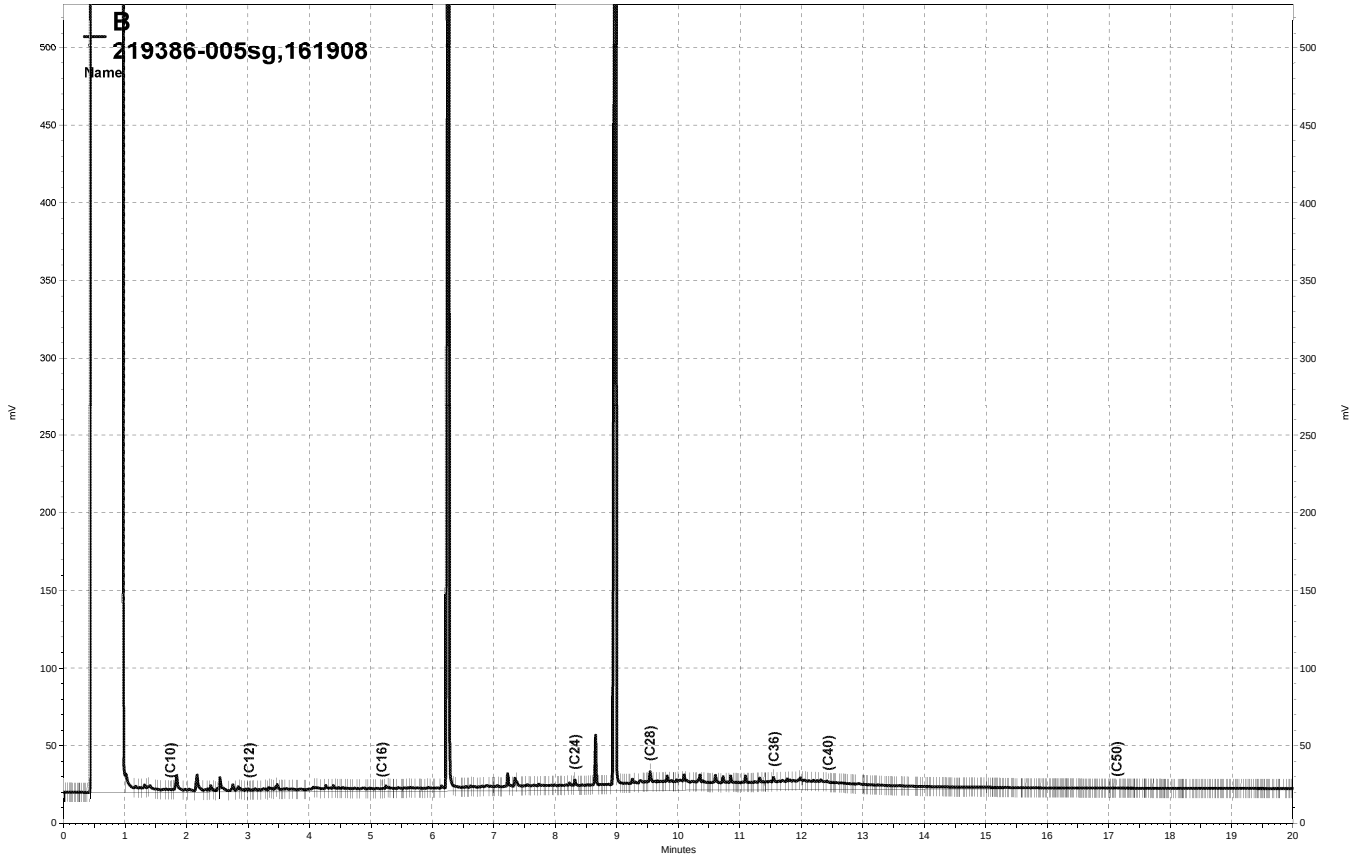

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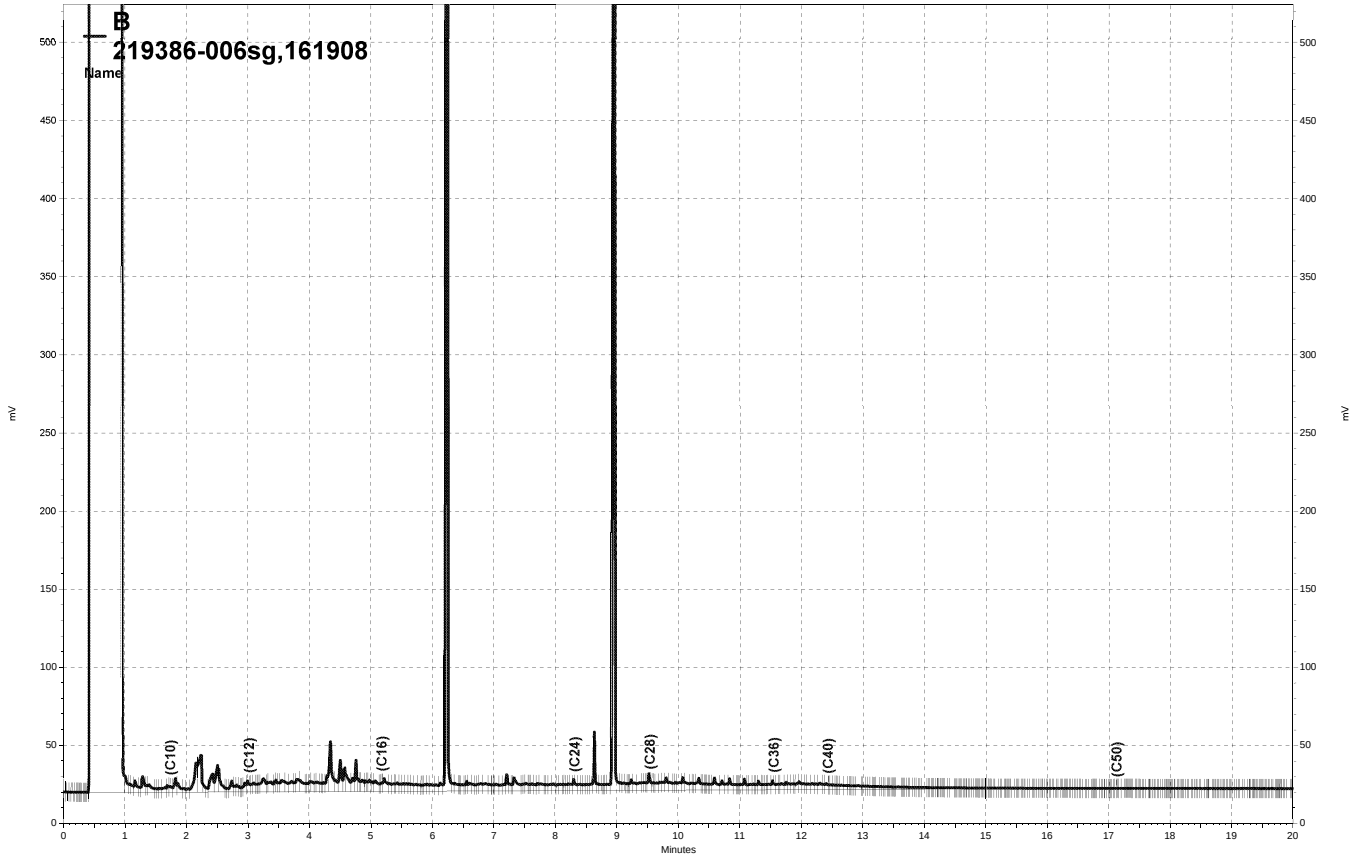

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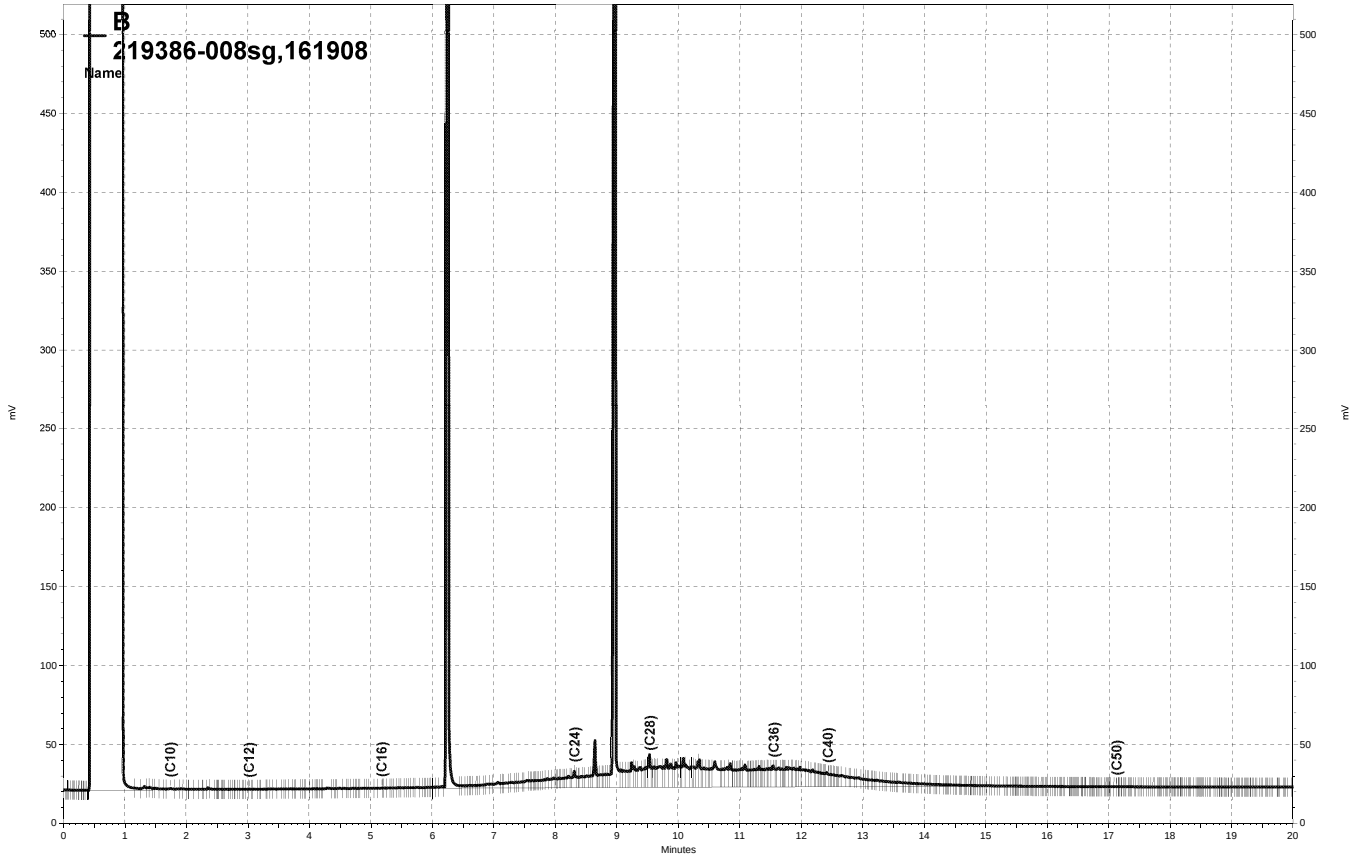

