CITY OF OAKLAND

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

Public Works Agency
Environmental Services Divison

FAX (510) 238-7286
TDD (510) 238-3254

April 17, 2013

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

Re: Fuel Leak Case No. RO0000293 and GeoTracker Global ID T0600100375, City of Oakland Municipal Service Center, 7101 Edgewater Drive, Oakland, CA- Quarterly Groundwater Monitoring Reports

Dear Mr. Khatri:

The City of Oakland is pleased to submit the attached quarterly groundwater monitoring reports (four quarters) for the above referenced site. The report has been prepared by Arcadis, Inc. under a consultant service contract with the City of Oakland. The City is submitting this report as part of the ongoing remediation and obtaining a "No Further Action" status to the above referenced site.

Certification

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

If you have questions or comments, please contact me at (510)238-6361.

Sincerely

Gopal Nair
Environmental Program Specialist

ARCADIS
Infrastructure · Water · Environment · Buildings

April 17, 2013

LC010060.0016.00003

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

Subject: Semiannual Groundwater Monitoring Report, Spring and Summer 2012 Quarterly Sampling Events, 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 and Summer 2012 quarterly groundwater monitoring events at the Municipal Service Center, located at 7101 Edgewater Drive in Oakland, California ("the Site"). The sampling 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)
Vice President, Principal Geologist

Attachment

ARCADIS U.S., Inc.
2000 Powell Street, 7th Floor
Emeryville, California 94608
Tel 510.652.4500
Fax 510.652.4906
www.arcadis-us.com

ARCADIS
Infrastructure · Water · Environment · Buildings

Semiannual Groundwater Monitoring Report
Spring and Summer 2012 Sampling Events
Municipal Service Center
7101 Edgewater Drive
Oakland, California

April 15, 2013
LC010060.0016

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

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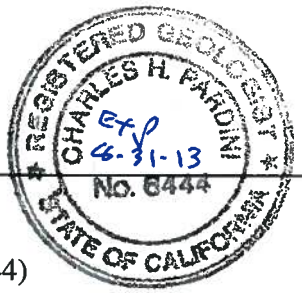
CERTIFICATION

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)

April 17, 2013

* A professional geologist's certification of conditions comprises a declaration of his or her professional judgment. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of its responsibility to abide by contract documents, applicable codes, standards, regulations, and ordinances.

1.0 INTRODUCTION

This report presents the results of the Spring and Summer 2012 quarterly groundwater monitoring events conducted March 28 through 30, 2012 ("the March monitoring event") and June 26 through 27, 2012 ("the June 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 March and June monitoring events as well as includes the analytical results, distribution of contaminants in groundwater, and conclusions.

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. Wells 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 the backfilling of the excavation of former fuel hydrant lines in the early 1990s. Wells 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-A1, 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 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. In each injection event, typically 5 to 10 gallons of 7% hydrogen peroxide water solution was injected into each well, followed by another 5 to 10 gallons of water to disperse the hydrogen peroxide into aquifer. Hydrogen peroxide was injected periodically into wells in the Plume C area from July 2004 through January 2009. To enhance natural attenuation, hydrogen peroxide was also injected into all remediation wells (RW-series wells) approximately quarterly after the DPE system was shut down in December 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. The seven wells were equipped with both total fluid recovery pneumatic pumps and vacuum lines for liquid and soil vapor extraction (dual-phase extraction or DPE). 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. Recovered product was sent to offsite for recycling. 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 for DPE remediation 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.

With the concurrence of the Alameda County Environmental Health (ACEH), the extraction remediation system was shut down on December 23, 2009, after meeting its design objective, i.e., complete removal of SPH Quarterly remediation system performance reports were submitted separately from this monitoring report to ACEH and the Regional Water Quality Control Board – San Francisco Bay Region (RWQCB).

A number of monitoring wells have also been eliminated from the monitoring program since their installation. 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.

3.0 SPRING AND SUMMER 2012 QUARTERLY MONITORING ACTIVITIES

3.1 Field Activities

On December 14, 2011, a revised monitoring plan was submitted to ACEH proposing a change to quarterly monitoring at the Site for one year (July 2011 to June 2012). The purpose of this one-year quarterly monitoring is to assess post-remediation seasonal changes of chemicals of concern in groundwater. This revised monitoring plan was implemented during the March and June monitoring events (Appendix A).

In the March and June monitoring events, 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-C7, OB-C1, RW-D1 through RW-D11, OB-D1, and OB-D2. Depth to water and depth to SPH measurements were conducted on March 28, 2012 and June 26, 2012. SPH was not detected in any of the measured wells.

In the June monitoring event, depth to water was not measured in well RW-D11 because a heavy trailer was parked on top of it.

During the measurement of depth to water and depth to SPH in both monitoring events, the oil/water interface probe was decontaminated with liquinox and distilled water before use at 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 March 28 through 30, 2012, ARCADIS personnel collected groundwater samples from monitoring wells MW-1, MW-5, MW-10, MW-13, MW-14, and MW-17. Samples were also collected from remediation wells RW-A2, RW-B1, RW-B4, RW-C6, RW-C7, RW-D5, RW-D9, and RW-1.

On June 26 and 27, 2012, ARCADIS personnel collected groundwater samples from monitoring wells MW-1, MW-5, MW-10, MW-13, MW-14, and MW-17. Samples were also collected from remediation wells RW-A2, RW-B1, RW-B4, RW-C6, RW-C7, RW-D5, RW-D9, and RW-1.

On July 31, 2012, ARCADIS personnel returned to the Site to re-sample remediation well RW-C6 due to results that appeared to be anomalous. The data collected from RW-C6 in June and July 2012 are presented in this report.

Prior to sampling the monitoring wells during both monitoring events, 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 six monitoring and several remediation wells sampled during the two monitoring events. A down-hole Monsoon

pump was used to purge a minimum of three well-casing volumes of groundwater at few remediation wells due to their larger diameter. New disposable tubing was used at each remediation well purged with a Monsoon pump. All wells were allowed to recover to at least 80 percent of their original static groundwater levels before they were sampled. 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. A disposable bailer was also used to sample the remediation wells after being purged with the Monsoon pump. 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 collected during the March and June monitoring events 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 March 28, 2012 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" (Uribe 2003).

Groundwater elevations in the monitoring wells ranged from -0.30 foot mean sea level (msl) at MW-16 to 8.87 feet msl at MW-5 (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 0.0071 foot/foot (ft/ft), and toward the southwest (measured between wells MW-11 and MW-15) at approximately 0.020 ft/ft in the southern portion of the Site. A groundwater high (groundwater elevation of 9.14 feet msl) is observed in remediation well RW-A2, located in the vicinity of Plume A in the southern portion of the Site (Figure 3). In addition, the groundwater gradient within Plume B area is a higher 0.05 ft/ft as measured between wells MW-6 and MW-16 (Figure 2). 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.

Depth to groundwater was measured on June 26, 2012, 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" (Uribe 2003).

Groundwater elevations in the monitoring wells ranged from 0.28 feet msl at MW-17 to 6.27 feet msl at MW-6 (Figure 4). Groundwater flow direction, measured between wells MW-1 and MW-10, is toward the northwest in the northern section of the Site at approximately 0.0068 foot/foot (ft/ft), and toward the southwest (measured between wells MW-11 and MW-15) at approximately 0.013 ft/ft in the southern portion of the Site. A groundwater high (groundwater elevation of 7.27 feet msl) is observed in remediation well RW-A2, located in the vicinity of Plume A in the southern portion of the Site (Figure 5). 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 the March or June monitoring events. The results of the SPH assessment are presented in Table 1. Although no SPH or sheen was observed in the remediation wells, an odor was noted in the water purged from Plume B remediation wells RW-B3 and RW-B4, and monitoring wells MW-5 and MW-7 (Table 1) during the March monitoring event. The lack of SPH or sheen observed during these monitoring events represents a significant decrease in the lateral extent of SPH in Plumes B, C, and D

compared to the April 2004 monitoring event. Historically, SPH has not been detected in the Plume A wells.

4.3 Contaminant Distribution in Groundwater

The analytical data from these groundwater monitoring events 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).

The following sections summarize the analytical data collected in the March and June monitoring events as well as chemical concentration trends within monitoring wells that exceed the applicable screening criteria. Concentration trends for remediation wells are not discussed in this report because they have been sampled infrequently and only recently.

For quality assurance/quality control (QA/QC), ARCADIS collected a duplicate sample in the March and June monitoring events and analyzed them for TPHg, TPHk, TPHd, TPHmo, BTEX, and MTBE. On March 29, 2012, a duplicate sample was collected from remediation well RW-D5. The analytical results for the duplicate sample were consistent with those for the primary samples collected from well RW-D5 for all analytes, with the exception of TPHd and TPHk. There was an approximately 20 percent difference in the primary/duplicate results for these analytes.

On June 27, 2012, a duplicate sample was collected from monitoring well MW-1. The analytical results for the duplicate sample were consistent with those for the primary samples collected from well MW-1 for most analytes, with the exception of TPHd and TPHk. There was an approximately 20 percent difference in the primary/duplicate results for these analytes.

4.3.1 Screening Criteria

In the June 12, 2009 semiannual monitoring report, LFR Inc. recommended that groundwater quality results be compared to the RWQCB Environmental Screening Levels (ESLs) for Groundwater (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.

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
TPHg	3700	210	210
TPHd	640	210	210
TPHmo	640	210	210
TPHk	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 reporting limits (LRLs) were reported in groundwater samples collected from two of the six monitoring wells sampled during the March monitoring event. Benzene concentrations detected in the monitoring wells MW-1 and MW-5 were 1.0 µg/l and 1.9 µg/l, respectively.

Benzene was detected above the LRLs in six of the eight groundwater samples collected from remediation wells during the March monitoring event. Benzene concentrations in the remediation wells ranged from 8.9 µg/l (RW-C7) to 1,900 µg/l (RW-B4).

Benzene concentrations detected above LRLs were reported in groundwater samples collected from three of the six monitoring wells sampled during the June monitoring event. Benzene concentrations in the monitoring wells ranged from 0.58 µg/l (MW-1; <0.50 µg/l in duplicate sample) to 10.0 µg/l (MW-10).

Benzene was detected above the LRLs in six of the eight groundwater samples collected from remediation wells during the June monitoring event. Benzene concentrations in the remediation wells ranged from 0.7 µg/l (RW-C7) to 1,700 µg/l (RW-B4).

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). The benzene concentrations in five remediation wells (RW-B1, RW-B4, RW-C6, RW-D5, and RW-D9) during the March monitoring event were above the RWQCB ESL for benzene. In the June monitoring event, benzene concentrations in four remediation wells (RW-B1, RW-B4, RW-C6, and RW-D5) were above the RWQCB ESL for benzene. The benzene concentrations in monitoring wells sampled in the March and June monitoring events were below the ESL for benzene.

The benzene concentrations in monitoring wells sampled in the March and June monitoring events displayed relatively stable concentration trends over the last few monitoring events.

4.3.3 Toluene

Toluene was reported above the LRLs in the groundwater sample collected from one of the six monitoring wells sampled during the March monitoring event. Toluene concentration detected in the monitoring well MW-5 was 1.3 µg/l.

Toluene was detected above the LRLs in five of the eight groundwater samples collected from remediation wells during the March monitoring event. Toluene concentrations in the remediation wells ranged from 2.1 µg/l / 2.3 µg/l (RW-D5; primary/duplicate sample) to 45.0 µg/l (RW-B1).

Toluene was reported above the LRLs in the groundwater sample collected from one of the six monitoring wells sampled during the June monitoring event. Toluene was detected in monitoring well MW-5 at a concentration of 1.3 µg/l.

Toluene was detected above the LRLs in five of the eight groundwater samples collected from remediation wells during the June monitoring event. Toluene concentrations in the remediation wells ranged from 1.1 µg/l (RW-D9) to 100 µg/l (RW-B1).

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). The toluene concentrations were below the ESL of 130 µg/l in all the monitoring and remediation wells during the March and June monitoring events.

The toluene concentrations in monitoring wells sampled in the March and June monitoring events displayed relatively stable concentration trends over the last few monitoring events.

4.3.4 Ethylbenzene

Ethylbenzene was reported above the LRLs in the groundwater sample collected from one of the six monitoring wells sampled during the March monitoring event. Ethylbenzene was detected in monitoring well MW-5 at a concentration of 95 µg/l.

Ethylbenzene was detected above the LRLs in five of the eight groundwater samples collected from remediation wells during the March monitoring event. Ethylbenzene concentrations in the remediation wells ranged from 3.4 µg/l / 3.2 µg/l (RW-D5; primary/duplicate sample) to 140 µg/l (RW-B4).

Ethylbenzene was reported above the LRLs in the groundwater sample collected from one of the six monitoring wells sampled during the June monitoring event. Ethylbenzene was detected in monitoring well MW-5 at a concentration of 80 µg/l.

Ethylbenzene was detected above the LRLs in five of the eight groundwater samples collected from remediation wells during the June monitoring event. Ethylbenzene concentrations in the remediation wells ranged from 2.7 µg/l (RW-C7) to 130 µg/l (RW-B4).

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). The ethylbenzene concentration in one monitoring well (MW-5) and one remediation well (RW-B4) during the March monitoring event were above the RWQCB ESL for ethylbenzene. Similarly, the ethylbenzene concentrations in monitoring well MW-5 and remediation well RW-B4 were also above the RWQCB ESL for ethylbenzene in the June monitoring event.

Well MW-5 was the only monitoring well sampled in the March and June monitoring events with concentrations exceeding the ESL for ethylbenzene. Even though this well exceeded the ESL, the March and June ethylbenzene concentrations are relatively consistent with previous monitoring events, and have significantly decreased from concentrations detected in the samples collected in April 2010 (240 µg/l).

4.3.5 Total Xylenes

Total xylenes were reported above the LRLs in the groundwater samples collected from two of the six monitoring wells sampled during the March monitoring event. Total xylenes were detected in monitoring wells MW-1 and MW-5 at concentrations of 0.5 µg/l and 8.9 µg/l, respectively.

Total xylenes were detected above the LRLs in five of the eight groundwater samples collected from remediation wells during the March monitoring event. Total xylenes concentrations in the remediation wells ranged from 10.2 µg/l / 10.1 µg/l (RW-D5; primary/duplicate sample) to 338 µg/l (RW-B4).

Total xylenes were reported above the LRLs in the groundwater sample collected from one of the six monitoring wells sampled during the June monitoring event. Total xylenes were detected in monitoring well MW-5 at a concentrations of 9.5 µg/.

Total xylenes were detected above the LRLs in six of the eight groundwater samples collected from remediation wells during the June monitoring event. Total xylenes concentrations in the remediation wells ranged from 1.55 µg/l (RW-C7) to 392 µg/l (RW-B4).

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). The concentrations of total xylenes detected in monitoring wells during the March monitoring event were well below the ESL of 100 µg/l. The total xylenes concentration in remediation well RW-B4 was above the RWQCB ESL for total xylenes in the March monitoring event. In the June monitoring event, the total xylenes concentration in remediation wells RW-B4 and RW-C6 were above the RWQCB ESL for total xylenes. Re-sampling of the remediation well RW-C6 in July 2012, confirmed the elevated concentration of total xylenes exceeds the ESL value. The total xylenes concentrations in monitoring wells sampled in the June monitoring event were below the ESL for total xylenes.

The total xylenes concentrations in monitoring wells sampled in the March and June monitoring events were below the ESL for total xylenes and displayed relatively stable concentration trends over the last few monitoring events.

4.3.6 MTBE

MTBE was reported above the LRLs in the groundwater sample collected from one of the six monitoring wells sampled during the March monitoring event. MTBE was detected in well MW-5 at a concentration of 1.9 µg/l.

MTBE was reported above the LRLs in the groundwater sample collected from one of the eight remediation wells sampled during the March monitoring event. MTBE was detected in well RW-B1 at a concentration of 4.3 µg/l.

MTBE was reported above the LRLs in the groundwater sample collected from one of the six monitoring wells sampled during the June monitoring event. MTBE was detected in well MW-5 at a concentration of 7.6 µg/l.

MTBE was not reported above the LRLs in the groundwater samples collected from any of the eight remediation wells sampled during the June monitoring event.

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 and remediation wells during the March and June monitoring events.

The MTBE concentrations in monitoring wells sampled in the March and June monitoring events displayed relatively stable concentration trends over the last few monitoring events.

4.3.7 TPHg

TPHg was reported above the LRLs in groundwater samples collected from two of the six monitoring wells sampled during the March monitoring event. TPHg was detected in monitoring wells MW-1 and MW-5 at concentrations of 140 µg/l and 3,700 µg/l, respectively.

TPHg was detected above the LRLs in five of the eight groundwater samples collected from remediation wells during the March monitoring event. TPHg concentrations in the remediation wells ranged from 280 µg/l / 280 µg/l (RW-D5; primary/duplicate sample) to 7,900 µg/l (RW-B4).

TPHg was reported above the LRLs in groundwater samples collected from two of the six monitoring wells sampled during the June monitoring event. TPHg was detected in monitoring wells MW-1 and MW-5 at concentrations of 130 µg/l / 120 µg/l (primary/duplicate sample) and 4,100 µg/l, respectively.

TPHg was detected above the LRLs in five of the eight groundwater samples collected from remediation wells during the June monitoring event. TPHg concentrations in the remediation wells ranged from 390 µg/l (RW-D5) to 7,600 µg/l (RW-B4).

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). The TPHg concentrations in one monitoring well (MW-5) and five remediation wells (RW-B1, RW-B4, RW-C6, RW-D5, and RW-D9) during both the March and June monitoring events were above the RWQCB ESL for TPHg.

In the March and June monitoring events, TPHg concentration in monitoring well MW-5 exceeded the ESL for TPHg. Although the TPHg concentration in monitoring well MW-5 exceeded the ESL, the March and June TPHg concentrations remained relatively stable compared to those detected in the last few sampling events. The TPHg concentrations detected in monitoring well MW-1 decreased to below the ESL from the previous sample collected in December 2011 (230 µg/l).

4.3.8 TPHd

TPHd was reported above the LRLs in groundwater samples collected from four of the six monitoring wells sampled during the March monitoring event. TPHd concentrations in monitoring wells ranged from 56 µg/l (MW-14) to 1,100 µg/l (MW-5).

TPHd was detected above the LRLs in six of the eight groundwater samples collected from remediation wells during the March monitoring event. TPHd concentrations in the remediation wells ranged from 180 µg/l (RW-D9) to 2,400 µg/l (RW-B4).

TPHd was reported above the LRLs in groundwater samples collected from five of the six monitoring wells sampled during the June monitoring event. TPHd concentrations in the monitoring wells ranged from 59 µg/l (MW-17) to 1,000 µg/l (MW-5).

TPHd was detected above the LRLs in seven of the eight groundwater samples collected from remediation wells during the June monitoring event. TPHd concentrations in the remediation wells ranged from 130 µg/l (RW-B1) to 3,700 µg/l (RW-B4).

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). The TPHd concentrations in one monitoring well (MW-5) and five remediation wells (RW-A2, RW-B4, RW-C6, RW-C7, and RW-D5) during the March monitoring event were above the RWQCB ESL for TPHd. The TPHd concentrations in two monitoring wells (MW-5 and MW-13) and six remediation wells (RW-A2, RW-B4, RW-C6, RW-C7, RW-D5, and RW-D9) during the June monitoring event were above the RWQCB ESL for TPHd.

In the March and June monitoring events, TPHd concentration in monitoring well MW-5 exceeded the ESL for TPHd. The TPHd concentration in MW-5 was generally consistent with concentrations detected in the samples collected in 2010 and 2011. During the June 2012 monitoring event the TPHd concentration in MW-13 was the highest detected since 2002.

4.3.9 TPHmo

TPHmo was reported above the LRLs in the groundwater sample collected from one of the six monitoring wells sampled during the March monitoring event. TPHmo was detected in monitoring well MW-13 at a concentration of 1,100 µg/l.

TPHmo was detected above the LRLs in three of the eight groundwater samples collected from remediation wells during the March monitoring event. TPHmo was detected in RW-C6, RW-C7 and RW-D9 at concentrations of 600 µg/l, 480 µg/l and 320 µg/l, respectively.

TPHmo was reported above the LRLs in the groundwater sample collected from one of the six monitoring wells sampled during the June monitoring event. TPHmo was detected in monitoring well MW-13 at a concentration of 2,000 µg/l.

TPHmo was detected above the LRLs in four of the eight groundwater samples collected from remediation wells during the June monitoring event. TPHmo concentrations in the remediation wells ranged from 380 µg/l (RW-C7) to 2,000 µg/l (RW-C6). The

concentration of TPHmo in remediation well RW-C6 during the July re-sampling event was 410 µg/l, which was more consistent with previous results.

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 concentrations in one monitoring well (MW-13) and three remediation wells (RW-C6, RW-C7 and RW-D9) during the March monitoring event were above the RWQCB ESL for TPHmo. The TPHmo concentrations in the same monitoring well (MW-13) and four remediation wells (RW-B4, RW-C6, RW-C7 and RW-D9) during the June monitoring event were above the RWQCB ESL for TPHmo.

Well MW-13 was the only monitoring well sampled in the March and June monitoring events with concentrations exceeding the ESL for TPHmo. The June 2012 TPHmo concentration is the highest detected in MW-13 since 2002, and has demonstrated an increasing trend over the last several monitoring events.

4.3.10 TPHk

TPHk was reported above the LRLs in groundwater samples collected from two of the six monitoring wells sampled during the March monitoring event. TPHk was detected in monitoring wells MW-1 and MW-5 at concentrations of 82 µg/l and 1,300 µg/l, respectively.

TPHk was detected above the LRLs in six of the eight groundwater samples collected from remediation wells during the March monitoring event. TPHk concentrations in the remediation wells ranged from 160 µg/l (RW-C7) to 3,000 µg/l (RW-B4).

TPHk was reported above the LRLs in groundwater samples collected from two of the six monitoring wells sampled during the June monitoring event. TPHk was detected in monitoring wells MW-1 and MW-5 at concentrations of 120 µg/l / 55 µg/l (primary/duplicate sample) and 1,200 µg/l, respectively.

TPHk was detected above the LRLs in seven of the eight groundwater samples collected from remediation wells during the June monitoring event. TPHk concentrations in the remediation wells ranged from 90 µg/l (RW-B1) to 4,500 µg/l (RW-B4).

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). The TPHk concentrations in one monitoring well (MW-5) and two remediation wells (RW-B4 and RW-C6) during the March monitoring event were above the RWQCB ESL for TPHk. The TPHk concentrations in one monitoring well (MW-5) and four remediation wells (RW-B4, RW-C6, RW-D5, and RW-D9) during the June monitoring event were above the RWQCB ESL for TPHk.

In the March and June monitoring events, TPHk concentration in monitoring well MW-5 exceeded the ESL for TPHk. In addition, the TPHk concentration in MW-5 was generally consistent with the samples collected in 2010 and 2011 monitoring events.

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 in both the March and June monitoring events.

5.2 Blanks

One field blank was collected in the March (RW-D9-FB) and June (MW-5-FB) monitoring events along with the corresponding groundwater sample and was analyzed for TPHg, TPHk, TPHd, TPHmo, BTEX, and MTBE. No analytes were detected above LRLs in the field blanks from the March and June monitoring events.

Additionally, laboratory method blank results were reviewed for detection of target analytes. No analytes were detected in the method blanks above the LRL in the March and June monitoring event.

5.3 Laboratory Control Samples

Laboratory quality control samples were analyzed by C&T for TPHg, TPHd, TPHk, TPHmo, and BTEX. All samples were within the percentage recovery range required by the laboratory in the March and June monitoring events.

5.4 Surrogates

All surrogates, including o-terphenyl for TPHd, TPHk, and TPHmo; and bromofluorobenzene, 1,2-dichloroethane-d4, dibromofluoromethane, and toluene-d8 for TPHg, BTEX, and MTBE were used for laboratory QA/QC analysis. All of the surrogates were within the acceptable laboratory recovery limits in the March and June monitoring events.

5.5 False-Positive Petroleum Hydrocarbon Identification

Qualifiers were reported in the laboratory analytical reports and noted in Table 1 for the March and June monitoring events.

6.0 FINDINGS AND CONCLUSIONS

The following summarizes the data collected during the March and June monitoring events.

- In the March monitoring event, groundwater elevations in the monitoring wells ranged from –0.30 feet msl at MW-16 to 8.87 feet msl at MW-5. The direction of shallow groundwater flow is toward the northwest in the northern section of the Site at a horizontal gradient of 0.0071 ft/ft, and toward the southwest in the southern portion of the Site at 0.020 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.
- In the June monitoring event, groundwater elevations in the monitoring wells ranged from 0.28 feet msl at MW-17 to 6.27 feet msl at MW-6. The direction of shallow groundwater flow is toward the northwest in the northern section of the Site at a horizontal gradient of 0.0068 ft/ft, and toward the southwest in the southern portion of the Site at 0.013 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 in the March and June monitoring events.
- In the March monitoring event, benzene was detected above the LRL in two of the six monitoring wells and six of the eight remediation wells sampled. Of these detections, benzene concentrations exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for benzene of 46 µg/l in five remediation wells (RW-B1, RW-B4, RW-C6, RW-D5, and RW-D9).
- In the June monitoring event, benzene was detected above the LRL in three of the six monitoring wells and six of the eight remediation wells sampled. Of these detections, benzene concentrations exceeded the RWQCB ESL Groundwater Screening Level

(groundwater is not a current or potential drinking water resource) for benzene of 46 µg/l in four remediation wells (RW-B1, RW-B4, RW-C6, and RW-D5).

- In the March monitoring event, toluene was detected above the LRL in one of the six monitoring wells and five of the eight remediation wells sampled. No concentrations of toluene exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for toluene of130 µg/l.
- In the June monitoring event, toluene was detected above the LRL in one of the six monitoring wells and five of the eight remediation wells sampled. No concentrations of toluene exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for toluene of130 µg/l.
- In the March monitoring event, ethylbenzene was detected above the LRL in one of the six monitoring wells and five of the eight remediation wells sampled. Of these detections, ethylbenzene concentrations exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for ethylbenzene of 43 µg/l in one monitoring well (MW-5) and one remediation well (RW-B4).
- In the June monitoring event, ethylbenzene was detected above the LRL in one of the six monitoring wells and five of the eight remediation wells sampled. Of these detections, ethylbenzene concentrations exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for ethylbenzene of 43 µg/l in one monitoring well (MW-5) and one remediation well (RW-B4).
- In the March monitoring event, total xylenes were detected above the LRL in two of the six monitoring wells and five of the eight remediation wells sampled. Of these detections, total xylenes concentrations exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for total xylenes of 100 µg/l in one remediation well (RW-B4).
- In the June monitoring event, total xylenes were detected above the LRL in one of the six monitoring wells and six of the eight remediation wells sampled. Of these detections, total xylenes concentrations exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for total xylenes of 100 µg/l in two remediation wells (RW-B4 and RW-C6).
- In the March monitoring event, MTBE was detected above the LRL in one of the six monitoring wells and one of the eight remediation wells sampled. No concentrations of MTBE exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for MTBE of 1800 µg/l.
- In the June monitoring event, MTBE was detected above the LRL in one of the six monitoring wells sampled. MTBE was not detected above the LRL in any of the eight remediation wells sampled. No concentrations of MTBE exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for MTBE of 1800 µg/l.
- In the March monitoring event, TPHg was detected above the LRL in two of the six monitoring wells and five of the eight remediation wells sampled. Of these

detections, TPHg concentrations exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHg of 210 µg/l in one monitoring well (MW-5) and five remediation wells (RW-B1, RW-B4, RW-C6, RW-D5, and RW-D9).

- In the June monitoring event, TPHg was detected above the LRL in two of the six monitoring wells and five of the eight remediation wells sampled. Of these detections, TPHg concentrations exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHg of 210 µg/l in one monitoring well (MW-5) and five remediation wells (RW-B1, RW-B4, RW-C6, RW-D5, and RW-D9).
- In the March monitoring event, TPHd was detected above the LRL in four of the six monitoring wells and six of the eight remediation wells sampled. Of these detections, TPHd concentrations exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHd of 210 µg/l in one monitoring well (MW-5) and five remediation wells ((RW-A2, RW-B4, RW-C6, RW-C7, and RW-D5).
- In the June monitoring event, TPHd was detected above the LRL in five of the six monitoring wells and seven of the eight remediation wells sampled. Of these detections, TPHd concentrations exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHd of 210 µg/l in two monitoring wells (MW-5 and MW-13) and six remediation wells (RW-A2, RW-B4, RW-C6, RW-C7, RW-D5, and RW-D9).
- In the March monitoring event, TPHmo was detected above the LRL in one of the six monitoring wells (MW-13) and three of the eight remediation wells sampled (RW-C6, RW-C7 and RW-D9). All of these TPHmo concentrations exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHmo of 210 µg/l.
- In the June monitoring event, TPHmo was detected above the LRL in one of the six monitoring wells (MW-13) and four of the eight remediation wells sampled (RW-B4, RW-C6, RW-C7 and RW-D9). All of these TPHmo concentrations exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHmo of 210 µg/l.
- In the March monitoring event, TPHk was detected above the LRL in two of the six monitoring wells and six of the eight remediation wells sampled. Of these detections, TPHk concentrations exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHk of 210 µg/l in one monitoring well (MW-5) and two remediation wells (RW-B4 and RW-C6).
- In the June monitoring event, TPHk was detected above the LRL in two of the six monitoring wells and seven of the eight remediation wells sampled. Of these detections, TPHk concentrations exceeded the RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for TPHk of 210 µg/l in one monitoring well (MW-5) and four remediation wells (RW-B4, RW-C6, RW-D5, and RW-D9).

The chemical concentrations in monitoring wells sampled on and off site have generally displayed a strong decreasing trend over time (Table 1). The chemical concentration trends in the monitoring wells sampled over the last four quarters have generally been stable, with the exception of TPHmo and TPHd concentrations in MW-13. The TPHmo concentrations in well MW-13 increased from below the LRL of 300 µg/l in the September and December monitoring events to 1,100 µg/l and 2,000 µg/l in the March and June monitoring events, respectively. TPHd has also increased in these monitoring events but to a lesser degree (Table 1).

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

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

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Municipal Service Center
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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)
11/21/08 (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
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
10/19/10	10.05	5.48	4.57	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	10.05	4.91	5.14	---	SPH: None	---	---	---	---	---	---	---	---	---
9/13/11	10.05	---	---	8260B	SGC	110 Y	<300	120	200	<0.5	<0.5	<0.5	0.54	<0.50
12/21/11	10.05	4.63	5.42	---	SPH: None	---	---	---	---	---	---	---	---	---
12/22/11	10.05	---	---	8260B	SGC	100 Y	<310	120 Y	230	0.53	<0.50	<0.50	0.69	<0.50
3/28/12	10.05	3.05	7	---	SPH: None	---	---	---	---	---	---	---	---	---
3/29/12	10.05	---	---	8260B	SGC	70 Y	<300	82	140	1	<0.50	<0.50	0.50	<0.50
6/26/12	10.05	4.23	5.82	---	SPH: None	---	---	---	---	---	---	---	---	---
6/27/12	10.05	---	---	8260B	SGC	150 Y	<310	120 Y	130	0.58	<0.50	<0.50	<0.50	<0.50
6/27/2012 dup	---	---	---	8260B	SGC	<50	<300	55 Y	120	<0.50	<0.50	<0.50	<0.50	<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

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California

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	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	---	---	---	---	---	---	---	---	---	---	---
4/8/10	10.47	8.00	2.47	---	SPH: None	---	---	---	---	---	---	---	---	---
10/19/10	10.47	7.02	3.45	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	10.47	6.67	3.80	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	10.47	7.12	3.35	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.47	6.53	3.94	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.47	6.1	4.37	---	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	---		---	---	---	---	---	---	---	---	---

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California

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)
5/27/99	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	---		---	---	---	---	---	---	---	---	---
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

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Municipal Service Center
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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)
4/22/03	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
10/19/10	11.15	6.44	4.71	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	11.15	5.98	5.17	---	SPH: None	---	---	---	---	---	---	---	---	---
9/14/11	11.15	---	---	8260B	SGC	1,200 Y	<300	1,400	2,900	3.20	1.0	62	7.48	12
12/21/11	11.15	5.86	5.29	---	SPH: None	---	---	---	---	---	---	---	---	---
12/22/11	11.15	---	---	8260B	SGC	1,400 Y	<310	1,600 Y	2,800	1.50	0.75	65	5.74	9.9
3/28/12	11.15	2.28	8.87	---	SPH: None; odor	---	---	---	---	---	---	---	---	---
3/30/12	11.15	---	---	8260B	SGC	1,100 Y	<300	1,300	3,700	1.9	1.3	95	8.9	1.9
6/26/12	11.15	5.51	5.64	---	SPH: None	---	---	---	---	---	---	---	---	---
6/27/12	11.15	---	---	8260B	SGC	1,000 Y	<300	1,200	4,100	2.1	1.3	80	9.5	7.6
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	---
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.	---	---	---	---	---	---	---	---	---

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Municipal Service Center
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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)
11/11/98	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	---	---	---	---	---	---	---	---	---
10/19/10	10.98	5.88	5.10	8260B	SPH: None; SGC	400	<300	420	620	100	1.7	<1.0	2.0 B1	3.3
10/19/10 dup	---	---	---	8260B	SGC	370	<300	400	610	110	1.6	<1.0	1.4 B1	3.1
9/12/11	10.98	5.62	5.36	---	SPH: None	---	---	---	---	---	---	---	---	---

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California

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)
9/14/11	10.98	---	---	8260B	SGC	1,800 Y	<300	1,600	690	140	4.6	0.82	4.38	2.9
12/21/11	10.98	5.5	5.48	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.98	4.38	6.6	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.98	4.71	6.27	---	SPH: None	---	---	---	---	---	---	---	---	---
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

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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)
10/2/07	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	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	11.51	5.11	6.4	---	SPH: None	---	---	---	---	---	---	---	---	---
10/19/10	11.51	7.05	4.46	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	11.51	6.60	4.91	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	11.51	6.68	4.83	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	11.51	4.32	7.19	---	SPH: None; odor	---	---	---	---	---	---	---	---	---
6/26/12	11.51	6.3	5.21	---	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	---	---	---		---	---	---	---	---	---	---	---	---

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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)
10/27/04	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	---	---	---	---	---	---	---	---	---
10/19/10	12.22	9.61	2.61	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	12.22	9.61	2.61	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	12.22	8.97	3.25	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	12.22	9.4	2.82	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	12.22	9.62	2.6	---	SPH: None	---	---	---	---	---	---	---	---	---
MW-9														
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

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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)
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
10/19/10	10.77	8.37	2.40	8260B	SPH: None; SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	0.51 B1	<0.50
9/12/11	10.77	8.04	2.73	8260B	SPH: None; SGC	180 Y	500	<50	68	0.99	0.84	<0.50	1.1	<0.50
12/21/11	10.77	8.09	2.68	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.77	7.2	3.57	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.77	7.71	3.06	---	SPH: None	---	---	---	---	---	---	---	---	---
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	---		---	---	---	---	---	---	---	---	---

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California

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)
8/25/00	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
10/19/10	10.59	7.38	3.21	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	10.59	7.05	3.54	---	SPH: None	---	---	---	---	---	---	---	---	---
9/14/11	10.59	---	---	8260B	SGC	<50	<300	<50	<50	24	<0.50	<0.50	<0.50	<0.50
12/21/11	10.59	7.13	3.46	---	SPH: None	---	---	---	---	---	---	---	---	---
12/22/11	10.59	---	---	8260B	SGC	<50	<300	<50	<50	2.6	<0.50	<0.50	<0.50	<0.50
3/28/12	10.59	5.6	4.99	---	SPH: None	---	---	---	---	---	---	---	---	---
3/29/12	10.59	---	---	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
6/26/12	10.59	6.71	3.88	---	SPH: None	---	---	---	---	---	---	---	---	---
6/27/12	10.59	---	---	8260B	SGC	<50	<300	<50	<50	10	<0.50	<0.50	<0.50	<0.50
MW-11														
1/18/00	11.60	7.08	4.52	---		---	---	---	---	---	---	---	---	---
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

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7101 Edgewater Drive, Oakland, California

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)
11/28/00	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	---	---	---	---	---	---	---	---	---
10/19/10	11.60	6.67	4.93	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	11.60	6.28	5.32	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	11.60	6.22	5.38	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	11.60	3.69	7.91	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	11.60	5.68	5.92	---	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

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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)
4/8/02	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
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
10/19/10	10.43	7.85	2.58	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	10.43	7.33	3.10	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	10.43	7.56	2.87	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.43	6.64	3.79	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.43	6.81	3.62	---	SPH: None	---	---	---	---	---	---	---	---	---
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

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Municipal Service Center
7101 Edgewater Drive, Oakland, California

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)
4/28/04	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
10/19/10	11.34	9.50	1.84	8260B	SPH: None; SGC	150 Y	940	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
9/12/11	11.34	10.33	1.01	8260B	SPH: None; SGC	51 Y	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
12/21/11	11.34	10.01	1.33	8260B	SPH: None; SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
3/28/12	11.34	10.43	0.91	---	SPH: None	---	---	---	---	---	---	---	---	---
3/29/12	11.34	---	---	8260B	SGC	170 Y	1,100	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
6/26/12	11.34	10.41	0.93	---	SPH: None	---	---	---	---	---	---	---	---	---
6/27/12	11.34	---	---	8260B	SGC	310 Y	2,000	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
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

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California

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)
9/1/05 (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
10/19/10	10.05	7.23	2.82	8260B	SPH: None; SGC	210	<300	110	54	<0.50	<0.50	<0.50	<0.50	<0.50
9/12/11	10.05	7.11	2.94	8260B	SPH: None; SGC	63 Y	<300	<50	72	<0.50	<0.50	<0.50	<0.50	<0.50
12/21/11	10.05	7.00	3.05	8260B	SPH: None; SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
3/28/12	10.05	6.51	3.54	---	SPH: None	---	---	---	---	---	---	---	---	---
3/29/12	10.05	---	---	8260B	SGC	56 Y	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
6/26/12	10.05	6.92	3.13	---	SPH: None	---	---	---	---	---	---	---	---	---
6/27/12	10.05	---	---	8260B	SGC	69 Y	<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	---		---	---	---	---	---	---	---	---	---
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	500 B	<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

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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)
4/5/06 (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	---	---	---	---	---	---	---	---	---
10/19/10	12.36	10.21	2.15	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	12.36	9.96	2.40	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	12.36	10.04	2.32	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	12.36	9.67	2.69	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	12.36	9.82	2.54	---	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	---	---	---	---	---	---	---	---	---	---	---
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

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4/8/10	12.22	10.45	1.77	---	SPH: None	---	---	---	---	---	---	---	---	---
10/19/10	12.22	10.98	1.24	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	12.22	10.75	1.47	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	12.22	10.66	1.56	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	12.22	12.52	-0.3	---	Dry	---	---	---	---	---	---	---	---	---
6/26/12	12.22	10.58	1.64	---	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 dup	---	---	---	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
10/19/10	9.86	6.82	3.04	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	9.86	9.34	0.52	8260B	SPH: None; SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
12/21/11	9.86	8.58	1.28	8260B	SPH: None; SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50

Table 1
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Municipal Service Center
7101 Edgewater Drive, Oakland, California

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)
3/28/12	9.86	9.98	-0.12	---	SPH: None	---	---	---	---	---	---	---	---	---
3/29/12	9.86	---	---	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
6/26/12	9.86	9.58	0.28	---	SPH: None	---	---	---	---	---	---	---	---	---
6/27/12	9.86	---	---	8260B	SGC	59 Y	<300	<50	<50	<0.50	<0.50	<0.50	<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									
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														

Table 1
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Municipal Service Center
7101 Edgewater Drive, Oakland, California

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)
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
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

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7101 Edgewater Drive, Oakland, California

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)
5/17/01	---	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.	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---

Table 1
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Municipal Service Center
7101 Edgewater Drive, Oakland, California

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	10.22	8.50	1.72	---	---	---	---	---	---	---	---	---	---	---
4/8/10	10.22	5.54	4.68	---	SPH: None	---	---	---	---	---	---	---	---	---
10/19/10	10.22	6.91	3.31	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	10.22	6.55	3.67	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	10.22	6.75	3.47	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.22	5.21	5.01	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.22	6.07	4.15	---	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
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	---	---	---	---	---	---	---	---	---

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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)
10/19/10	9.49	4.79	4.70	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	9.49	4.17	5.32	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	9.49	3.81	5.68	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	9.49	1.45	8.04	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	9.49	3.54	5.95	---	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	---	---	---	---	---	---	---	---	---
10/19/10	10.19	4.22	5.97	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	10.19	3.43	6.76	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	10.19	3.02	7.17	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.19	1.44	8.75	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.19	3.01	7.18	---	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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---	---	---

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California

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	9.67	0.93	8.74	---	SPH: None	---	---	---	---	---	---	---	---	---
10/19/10	9.67	3.72	5.95	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	9.67	2.94	6.73	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	9.67	2.24	7.43	---	SPH: None	---	---	---	---	---	---	---	---	---
12/22/11	9.67	---	---	8260B	SGC	360 Y	<300	84 Y	<50	<0.50	<0.50	<0.50	<0.50	<0.50
3/28/12	9.67	0.53	9.14	---	SPH: None	---	---	---	---	---	---	---	---	---
3/30/12	9.67	---	---	8260B	SGC	640	<300	170 Y	<50	<0.50	<0.50	<0.50	<0.50	<0.50
6/26/12	9.67	2.4	7.27	---	SPH: None	---	---	---	---	---	---	---	---	---
6/27/12	9.67	---	---	8260B	SGC	520 Y	<310	140 Y	<50	<0.50	<0.50	<0.50	<0.50	<0.50
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	---	---	---	---	---	---	---	---	---
10/19/10	---	5.09	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	---	4.28	---	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	---	3.28	---	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	---	1.55	---	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	---	3.15	---	---	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

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Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California

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)
10/2/07	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	---	---	---	---	---	---	---	---	---
10/19/10	11.22	7.66	3.56	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	11.22	7.45	3.77	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	11.22	7.61	3.61	---	SPH: None	---	---	---	---	---	---	---	---	---
12/22/11	11.22	---	---	8260B	SGC	120	<300	78	<310	530	35	7.9	18.5	<3.1
3/28/12	11.22	7.4	3.82	---	SPH: None	---	---	---	---	---	---	---	---	---
3/29/12	11.22	---	---	8260B	SGC	<50	<300	<50	330	750	45	12	31	4.3
6/26/12	11.22	7.11	4.11	8260B	SPH: None; SGC	130 Y	<300	90 Y	520	650	100	13	42	<5.0
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
10/19/10	11.23	7.67	3.56	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	11.23	7.47	3.76	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	11.23	7.63	3.60	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	11.23	7.39	3.84	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	11.23	7.14	4.09	---	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	---	---	---	---	---	---	---	---	---

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7101 Edgewater Drive, Oakland, California