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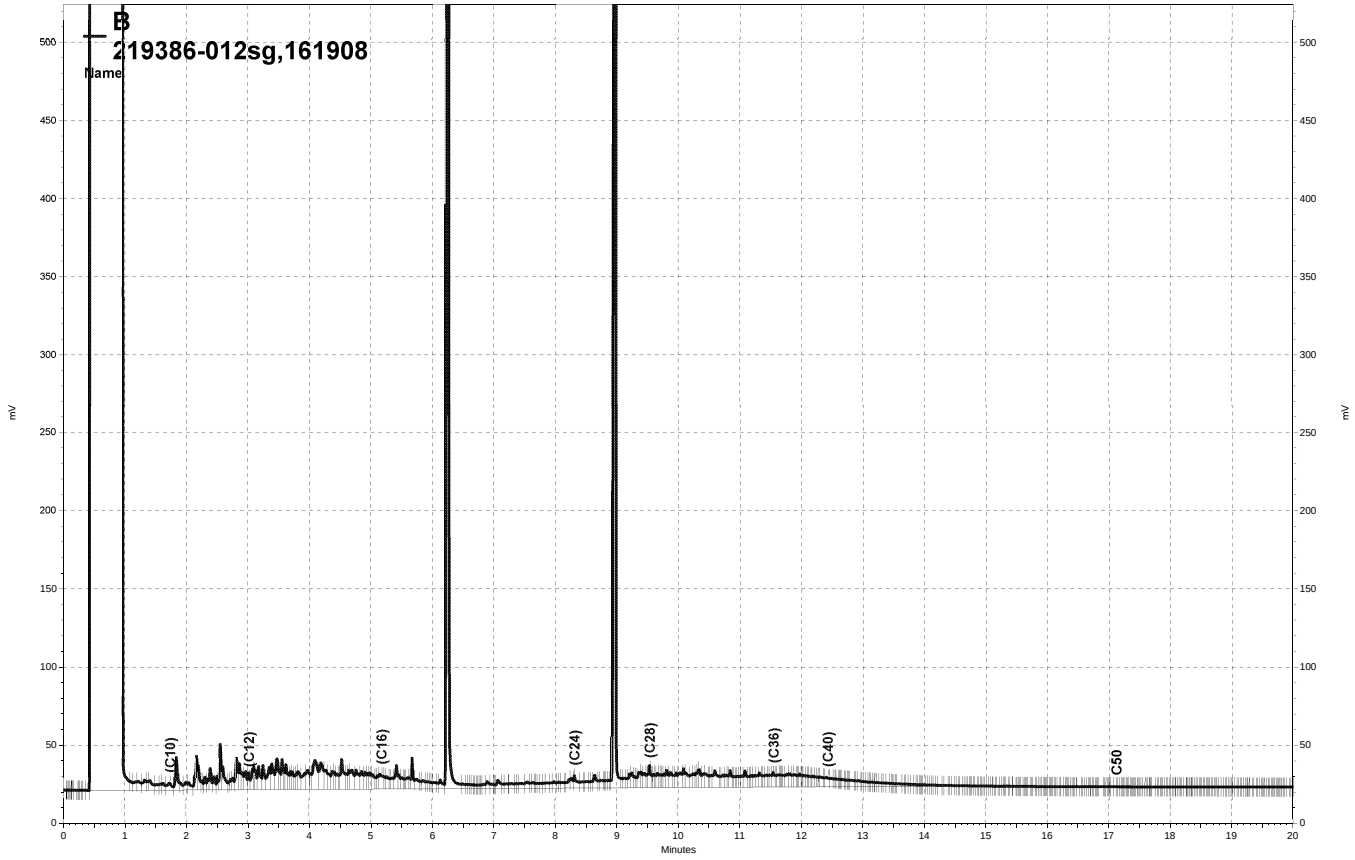

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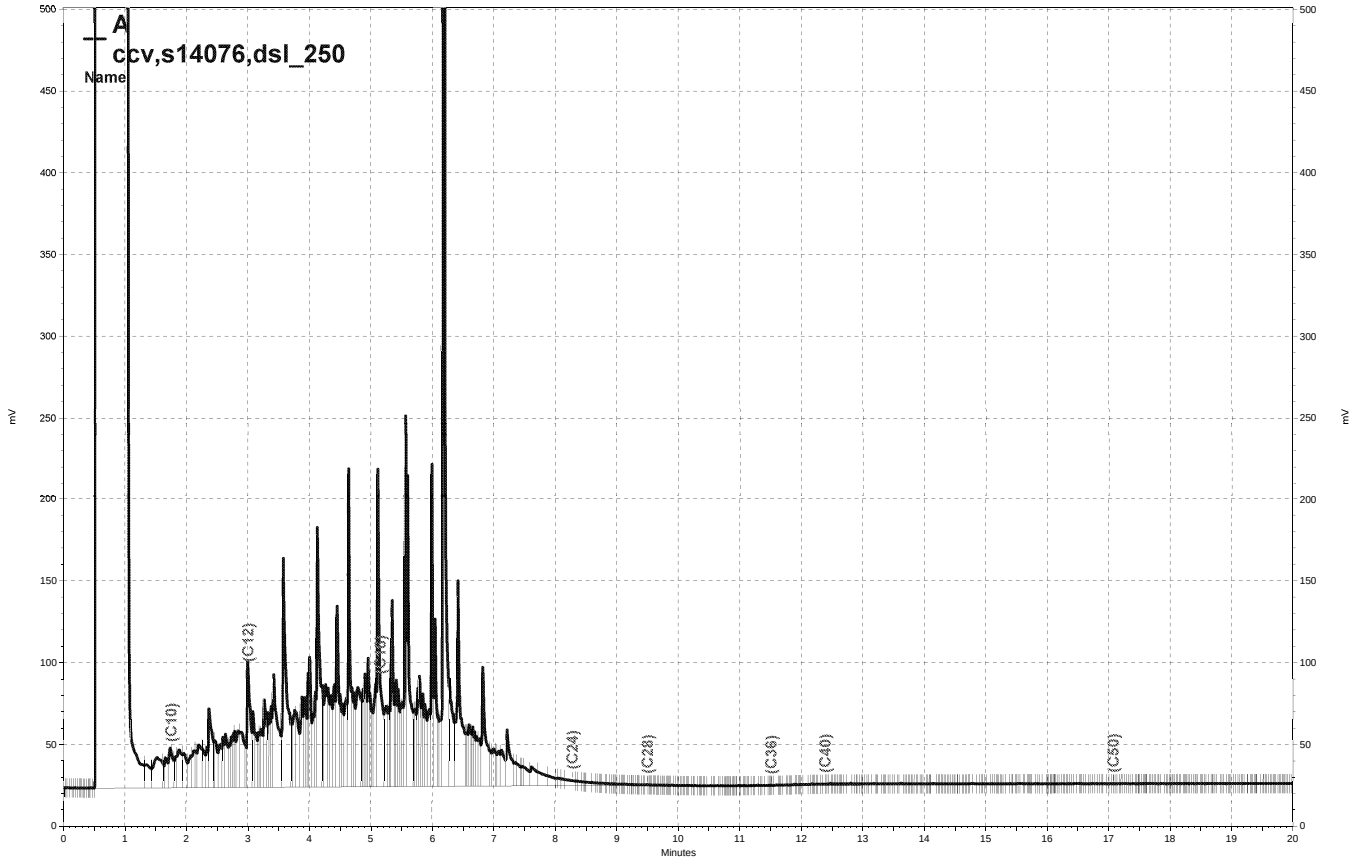

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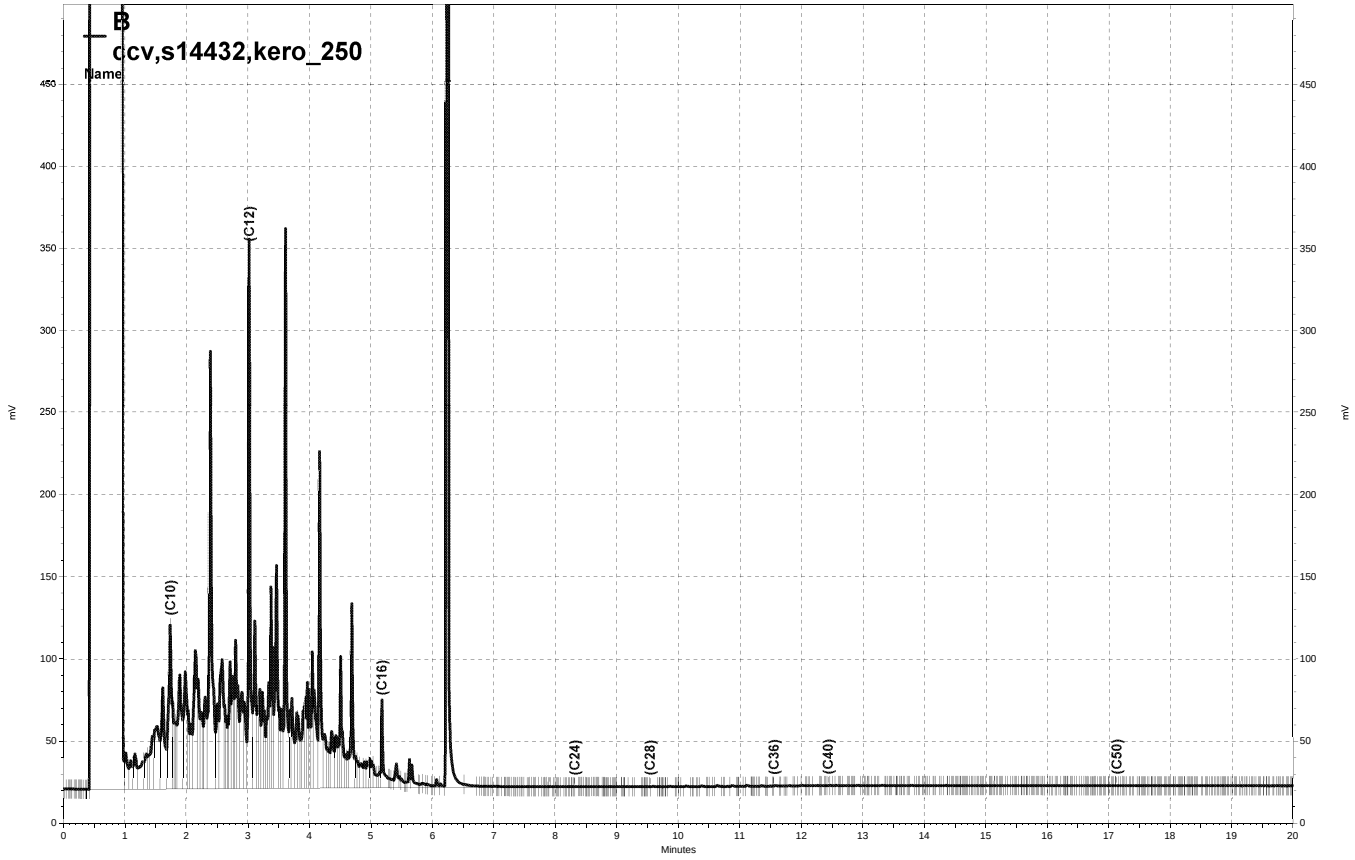