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	11.14	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	---	---	---	---	---	---	---	---	---
10/19/10	11.14	9.50	1.64	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	11.14	9.40	1.74	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	11.14	9.44	1.70	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	11.14	9.73	1.41	---	SPH: None; odor	---	---	---	---	---	---	---	---	---
6/26/12	11.14	9.65	1.49	---	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	---	---	---	---	---	---	---	---	---
10/19/10	11.29	9.80	1.49	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	11.29	9.62	1.67	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	11.29	9.58	1.71	---	SPH: None	---	---	---	---	---	---	---	---	---
12/22/11	11.29	---	---	8260B	SGC	2,000 Y	<300 F	2,200	5,400	1,100	29	64	176	<5.0
12/22/11 dup	11.29	---	---	8260B	SGC	2,300 Y	830 F	2,600	5,600	1,100	30	63	198	<5.0
3/28/12	11.29	9.8	1.49	---	SPH: None; odor	---	---	---	---	---	---	---	---	---
3/29/12	11.29	---	---	8260B	SGC	2,400 Y	<300	3,000	7,900	1,900	40	140	338	<7.1
6/26/12	11.29	9.75	1.54	8260B	SPH: None; SGC	3,700	950	4,500	7,600	1,700	42	130	392	<13

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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)
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	---	---	---	---	---	---	---	---	---
10/19/10	10.44	5.57	4.87	---	SPH: None	---	---	---	---	---	---	---	---	---
9/13/11	10.44	5.89	4.55	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	10.44	5.87	4.57	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.44	5.41	5.03	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.44	5.35	5.09	---	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	---	---	---	---	---	---	---	---	---
10/19/10	10.58	6.59	3.99	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	10.58	6.07	4.51	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	10.58	6.46	4.12	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.58	5.48	5.1	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.58	5.67	4.91	---	SPH: None	---	---	---	---	---	---	---	---	---

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California

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-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	---	---	---	---	---	---	---	---	---
10/29/09	10.71	8.56	2.15	---	---	---	---	---	---	---	---	---	---	---
4/8/10	10.71	5.93	4.78	---	SPH: None	---	---	---	---	---	---	---	---	---
10/19/10	10.71	6.82	3.89	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	10.71	6.32	4.39	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	10.71	6.74	3.97	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.71	6.13	4.58	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.71	6	4.71	---	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	---	---	---	---	---	---	---	---	---
10/19/10	11.32	6.84	4.48	---	SPH: None	---	---	---	---	---	---	---	---	---
9/13/11	11.32	6.26	5.06	---	SPH: None	---	---	---	---	---	---	---	---	---
12/22/11	11.32	7.06	4.26	---	SPH: None	---	---	---	---	---	---	---	---	---

Table 1
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Municipal Service Center
7101 Edgewater Drive, Oakland, California

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)
3/28/12	11.32	6.53	4.79	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	11.32	5.87	5.45	---	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	5.20	---	SPH: None	---	---	---	---	---	---	---	---	---
10/19/10	10.79	6.54	4.25	---	SPH: None, odor	---	---	---	---	---	---	---	---	---
9/13/11	10.79	6.04	4.75	---	SPH: None, odor	---	---	---	---	---	---	---	---	---
12/22/11	10.79	6.51	4.28	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.79	5.47	5.32	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.79	5.61	5.18	---	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.	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California

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)
4/29/10	10.31	5.43	4.88	---	SPH: None	---	---	---	---	---	---	---	---	---
10/19/10	10.31	6.40	3.91	---	SPH: None	---	---	---	---	---	---	---	---	---
9/13/11	10.31	5.89	4.42	8260B	SPH: None, odor; SCG	870 Yb1	410 b1	760	2,500	270	54	18	420	<2.5
12/22/11	10.31	6.36	3.95	8260B	SPH: None; SCG	1,200	710	830	810	74	6.2	7.9	79	0.51
3/28/12	10.31	5.36	4.95	8260B	SPH: None; SCG	830	600	620	550	68	5.3	6.2	55	<0.50
6/26/12	10.31	5.5	4.81	8260B	SPH: None; SCG	2,700	2,000	2,000	1,000	89	8.5	9.1	101	<0.50
7/31/12	10.31	5.76	4.55	8260B	SPH: None; SCG	890 Y	410	790 Y	1,500	150	18	11	158	<0.50
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	---	---	---	---	---	---	---	---	---
10/19/10	10.12	6.68	3.44	---	SPH: None	---	---	---	---	---	---	---	---	---
9/13/11	10.12	6.16	3.96	8260B	SPH: None; SCG	83 Yb1	<300	<50	150	3.1	<0.50	<0.50	<0.50	<0.50
12/22/11	10.12	6.62	3.50	8260B	SPH: None; SCG	8,100	1,700	5,900	380	8.3	<0.50	0.98	<0.50	<0.50
3/28/12	10.12	5.61	4.51	8260B	SPH: None; SCG	490	480	160 Y	<50	8.9	<0.50	<0.50	<0.50	<0.50
6/26/12	10.12	5.75	4.37	8260B	SPH: None; SCG	410	380 Y	150 Y	<50	0.7	<0.50	<0.50	1.55	<0.50
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.	---	---	---	---	---	---	---	---	---

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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)
11/18/08	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	---	---	---	---	---	---	---	---	---
10/19/10	10.39	6.37	4.02	---	SPH: None	---	---	---	---	---	---	---	---	---
9/30/11[13]	10.39	NM	---	---	SPH: None	---	---	---	---	---	---	---	---	---
12/22/11	10.39	Dry	---	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.39	Dry	---	---	Total depth: 5.50 feet	---	---	---	---	---	---	---	---	---
6/26/12	10.39	Dry	---	---	Total depth: 5.45 feet	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
10/19/10	10.18	6.85	3.33	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	10.18	6.53	3.65	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	10.18	6.92	3.26	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.18	6.3	3.88	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.18	5.86	4.32	---	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	---	---	---	---	---	---	---	---	---

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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)
4/4/07	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	---	---	---	---	---	---	---	---	---
10/19/10	10.33	6.35	3.98	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	10.33	6.02	4.31	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	10.33	6.42	3.91	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.33	5.79	4.54	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.33	5.36	4.97	---	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)]	---	---	---	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
10/19/10	10.07	6.97	3.10	---	SPH: None	---	---	---	---	---	---	---	---	---
9/13/11	10.07	6.64	3.43	8260B	SPH: None; SGC	100 Y	<300	110	780	140	46	13	69	<1.3
12/21/11	10.07	7.04	3.03	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.07	6.32	3.75	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.07	5.91	4.16	---	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.	---	---	---	---	---	---	---	---	---

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California

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)
3/27/06	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	---	---	---	---	---	---	---	---	---
10/19/10	10.22	6.37	3.85	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	10.22	5.92	4.30	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	10.22	6.14	4.08	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	10.22	4.64	5.58	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	10.22	5.46	4.76	---	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	---	---	---	---	---	---	---	---	---
10/19/10	9.99	6.30	3.69	---	---	---	---	---	---	---	---	---	---	---
9/12/11	9.99	5.89	4.10	---	SPH: None	---	---	---	---	---	---	---	---	---
9/13/11	9.99	---	---	8260B	SGC	230 YF	<300	210	810	1,100	11	21	26.9	<5.0
9/13/11 dup	9.99	---	---	8260B	SGC	320 YF	<300	260	800	1,200	12	19	24.1	<5.0
12/21/11	9.99	6.10	3.89	---	SPH: None	---	---	---	---	---	---	---	---	---
12/22/11	9.99	---	---	8260B	SGC	1,200	730	740	400	150	2.5	4.4	12.3	<0.50
3/28/12	9.99	4.57	5.42	---	SPH: None	---	---	---	---	---	---	---	---	---
3/29/12	9.99	---	---	8260B	SGC	270	<300	190	280	110	2.1	3.4	10.2	<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)
3/29/12 dup	9.99	---	---	8260B	SGC	360	<300	250	280	100	2.3	3.2	10.1	<1.0
6/26/12	9.99	5.41	4.58	---	SPH: None	---	---	---	---	---	---	---	---	---
6/27/12	9.99	---	---	8260B	SGC	510	<310	360	390	820	6.1	4.4	6.7	<1.0
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	---	---	---	---	---	---	---	---	---
10/19/10	---	6.45	---	---	SPH: None; Odor	---	---	---	---	---	---	---	---	---
9/12/11	---	6.11	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/13/11	---	---	---	8260B	SGC	1100 Y	<300	1,300	8,700	580	100	200	480	<5.0
12/21/11	---	6.50	---	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	---	5.88	---	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	---	5.44	---	---	SPH: None	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
10/19/10	---	6.45	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	---	5.99	---	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	---	6.61	---	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	---	3.53	---	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	---	5.62	---	---	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	---	---	---	---	---	---	---	---	---
10/19/10	---	5.19	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	---	4.59	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/13/11	---	---	---	8260B	SGC	6,000 Y	11,000	5,000	790	14	1.5	2.8	49	<0.5
12/21/11	---	5.04	---	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	---	3.15	---	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	---	4.11	---	---	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)
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	---	---	---	---	---	---	---	---	---
10/19/10	---	6.34	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	---	5.79	---	---	SPH: None; odor;	---	---	---	---	---	---	---	---	---
9/14/11	---	---	---	8260B	SGC	70 Y	<300	72	450	85	3.5	3.9	31	<0.50
12/21/11	---	6.75	---	---	SPH: None	---	---	---	---	---	---	---	---	---
12/22/11	---	---	---	8260B	SGC	730 Y	400	830	1,300	25	1.5	4.1	34	<0.50
3/28/12	---	6.26	---	---	SPH: None	---	---	---	---	---	---	---	---	---
3/29/12	---	---	---	8260B	SGC	180	320	180	940	60	2.7	4	38	<0.50
6/26/12	---	5.15	---	---	SPH: None	---	---	---	---	---	---	---	---	---
6/27/12	---	---	---	8260B	SGC	800	630	860	1,400	28	1.1	2.7	14.8	<0.50
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	---	---	---	---	---	---	---	---	---
10/19/10	---	6.22	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	---	5.82	---	---	SPH: None, odor	---	---	---	---	---	---	---	---	---
12/21/11	---	5.99	---	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	---	4.48	---	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	---	5.35	---	---	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	---	---	---	---	---	---	---	---	---
10/19/10	---	6.04	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	---	5.68	---	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	---	5.84	---	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	---	4.32	---	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	---	NM[(2)]	---	---	SPH: None	---	---	---	---	---	---	---	---	---
OB-D1														

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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)
4/22/03	---	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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
10/19/10	9.46	6.10	3.36	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	9.46	5.69	3.77	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	9.46	5.9	3.56	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	9.46	4.33	5.13	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	9.46	5.2	4.26	---	SPH: None	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
10/19/10	9.95	6.55	3.40	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	9.95	5.59	4.36	---	SPH: None	---	---	---	---	---	---	---	---	---
12/21/11	9.95	6.21	3.74	---	SPH: None	---	---	---	---	---	---	---	---	---
3/28/12	9.95	4.9	5.05	---	SPH: None	---	---	---	---	---	---	---	---	---
6/26/12	9.95	5.41	4.54	---	SPH: None	---	---	---	---	---	---	---	---	---

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7101 Edgewater Drive, Oakland, California

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-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	---	---	---	---	---	---	---	---	---
10/19/10	---	6.60	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/12/11	---	6.21	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/13/11	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
12/21/11	---	6.41	---	---	SPH: None	---	---	---	---	---	---	---	---	---
12/22/11	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
3/28/12	---	4.74	---	---	SPH: None	---	---	---	---	---	---	---	---	---
3/29/12	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
6/26/12	---	5.71	---	---	SPH: None	---	---	---	---	---	---	---	---	---
6/27/12	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
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
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

Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California

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)
10/19/10	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	0.51	<0.50
9/14/11	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
12/22/11	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
3/29/12	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
6/27/12	---	---	---	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 November 18, 2008.
(11) = Low surrogate recovery was observed for hexacosane. The sample was re-extracted, but was outside the EPA recommended hold time.

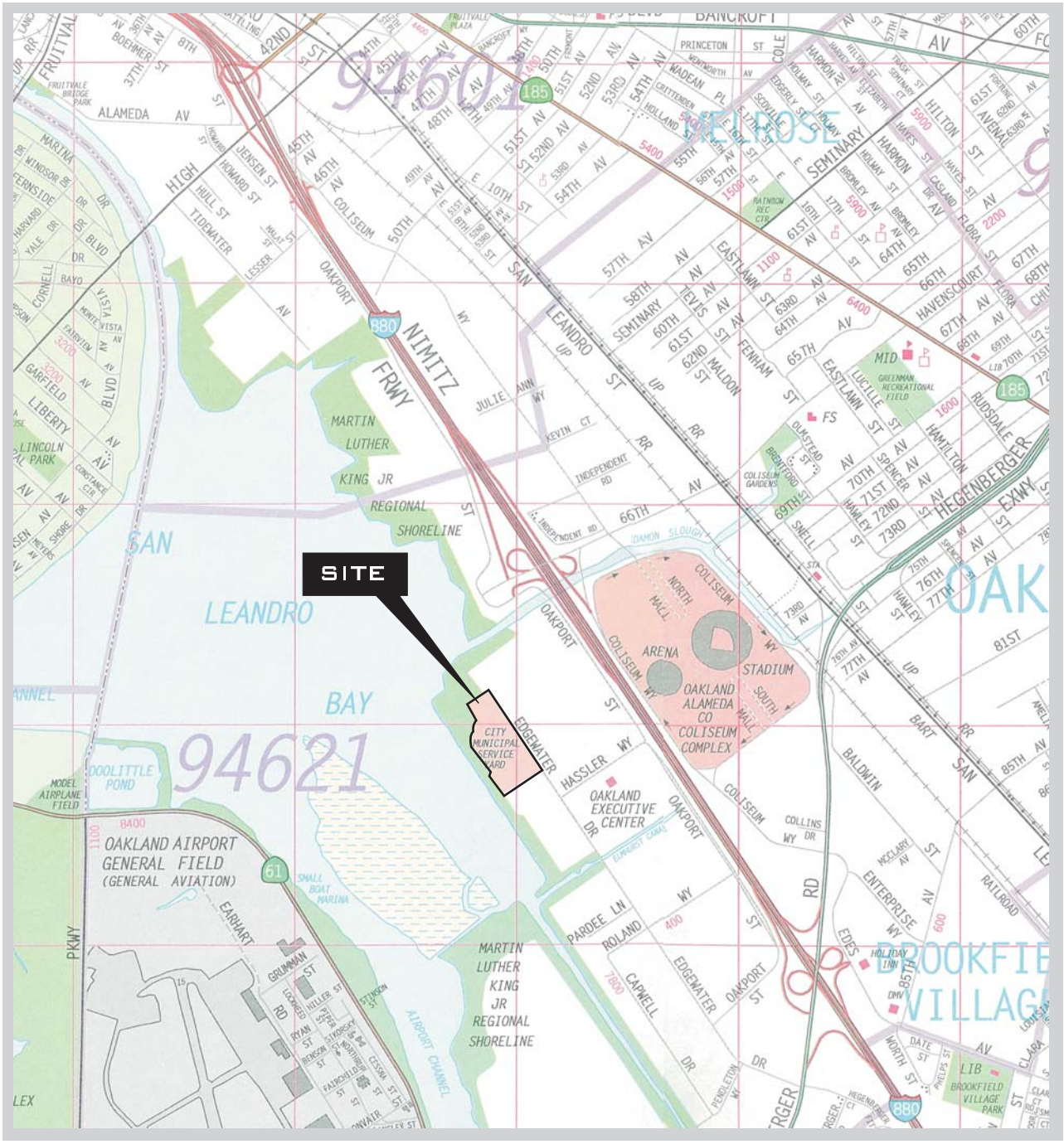
Table 1
Summary of Groundwater Analytical Data, Petroleum Hydrocarbons
Municipal Service Center
7101 Edgewater Drive, Oakland, California

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) = Depth to groundwater measured on April 1, 2009.
(13) = Well checked for SPH by OTG EniroEngineering Solutions on September 30, 2011
* = Product was thick; difficult to measure thickness.

--- = Not measured/analyzed
BTEX = Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020 or 8240/8260
DTW = Depth to water
Dup = Duplicate sample
EPA = Environmental Protection Agency
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.
RPD = Relative percent difference
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.
b1= Analyte dectected above the reporting limit in the laboratory method blank.
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.
B1=Analyte detected in associated equipment 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

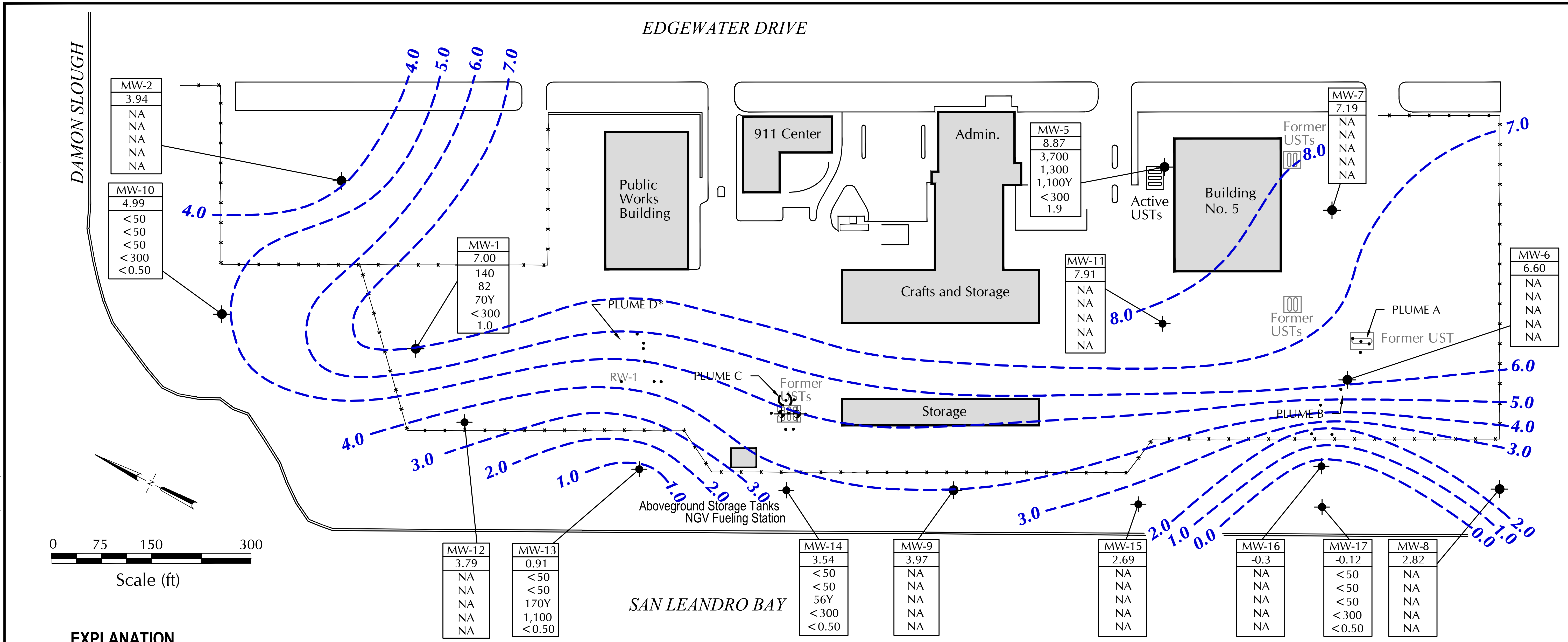
MUNICIPAL SERVICE CENTER
7101 EDGEWATER DRIVE, OAKLAND, CALIFORNIA

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
—x—x—x—	Fence
3.0 — —	Groundwater elevation contour; dashed where inferred

MW-6 — Monitoring Well ID
6.60 — Groundwater elevation, feet above mean sea level (msl)
TPHg, TPHk, TPHd, TPHmo, B — TPHg, TPHk TPHd, TPHmo, and benzene concentrations in Micrograms per Liter (ug/L)
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, MARCH 2012

ARCADIS

FIGURE 2

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
- Y — SAMPLE EXHIBITS CHROMATOGRAPHIC PATTERN THAT DOES NOT RESEMBLE STANDARD

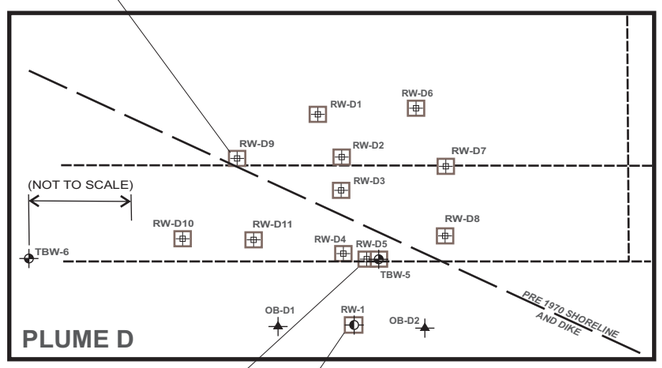
RW-D5	REMEDIATION WELL ID
TPHg / TPHg	TOTAL PETROLEUM HYDROCARBONS IN GAS
TPHk / TPHk	TOTAL PETROLEUM HYDROCARBONS IN KEROSINE
TPHd / TPHd	TOTAL PETROLEUM HYDROCARBONS IN DIESEL
TPHmo / TPHmo	TOTAL PETROLEUM HYDROCARBONS IN MOTOR OIL
B / B	BENZENE

SAMPLE — DUPLICATE

NOTES:

SPH WAS NOT DETECTED IN ANY WELLS WHERE DEPTH-TO-SPH MEASUREMENTS WERE COLLECTED IN MARCH 2012

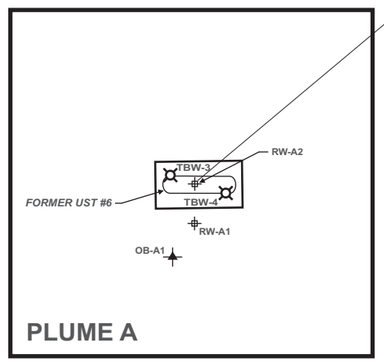
SPH = SEPARATE-PHASE HYDROCARBONS



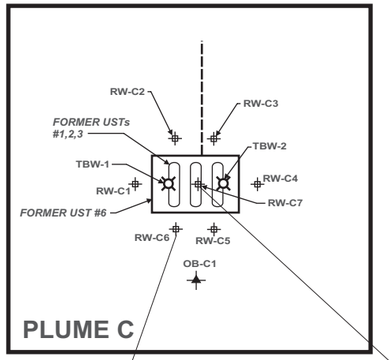
RW-D9	
TPHg	940
TPHk	180
TPHd	180
TPHmo	320
B	60

RW-D5	
TPHg	280 / 280
TPHk	190 / 250
TPHd	270 / 360
TPHmo	< 300 / < 300
B	110 /100

RW-1	
TPHg	< 50
TPHk	< 50
TPHd	< 50
TPHmo	< 300
B	< 0.5

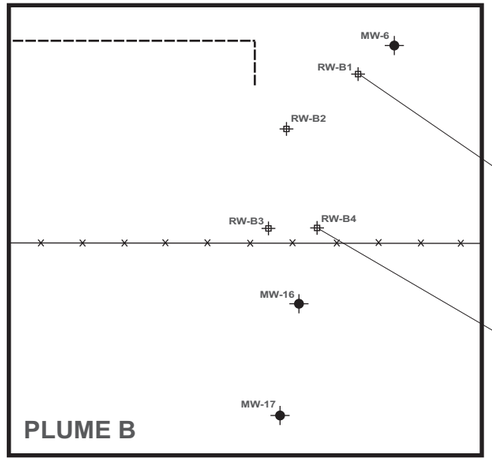


RW-A2	
TPHg	< 50
TPHk	170 Y
TPHd	640
TPHmo	< 300
B	< 0.5



RW-C6	
TPHg	550
TPHk	620
TPHd	830
TPHmo	600
B	68

RW-C7	
TPHg	< 50
TPHk	160 Y
TPHd	490
TPHmo	480
B	8.9



RW-B1	
TPHg	330
TPHk	< 50
TPHd	< 50
TPHmo	< 300
B	750

RW-B4	
TPHg	7,900
TPHk	3,000
TPHd	2,400 Y
TPHmo	< 300
B	1,900

0 60 120

APPROXIMATE SCALE IN FEET

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

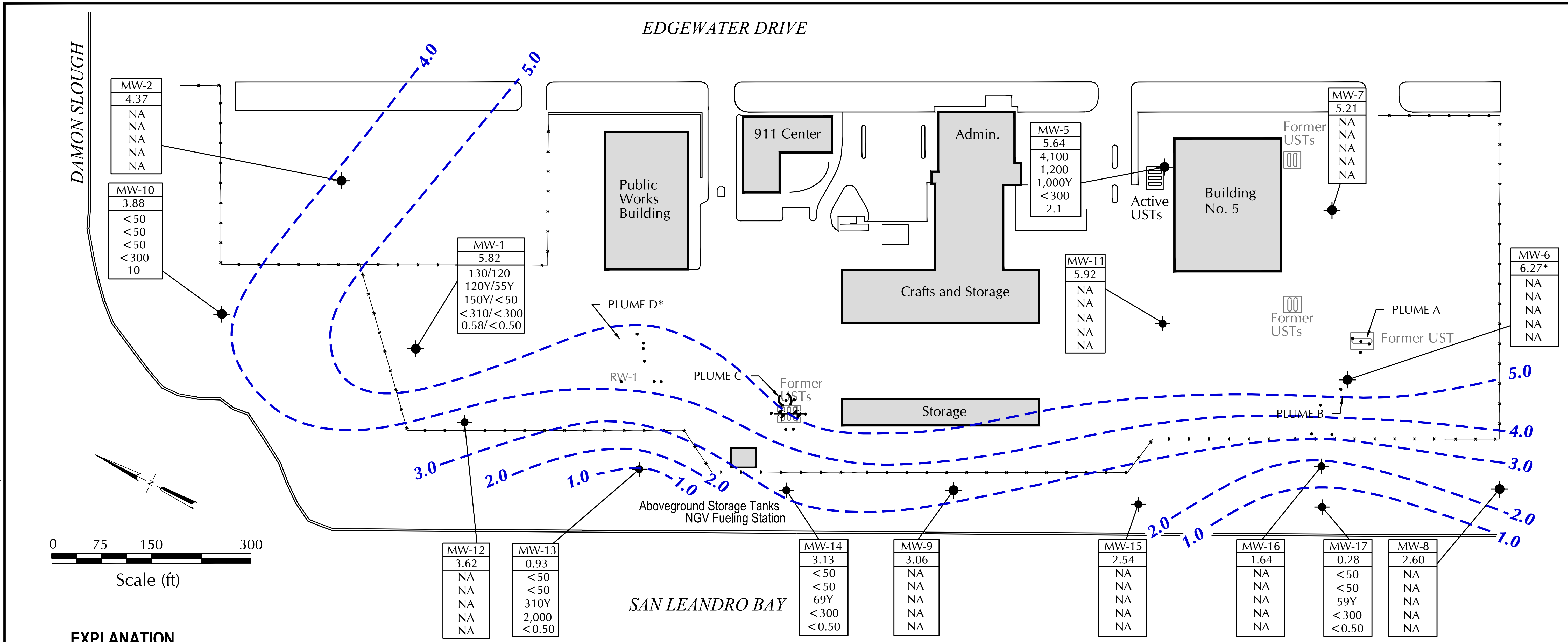
MUNICIPAL SERVICE CENTER
7101 EDGEWATER DRIVE, OAKLAND, CALIFORNIA

DETAIL PLUME MAP AND HYDROCARBON CONCENTRATIONS IN REMEDIATION WELLS MARCH 2012

ARCADIS

FIGURE 3

G:\ENVCAD\Emeryville\ACTLC00100600016\00003\CDR\LC010060 PlumeMap Mar2012.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
—•—•—	Fence
3.0 — —	Groundwater elevation contour; dashed where inferred

MW-1 — Monitoring Well ID
5.82 — 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

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
*	Groundwater elevation value not used for contouring

Source: CAMBRIA

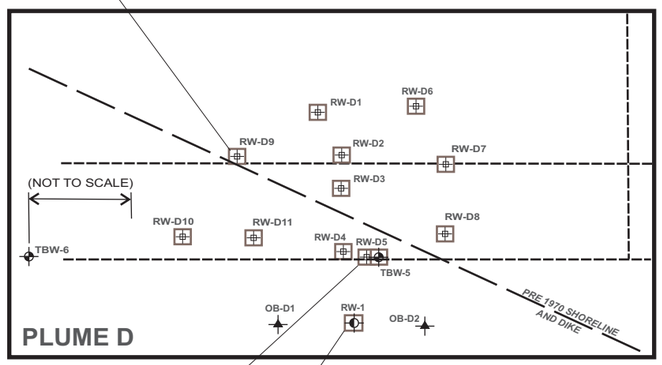
MUNICIPAL SERVICE CENTER, OAKLAND, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP AND HYDROCARBON CONCENTRATIONS IN SHALLOW GROUNDWATER, JUNE 2012

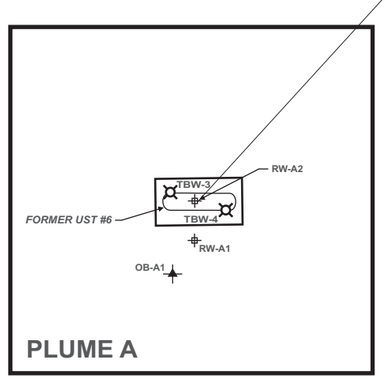
ARCADIS

FIGURE 4

RW-D9	
TPHg	1,400
TPHk	860
TPHd	800
TPHmo	630
B	28

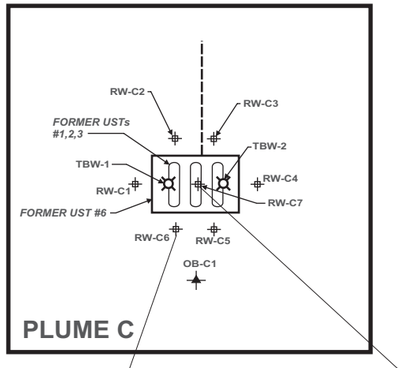


RW-A2	
TPHg	< 50
TPHk	140 Y
TPHd	520 Y
TPHmo	< 310
B	< 0.50



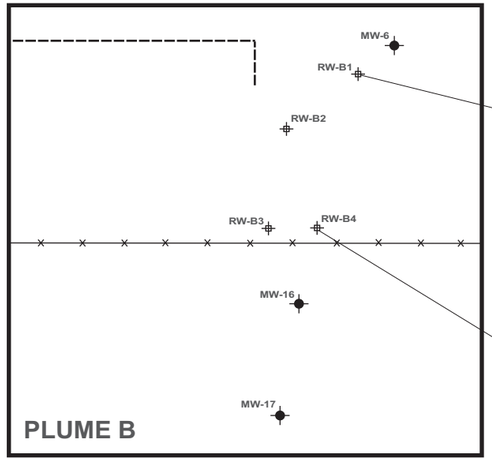
RW-D5	
TPHg	390
TPHk	360
TPHd	510
TPHmo	<310
B	820

RW-1	
TPHg	< 50
TPHk	< 50
TPHd	< 50
TPHmo	< 300
B	< 0.5



RW-C6	
TPHg	1,000
TPHk	2,000
TPHd	2,700
TPHmo	2,000
B	89

RW-C7	
TPHg	< 50
TPHk	150 Y
TPHd	410
TPHmo	380 Y
B	0.7



RW-B1	
TPHg	520
TPHk	90 Y
TPHd	130 Y
TPHmo	< 300
B	650

RW-B4	
TPHg	7,600
TPHk	4,500
TPHd	3,700
TPHmo	950
B	1,700

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
- Y — SAMPLE EXHIBITS CHROMATOGRAPHIC PATTERN THAT DOES NOT RESEMBLE STANDARD

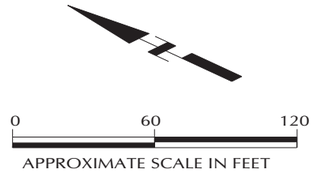
RW-B4	REMEDIATION WELL ID
TPHg	TOTAL PETROLEUM HYDROCARBONS IN GAS
TPHk	TOTAL PETROLEUM HYDROCARBONS IN KEROSINE
TPHd	TOTAL PETROLEUM HYDROCARBONS IN DIESEL
TPHmo	TOTAL PETROLEUM HYDROCARBONS IN MOTOR OIL
B	BENZENE

SAMPLE

NOTES:

SPH WAS NOT DETECTED IN ANY WELLS WHERE DEPTH-TO-SPH MEASUREMENTS WERE COLLECTED IN JUNE 2012

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 AND HYDROCARBON CONCENTRATIONS IN REMEDIATION WELLS JUNE 2012

ARCADIS

FIGURE 5

G:\ENVCAD\Emeryville\ACTILC0010060\00160\00003\CDR\LC010060 PlumeMap June2012.CDR

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

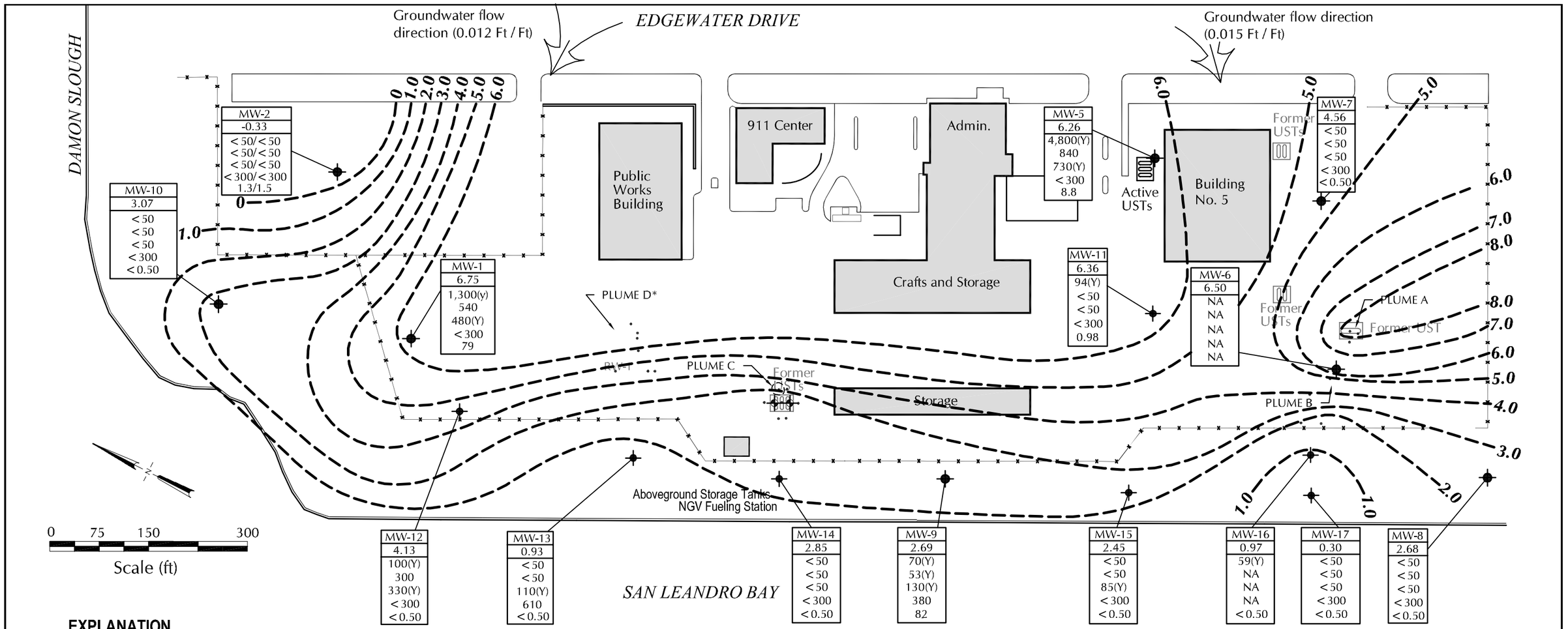
Notes:

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, 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

CITY OF OAKLAND

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

Public Works Agency
Environmental Services Divison

FAX (510) 238-7286
TDD (510) 238-3254

December 14, 2011

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

Re: Fuel Leak Case No. RO0000293 and GeoTracker Global ID T0600100375, City of Oakland Municipal Service Center, 7101 Edgewater Drive, Oakland, CA- Revised Groundwater Monitoring Plan

Dear Mr. Khatri:

The City of Oakland is pleased to submit this revised groundwater monitoring plan for the above referenced site. The report has been prepared by Arcadis, Inc. under a consultant service contract with the City of Oakland.

Certification

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

If you have questions or comments, please contact me at (510)238-6361.

Sincerely

Gopal Nair
Environmental Program Specialist

ARCADIS U.S., Inc.
2000 Powell Street
Suite 700
Emeryville
California 94608
Tel 510 652 4500
Fax 510 652 4906
www.arcadis-us.com

SER4

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

Subject:
Revised Groundwater Monitoring Plan for Fuel Leak Case No. RO0000293 and GeoTracker Global ID T0600100375, City of Oakland Municipal Service Center, 7101 Edgewater Drive, Oakland, California 94621

Date:
December 14, 2011

Contact:
Chuck Pardini

Phone:
(510) 596-9536

Email:
Chuck.pardini@arcadis-us.com

Our ref:
LC010060.0016.00001

Dear Mr. Khatri:

ARCADIS U.S., Inc. (ARCADIS) is submitting this revised groundwater monitoring plan on behalf of the City of Oakland ("the City") Public Works Agency, Environmental Services Division (ESD) for the City of Oakland Municipal Service Center, located at 7101 Edgewater Drive, Oakland, California ("the Site"). This letter is being submitted in response to the November 3, 2011 Alameda County Environmental Health Services' (ACEHS) "Post-Remediation Monitoring for Fuel Leak Case No. RO0000293 and GeoTracker Global ID T0600100375, City of Oakland Municipal Service Center, 7101 Edgewater Drive, Oakland, CA 94621" (the "ACEHS Letter").

The ACEHS letter included the response to the human health risk assessment conducted for the Site, as well as recent groundwater monitoring reports. ARCADIS understands that you had a phone conversation with Mr. Gopal Nair of the City on November 4, 2011. Based on this conversation and the ACEHS letter, you have concurred with the conclusions of the Site risk assessment, but have indicated that the frequency of groundwater sampling should be increased at the MSC to demonstrate the concentrations and mobility of the contaminants of concerns have stabilized We further understand that the ACEHS anticipates this increased monitoring frequency will allow for the better definition of chemical concentration trends, including potential seasonal variations, and will facilitate an expedited path towards the Site closure consideration.

In response to the ACEHS letter and November 4, 2011 phone conversation between Mr. Khatri and Mr. Nair, ARCADIS proposes monitoring of select wells to

take place on a quarterly basis for one year: in September 2011 (already completed as part of the 2011 annual monitoring event); December 2011; March 2012; and June 2012.

The proposed groundwater monitoring program is summarized in Attachment 1 and includes the sampling of 8 monitoring wells and 8 remediation wells in the third quarter of 2011 and 6 monitoring wells and 8 remediation wells in each quarterly event thereafter. The monitoring and remediation wells to be sampled were selected based on location and historical chemical concentrations. In general wells were selected to monitor the potential for offsite contaminant migration and provide representative samples from within each of the identified plumes at the Site. Groundwater elevations and floating product (if any) will continue to be measured in all monitoring and remediation wells during the quarterly monitoring events. Attachments 2 and 3 provide maps showing the monitoring and remediation well locations.

Groundwater monitoring reports will be prepared semiannually and discuss the previous two quarterly sampling events. ARCADIS anticipates the semiannual reports will be submitted to ACEHS in February and August 2012. The August 2012 report will also include a discussion of the chemical concentration trends observed over the previous four quarters and provide a request for site closure if the trends are stable and/or decreasing.

ARCADIS would appreciate an expedited review and approval of this proposed monitoring plan as we would like to conduct the December 2011 sampling event the week of December 19, 2011.

If you have any questions, please contact the undersigned at (510) 596-9536 or Gopal Nair at (510) 238-6361.

Sincerely,

ARCADIS U.S., Inc.

Charles Pardini, P.G.
Vice President, Principal Geologist

Attachments:

Attachment 1 – Proposed Sample Matrix
Attachment 2 – Site Map
Attachment 3 – Detailed Plume Map

Copies:
Mr. Gopal Nair – City of Oakland, Public Works Agency, Environmental Services
Mr. Xinggang Tong – OTG EnviroEngineering Solutions, Inc
Ms. Amy Goldberg-Day – ARCADIS

Table 1 - New Well Sampling Schedule and Protocol

City of Oakland Municipal Services Center

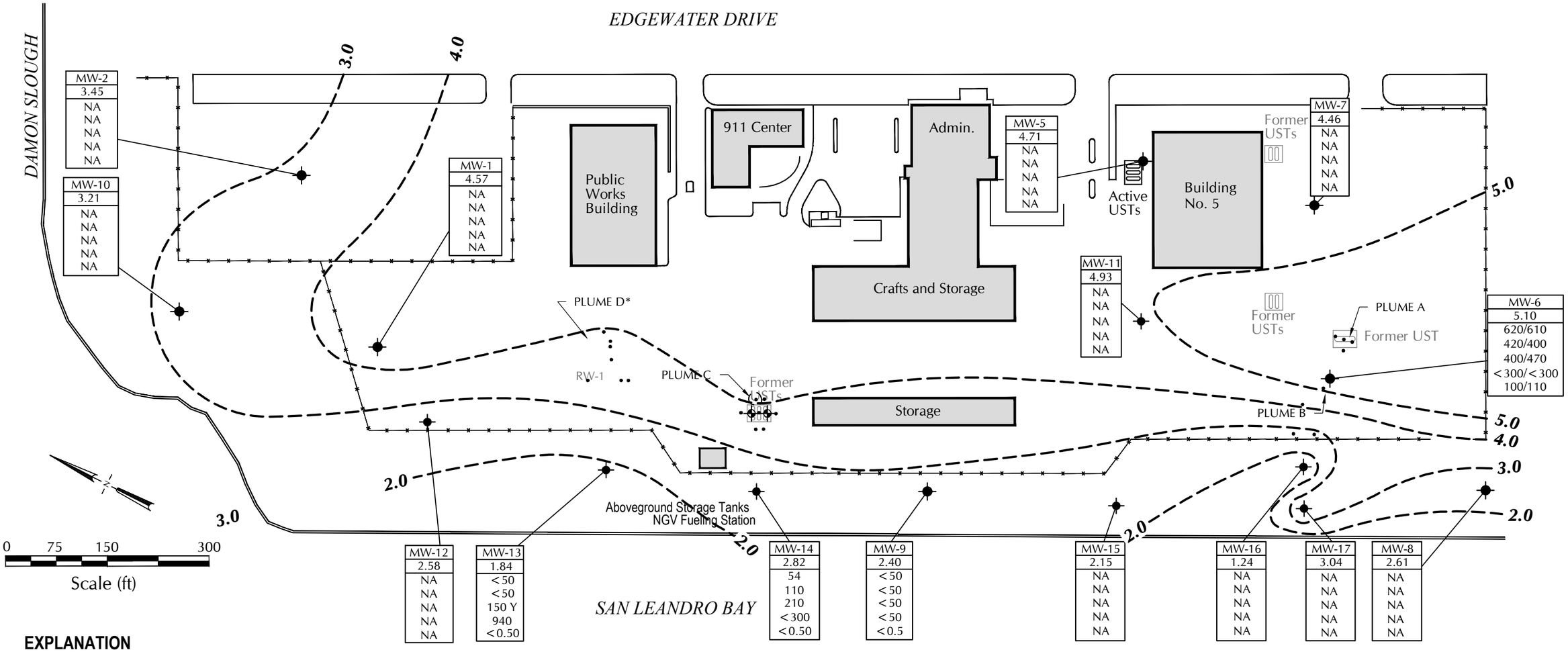
Well ID	Parameters to be Monitored												Notes
	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	Elevation	Floating	pH	Dissolved	Temp.	Specific	TPH gas	TPH	
	2011	2011	2012	2012		Product		Oxygen		Conduct.	BTEX &	d/k/mo	
						Thickness					MTBE		
MW-1	X	X	X	X	X	X	X	X	X	X	X	X	benzene at 79 ug/L in April 09; interior well
MW-2	gauge only	gauge only	gauge only	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	X	X	X	X	X	X	X	X	X	X	X	TPH-g still over 2,000 ug/L; near active USTs
MW-6	X	gauge only	gauge only	gauge only	X	X							
MW-7	gauge only	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	gauge only	X	X							ND for all constituents since Sept 02
MW-9	X	gauge only	gauge only	gauge only	X	X							benzene still at 82 ug/L in April 09; perimeter/sentinel well
MW-10	X	X	X	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	gauge only	X	X							interior/upgradient well, only benzene around 5 ug/L since 05
MW-12	gauge only	gauge only	gauge only	gauge only	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	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	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	gauge only	X	X							only TPH-d around 100 ug/L since Sept 02; bezene ND since 04
MW-16	gauge only	gauge only	gauge only	gauge only	X	X							often dry/no water, MW-17 directly downgradient as sentinel well
MW-17	X	X	X	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	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	gauge only	X	X							remediation well
TBW-6	gauge only	gauge only	gauge only	gauge only	X	X							excavation backfill well
RW-A1	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-A2	gauge only	X	X	X	X	X	X	X	X	X	X	X	remediation well
OB-A1	gauge only	gauge only	gauge only	gauge only	X	X							remediation observation well
RW-B1	gauge only	X	X	X	X	X	X	X	X	X	X	X	remediation well
RW-B2	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-B3	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-B4	gauge only	X	X	X	X	X	X	X	X	X	X	X	remediation well
RW-C1	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-C2	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-C3	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-C4	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-C5	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-C6	X	X	X	X	X	X	X	X	X	X	X	X	remediation well
RW-C7	X	X	X	X	X	X	X	X	X	X	X	X	remediation well
OB-C1	gauge only	gauge only	gauge only	gauge only	X	X							remediation observation well
RW-D1	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-D2	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-D3	X	gauge only	gauge only	gauge only	X	X							remediation well
RW-D4	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-D5	X	X	X	X	X	X	X	X	X	X	X	X	remediation well
RW-D6	X	gauge only	gauge only	gauge only	X	X							remediation well
RW-D7	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-D8	X	gauge only	gauge only	gauge only	X	X							remediation well
RW-D9	X	X	X	X	X	X	X	X	X	X	X	X	remediation well
RW-D10	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-D11	gauge only	gauge only	gauge only	gauge only	X	X							remediation well
RW-1	X	X	X	X	X	X	X	X	X	X	X	X	remediation well
OB-D1	gauge only	gauge only	gauge only	gauge only	X	X							remediation observation well
OB-D2	gauge only	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.