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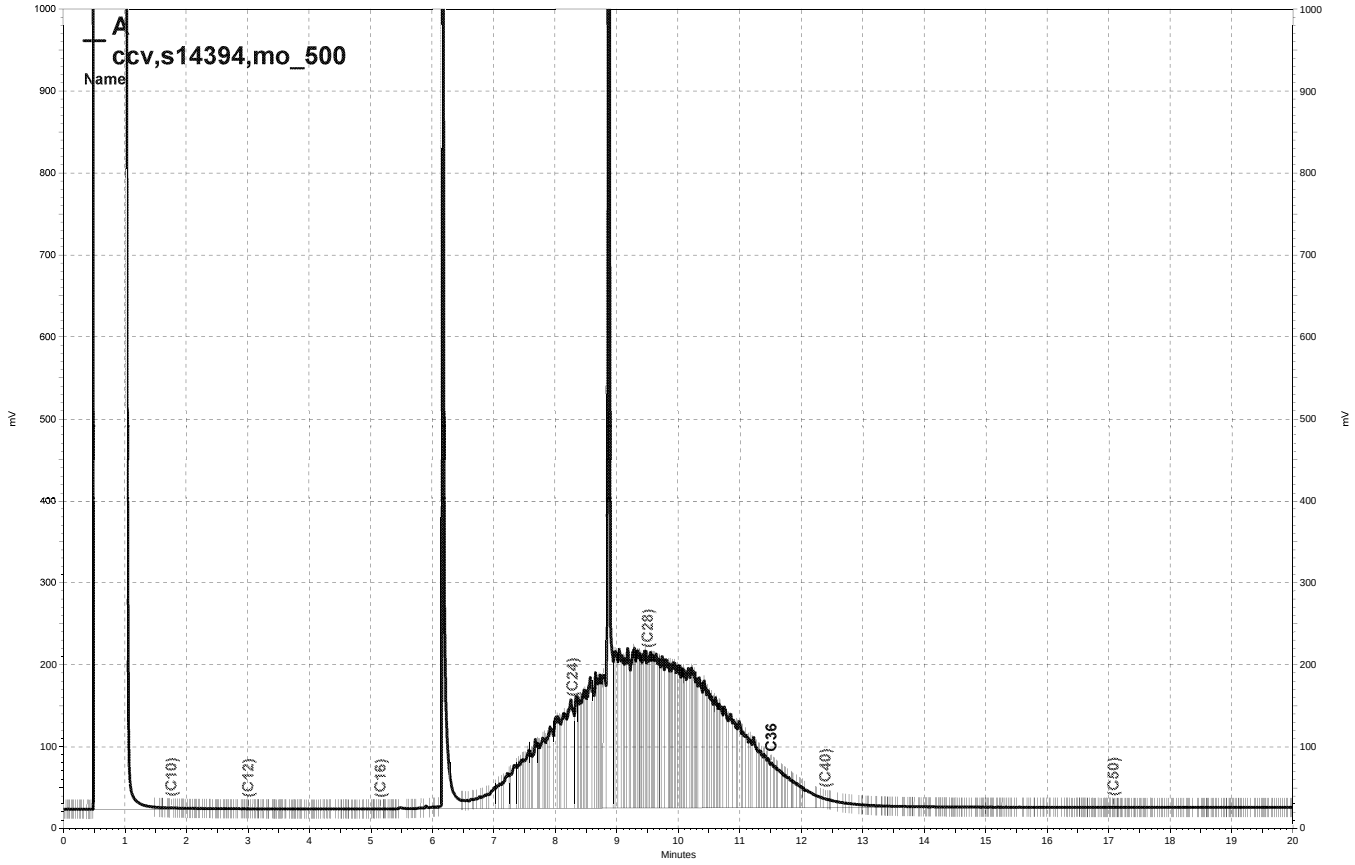

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Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	219386	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0009.00000	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	161931
Units:	ug/L	Received:	04/09/10

Field ID:	MW-5	Diln Fac:	4.000
Type:	SAMPLE	Sampled:	04/08/10
Lab ID:	219386-002	Analyzed:	04/14/10

Analyte	Result	RL
Gasoline C7-C12	4,500	200
MTBE	8.4	2.0
Benzene	6.5	2.0
Toluene	2.4	2.0
Ethylbenzene	240	2.0
m,p-Xylenes	12	2.0
o-Xylene	ND	2.0

Surrogate	%REC	Limits
Dibromofluoromethane	87	81-124
1,2-Dichloroethane-d4	93	73-140
Toluene-d8	100	88-113
Bromofluorobenzene	94	80-127

Field ID:	MW-1	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/08/10
Lab ID:	219386-004	Analyzed:	04/13/10

Analyte	Result	RL
Gasoline C7-C12	380	50
MTBE	ND	0.50
Benzene	2.4	0.50
Toluene	0.71	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	1.6	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	88	81-124
1,2-Dichloroethane-d4	81	73-140
Toluene-d8	101	88-113
Bromofluorobenzene	89	80-127

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	219386	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0009.00000	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	161931
Units:	ug/L	Received:	04/09/10

Field ID:	MW-17	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/09/10
Lab ID:	219386-007	Analyzed:	04/13/10

Analyte	Result	RL
Gasoline C7-C12	77	50
MTBE	ND	0.50
Benzene	2.3	0.50
Toluene	ND	0.50
Ethylbenzene	2.2	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	88	81-124
1,2-Dichloroethane-d4	86	73-140
Toluene-d8	95	88-113
Bromofluorobenzene	95	80-127

Field ID:	MW-13	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/09/10
Lab ID:	219386-008	Analyzed:	04/13/10

Analyte	Result	RL
Gasoline C7-C12	ND	50
MTBE	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	88	81-124
1,2-Dichloroethane-d4	87	73-140
Toluene-d8	97	88-113
Bromofluorobenzene	92	80-127

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	219386	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0009.00000	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	161931
Units:	ug/L	Received:	04/09/10

Field ID:	MW-14	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/09/10
Lab ID:	219386-009	Analyzed:	04/13/10

Analyte	Result	RL
Gasoline C7-C12	ND	50
MTBE	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	88	81-124
1,2-Dichloroethane-d4	80	73-140
Toluene-d8	98	88-113
Bromofluorobenzene	93	80-127

Field ID:	MW-10	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/09/10
Lab ID:	219386-010	Analyzed:	04/14/10

Analyte	Result	RL
Gasoline C7-C12	ND	50
MTBE	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	89	81-124
1,2-Dichloroethane-d4	89	73-140
Toluene-d8	97	88-113
Bromofluorobenzene	91	80-127

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	219386	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0009.00000	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	161931
Units:	ug/L	Received:	04/09/10

Field ID:	MW-12-FB	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/09/10
Lab ID:	219386-011	Analyzed:	04/13/10

Analyte	Result	RL
Gasoline C7-C12	ND	50
MTBE	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	89	81-124
1,2-Dichloroethane-d4	87	73-140
Toluene-d8	101	88-113
Bromofluorobenzene	96	80-127

Field ID:	MW-12	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/09/10
Lab ID:	219386-012	Analyzed:	04/14/10

Analyte	Result	RL
Gasoline C7-C12	140	50
MTBE	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	89	81-124
1,2-Dichloroethane-d4	83	73-140
Toluene-d8	100	88-113
Bromofluorobenzene	94	80-127

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	219386	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0009.00000	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	161931
Units:	ug/L	Received:	04/09/10

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC540162	Analyzed:	04/13/10

Analyte	Result	RL
Gasoline C7-C12	ND	50
MTBE	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	89	81-124
1,2-Dichloroethane-d4	86	73-140
Toluene-d8	95	88-113
Bromofluorobenzene	94	80-127

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	219386	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0009.00000	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	161931
Units:	ug/L	Analyzed:	04/13/10
Diln Fac:	1.000		

Type: BS Lab ID: QC540160

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	19.41	78	61-123
Benzene	25.00	25.25	101	81-122
Toluene	25.00	27.44	110	82-122
Ethylbenzene	25.00	28.62	114	86-125
m,p-Xylenes	50.00	58.40	117	83-127
o-Xylene	25.00	28.26	113	81-122

Surrogate	%REC	Limits
Dibromofluoromethane	93	81-124
1,2-Dichloroethane-d4	90	73-140
Toluene-d8	102	88-113
Bromofluorobenzene	96	80-127

Type: BSD Lab ID: QC540161

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	18.72	75	61-123	4	11
Benzene	25.00	23.59	94	81-122	7	12
Toluene	25.00	28.44	114	82-122	4	12
Ethylbenzene	25.00	28.44	114	86-125	1	12
m,p-Xylenes	50.00	59.35	119	83-127	2	13
o-Xylene	25.00	28.41	114	81-122	1	12

Surrogate	%REC	Limits
Dibromofluoromethane	91	81-124
1,2-Dichloroethane-d4	88	73-140
Toluene-d8	103	88-113
Bromofluorobenzene	95	80-127

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	219386	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0009.00000	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	161931
Units:	ug/L	Analyzed:	04/13/10
Diln Fac:	1.000		

Type: BS Lab ID: QC540202

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,095	109	74-124

Surrogate	%REC	Limits
Dibromofluoromethane	91	81-124
1,2-Dichloroethane-d4	87	73-140
Toluene-d8	99	88-113
Bromofluorobenzene	97	80-127

Type: BSD Lab ID: QC540203

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,160	116	74-124	6	13

Surrogate	%REC	Limits
Dibromofluoromethane	89	81-124
1,2-Dichloroethane-d4	87	73-140
Toluene-d8	98	88-113
Bromofluorobenzene	96	80-127