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
- Fence
- 3.0 — Groundwater elevation contour; dashed where inferred

MW-6 | 5.10 | TPHg/TPHg | TPHk/TPHk | TPHd/TPHd | TPHmo/TPHmo | B/B

- Monitoring Well ID
- Groundwater elevation, feet above mean sea level (msl)
- TPHg, TPHk TPHd, TPHmo, and benzene concentrations in Micrograms per Liter (µg/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

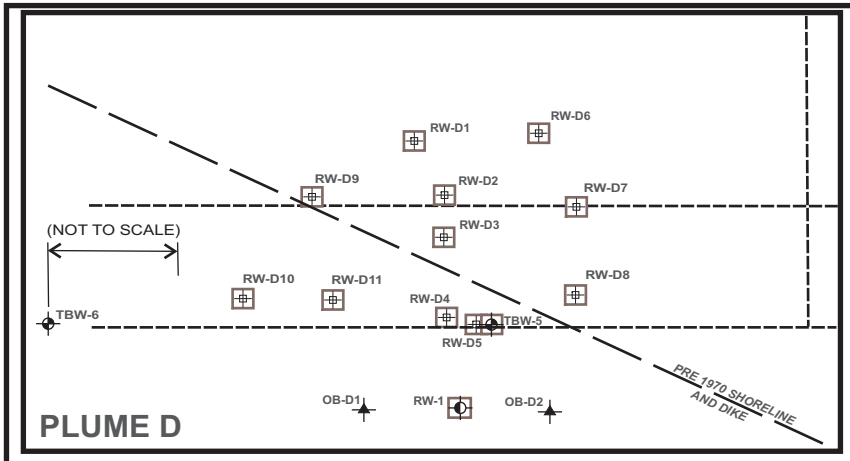
MUNICIPAL SERVICE CENTER
7101 EDGEWATER DRIVE, OAKLAND, CALIFORNIA

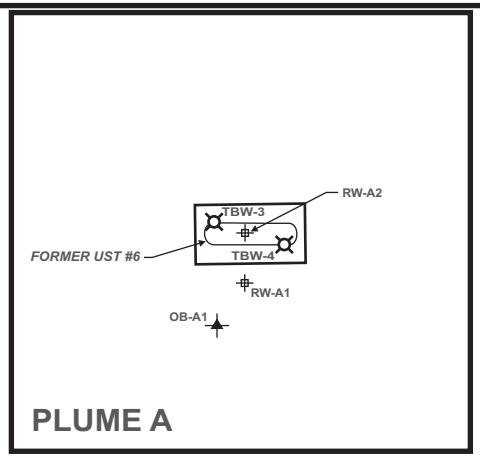
GROUNDWATER ELEVATION CONTOUR MAP AND HYDROCARBON CONCENTRATIONS IN SHALLOW GROUNDWATER, OCTOBER 2010

ARCADIS

FIGURE 2

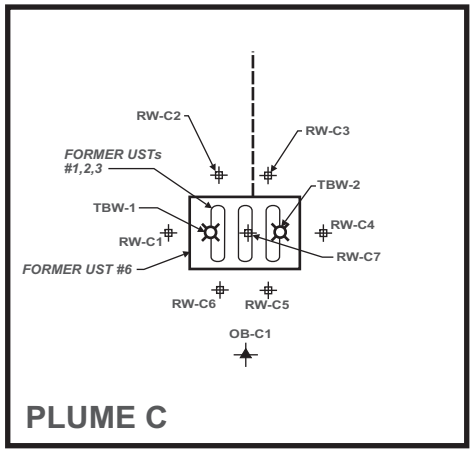
DESIGN\001\09225\11\000\09225 Plume Detail rev6.CDR

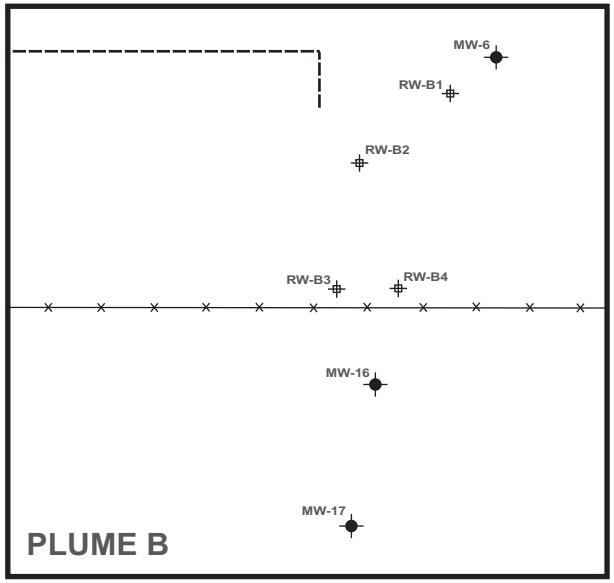




EXPLANATION

- 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

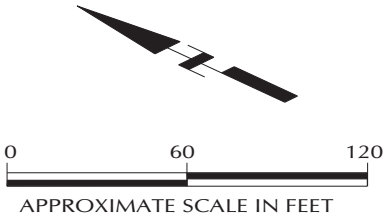




NOTES:

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

ARCADIS

FIGURE 3

APPENDIX B

Groundwater Sampling Field Data Sheets

ARCADIS — WATER-LEVEL MEASUREMENTS LOG

Project No. LC010060.0016.00003 Date June 26, 2012 Page 1 of 2

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

Field Personnel Miljan Draganic and Darrell Smolko

General Observations Nice and sunny day

Time measured

WELL NO.	Time Opened	DEPTH TO WATER 1	DEPTH TO WATER 2	~~WATER ELEVATION~~	WELL SECURE? Y	WELL SECURE? N	REMARKS (UNITS = FEET)
MW-8	0857	9.62	9.62	1103	X		
MW-16	0859	10.58	10.58	1106	X		
MW-17	0900	9.58	9.58	1109		X	no bolts
MW-15	0904	9.82	9.82	1111	X		
MW-9	0906	7.71	7.71	1113	X		
MW-14	0907	6.92	6.92	1117	X		
MW-13	0909	10.41	10.41	1124	X		
MW-10	0915	6.71	6.71	1128	X		
MW-2	0921	6.10	6.10	1133	X		
MW-1	0927	4.23	4.23	1138	X		
MW-12	0929	6.81	6.81	1140	X		
TBW-6	0929	3.54	3.54	1142	X		
RW-D1	0930	5.86	5.86	1153	X		
RW-D2	"	5.36	5.36	1151	X		
RW-D3	"	5.91	5.91	1156	X		
RW-D4	"	5.46	5.46	1158	X		
RW-D5	"	5.41	5.41	1159	X		
RW-D6	"	5.44	5.44	1155	X		
RW-D7	"	5.62	5.62	1148	X		
RW-D8	"	4.11	4.11	1147	X		
RW-D9	"	5.15	5.15	1210	X		
RW-D10	"	5.35	5.35	1208	X		
RW-D11					X		Well parked on.
RW-1	"	5.71	5.71	1205	X		
OB-D1	"	5.20	5.20	1206	X		
OB-D2	↓	5.41	5.41	1203	X		
TBW-5	1000	6.07	6.07	1201	X		
RW-C1	1005	5.35	5.35	1224	X		
RW-C2	"	5.67	5.67	1221	X		
RW-C3	"	6.00	6.00	1220	X		
RW-C4	"	5.87	5.87	1218	X		
RW-C5	↓	5.61	5.61	1216	X		

Time Opened

Time Measured

WELL NO.	~~WELL ELEVATION~~	DEPTH TO WATER 1	DEPTH TO WATER 2	~~WATER ELEVATION~~	WELL SECURE? Y	WELL SECURE? N	REMARKS (UNITS = FEET)
RW-C6	↓	5.50	5.50	1213	X		
RW-C7	↓	5.75	5.75	1215	X		
OB-C1	1025	DRY	DRY	1211	X		Total Depth = 5.45'
RW-B3	1035	9.65	9.65	1238	X		
RW-B4	1036	9.75	9.75	1240	X		
RW-B2	1036	7.14	7.14	1242	X		
RW-B1	1037	7.11	7.11	1243	X		
MW-6	1037	4.71	4.71	1245	X		
OB-1A	1038	3.15	3.15	1247	X		
RW-A1	1038	3.01	3.01	1248	X		
RW-A2	1039	2.40	2.40	1246	X		
MW-7	1040	6.30	6.30	1249	X		
MW-5	1042	5.57	5.51	1251	X		
MW-11	1043	5.68	5.68	1253	X		

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 27, 2012 Page 1 of 1

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

Sampler's Name: Darrell Smolka Sample No.: MW-1 ☐ FB

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: ☒ DUP

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

Purge Water Storage Container Type: Poly Tank 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-1 Depth of Water 4.26

Well Diameter: 2" Well Depth 15.70

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 11.44

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.9 gals

15.70
4.26
(11.44) 0.20
2.29
4.26
6.55

80% DTW 6.55

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1225		4.26							Start Purge
1232			1.9	1.21	21.05	6.93	11621	-91.9	
1240		14.69	3.8	1.97	20.73	6.91	14676	-73.5	
1250		15.05							Purged Dry
1455		7.33		2.94	21.92	6.98	10412	-24.5	Sample Collected
1500									Duplicate Sample Time

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 27, 2012 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: MW-5 ☒ FB 1345

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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-5 Depth of Water 5.51'

Well Diameter: 2" Well Depth 14.26'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.75'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.4 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
1413	14.26	5.51	∅						Start purge
1417	14.26	6.12	1.5	0.44	21.76	6.97	1669	45.9	
1420	14.26	6.10	3.0	0.40	21.71	7.07	1419	38.7	
1424	14.26	6.13	4.5	0.33	21.69	7.05	1406	34.1	
1428	14.26	6.11	6.0	0.31	21.66	7.06	1394	29.6	
1435									Sampling

Continue remarks on reverse, if needed.

ARCADIS

WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 27, 2012 Page 1 of 1

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

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

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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 6.68'

Well Diameter: 2" Well Depth 15.12'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.44'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.35 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
0940	15.12	6.68	ϕ						Start purge
0945	15.12	7.46	1.5	0.92	18.26	7.36	8348	30.5	
0948	15.12	7.52	3.0	0.66	18.22	7.40	6413	-1.6	
0953	15.12	7.49	4.5	0.61	18.20	7.43	6326	-7.3	
0958	15.12	7.55	6.0	0.57	18.18	7.46	6271	-4.8	
1000									Sampling.

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 27, 2012 Page 1 of 1

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

Sampler's Name: Darrell Smith Sample No.: MW-13 ☐ FB

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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 10.00

Well Diameter: 2" Well Depth 19.44

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 9.44

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.5 gals

(9.44) 0.20
= 1.89
10.00
11.89

80% DTW 11.89

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
0910		10.00							Start Purge
0915			1.5	1.66	18.25	6.93	11318	-24.9	
0920			3.0	1.65	17.90	6.85	12183	-26.5	
0925			4.5	1.61	17.82	6.83	12966	-24.4	
0930		11.61							Sampled

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 27, 2012 Page 1 of 1

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

Sampler's Name: Darrell Smolko Sample No.: MW-14 ☐ FB

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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-14 Depth of Water 6.90

Well Diameter: 2" Well Depth 14.60

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.50

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.3 gals

14.60
6.90
(7.50) 0.20
= 1.50
9.00

80% DTW 9.00

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
0825		6.90							Start Purge
0830			1.3	1.00	19.05	7.52	8597	-116.7	
0833			2.6	0.76	18.83	7.54	10878	-136.2	
0836			3.9	0.86	18.64	7.58	10869	-127.2	
0840			5.2	0.81	18.70	7.60	10864	-126.9	
0850		7.07							Sampled

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 27, 2012 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: 6/25/12 C.O.C. No.: _____ ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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-17 Depth of Water 8.60'

Well Diameter: 2" Well Depth 17.20'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.60'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.4 gal

Water is black color.

80% DTW _____

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (µS/cm C)	ORP (mV)	Remarks
0830	17.20	8.60	ϕ						Start purge
0838	17.20	8.74	1.5	0.89	18.71	7.85	26.93	-53.7	
0841	17.20	8.76	3.0	0.83	18.74	7.87	26.81	-59.1	
0845	17.20	8.79	4.5	0.81	18.66	7.86	26.94	-57.3	
0847	17.20	8.73	6.0	0.84	18.56	7.88	27.01	-51.9	
0855									Sampling.

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 27, 2012 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: RW-A2 ☐ FB

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-A2 Depth of Water 2.47'

Well Diameter: 4" Well Depth 13.57'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 11.10'

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 7.2 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
1050	13.57	2.47	0						Start purge
1058	13.57	2.50	7.5	7.93	20.20	6.82	726	44.1	
1105	13.57	2.51	15.0	7.49	20.36	6.79	704	53.1	
1120	13.57	2.49	22.5	7.31	20.49	6.74	700	59.3	
1125	13.57	2.50	30.0	7.24	20.66	6.71	689	64.2	
1147	13.57	2.48	37.5	7.22	20.39	6.75	694	67.3	
1150									Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 26, 2012 Page 1 of 1

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

Sampler's Name: Darrell Smolley Sample No.: RW-B1 ☐ FB

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-B1 Depth of Water 7.07

Well Diameter: 4" Well Depth 15.67

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.60

~~☐ 4"~~ (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 5.6 gals

15.67
7.07
(8.60) 0.20
= 1.72
707
879

80% DTW 8.79

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1502		7.07							Start Purge
1510		7.75	5.6	14.42	20.34	7.13	4.312	134.9	
1518		7.73	11.2	10.28	20.17	8.05	4.251	94.6	
1522		7.72	16.8	9.69	20.21	8.64	4.480	89.6	
1533		7.75	22.4	9.95	20.11	7.90	5.718	115.4	
		~~7.71~~							
1533		7.71	22.4	11.11	21.00	7.61	5.603	78.9	Switched YSI
1546		7.75	28.4	9.08	20.77	8.11	6.454	43.2	
1550		7.75	33.8	7.77	20.36	8.90	5.187	-9.2	
1602		7.75	35.0	7.97	20.48	8.96	6.297	25.9	
1607		7.74	37.0	7.71	20.40	9.11	5.294	29.6	
1611		7.71	39.0	9.23	20.40	8.88	4.960	14.8	
1615		7.75	41.0	8.28	20.26	8.78	5.943	18.8	
1618		7.70	43.0	7.50	20.21	8.79	6.468	19.4	

Continue remarks on reverse, if needed.

Comments

Time	DTW	#	D.O	Temp	pH	Cond	ORP
1623	7.70	45.0	7.57	20.27	8.99	5952	6.8
1627	7.75	47.0	6.70	20.44	9.27	4927	-16.1
1631	7.72	49.0	8.52	20.32	9.45	4731	-21.3
1640						Sampled	

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 26, 2012 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: RW-B4 ☐ FB

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: _____ ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-B4 Depth of Water 9.77'

Well Diameter: 4" Well Depth 13.77'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 4.00'

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 2.6 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
1516	13.77	9.77	ϕ	→					Start purge
1518	13.77	10.01	2.5	3.53	22.24	6.54	8855	65.8	
1521	13.77	9.84	5.0	3.44	22.31	6.55	9217	63.9	
1524	13.77	9.91	7.5	3.37	22.37	6.56	9371	64.7	
1527	13.77	9.85	10.0	3.33	22.46	6.58	9415	63.8	
1530	13.77	9.82	12.0	3.31	22.41	6.57	9476	62.4	
1535	→								Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 26, 2012 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: RW-C6 ☐ FB

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-C6 Depth of Water 5.45'

Well Diameter: 4" Well Depth 13.32'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.87'

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 5.11 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
1401	13.32	5.45	ϕ						Start purge
1405	13.32	5.48	5	3.96	22.64	6.47	6928	78.8	
1410	13.32	5.51	10	4.06	22.60	6.53	7458	77.3	
1415	13.32	5.50	15	4.12	22.61	6.59	7466	79.1	
1420	13.32	5.49	17	4.21	22.64	6.59	7471	78.4	
1424	13.32	5.53	19	4.24	22.60	6.60	7486	79.0	
1428	13.32	5.51	21	4.19	22.51	6.61	7493	78.2	
1430									Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 26, 2012 Page 1 of 1

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

Sampler's Name: Darrell Smolley Sample No.: RW-C7 ☐ FB

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-C7 Depth of Water 5.76

Well Diameter: 4" Well Depth 14.08

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.32

☑ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 5.4 gals

14.08
5.76
(8.32) 0.20 = 1.66

5.76
+1.66
8.42

80% DTW 8.42

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1355		5.76							Start Purge
1403		5.89	5.4	1.52	20.98	6.92	12.96	73.8	
1410		5.91	10.8	1.09	21.29	6.67	5.760	122.4	
1417		5.91	16.2	1.21	21.36	6.62	6.206	126.5	
1422		5.91	20.6	1.10	21.23	6.89	10.30	80.9	
1428		5.91	26.0	1.13	21.83	7.00	6.628	121.2	
1438		5.91	31.2	1.15	21.44	7.02	6.061	126.4	
1442		5.91	36.6	1.17	21.19	7.01	6.297	126.8	
1450		5.91							Sampled

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 27, 2012 Page 1 of 1

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

Sampler's Name: Darrell Smolko Sample No.: RW-D5 ☐ FB

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-D5 Depth of Water 12.00

Well Diameter: 4" Well Depth 5.41

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 6.56

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 4.3 gals

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
1039		5.41							Start Purge
1046			4.3	1.69	22.99	6.66	5067	15.3	
1051			8.6	1.60	22.80	6.67	4878	13.6	
1055			12.9	1.50	22.14	6.66	4717	10.6	
1100			17.2	1.51	22.90	6.69	4539	12.5	
1110		5.77							Sampled

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 27, 2012 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: RW-D9 ☐ FB

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-D9 Depth of Water 5.14'

Well Diameter: 6" Well Depth 19.82'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 14.68'

☐ 4" (0.65 gal/feet) ☒ 6" (1.47 gal/feet) Well Volume 21.6 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
1218	19.82	5.14	0						Start purge.
1230	19.82	11.05	20	6.57	20.04	6.57	15.88	74.3	
1250	19.82	17.35	40	2.75	19.79	6.78	19.93	27.3	
1300	19.86	19.66	46						Well purged dry (2 hr rule).
1505	19.86	17.12	47	3.19	19.87	6.75	18.98	23.8	
1510									Sampling.

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: June 27, 2012 Page 1 of 1

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

Sampler's Name: Darrell Smolko Sample No.: RW-1 ☐ FB

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-1 Depth of Water 5.58

Well Diameter: 4" Well Depth 16.60

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 11.02

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 7.2gals

(11.02) 0.20
= 2.20
5.58
7.78

80% DTW 7.78

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1140		5.58							Start Purge
1150			7.2	2.37	22.19	6.64	5057	80.7	
1155		14.50	14.4	2.05	21.04	663	9247	30.3	
1210		15.62							Purged Dry
1355		7.78	a	2.15	22.75	6.90	13429	-23.8	
1400									Sampled

Continue remarks on reverse, if needed.

CHAIN OF CUSTODY

Curtis & Tompkins Laboratories
ENVIRONMENTAL ANALYTICAL TESTING LABORATORY
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2323 Fifth Street
Berkeley, CA 94710

Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # _____

Project No: LC0100660.0016.00003 Sampler: M.D. & D.S.

Project Name: MSC Oakland Report To: Daren Roth

Project P. O. No: Company: ARCADIS

EDD Format: Report Level ☐ II ☐ III ☐ IV Telephone: (510) 652-4500

Turnaround Time: ☐ RUSH _____ ☒ Standard Email: Daren.Roth@arcadis-us.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST		
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	TPHg/BTEX/MTBE (8260)	TPHd/TPHmo (8015)	TPHk (8015)
	RW-C6	6-26-12	1430	X				5	X				X	X	X	
	RW-C7	↓	1450	X				5	X				X	X	X	
	RW-B1		1640	X				5	X				X	X	X	
	RW-B4	↓	1535	X				5	X				X	X	X	
	MW-1	6-27-12	1455	X				5	X				X	X	X	
	MW-5	↓	1435	X				5	X				X	X	X	
	MW-10		1000	X				5	X				X	X	X	
	MW-13		0930	X				5	X				X	X	X	
	MW-14		0850	X				5	X				X	X	X	
	MW-17		0855	X				5	X				X	X	X	
	RW-A2		1150	X				5	X				X	X	X	
	RW-D5		1110	X				5	X				X	X	X	
	RW-D9	↓	1510	X				5	X				X	X	X	

Notes:
For TPHd, TPHmo, and TPHk use Silica Gel Cleanup.

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
_____ DATE: 6/27/12 TIME: 1635
_____ DATE: TIME:
_____ DATE: TIME:

RECEIVED BY:
_____ DATE: 6/27/12 TIME: 1635
_____ DATE: TIME:
_____ DATE: TIME:

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Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # _____

Project No: LC010060.0016.00003 Sampler: M.D. & D.S.

Project Name: MSC Oakland Report To: Daren Roth

Project P. O. No: Company: ARCADIS

EDD Format: Report Level ☐ II ☐ III ☐ IV Telephone: (510) 652-4500

Turnaround Time: ☐ RUSH _____ ☒ Standard Email: Daren.Roth@arcadis-us.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST			
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	TPHg / BTEX / MTBE (8260)	TPHd / TPHmo / TPHk (8015)	Hold	
	RW-1	6-27-12	1400	X				5	X				X	X	X		
	MW-5-FB	↓	1345	X				5	X				X	X	X		
	MW-1-D	↓	1500	X				5	X				X	X	X		
	Trip Blank	↓	—	X				3	X							X	

Notes:
For TPHd, TPHmo, and TPHk use Silica Gel Clean-up.

SAMPLE RECEIPT
☑ Intact
☑ Cold
☑ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 6/27/12 TIME: 1635
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 6/27/12 TIME: 1635
DATE: TIME:
DATE: TIME:

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: July 31, 2012 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: RW-C6 ☐ FB

Sampling Plan By: DCR Dated: 6/25/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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 was pressurized.

Well No. RW-C6 Depth of Water 5.76'

Well Diameter: 4" Well Depth 13.32'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.56'

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 4.91 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
1100	13.32	5.76	ϕ						Start purge
1110	13.32	5.77	5	0.64	21.49	6.31	6716	-155.4	
1120	13.32	5.77	10	0.63	21.29	6.38	6417	-157.2	
1130	13.32	5.78	15	0.57	21.70	6.44	6456	-149.7	
1140	13.32	5.77	20	0.64	21.63	6.42	6439	-153.1	
1145									Sampling

Continue remarks on reverse, if needed.

Attn: Tracy Babjar

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Berkeley, CA 94710

Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # _____

Project No: LC010060.0016.00003
Project Name: MSC Oakland
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ☒ Standard

Sampler: Miljan Draganic
Report To: Daren Roth
Company: ARCADIS
Telephone: (510) 652-4500
Email: Daren.Roth@arcadis-us.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST		
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	TPHg/BTEX/MTBE (8260)	TPHd/TPHmo/TPHk (8010)	HOLD
	RW-C6	7/31/12	1145	X				5	X				X	X	X	
	TB073112	7/31/12	—	X				2	X							X

Notes:
Use Silica Gel clean-up for TPHd/mo/k analysis.

SAMPLE RECEIPT
☑ Intact
☑ Cold
☑ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 7/31 TIME: 1255
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 7/31 TIME: 1915
DATE: TIME:
DATE: TIME:

ARCADIS — WATER-LEVEL MEASUREMENTS LOG

Project No. LC010060.0016.00003 Date March 28, 2012 Page 1 of 2

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

Field Personnel Miljan Draganic and Darrell Smolko

General Observations Nice weather!

WELL NO.	Time Opened	DEPTH TO WATER 1	DEPTH TO WATER 2	WATER ELEVATION	WELL SECURE? Y	WELL SECURE? N	Time measured	REMARKS (UNITS = FEET)
MW-8	0854	9.40	9.40		X		1225	
MW-16	0856	12.52	12.52		X		1229	- Dry? TD = 12.55
MW-17	0858	9.98	9.98		X		1232	- Water fleas/bugs at WL
MW-15	0906	9.67	9.67		X		1239	
MW-9	0910	7.20	7.20	3/30 ✓	[redacted]	X	1242	- Only one striped bolt. *
MW-14	0913	6.51	6.51	✓	[redacted]	X	1253	- " * no well cap. *
MW-13	0916	10.43	10.43	3/30	X		1257	
MW-10	0920	5.60	5.60		X		1302	
MW-2	0931	6.53	6.53		X		1307	
MW-1	0942	3.05	3.05		X		1311	
MW-12	0944	6.64	6.64		X		1315	
RW-D1	0955	6.30	6.30		X		1336	
RW-D2	↓	5.79	5.79		X		1338	
RW-D3		6.32	6.32		X		1345	
RW-D4		4.64	4.64		X		1328	
RW-D5		4.57	4.57		X		1327	
RW-D6		5.88	5.88		X		1340	
RW-D7		3.53	3.53		X		1342	
RW-D8		3.15	3.15		X		1319	
RW-D9		6.26	6.26		X		1335	
RW-D10		4.48	4.48		X		1332	
RW-D11		4.32	4.32		X		1330	
TBW-5		5.21	5.21		X		1325	
OB-D1		4.33	4.33		X		1325	
OB-D2		4.90	4.90		X		1321	
RW-1		4.74	4.74		X		1323	
TBW-6		1.45	1.45		X		1313	
RW-C1		5.41	5.41		X		1402	
RW-C2		5.48	5.48		X		1404	
RW-C3		6.13	6.13		X		1406	
RW-C4		6.53	6.53		X		1351	
RW-C5	↓	5.47	5.47		X		1356	

* Well caps placed on 3/30

Time Opened

Time Measured

WELL NO.	~~WELL~~ ELEVATION	DEPTH TO WATER 1	DEPTH TO WATER 2	WATER ELEVATION	WELL SECURE? Y	WELL SECURE? N	REMARKS (UNITS = FEET)	
RW-C6		5.36	5.36		X		1358	
RW-C7	↓	5.61	5.61		X		1354	
OB-C1	1050	DRY	DRY		X		1359	TD = 5.50
RW-B3	1100	9.73	9.73		X		1416	Odor
RW-B4	1102	9.80	9.80		X		1414	Odor
RW-B2	1105	7.39	7.39		X		1418	
RW-B1	1106	7.40	7.40		X		1420	
MW-6	1107	4.38	4.38		X		1421	
OB-A1	1109	1.55	1.55		X		1423	
RW-A1	1110	1.44	1.44		X		1425	
RW-A2	1112	0.53	0.53		X		1426	
MW-7	1115	4.32	4.32		X		1431	Odor
MW-5	1122	2.28	2.28		X		1434	Odor
MW-11	1118	3.69	3.69		X		1436	

ARCADIS — WATER-LEVEL MEASUREMENTS LOG

Project No. LC010060.0016.00003 Date March 28, 2012 Page 1 of 2

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

Field Personnel Miljan Draganic and Darrell Smolko

General Observations Nice weather!

WELL NO.	Time Opened	DEPTH TO WATER 1	DEPTH TO WATER 2	WATER ELEVATION	WELL SECURE? Y	WELL SECURE? N	Time measured	REMARKS (UNITS = FEET)
MW-8	0854	9.40	9.40		X		1225	
MW-16	0856	12.52	12.52		X		1229	- Dry? TD = 12.55
MW-17	0858	9.98	9.98		X		1232	- Water fleas/bugs at WL
MW-15	0906	9.67	9.67		X		1239	
MW-9	0910	7.20	7.20	3/30 ✓	[redacted]	X	1242	- Only one striped bolt. *
MW-14	0913	6.51	6.51	✓	[redacted]	X	1253	- " * no well cap. *
MW-13	0916	10.43	10.43	3/30	X		1257	
MW-10	0920	5.60	5.60		X		1302	
MW-2	0931	6.53	6.53		X		1307	
MW-1	0942	3.05	3.05		X		1311	
MW-12	0944	6.64	6.64		X		1315	
RW-D1	0955	6.30	6.30		X		1336	
RW-D2	↓	5.79	5.79		X		1338	
RW-D3		6.32	6.32		X		1345	
RW-D4		4.64	4.64		X		1328	
RW-D5		4.57	4.57		X		1327	
RW-D6		5.88	5.88		X		1340	
RW-D7		3.53	3.53		X		1342	
RW-D8		3.15	3.15		X		1319	
RW-D9		6.26	6.26		X		1335	
RW-D10		4.48	4.48		X		1332	
RW-D11		4.32	4.32		X		1330	
TBW-5		5.21	5.21		X		1325	
OB-D1		4.33	4.33		X		1325	
OB-D2		4.90	4.90		X		1321	
RW-1		4.74	4.74		X		1323	
TBW-6		1.45	1.45		X		1313	
RW-C1		5.41	5.41		X		1402	
RW-C2		5.48	5.48		X		1404	
RW-C3		6.13	6.13		X		1406	
RW-C4		6.53	6.53		X		1351	
RW-C5	↓	5.47	5.47		X		1356	

* Well caps placed on 3/30

Time Opened

Time Measured

WELL NO.	~~WELL~~ ELEVATION	DEPTH TO WATER 1	DEPTH TO WATER 2	WATER ELEVATION	WELL SECURE? Y	WELL SECURE? N	REMARKS (UNITS = FEET)	
RW-C6		5.36	5.36		X		1358	
RW-C7	↓	5.61	5.61		X		1354	
OB-C1	1050	DRY	DRY		X		1359	TD = 5.50
RW-B3	1100	9.73	9.73		X		1416	Odor
RW-B4	1102	9.80	9.80		X		1414	Odor
RW-B2	1105	7.39	7.39		X		1418	
RW-B1	1106	7.40	7.40		X		1420	
MW-6	1107	4.38	4.38		X		1421	
OB-A1	1109	1.55	1.55		X		1423	
RW-A1	1110	1.44	1.44		X		1425	
RW-A2	1112	0.53	0.53		X		1426	
MW-7	1115	4.32	4.32		X		1431	Odor
MW-5	1122	2.28	2.28		X		1434	Odor
MW-11	1118	3.69	3.69		X		1436	

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 29, 2012 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: MW-1 ☐ FB

Sampling Plan By: DCR Dated: 3/23/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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-1 Depth of Water 0.923 m

Well Diameter: 2" Well Depth 4.792 m

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 3.869 m

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 2.0 gal

1 m = 3.28 ft
× 3.869 m
12.69 ft
× 0.16
2.0 gal

80% DTW

Time	Inlet Depth m	Depth to Water m	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1257	4.792	0.923	ϕ						Start purge.
1302	—	1.316	2	0.64	18.52	6.82	10.62	-141.4	
1307	—	2.491	4	0.85	18.61	6.71	16.60	-153.2	
1315	—	3.226	6	0.76	18.79	6.79	16.53	-134.0	Slower recharge
1323	—	3.918	7	0.77	18.37	6.81	16.41	-137.1	" "
1330	—	3.927	8	0.79	18.41	6.79	16.40	-133.8	" "
1336	—	3.816	8.2	0.81	18.25	6.83	16.39	-132.1	" "
1340									Sampling.

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 30, 2012 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: MW-5 ☐ FB

Sampling Plan By: DCR Dated: 3/23/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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-5 Depth of Water 2.52'

Well Diameter: 2" Well Depth 14.40'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 11.88'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.9 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
1020	11.88	2.52	ϕ						Start purge
1023	—	2.67	2	1.42	16.04	7.16	694	-77.4	Odor
1026	—	2.57	4	1.61	15.80	7.15	532	-79.0	
1030	—	2.55	6	1.37	15.91	7.17	546	-81.4	
1032	—	2.54	7	1.40	15.99	7.16	549	-76.7	
1034	—	2.53	8	1.32	15.86	7.16	541	-74.3	
1040									Sampling

Continue remarks on reverse, if needed.

ARCADIS — WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 29, 2012 Page 1 of 1

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

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

Sampling Plan By: DCR Dated: 3/23/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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 1.718 m

Well Diameter: 2" Well Depth 4.630 m

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 2.912 m

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.53

1m = 3.28 ft
× 2.912 m
9.551 ft.
× 0.16
1.53 gal.

80% DTW

Time	Inlet Depth m	Depth to Water m	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1005	4.63	1.718	ϕ	→	→	→	→	→	Start purge
1008	—	1.724	1.5	3.62	15.53	7.17	1708	87.3	
1012	—	1.719	3.0	2.71	15.61	7.14	1759	80.4	
1016	—	1.722	4.5	2.21	15.83	7.11	1824	72.8	
1018	—	1.727	5.0	2.31	15.79	7.08	1891	70.6	
1020	—	1.719	6.0	2.29	15.76	7.07	1905	64.2	
1025	→	→	→	→	→	→	→	→	Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 29, 2012 Page 1 of 1

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

Sampler's Name: D. Smolko Sample No.: MW-13 ☐ FB

Sampling Plan By: DCR Dated: 3/23/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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 10.02

Well Diameter: 2" Well Depth 19.45

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 9.43

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.5 gals

(9.43) × 0.20
= 1.88

10.02
1.88
11.90

80% DTW 11.90

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
0840		10.02	~~2.25~~ 1.5	0.99	17.25	6.86	13457	-75.1	
0845			3.0	1.22	17.50	6.86	14068	-88.6	
0850			4.5	1.19	17.62	6.86	14370	-87.6	
0855		11.65	6.0	1.29	17.72	6.88	14377	-82.6	
0906									Sampled

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 29, 2012 Page 1 of 1

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

Sampler's Name: D. Smolko Sample No.: MW-14 ☐ FB

Sampling Plan By: DCR Dated: 3/23/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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-14 Depth of Water 6.48

Well Diameter: 2" Well Depth 14.62

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.14

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.35 gals

14.62
6.48
8.14

(8.14) 0.20
= 1.62
+ 6.48
8.10

80% DTW 8.10

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
0930		6.48	1.35	1.11	17.39	7.69	11231	-220.7	
0940			2.70	1.16	17.29	7.69	11101	-211.6	
0945			4.05	1.24	17.15	7.68	11038	-202.5	
0950		6.68	5.40	1.27	17.15	7.66	11950	-206.8	
1000									Sampled

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 29, 2012 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: 3/23/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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-17 Depth of Water 2.780 m

Well Diameter: 2" Well Depth 5.255 m

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 2.475 m

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.30 gal.

80% DTW

1 m = 3.28 ft
× 2.475 m
8.118 ft (wc)
× .16
1.30 gal

Time	Inlet Depth m	Depth to Water m	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (µS/cm C)	ORP (mV)	Remarks
0855	5.255	2.780					ms		Start purge
0902	—	2.794	1.5	1.32	16.17	6.96	21.35	188.1	Water flyies present
0906	—	2.796	3.0	1.02	16.01	6.98	21.27	136.0	
0908	—	2.793	4.5	1.14	15.95	7.02	21.89	113.5	
0912	—	2.794	5.5	1.22	15.97	7.04	21.64	107.9	
0915	—	2.791	6.5	1.17	15.98	7.08	21.37	104.3	
0918	—	2.796	7.0	1.24	15.94	7.07	21.41	101.2	
0920									Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 29, 2012 Page 1 of 1

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

Sampler's Name: D. Smolko Sample No.: RW-1 ☐ FB

Sampling Plan By: DCR Dated: 3/23/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-1 Depth of Water 4.80

Well Diameter: 4" Well Depth 16.65

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 11.85

☑ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 7.70 gals

16.65
4.80
11.85

(11.85) x 0.20

2.37
4.80
7.17

80% DTW 7.17

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1240		4.80							Start Purge
1255		8.45	7.70	0.60	19.76	6.88	1371	-20.5	
1305		12.76	15.40	0.58	19.61	6.84	3660	-60.5	
1320		10.44	23.10	1.98	20.41	6.96	6373	-70.5	
1330		11.78	30.80	1.91	19.76	6.90	5754	-75.7	Pump Failed
1340		10.31	34.00	1.99	19.98	6.90	7787	-69.8	Switch to Bailer
1345			35.00	1.97	19.74	6.92	7607	-54.1	
1350		9.97	36.00	2.09	19.39	6.94	7466	-56.8	
1355									Sampled

Continue remarks on reverse, if needed.

ARCADIS

WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 30, 2012 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: RW-A2 ☐ FB

Sampling Plan By: DCR Dated: 3/23/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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	2 500mL ~~1 Liter~~ Amber

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier ☒ Hand

Well No. RW-A2 Depth of Water 0.87'

Well Diameter: 4" Well Depth 13.57'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 12.70'

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 8.25 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
0913	13.57	0.87	0						Start purge
0918	—	0.96	5	6.13	16.23	6.77	1545	103.2	
0922	—	0.95	10	6.22	16.24	6.78	1499	97.9	
0926	—	0.95	15	6.78	16.31	6.78	1415	100.3	
0930	—	0.95	20	6.45	16.26	6.77	1435	101.3	
0934	—	0.95	25	6.60	16.23	6.77	1444	101.5	
0938	—	0.95	30	6.56	16.19	6.77	1452	102.2	
0940									Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 29, 2012 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: RW-B1 ☐ FB

Sampling Plan By: DCR Dated: 3/23/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-B1 Depth of Water 2.235 m

Well Diameter: 4" Well Depth 4.810 m

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 2.575 m

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 5.5 gal.

1m = 3.28 ft
× 2.575 m
8.446 ft
× 0.65
5.5 gal

80% DTW

Time	Inlet Depth m	Depth to Water m	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1541	4.81	2.235	ϕ						Start purge
1547	—	2.730	5.0	3.92	18.06	6.62	5360	-2.3	
1559	—	2.574	10.0	4.22	17.89	6.64	5747	16.3	Switched battery
1605	—	2768	15.0	4.13	17.87	6.68	5831	11.7	
1608	—	2.786	16.0	4.20	17.89	6.69	5871	8.6	
1611	—	2.791	17.0	4.11	17.78	6.69	5919	5.9	
1615									Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 29, 2012 Page 1 of 1

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

Sampler's Name: D. Smolko Sample No.: RW-B4 ☐ FB

Sampling Plan By: DCR Dated: 3/23/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-B4 Depth of Water 13.77

Well Diameter: 4" Well Depth 9.87

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 3.90

☑ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 2.5 gals

13.77
9.87
3.90

(3.90) 0.20

= 0.80
9.87
10.67

80% DTW 10.67

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1535		9.87	2.5	1.83	17.79	6.58	10299	-25.1	
1540			5.0	1.86	17.04	6.61	10606	-23.6	
1545		10.02	7.5	1.85	16.99	6.63	10656	-22.4	
1600									Sampled

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 28, 2012 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: RW-C6 ☐ FB

Sampling Plan By: DCR Dated: 3/23/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-C6 Depth of Water 5.31'

Well Diameter: 4" Well Depth 13.31'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.00'

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 5.2 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
1508	13.31	5.31	0	—	—	—	—	→	Start purge
1515	After purging about 4 gallons, pump cannot / does not do anything esle, tryied new controller / battery, they work fine. Pump working, but not pulling out water ... no leaks...								
1525	Switch to bailor.								
1527	—	5.34	5.0	3.06	20.75	6.34	8342	10.7	
1533	—	5.37	10.0	3.61	20.02	6.41	8759	4.1	
1544	—	5.33	15.0	3.10	18.82	6.46	8426	-8.0	
1551	—	—	20.0	2.65	18.11	6.44	8260	-14.2	
1554	—	—	22.0	2.69	18.19	6.47	8290	-19.3	
1600	—	5.34	24.0	2.58	18.46	6.45	8310	-24.9	
1607	—	5.33	26.0	3.13	17.94	6.48	8495	-18.2	
1615	—	—	—	—	—	—	—	→	Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 28, 2012 Page 1 of 1

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

Sampler's Name: D. Smolko Sample No.: RW-C7 ☐ FB

Sampling Plan By: DCR Dated: 3/23/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-C7 Depth of Water 5.60

Well Diameter: 4" Well Depth 14.20

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.60

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 5.5 gals

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
1457		5.60	5.50	2.13	20.21	6.36	6.550	83.0	
1505			11.00	1.65	18.68	6.42	7.880	73.8	
1510			16.50	1.82	18.41	6.45	7.661	66.2	
1515			22.00	1.13	18.48	6.41	8.593	60.1	
1522			27.50	0.92	18.49	6.41	11.24	55.1	
1527			33.00	0.86	18.65	6.42	11.29	53.1	
1533			38.50	1.73	18.28	6.44	11.32	51.7	
1535			39.50	1.23	18.15	6.45	6.934	39.9	
1536			40.50	1.43	18.21	6.44	8.492	49.5	
1541			4200	1.50	18.16	6.46	7.951	46.0	
1545			43.00	1.24	18.22	6.44	8.252	47.4	
1550									Sampled

Continue remarks on reverse, if needed.