RPD= Relative Percent Difference

Data File: \\Gcmsserver\DD\chem\MSVOA09.i\041310.b\IDD25TVH.D

Date : 14-APR-2010 02:08

Client ID: DYNA P&T

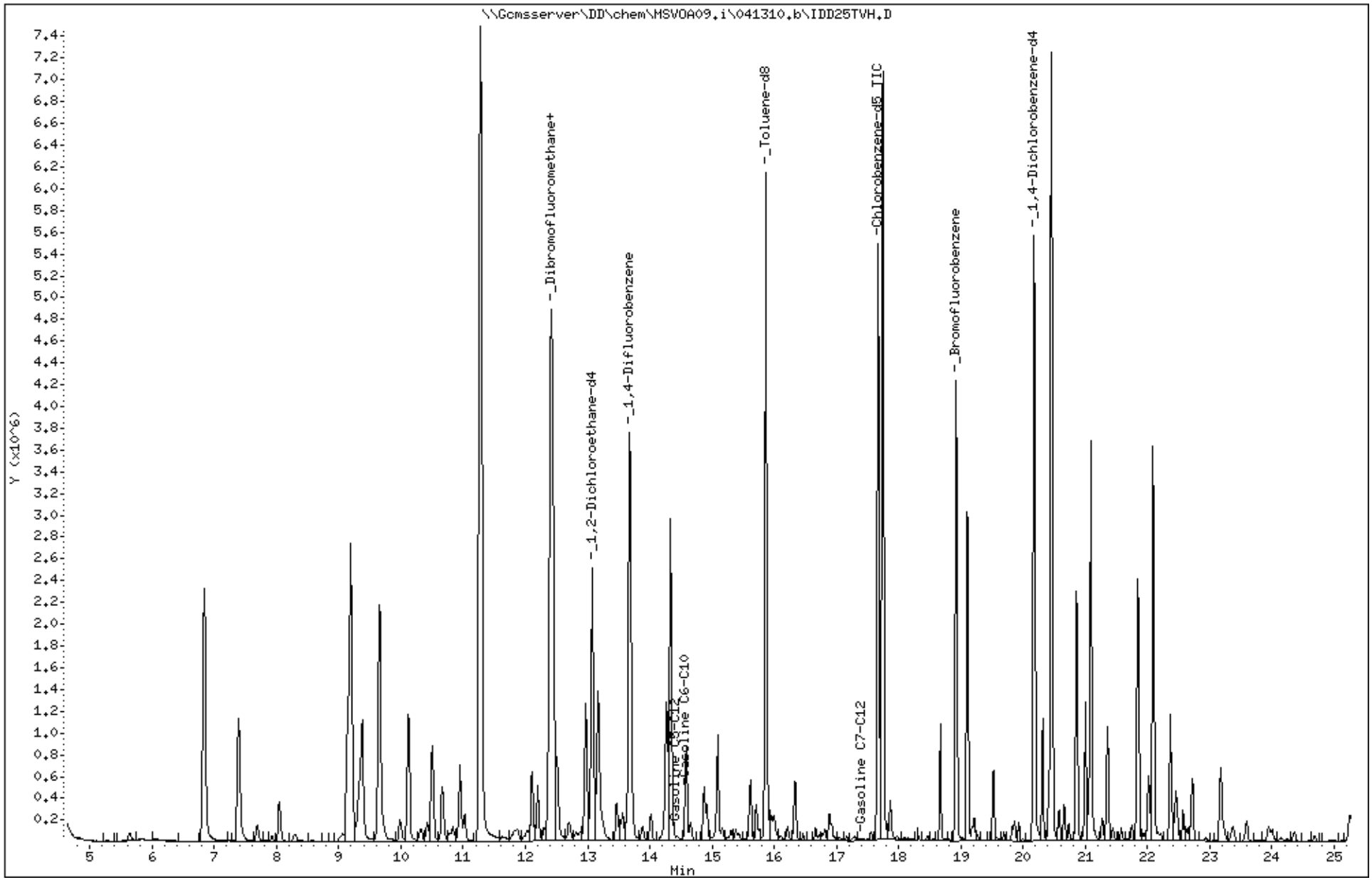
Instrument: MSVOA09.i

Sample Info: S,219386-002

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 13-APR-2010 22:08

Client ID: DYNA P&T

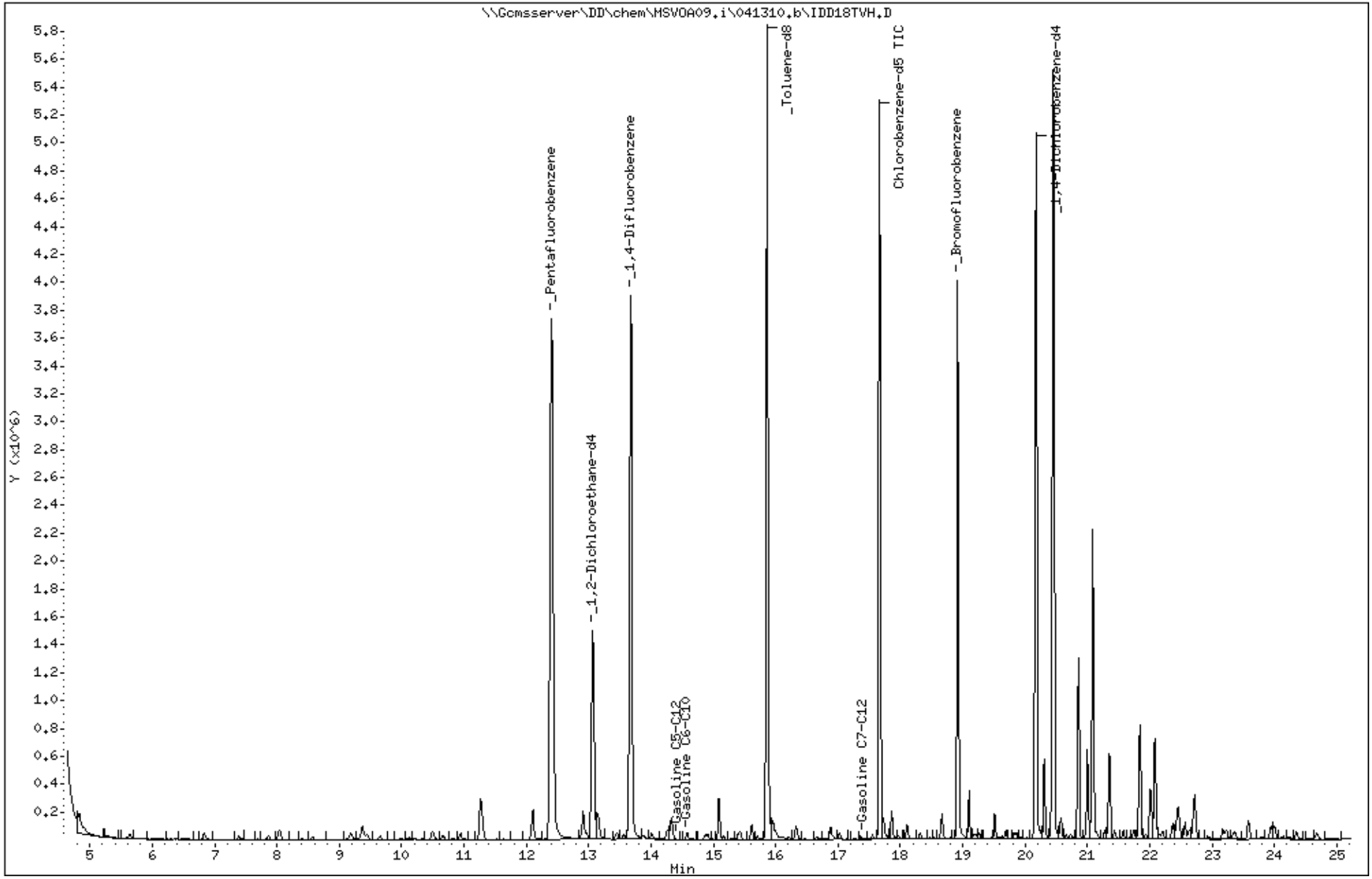
Instrument: MSVOA09.i

Sample Info: S,219386-004

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 13-APR-2010 22:43

Client ID: DYNA P&T

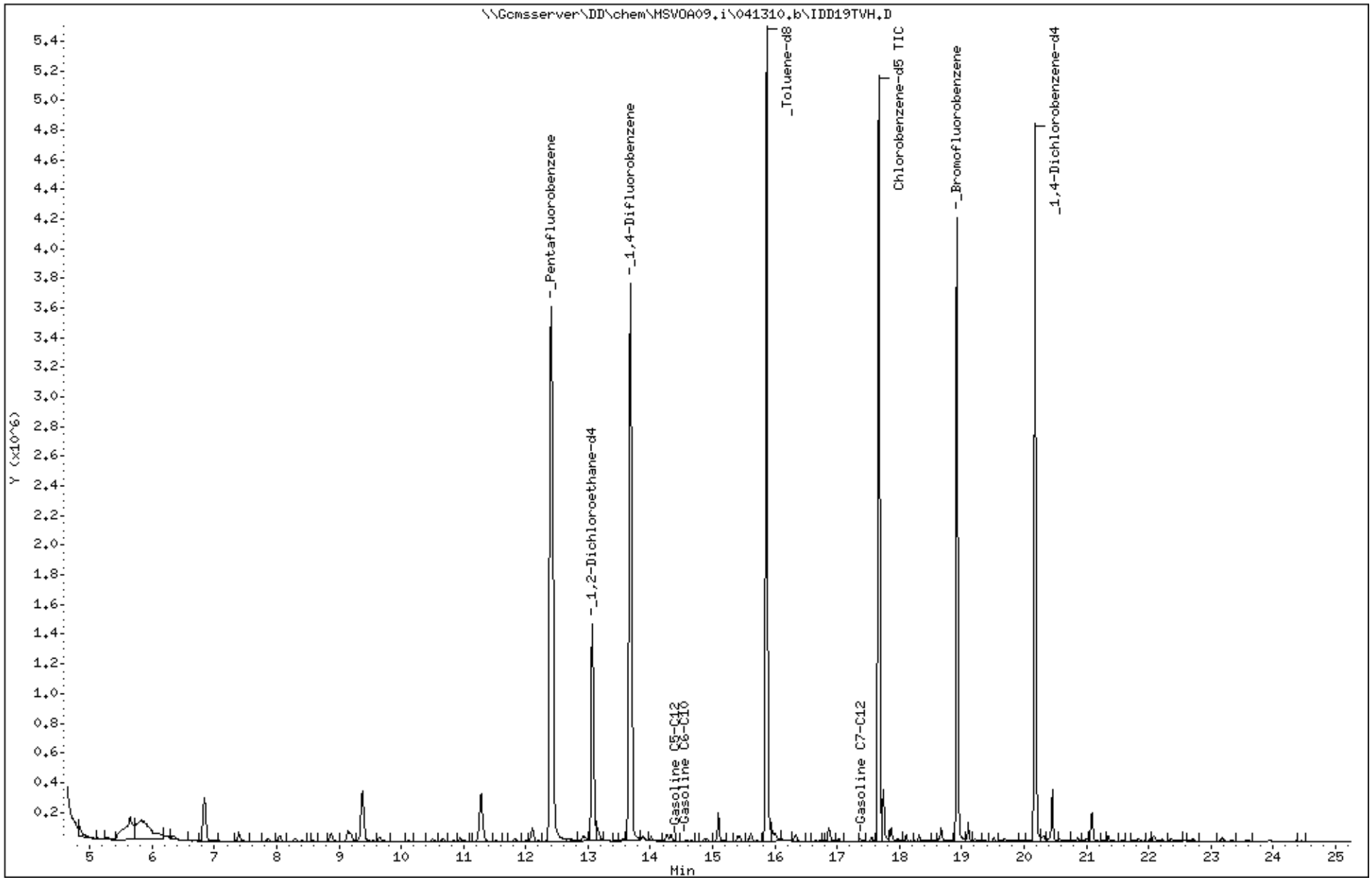
Instrument: MSVOA09.i

Sample Info: S,219386-007

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 14-APR-2010 01:00

Client ID: DYNA P&T

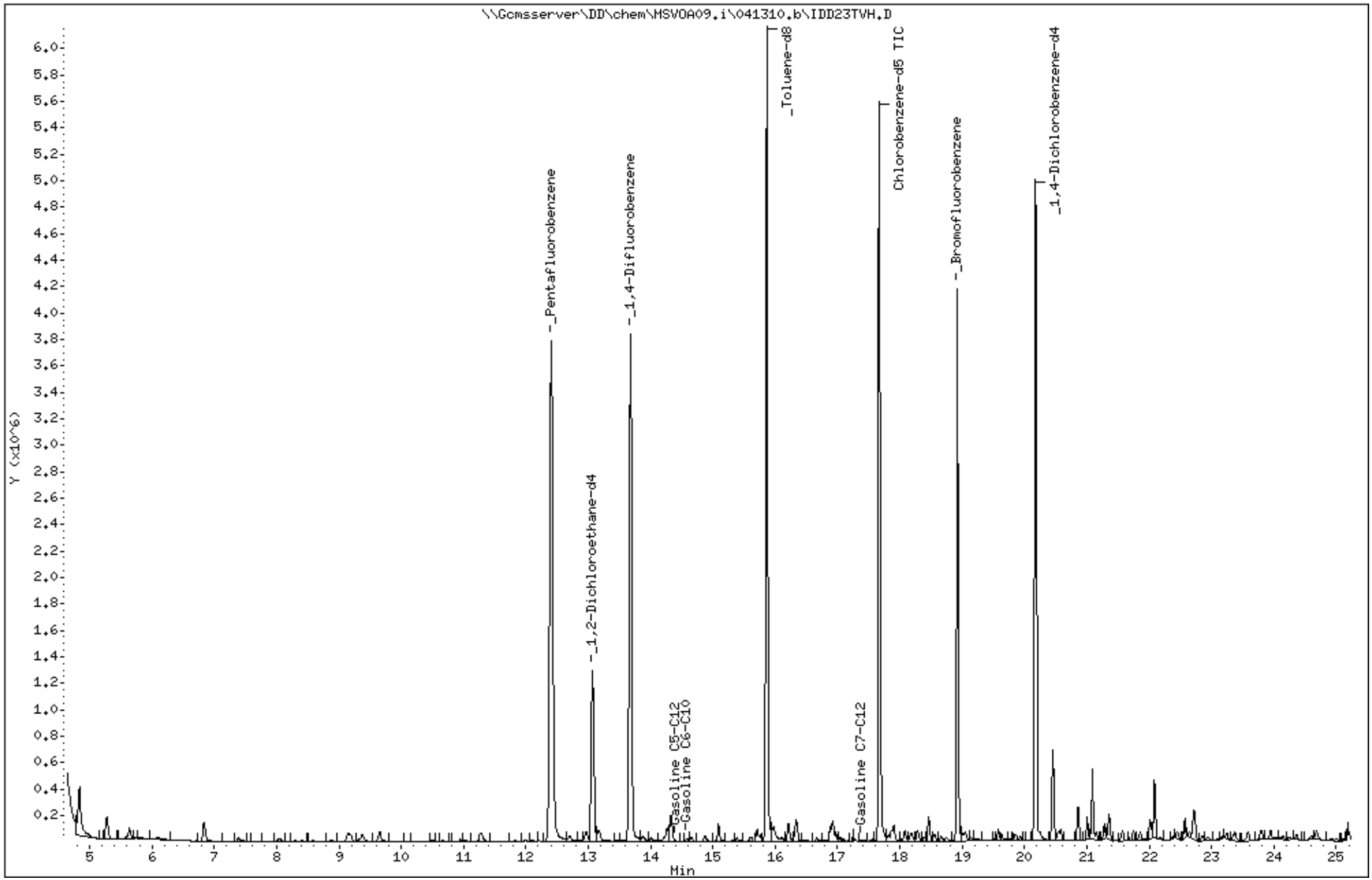
Instrument: MSVOA09.i

Sample Info: S,219386-012

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 13-APR-2010 13:00

Client ID: DYNA P&T

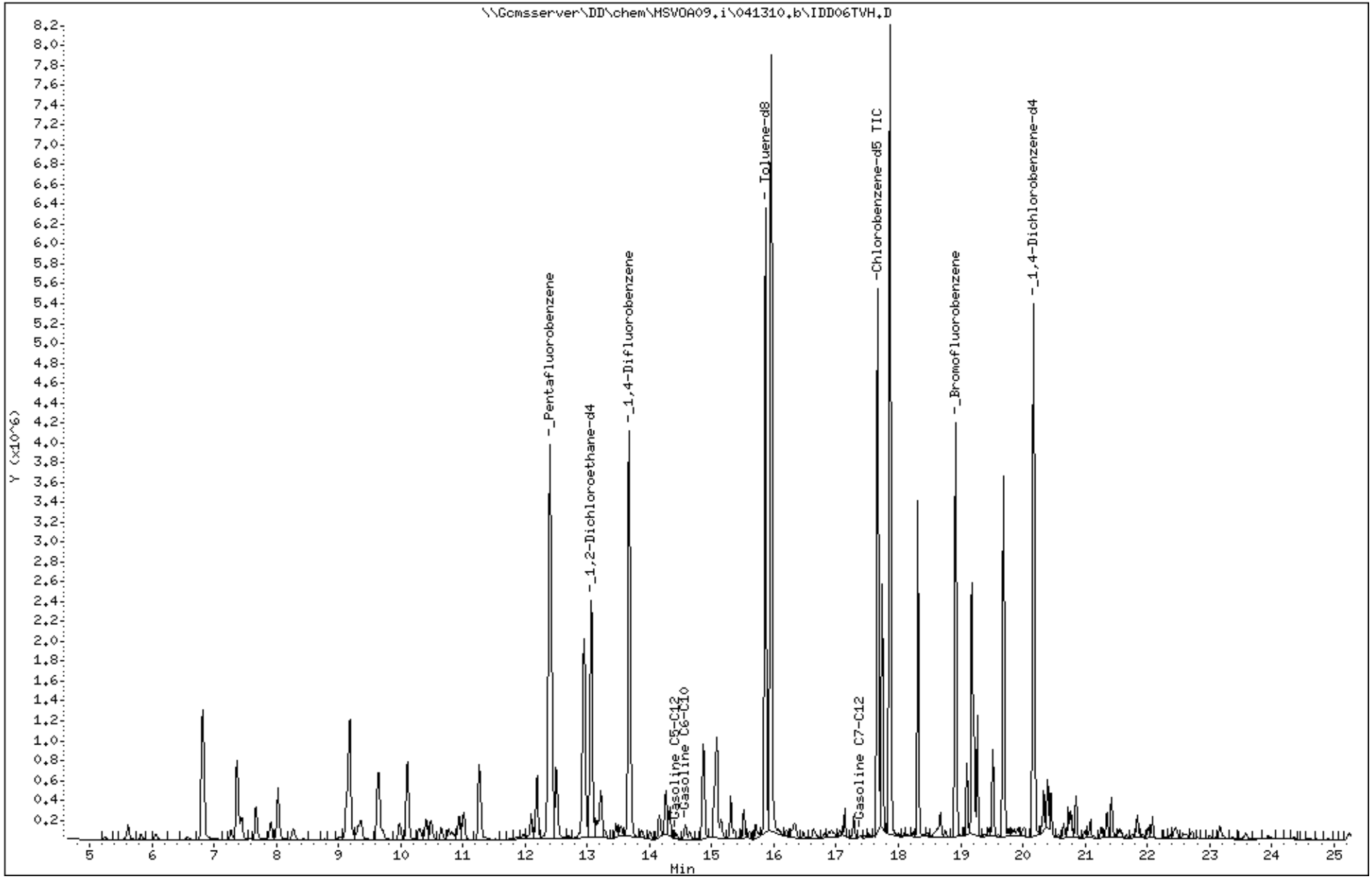
Instrument: MSVOA09.i

Sample Info: BS,QC540202,161931,S13447,10000X,

Operator: VOC

Column phase:

Column diameter: 2.00




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 219817
ANALYTICAL REPORT

Arcadis	Project : LC010060.0009.00000
1900 Powell St.	Location : Oakland MSC
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
TB042910	219817-001
MW-9	219817-002
MW-9D	219817-003

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.

Signature: _____ Date: 05/06/2010
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**219817**
Client:	**Arcadis**
Project:	**LC010060.0009.00000**
Location:	**Oakland MSC**
Request Date:	**04/29/10**
Samples Received:	**04/29/10**

This data package contains sample and QC results for two water samples, requested for the above referenced project on 04/29/10. The samples were received cold and intact. All data were e-mailed to Daren Roth on 05/06/10.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
High RPD was observed for m,p-xylenes in the BS/BSD for batch 162635; the high RPD was not associated with any reported results. No other analytical problems were encountered.

219817

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

SAMPLE COLLECTOR:
LFR
1900 Powell Street, 12th Floor
Emeryville, California 94608
(510) 652-4500 Fax: (510) 652-2246

PROJECT NO.: LC010060.0009 | SECTION NO.: 00000 | DATE: 4/29/10 | SAMPLER'S INITIALS: MD
PROJECT NAME: MSC | SAMPLER (Signature): [signature] | SERIAL Nº 5415

SAMPLE ID.	DATE	TIME	Lab Sample No.	No. of Containers	TYPE: Soil	TYPE: Water	TPHd (EPA 8015)	TPHmo (EPA 8015)	TPHg (EPA 8015)	BTEX (EPA 8021/602)	VOCs (EPA 8260/624)	Metals (EPA 6010/7000)	MTBE	TPH-k (EPA 8015)	TAT: Standard	TAT: RUSH	TAT: HOLD	REMARKS
TB042910	4/29	—	1		X		H	O	L	D							X	Silica gel clean-up for TPH samples
MW-9	4/29	1100	5		X		X	X	X	X			X	X				
MW-9D	4/29	1110	5		X		X	X	X	X			X	X				TPHg, BTEX, MTBE by method 8260
																		TPHd/mo/k EPA 8015 (silica gel clean-up)

*VOCs: ☐ 8260 List ☐ 8240 List ☐ 8010 List ☐ 624 List