ARCADIS — WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 29, 2012 Page 1 of 1

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

Sampler's Name: D. Smolko Sample No.: RW-D5 ☐ FB

Sampling Plan By: DCR Dated: 3/23/12 C.O.C. No.: ☒ DUP -D

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

Purge Water Storage Container Type: Poly Tank 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. ~~RW-C7~~ RW-D5 Depth of Water 4.45

Well Diameter: 4" Well Depth 11.86

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.41

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 4.8 gals

11.86
4.45
7.41

(7.41) x 0.20
= 1.49
+ 4.45
5.94

80% DTW 5.94

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (uS/cm C)	ORP (mV)	Remarks
1125			4.8	1.25	19.62	6.69	3693	-46.2	
1130			9.6	1.15	19.17	6.72	2995	-46.3	
1135			14.4	1.25	19.30	6.75	2609	-46.8	
1140			19.2	1.35	18.98	6.78	2637	-44.9	
1150		4.48	24.00	1.41	19.43	6.79	2645	-48.5	
1200									Sampled
1210									Duplicate Sample

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00003 Date: March 29, 2012 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: RW-D9 ☒ FB @ 1435

Sampling Plan By: DCR Dated: 3/23/12 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: Poly Tank 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. RW-D9 Depth of Water 1.920 m

Well Diameter: 6" Well Depth 6.61 m

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 4.71 m

☐ 4" (0.65 gal/feet) ☒ 6" (1.47 gal/feet) Well Volume 22.7 gal

1m = 3.28 ft
× 4.71 m
15.45 ft
× 1.47
22.7 gal.

80% DTW

Time	Inlet Depth m	Depth to Water m	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond ~~µS/cm~~ mS C)	ORP (mV)	Remarks
1124	6.61	1.920	0	→				→	Start purge
1125	—	1.978	1.0	1.05	17.91	6.36	15.97	-8.4	Initial
1136	—	2.690	20	1.85	18.15	6.34	16.19	-23.7	
1145	—	3.688	30	0.27	20.10	6.35	19.85	-96.1	Pause to extend tubing
1200	—	4.879	40	0.17	20.02	6.29	18.67	-84.7	
1210	—	5.731	50	0.65	19.21	6.33	17.28	-76.4	
1215	←	6.431	55	0.37	19.44	6.34	17.96	-69.3	
1217	—	6.600	56	→				→	Well is dry
1240	—	5.916	—	—	—	—	—	—	
1420	←	4.561	—	—	—	—	—	—	Meets 2 hr.
1445	—	3.811	58	0.50	17.59	6.57	17.16	-50.4	
1455	→							→	Sampling.

Continue remarks on reverse, if needed.

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Page 1 of 2

Chain of Custody # ______

C&T LOGIN # ______

Project No: LC010060.0016.00003

Sampler: Miljan D. & Darrell S.

Project Name: MSC Oakland

Report To: Daren Roth

Project P. O. No:

Company: ARCADIS

EDD Format: Report Level ☐ II ☐ III ☐ IV

Telephone: (510) 652-4500

Turnaround Time: ☐ RUSH ______ ☒ Standard

Email: Daren.Roth@arcadis-us.com

Lab No.	Sample ID.	SAMPLING Date Collected	SAMPLING Time Collected	MATRIX Water	MATRIX Solid			# of Containers	CHEMICAL PRESERVATIVE HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST TPHg/BTEX/MTBE (8260)	TPHd/TPHmo/TPHk (8015) ⊛
	RW-C6	3/28/12	1615	X				5	X				X	X	X
	RW-C7	3/28/12	1550	X				5	X				X	X	X
	MW-17	3/29/12	0920	X				5	X				X	X	X
	MW-10	3/29/12	1025	X				5	X				X	X	X
	RW-D9-FB	3/29/12	1435	X				5	X				X	X	X
	RW-D9	3/29/12	1455	X				5	X				X	X	X
	MW-1	3/29/12	1340	X				5	X				X	X	X
	RW-B1	3/29/12	1615	X				5	X				X	X	X
	RW-B4	3/29/12	1600	X				5	X				X	X	X
	RW-1	3/29/12	1355	X				5	X				X	X	X
	RW-D5	3/29/12	1200	X				5	X				X	X	X
	RW-D5-D	3/29/12	1210	X				5	X				X	X	X
	MW-14	3/29/12	1000	X				5	X				X	X	X

Notes:
⊛ Use silica gel clean up for TPH d/mo/k.

SAMPLE RECEIPT
☒ Intact
☐ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:			RECEIVED BY:		
[signature]	DATE: 3/30	TIME: 1230	[signature]	DATE: 3/30/12	TIME: 1230
	DATE:	TIME:		DATE:	TIME:
	DATE:	TIME:		DATE:	TIME:

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Berkeley, CA 94710

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Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # _____

Project No: LC010060.0016.00003
Project Name: MSC Oakland
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ☒ Standard

Sampler: Milan D. & Darrell S.
Report To: Daren Roth
Company: ARCADIS
Telephone: (510) 652-4500
Email: Daren.Roth@arcadis-us.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST			
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	TPHg/BTEX/MTBE (8260)	TPHd/TPHmo/TPHk (8015) ⊛	Hold	
	MW-13	3/29/12	0900	X				5	X				X	X	X		
	MW-5	3/30/12	1040	X				5	X				X	X	X		
	RW-A2	3/30/12	0940	X				5	X				X	X	X		
	Trip Blank	3/30/12	—	X				2	X							X	

Notes:
⊛ Use silica gel cleanup for TPHd/mo/k

SAMPLE RECEIPT
☑ Intact
☑ Cold
☑ On Ice
☐ Ambient

RELINQUISHED BY:
Dra... DATE: 3/30 TIME: 1230
DATE: TIME:
DATE: TIME:

RECEIVED BY:
Tra... DATE: 3/30 TIME: 12:3
DATE: TIME:
DATE: TIME:

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 235239
ANALYTICAL REPORT

Arcadis	Project : LC010060.0016.00003
2000 Powell St.	Location : MSC Oakland
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
RW-C6	235239-001
RW-C7	235239-002
MW-17	235239-003
MW-10	235239-004
RW-D9-FB	235239-005
RW-D9	235239-006
MW-1	235239-007
RW-B1	235239-008
RW-B4	235239-009
RW-1	235239-010
RW-D5	235239-011
RW-D5-D	235239-012
MW-14	235239-013
MW-13	235239-014
MW-5	235239-015
RW-A2	235239-016
TRIP BLANK	235239-017

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 Bolton Date: 04/06/2012
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**235239**
Client:	**Arcadis**
Project:	**LC010060.0016.00003**
Location:	**MSC Oakland**
Request Date:	**03/30/12**
Samples Received:	**03/30/12**

This data package contains sample and QC results for sixteen water samples, requested for the above referenced project on 03/30/12. The samples were received cold and intact. All data were e-mailed to Daren Roth on 04/06/12.

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

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

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C&T LOGIN # 235239

Page 1 of 2
Chain of Custody # ____

Project No: LC010060.0016.00003
Sampler: Miljan D. & Darrell S.
Project Name: MSC Oakland
Report To: Daren Roth
Project P. O. No:
Company: ARCADIS
EDD Format: Report Level ☐ II ☐ III ☐ IV
Telephone: (510) 652-4500
Turnaround Time: ☐ RUSH ☒ Standard
Email: Daren.Roth@arcadis-us.com

Lab No.	Sample ID.	SAMPLING Date Collected	SAMPLING Time Collected	MATRIX Water	MATRIX Solid			# of Containers	CHEMICAL PRESERVATIVE HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST TPHg / BTEX / MTBE (8260)	TPHd / TPHmo / TPHk (8015) ⊛
1	RW-C6	3/28/12	1615	X				5	X				X	X	X
2	RW-C7	3/28/12	1550	X				5	X				X	X	X
3	MW-17	3/29/12	0920	X				5	X				X	X	X
4	MW-10	3/29/12	1025	X				5	X				X	X	X
5	RW-D9-FB	3/29/12	1435	X				5	X				X	X	X
6	RW-D9	3/29/12	1455	X				5	X				X	X	X
7	MW-1	3/29/12	1340	X				5	X				X	X	X
8	RW-B1	3/29/12	1615	X				5	X				X	X	X
9	RW-B4	3/29/12	1600	X				5	X				X	X	X
10	RW-1	3/29/12	1355	X				5	X				X	X	X
11	RW-D5	3/29/12	1200	X				5	X				X	X	X
12	RW-D5-D	3/29/12	1210	X				5	X				X	X	X
13	MW-14	3/29/12	1000	X				5	X				X	X	X

Notes:
⊛ Use silica gel clean up for TPH d/mo/k.

SAMPLE RECEIPT
☒ Intact
☐ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
[signature]	3/30	1230	[signature]	3/30/12	1230

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C&T LOGIN # 235239

Page 2 of 2

Chain of Custody # ________

Project No: LC010060.0016.00003
Project Name: MSC Oakland
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ☒ Standard

Sampler: Miljan D. & Darrell S.
Report To: Daren Roth
Company: ARCADIS
Telephone: (510) 652-4500
Email: Daren.Roth@arcadis-us.com

Lab No.	Sample ID.	SAMPLING Date Collected	SAMPLING Time Collected	MATRIX Water	MATRIX Solid			# of Containers	CHEMICAL PRESERVATIVE HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST TPHg/BTEX/MTBE (8260)	TPHd/TPHmo/TPHk (8015) ⊛	Hold
14	MW-13	3/29/12	0900	X				5	X				X	X	X	
15	MW-5	3/30/12	1040	X				5	X				X	X	X	
16	RW-A2	3/30/12	0940	X				5	X				X	X	X	
17	Trip Blank	3/30/12	—	X				2	X							X

Notes:
⊛ Use silica gel cleanup for TPH d/mo/k

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	3/30	1230	[signature]	3/30/12	1213

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 235239 Date Received 3/30/12 Number of coolers 2
Client ARCADIS (LFR) Project MSC Oakland

Date Opened 3/30/12 By (print) C. Morrow (sign)
Date Logged in ↓ By (print) ↓ (sign) ↓

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

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples (NO)
How many Name Date
2B. Were custody seals intact upon arrival? YES NO (N/A)
3. Were custody papers dry and intact when received? (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe)

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

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

Type of ice used: ☐ Wet ☐ Blue/Gel ☐ None Temp(°C) 1.5, 4.1

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

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

8. Were Method 5035 sampling containers present? YES (NO)
If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? (YES) NO
10. Are there any missing / extra samples? YES (NO)
11. Are samples in the appropriate containers for indicated tests? (YES) NO
12. Are sample labels present, in good condition and complete? (YES) NO
13. Do the sample labels agree with custody papers? (YES) NO
14. Was sufficient amount of sample sent for tests requested? (YES) NO
15. Are the samples appropriately preserved? (YES) NO N/A
16. Did you check preservatives for all bottles for each sample? YES NO (N/A)
17. Did you document your preservative check? YES NO (N/A)
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? (YES) NO N/A
21. Was the client contacted concerning this sample delivery? YES (NO)
If YES, Who was called? By Date:

COMMENTS

Rev 10, 11/11

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	03/30/12

Field ID:	RW-C6	Sampled:	03/28/12
Type:	SAMPLE	Prepared:	04/01/12
Lab ID:	235239-001	Analyzed:	04/02/12
Batch#:	185110	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	620	50
Diesel C10-C24	830	50
Motor Oil C24-C36	600	300

Surrogate	%REC	Limits
o-Terphenyl	74	61-129

Field ID:	RW-C7	Sampled:	03/28/12
Type:	SAMPLE	Prepared:	04/01/12
Lab ID:	235239-002	Analyzed:	04/02/12
Batch#:	185110	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	160 Y	50
Diesel C10-C24	490	50
Motor Oil C24-C36	480	300

Surrogate	%REC	Limits
o-Terphenyl	91	61-129

Field ID:	MW-17	Sampled:	03/29/12
Type:	SAMPLE	Prepared:	04/01/12
Lab ID:	235239-003	Analyzed:	04/02/12
Batch#:	185110	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	79	61-129

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	03/30/12

Field ID:	MW-10	Sampled:	03/29/12
Type:	SAMPLE	Prepared:	04/01/12
Lab ID:	235239-004	Analyzed:	04/02/12
Batch#:	185110	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	98	61-129

Field ID:	RW-D9-FB	Sampled:	03/29/12
Type:	SAMPLE	Prepared:	04/01/12
Lab ID:	235239-005	Analyzed:	04/02/12
Batch#:	185110	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	93	61-129

Field ID:	RW-D9	Sampled:	03/29/12
Type:	SAMPLE	Prepared:	04/01/12
Lab ID:	235239-006	Analyzed:	04/02/12
Batch#:	185110	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	180	50
Diesel C10-C24	180	50
Motor Oil C24-C36	320	300

Surrogate	%REC	Limits
o-Terphenyl	84	61-129

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	03/30/12

Field ID:	MW-1	Sampled:	03/29/12
Type:	SAMPLE	Prepared:	04/01/12
Lab ID:	235239-007	Analyzed:	04/02/12
Batch#:	185110	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	82	50
Diesel C10-C24	70 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	84	61-129

Field ID:	RW-B1	Sampled:	03/29/12
Type:	SAMPLE	Prepared:	04/01/12
Lab ID:	235239-008	Analyzed:	04/03/12
Batch#:	185110	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	87	61-129

Field ID:	RW-B4	Sampled:	03/29/12
Type:	SAMPLE	Prepared:	04/01/12
Lab ID:	235239-009	Analyzed:	04/03/12
Batch#:	185110	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	3,000	50
Diesel C10-C24	2,400 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	65	61-129

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	03/30/12

Field ID:	RW-1	Sampled:	03/29/12
Type:	SAMPLE	Prepared:	04/01/12
Lab ID:	235239-010	Analyzed:	04/03/12
Batch#:	185110	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	85	61-129

Field ID:	RW-D5	Sampled:	03/29/12
Type:	SAMPLE	Prepared:	04/01/12
Lab ID:	235239-011	Analyzed:	04/03/12
Batch#:	185110	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	190	50
Diesel C10-C24	270	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	85	61-129

Field ID:	RW-D5-D	Sampled:	03/29/12
Type:	SAMPLE	Prepared:	04/02/12
Lab ID:	235239-012	Analyzed:	04/03/12
Batch#:	185145	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	250	50
Diesel C10-C24	360	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	100	61-129

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	03/30/12

Field ID:	MW-14	Sampled:	03/29/12
Type:	SAMPLE	Prepared:	04/02/12
Lab ID:	235239-013	Analyzed:	04/03/12
Batch#:	185145	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	56 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	101	61-129

Field ID:	MW-13	Sampled:	03/29/12
Type:	SAMPLE	Prepared:	04/02/12
Lab ID:	235239-014	Cleanup Method:	EPA 3630C
Batch#:	185145		

Analyte	Result	RL	Analyzed
Kerosene C10-C16	ND	50	04/05/12
Diesel C10-C24	170 Y	50	04/04/12
Motor Oil C24-C36	1,100	300	04/04/12

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	78	61-129	04/04/12

Field ID:	MW-5	Sampled:	03/30/12
Type:	SAMPLE	Prepared:	04/02/12
Lab ID:	235239-015	Analyzed:	04/03/12
Batch#:	185145	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	1,300	50
Diesel C10-C24	1,100 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	93	61-129

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	03/30/12

Field ID:	RW-A2	Sampled:	03/30/12
Type:	SAMPLE	Prepared:	04/02/12
Lab ID:	235239-016	Analyzed:	04/03/12
Batch#:	185145	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	170 Y	50
Diesel C10-C24	640	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	90	61-129

Type:	BLANK	Prepared:	04/01/12
Lab ID:	QC633923	Analyzed:	04/02/12
Batch#:	185110	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	98	61-129

Type:	BLANK	Prepared:	04/02/12
Lab ID:	QC634045	Analyzed:	04/03/12
Batch#:	185145	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	107	61-129

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 #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	185110
Units:	ug/L	Prepared:	04/01/12
Diln Fac:	1.000	Analyzed:	04/02/12

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC633924

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,276	91	59-120

Surrogate	%REC	Limits
o-Terphenyl	105	61-129

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC633925

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,086	83	59-120	9	52

Surrogate	%REC	Limits
o-Terphenyl	99	61-129

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	185145
Units:	ug/L	Prepared:	04/02/12
Diln Fac:	1.000	Analyzed:	04/03/12

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC634046

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,968	79	59-120

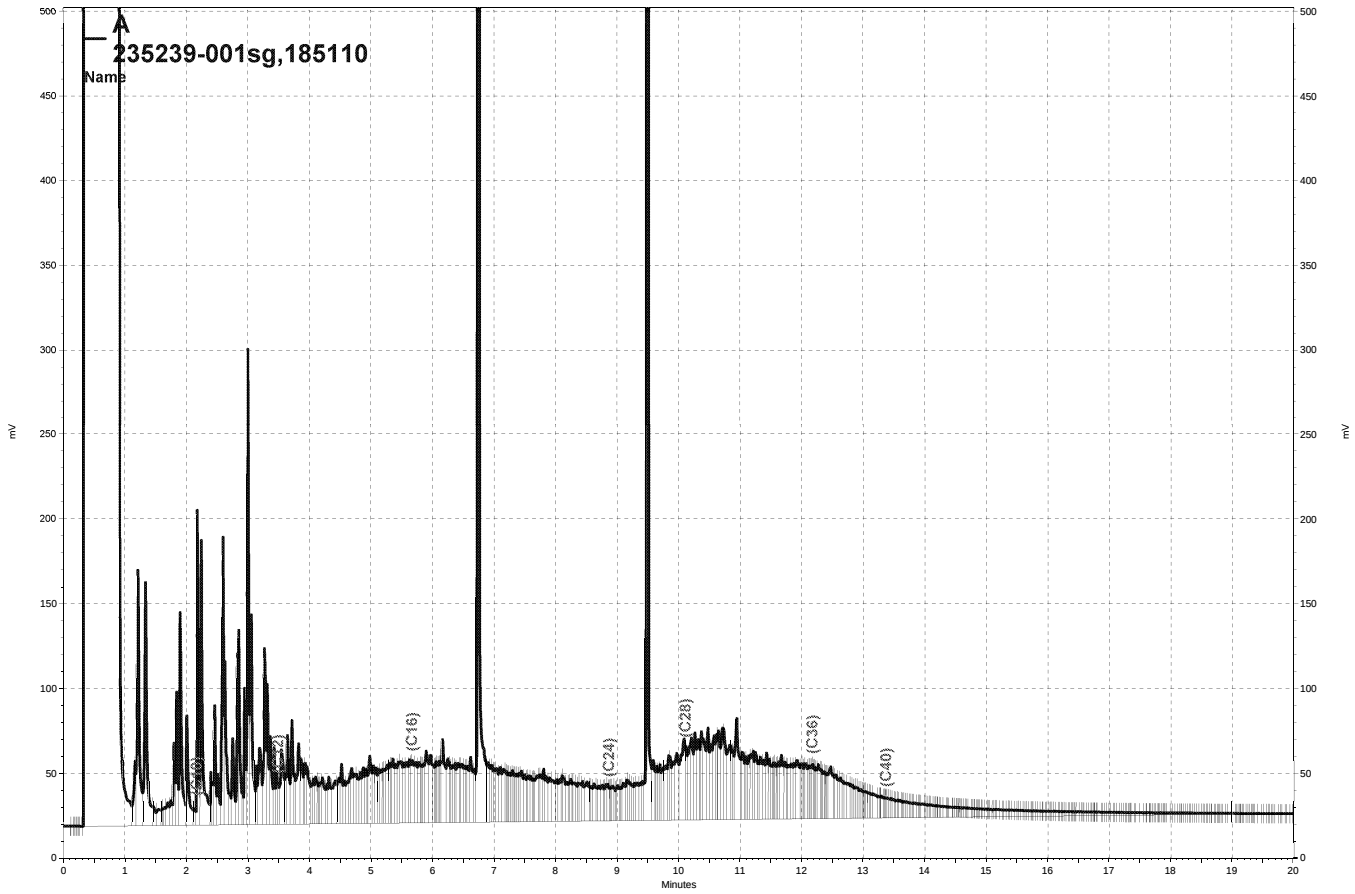
Surrogate	%REC	Limits
o-Terphenyl	114	61-129