**Metals: ☐ CAM17 ☐ RCRA ☐ LUFT

SAMPLE RECEIPT: ☐ Intact ☒ Cold ☒ On Ice ☐ Ambient | Cooler Temp: | Cooler No:
Preservative Correct? ☐ Yes ☐ No ☐ N/A

METHOD OF SHIPMENT:
LAB REPORT NO.:
FAX COC CONFIRMATION TO: Daren Roth

ANALYTICAL LABORATORY: C&T

FAX RESULTS TO: " "
SEND HARDCOPY TO: " "
SEND EDD TO: EMV.LABEDDS.COM

	RELINQUISHED BY: 1	RELINQUISHED BY: 2	RELINQUISHED BY: 3
(SIGNATURE)	[signature]		
(DATE)	4/29/10		
(PRINTED NAME)	Miljan Draganic		
(TIME)	1220		
(COMPANY)	Arcadis		
	RECEIVED BY: 1	**RECEIVED BY: 2**	**RECEIVED BY (LABORATORY): 3**
(SIGNATURE)	[signature]		
(DATE)	4/29/10		
(PRINTED NAME)	M. Ash Smith		
(TIME)	12:20		
(COMPANY)	C&T		

Shipping Copy (White) File Copy (Yellow) Field Copy (Pink) CHAIN of CUSTODY - ANALYSES FORM.CDR 5/2003

COOLER RECEIPT CHECKLIST Curtis & Tompkins, Ltd.

Login # 219817 Date Received 4/29/10 Number of coolers 1
Client LFR Project MSC

Date Opened 4/29/10 By (print) M. VILLANUEVA (sign)
Date Logged in [illegible] By (print) [illegible] (sign) [illegible]

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:

Type of ice used: ☑ Wet ☐ Blue/Gel ☐ None Temp(°C) 1.5

☐ Samples Received on ice & cold without a temperature blank

☐ 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 samples in the appropriate containers for indicated tests? _____ (YES) NO
11. Are sample labels present, in good condition and complete? _____ (YES) NO
12. Do the sample labels agree with custody papers? _____ (YES) NO
13. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
14. Are the samples appropriately preserved? _____ (YES) NO N/A
15. Are bubbles > 6mm absent in VOA samples? _____ (YES) NO N/A
16. Was the client contacted concerning this sample delivery? _____ YES NO
If YES, Who was called? _____ By _____ Date: _____

COMMENTS

_____
_____
_____
_____
_____
_____
_____
_____

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	219817	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0009.00000	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/29/10
Units:	ug/L	Received:	04/29/10
Diln Fac:	1.000	Prepared:	04/30/10
Batch#:	162599	Analyzed:	05/04/10

Field ID: MW-9 Lab ID: 219817-002
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	90 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	112	39-150

Field ID: MW-9D Lab ID: 219817-003
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	108	39-150

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC542790

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	105	39-150

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

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	219817	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0009.00000	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	162599
Units:	ug/L	Prepared:	04/30/10
Diln Fac:	1.000	Analyzed:	05/04/10

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC542791

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,380	95	34-144

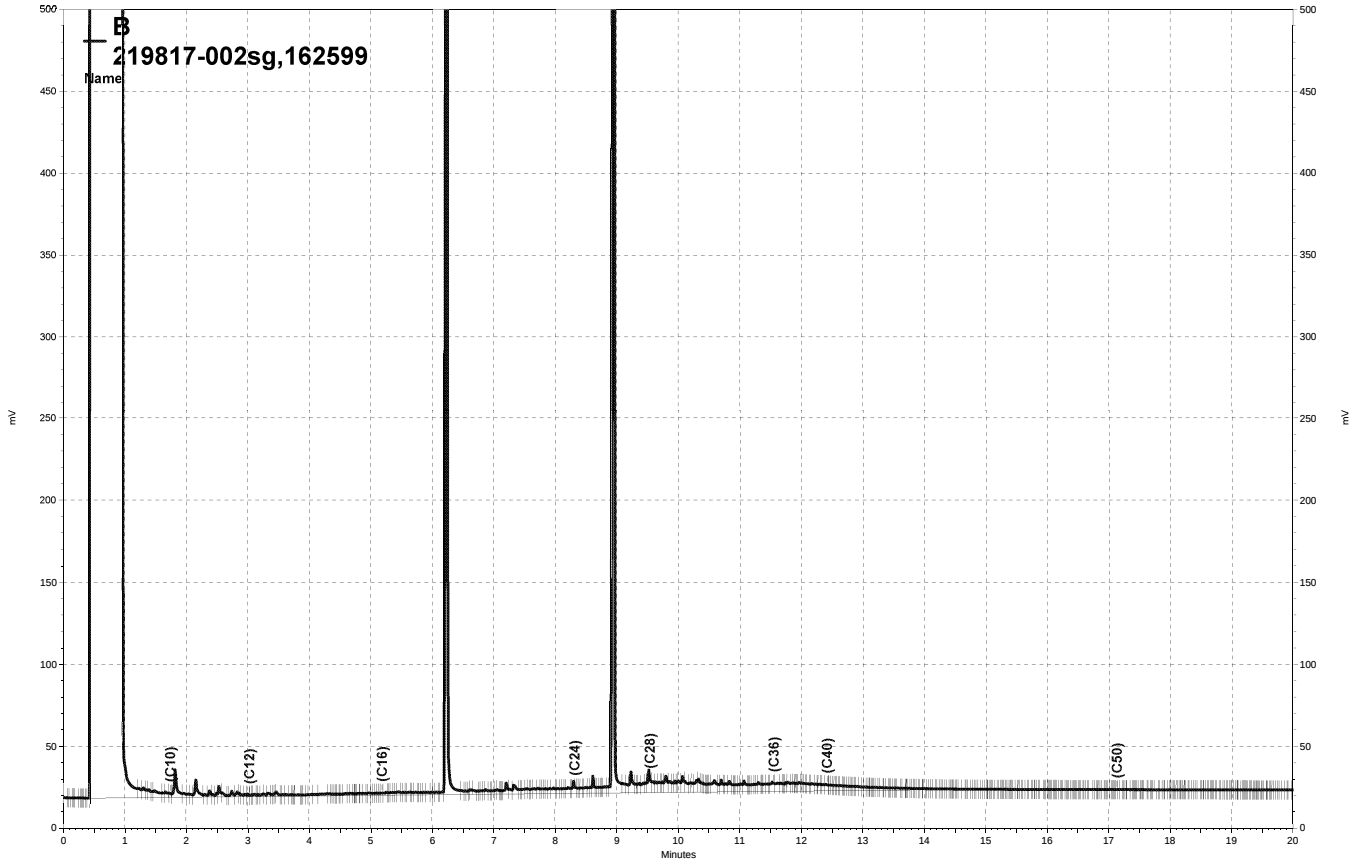
Surrogate	%REC	Limits
o-Terphenyl	100	39-150

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC542792

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,492	100	34-144	5	48

Surrogate	%REC	Limits
o-Terphenyl	109	39-150

RPD= Relative Percent Difference



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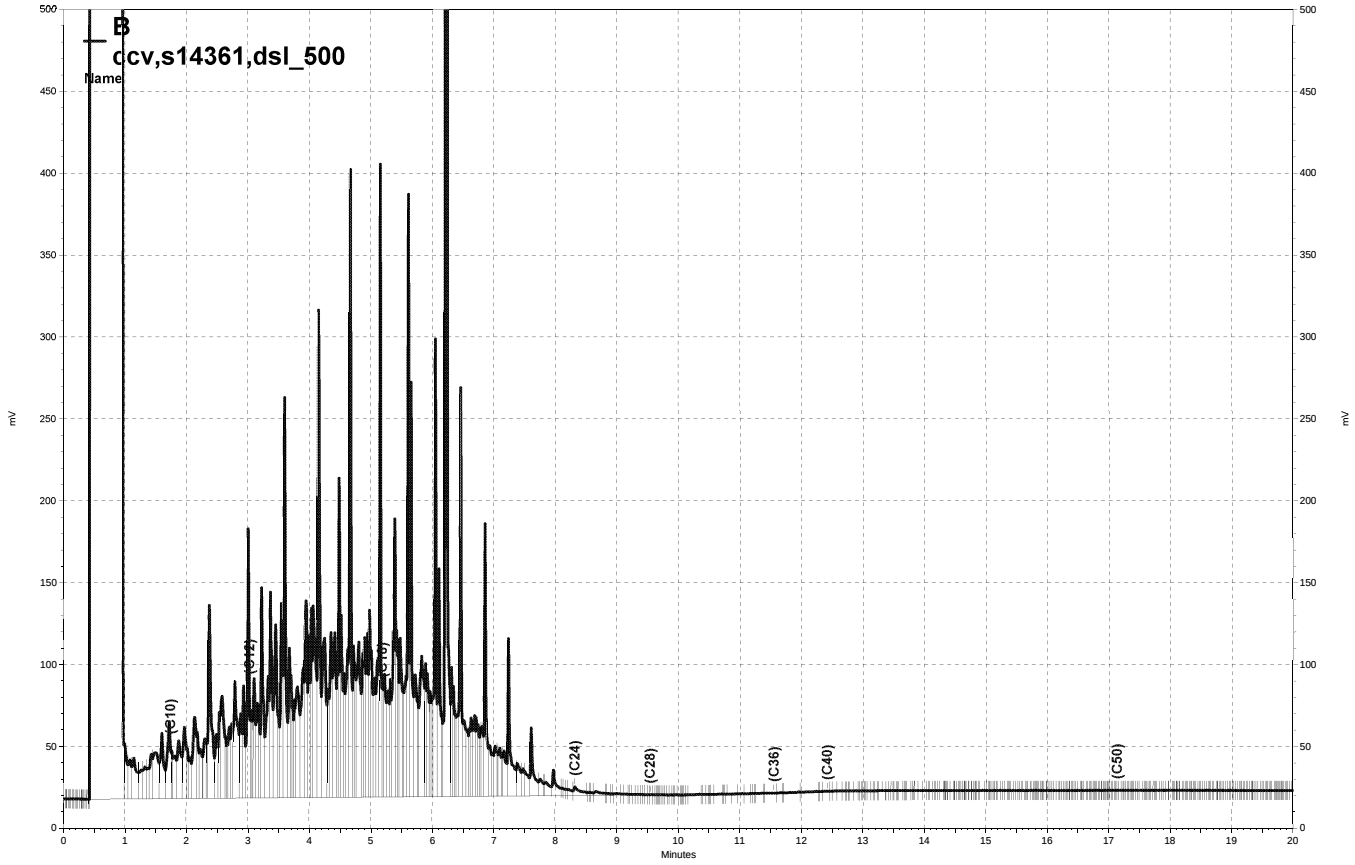

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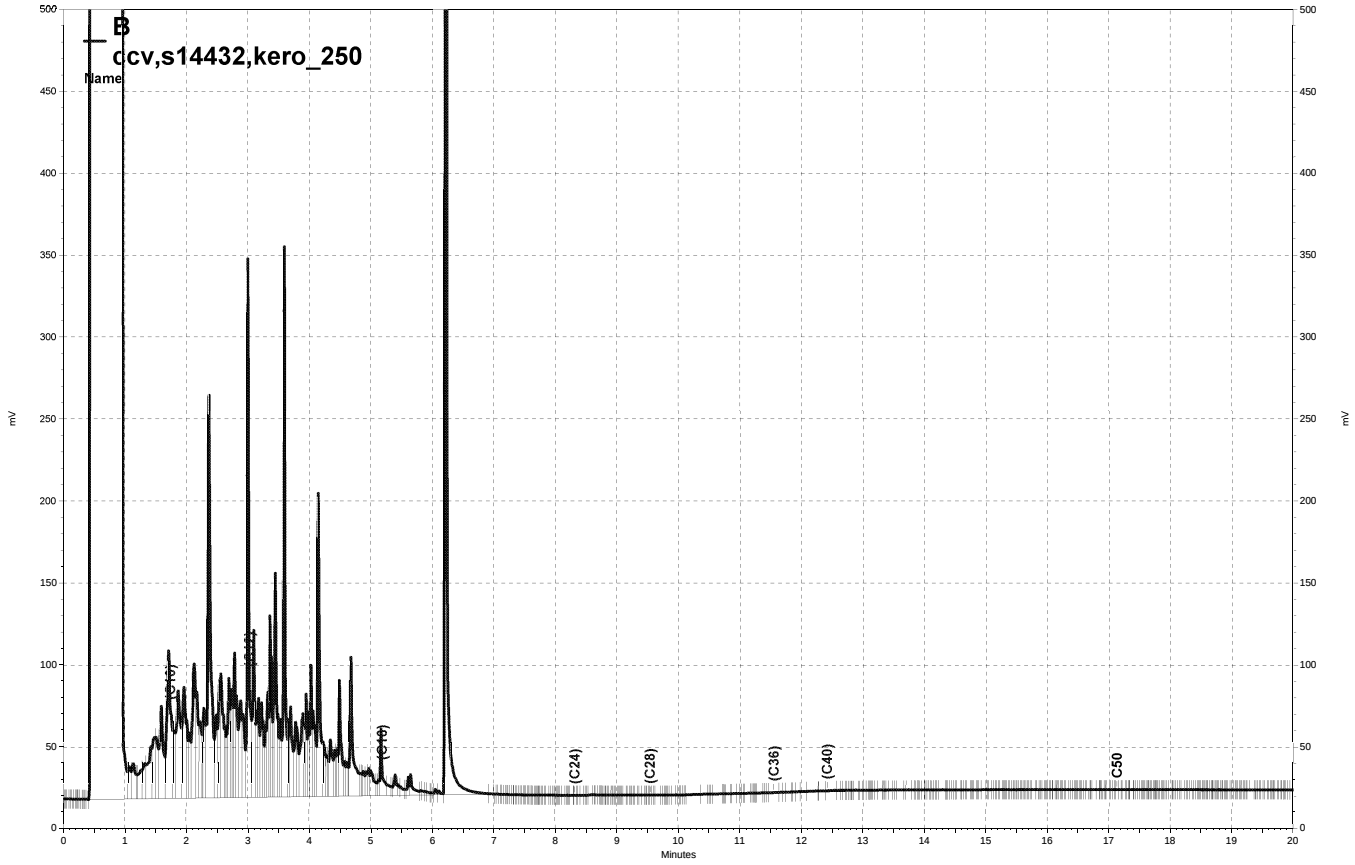

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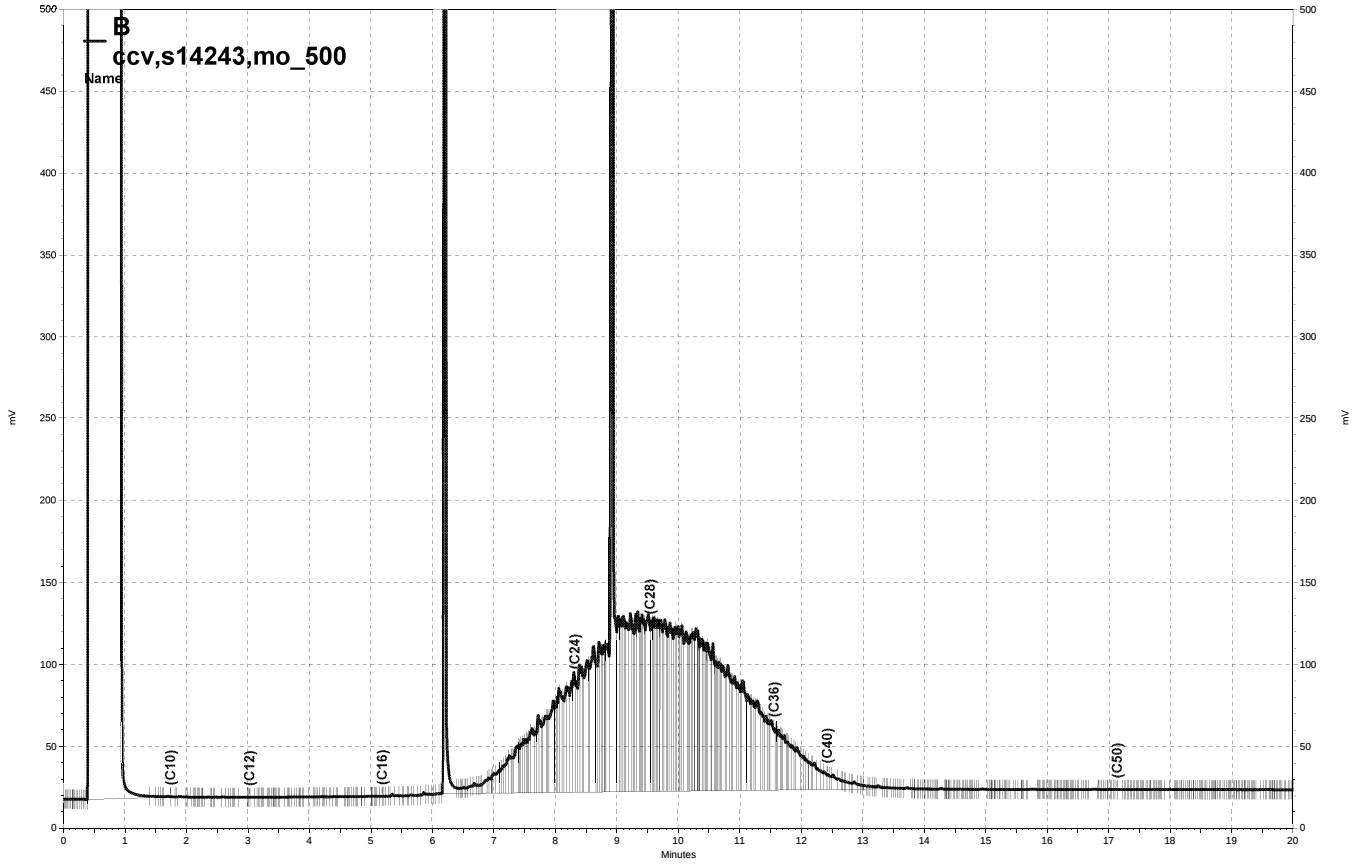

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Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	219817	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0009.00000	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	04/29/10
Units:	ug/L	Received:	04/29/10
Diln Fac:	1.000		

Field ID: MW-9 Lab ID: 219817-002
Type: SAMPLE

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	87	50	162635	05/03/10
MTBE	ND	0.50	162691	05/04/10
Benzene	5.0	0.50	162691	05/04/10
Toluene	1.2	0.50	162691	05/04/10
Ethylbenzene	ND	0.50	162691	05/04/10
m,p-Xylenes	1.8	0.50	162691	05/04/10
o-Xylene	ND	0.50	162691	05/04/10

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	106	81-124	162691	05/04/10
1,2-Dichloroethane-d4	102	73-140	162691	05/04/10
Toluene-d8	102	88-113	162691	05/04/10
Bromofluorobenzene	103	80-127	162691	05/04/10

Field ID: MW-9D Lab ID: 219817-003
Type: SAMPLE

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	98	50	162635	05/03/10
MTBE	ND	0.50	162691	05/04/10
Benzene	4.9	0.50	162691	05/04/10
Toluene	1.2	0.50	162691	05/04/10
Ethylbenzene	ND	0.50	162691	05/04/10
m,p-Xylenes	1.7	0.50	162691	05/04/10
o-Xylene	ND	0.50	162691	05/04/10

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	109	81-124	162691	05/04/10
1,2-Dichloroethane-d4	105	73-140	162691	05/04/10
Toluene-d8	102	88-113	162691	05/04/10
Bromofluorobenzene	102	80-127	162691	05/04/10

NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	219817	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0009.00000	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	04/29/10
Units:	ug/L	Received:	04/29/10
Diln Fac:	1.000		

Type: BLANK Batch#: 162635
Lab ID: QC542953 Analyzed: 05/03/10

Analyte	Result	RL
Gasoline C7-C12	ND	50
MTBE	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	91	81-124
1,2-Dichloroethane-d4	102	73-140
Toluene-d8	98	88-113
Bromofluorobenzene	92	80-127

Type: BLANK Batch#: 162691
Lab ID: QC543185 Analyzed: 05/04/10

Analyte	Result	RL
Gasoline C7-C12	NA	
MTBE	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	104	81-124
1,2-Dichloroethane-d4	109	73-140
Toluene-d8	102	88-113
Bromofluorobenzene	102	80-127

NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	219817	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0009.00000	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	162635
Units:	ug/L	Analyzed:	05/03/10
Diln Fac:	1.000		

Type: BS Lab ID: QC542954

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	22.31	89	61-123
Benzene	25.00	27.47	110	81-122
Toluene	25.00	27.21	109	82-122
Ethylbenzene	25.00	27.97	112	86-125
m,p-Xylenes	50.00	56.50	113	83-127
o-Xylene	25.00	28.04	112	81-122

Surrogate	%REC	Limits
Dibromofluoromethane	93	81-124
1,2-Dichloroethane-d4	93	73-140
Toluene-d8	97	88-113
Bromofluorobenzene	94	80-127

Type: BSD Lab ID: QC542955

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	24.57	98	61-123	10	11
Benzene	25.00	29.48	118	81-122	7	12
Toluene	25.00	29.83	119	82-122	9	12
Ethylbenzene	25.00	29.79	119	86-125	6	12
m,p-Xylenes	50.00	48.51	97	83-127	15 *	13
o-Xylene	25.00	30.02	120	81-122	7	12

Surrogate	%REC	Limits
Dibromofluoromethane	92	81-124
1,2-Dichloroethane-d4	93	73-140
Toluene-d8	98	88-113
Bromofluorobenzene	95	80-127

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	219817	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0009.00000	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	162635
Units:	ug/L	Analyzed:	05/03/10
Diln Fac:	1.000		

Type: BS Lab ID: QC542956

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	900.0	977.7	109	74-124

Surrogate	%REC	Limits
Dibromofluoromethane	92	81-124
1,2-Dichloroethane-d4	96	73-140
Toluene-d8	95	88-113
Bromofluorobenzene	92	80-127

Type: BSD Lab ID: QC542957

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	900.0	939.6	104	74-124	4	13

Surrogate	%REC	Limits
Dibromofluoromethane	90	81-124
1,2-Dichloroethane-d4	95	73-140
Toluene-d8	98	88-113
Bromofluorobenzene	94	80-127

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	219817	Location:	Oakland MSC
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0009.00000	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	162691
Units:	ug/L	Analyzed:	05/04/10
Diln Fac:	1.000		

Type: BS Lab ID: QC543183

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	24.92	100	61-123
Benzene	25.00	26.17	105	81-122
Toluene	25.00	24.55	98	82-122
Ethylbenzene	25.00	25.99	104	86-125
m,p-Xylenes	50.00	51.90	104	83-127
o-Xylene	25.00	26.01	104	81-122

Surrogate	%REC	Limits
Dibromofluoromethane	103	81-124
1,2-Dichloroethane-d4	105	73-140
Toluene-d8	101	88-113
Bromofluorobenzene	101	80-127

Type: BSD Lab ID: QC543184

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	25.12	100	61-123	1	11
Benzene	25.00	24.49	98	81-122	7	12
Toluene	25.00	24.49	98	82-122	0	12
Ethylbenzene	25.00	26.16	105	86-125	1	12
m,p-Xylenes	50.00	51.24	102	83-127	1	13
o-Xylene	25.00	25.69	103	81-122	1	12

Surrogate	%REC	Limits
Dibromofluoromethane	102	81-124
1,2-Dichloroethane-d4	101	73-140
Toluene-d8	99	88-113
Bromofluorobenzene	107	80-127

RPD= Relative Percent Difference

Data File: \\Gcmsserver\DD\chem\MSVOA08.i\050310.b\HE315TVH.D

Date : 03-MAY-2010 16:41

Client ID: DYNA P&T

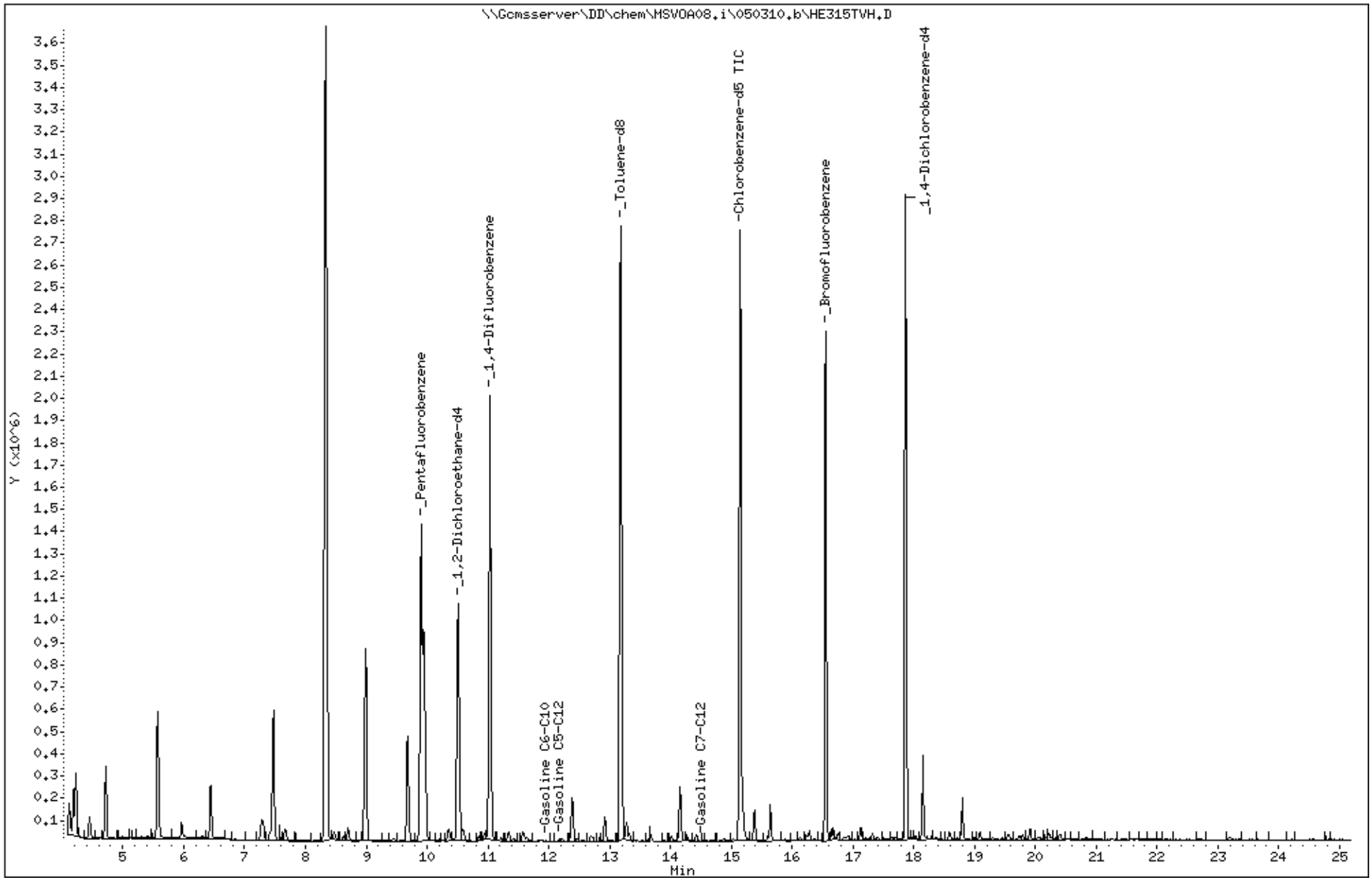
Instrument: MSVOA08.i

Sample Info: S,219817-002

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 03-MAY-2010 17:57

Client ID: DYNA P&T

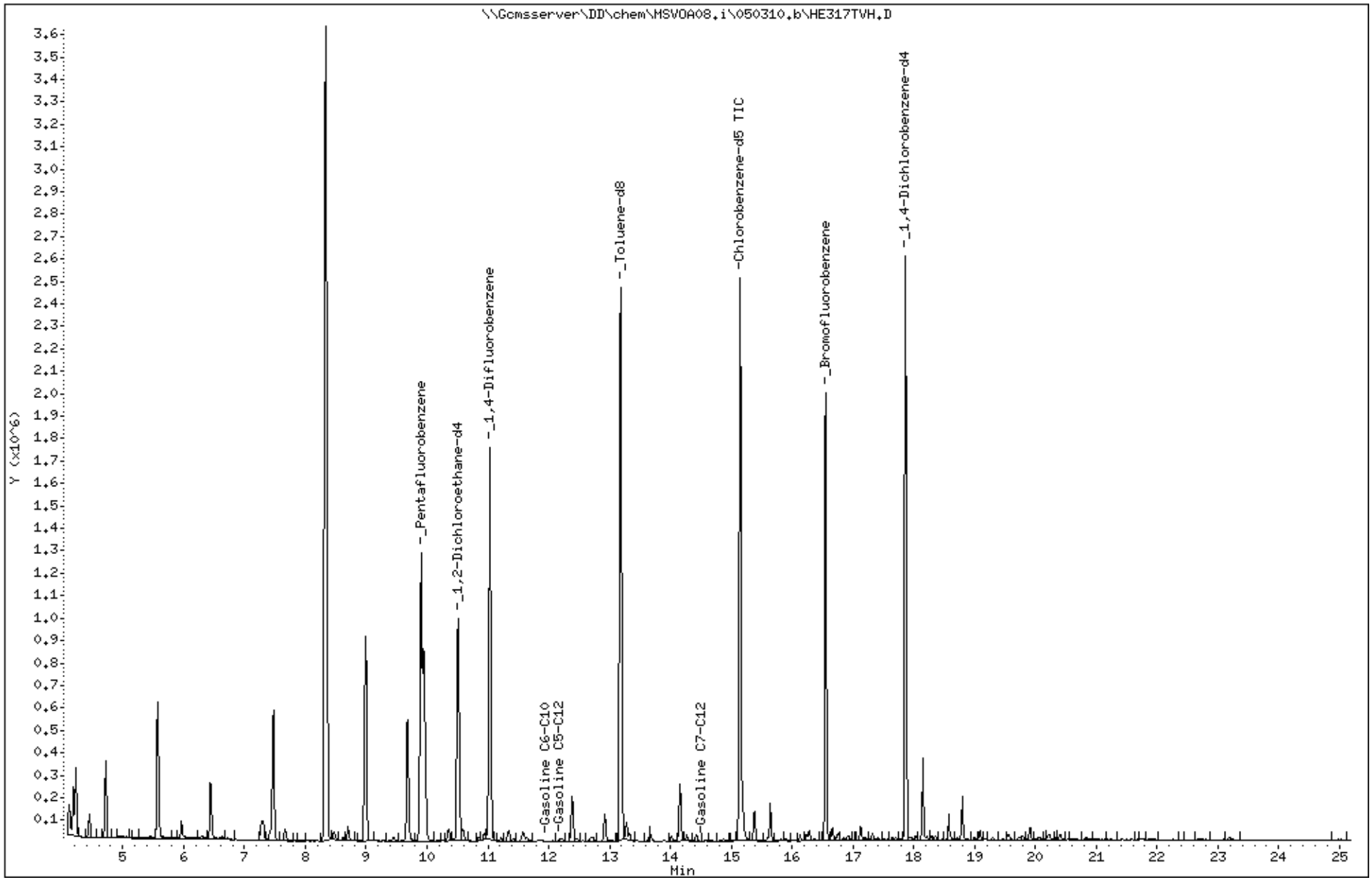
Instrument: MSVOA08.i

Sample Info: S,219817-003

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 03-MAY-2010 11:00

Client ID: DYNA P&T

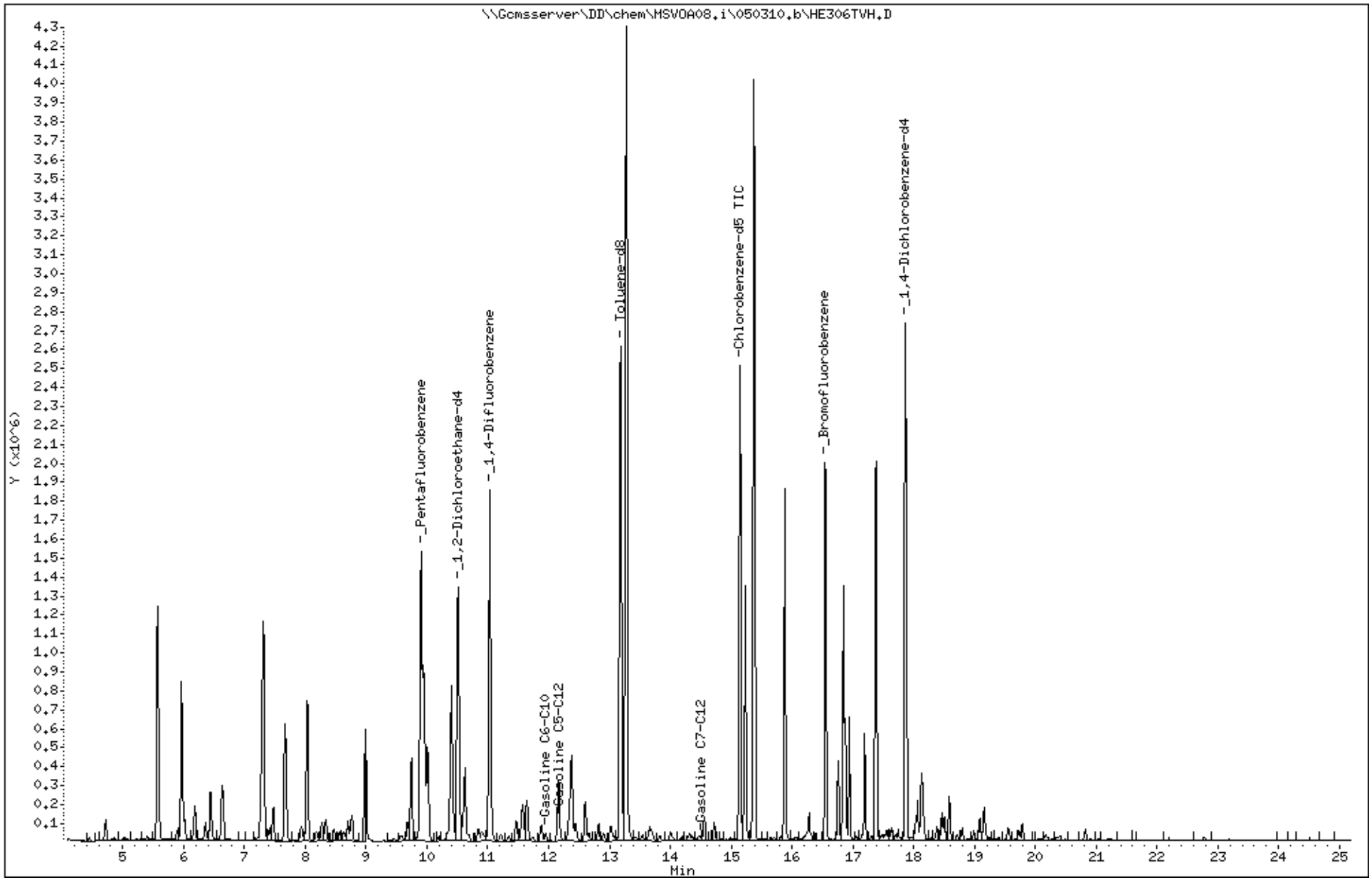
Instrument: MSVOA08.i

Sample Info: CCV/BS,QC542956,162635,S14539,.009/100

Operator: VOC

Column phase:

Column diameter: 2.00



APPENDIX D

Historical Tables

Table D-1
Summary of Groundwater Analytical Data, VOCs
Municipal Service Center, 7101 Edgewater Drive, Oakland, California

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	Benzene (µg/l)	n-Butyl-benzene (µg/l)	sec-Butyl-benzene (µg/l)	tert-Butyl-benzene (µg/l)	Chloro-ethane (µg/l)	Chloro-form (µg/l)	Methyl Chloride (µg/l)	1,2-DCA (µg/l)	cis-1,2-DCE (µg/l)	1,2-DCP (µg/l)	Ethyl-benzene (µg/l)	Isopropyl-benzene (µg/l)	p-Isopropyl-toluene (µg/l)	MTBE (µg/l)	Napthalene (µg/l)	n-Propyl-benzene (µg/l)	Toluene (µg/l)	1,2,4-TMB (µg/l)	1,3,5-TMB (µg/l)	Xylenes (µg/l)
MW-5																				
2/27/01	180	9	4	ND	3	ND	ND	7	ND	3	260	23	6	1,100	43	68	7	1	11	53
MW-6																				
2/27/01	270	11	3	ND	< 1	ND	ND	7	ND	< 1	9	6.0	1.0	19.0	62	21	3	1	< 1	3
8/20/01	E280	14	< 1	< 1	< 1	3	2	< 1	< 1	< 1	11	4.0	< 1	14.0	E82	14	4	< 1	< 1	9
TBW-1																				
8/20/01	E530	30	< 1	54	< 1	4	10	< 1	2	< 1	E540	36	54	< 1	E300	E120	79	E430	< 1	E790
TBW-3																				
8/20/01	10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	6	< 1	< 1	< 1	5	< 1	< 1	< 1	< 1	3
TBW-5																				
8/20/01	E620	< 1	< 1	E160	< 1	3	< 1	< 1	< 1	< 1	E730	40	E160	< 1	E450	E140	E110	< 1	< 1	E3100

Notes:

cis-1,2-DCE = cis-1,2-dichloroethene
E = Estimated concentration.
MTBE = methyl tertiary-butyl ether
ND = Not detected.
VOCs = Volatile organic compounds by EPA Method 8260. Sample not subject to silica gel cleanup or filtration prior to analysis.
1,2-DCA = 1,2-dichloroethane
1,2-DCP = 1,2-dichloropropane
1,2,4-TMB = 1,2,4-trimethylbenzene
1,3,5-TMB = 1,3,5-trimethylbenzene

Table D-2
Summary of Groundwater Analytical Data, SVOCs
Municipal Service Center, 7101 Edgewater Drive, Oakland, California

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	Napthalene (µg/l)	Pyrene (µg/l)	Other SVOCs (µg/l)
MW-6			
2/27/01	19	ND	ND
8/20/01	52	< 5	39
MW-9			
11/28/00	ND	ND	ND
MW-13			
11/28/00	ND	10	ND
MW-17			
11/28/00	ND	ND	ND
TBW-1			
8/20/01	140	8	387
TBW-3			
8/20/01	< 5	< 5	5
TBW-5			
8/20/01	220	< 5	73

Notes:

SVOCs = Semivolatile organic compounds by EPA Method 8270.
ND = Not detected

Samples not subject to silica gel cleanup or filtration before analysis.

Table D-3
Summary of Groundwater Analytical Data, LUFT Metals
Municipal Service Center, 7101 Edgewater Drive, Oakland, California

Concentrations expressed in milligrams per liter (mg/l)

Well ID/ Date	Cadmium (mg/l)	Chromium (mg/l)	Lead (mg/l)	Nickel (mg/l)	Zinc (mg/l)	Notes
MW-2						
8/19/98	---	---	< 100	---	---	a
MW-6						
2/28/01	< 0.001	0.035	0.23	0.046	0.19	non-filtered
8/16/01	< 0.001	0.020	0.12	0.032	0.11	
TBW-1						
8/16/01	< 0.001	0.017	0.042	0.034	0.10	0.1*
TBW-3						
8/16/01	< 0.001	0.008	0.01	0.019	< 0.02	
TBW-5						
8/16/01	< 0.001	< 0.005	0.01	0.008	0.03	

Notes:

--- = Not measured/analyzed.
* = Note was indicated but not defined in historical data tables.
a = Analyzed for organic lead.
LUFT = Leaking Underground Fuel Tank

LUFT metals by EPA Method 6010. Samples filtered in lab before analysis, unless noted otherwise.

Table D-4
Summary of Groundwater Analytical Data, Additional Metals
Municipal Service Center, 7101 Edgewater Drive, Oakland, California
Concentrations expressed in milligrams per liter (mg/l)

Sample ID/ Date	Antimony (mg/l)	Arsenic (mg/l)	Beryllium (mg/l)	Copper (mg/l)	Selenium (mg/l)	Silver (mg/l)	Thallium (mg/l)
MW-6							
8/16/01	<0.01	0.033	<0.001	0.025	<0.01	<0.003	<0.01
TBW-1							
8/16/01	<0.01	0.015	<0.001	0.017	<0.01	<0.003	<0.01
TBW-3							
8/16/01	<0.01	0.009	<0.001	0.008	<0.01	<0.003	<0.01
TBW-5							
8/16/01	<0.01	0.020	<0.001	<0.005	<0.01	<0.003	<0.01

Notes:

Metals by EPA Method 6010. Samples filtered in lab before analysis, unless noted otherwise.