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC634047

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,916	77	59-120	3	52

Surrogate	%REC	Limits
o-Terphenyl	112	61-129

RPD= Relative Percent Difference



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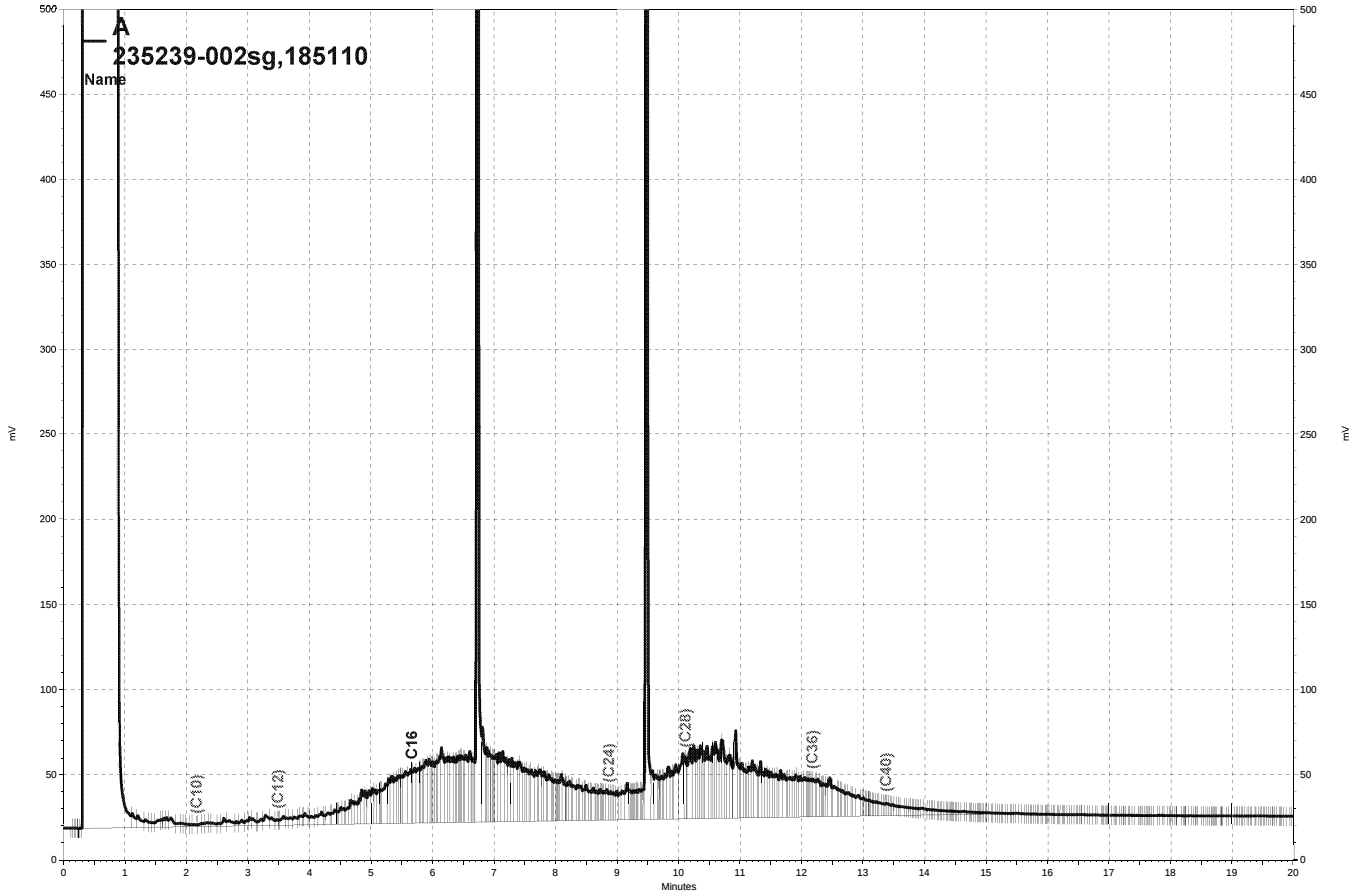

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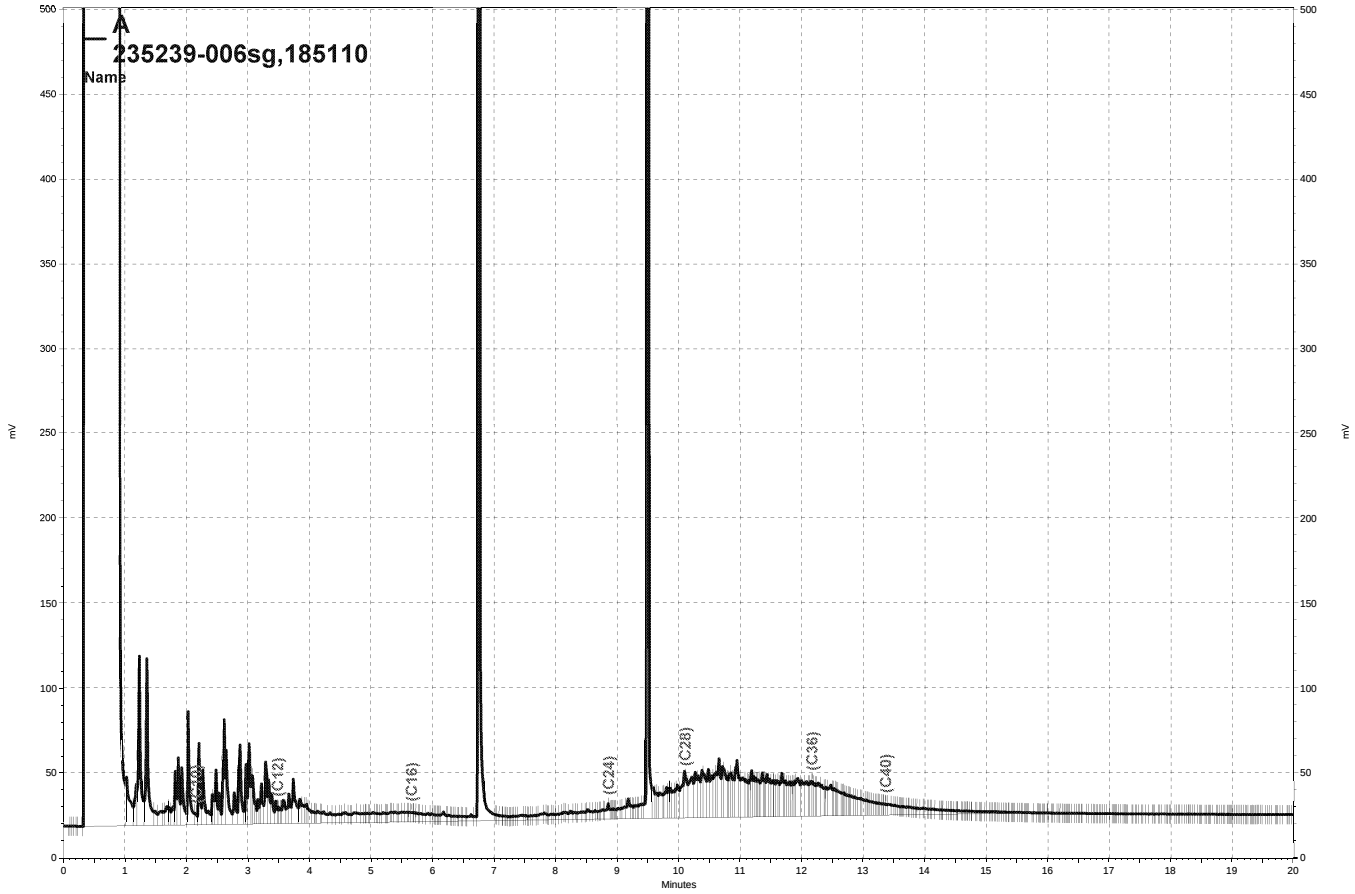

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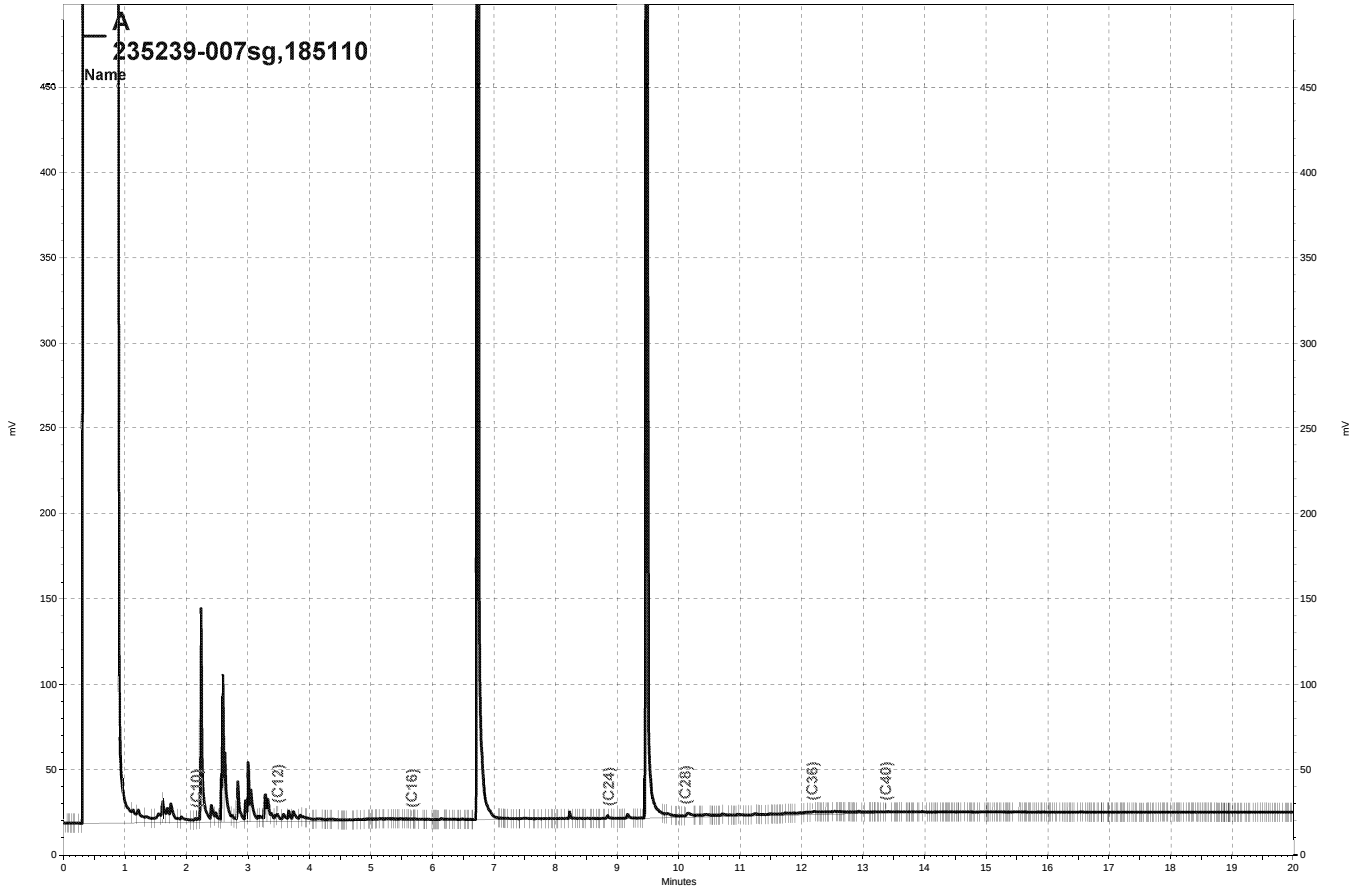

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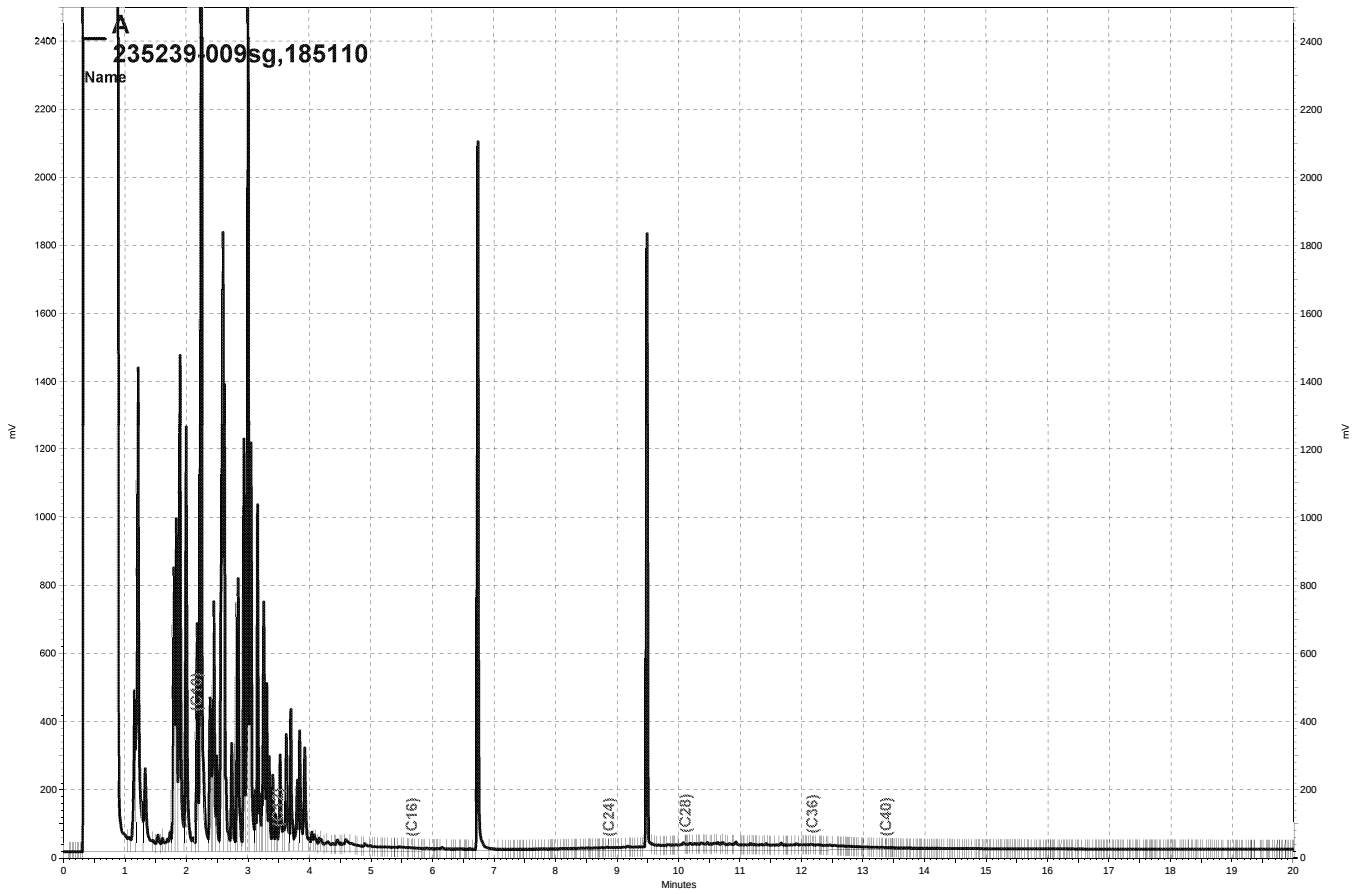

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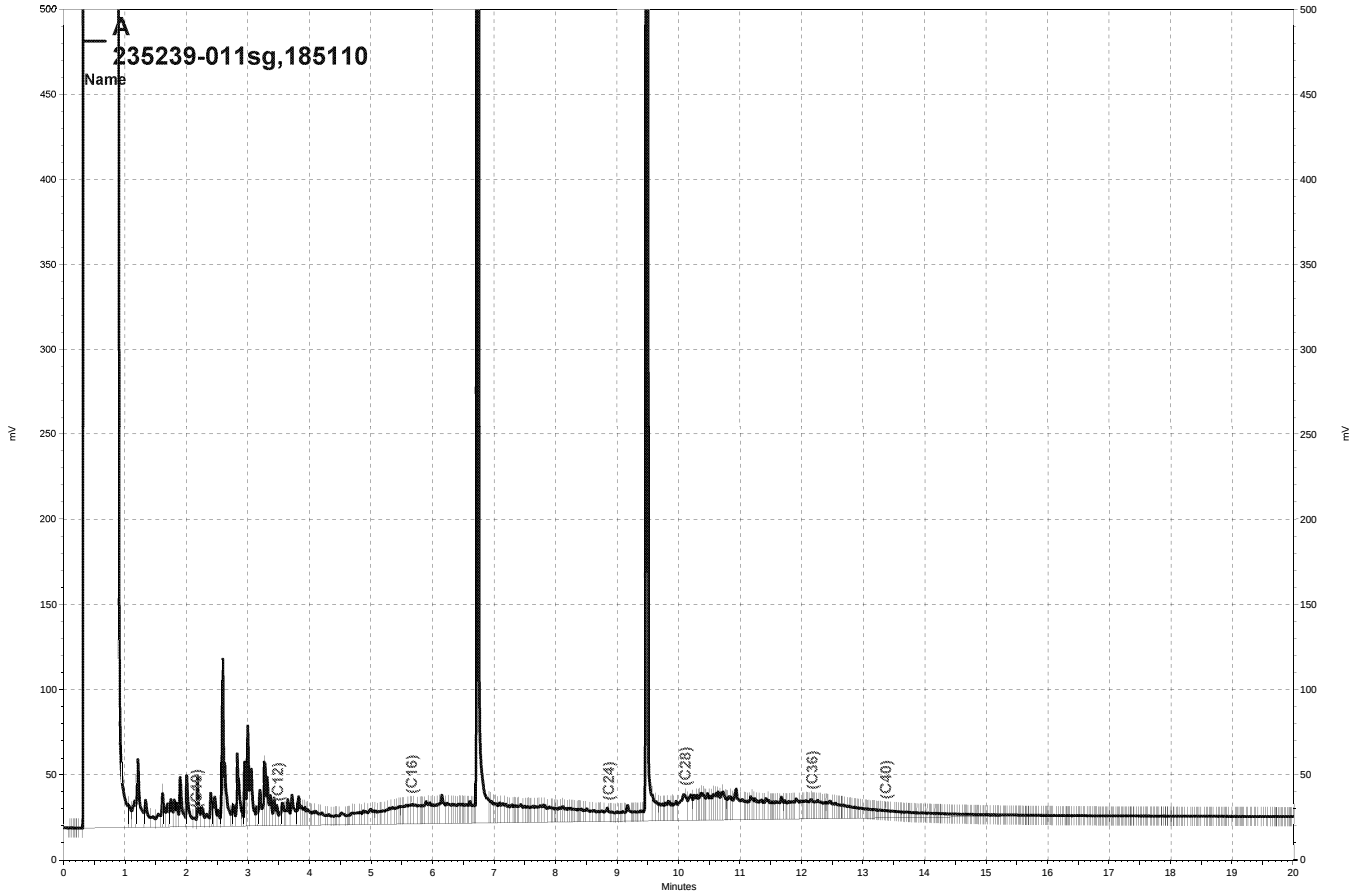

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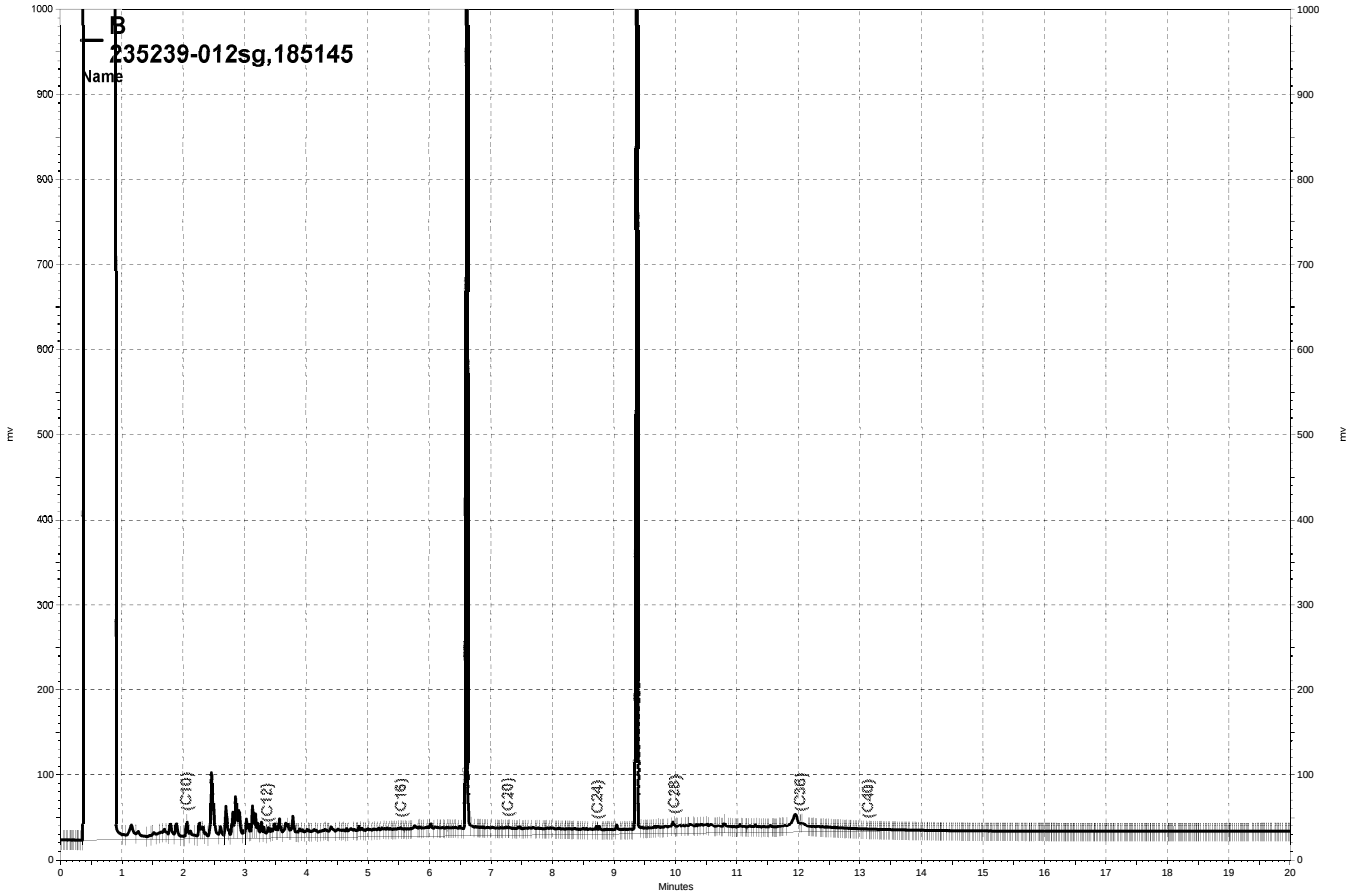

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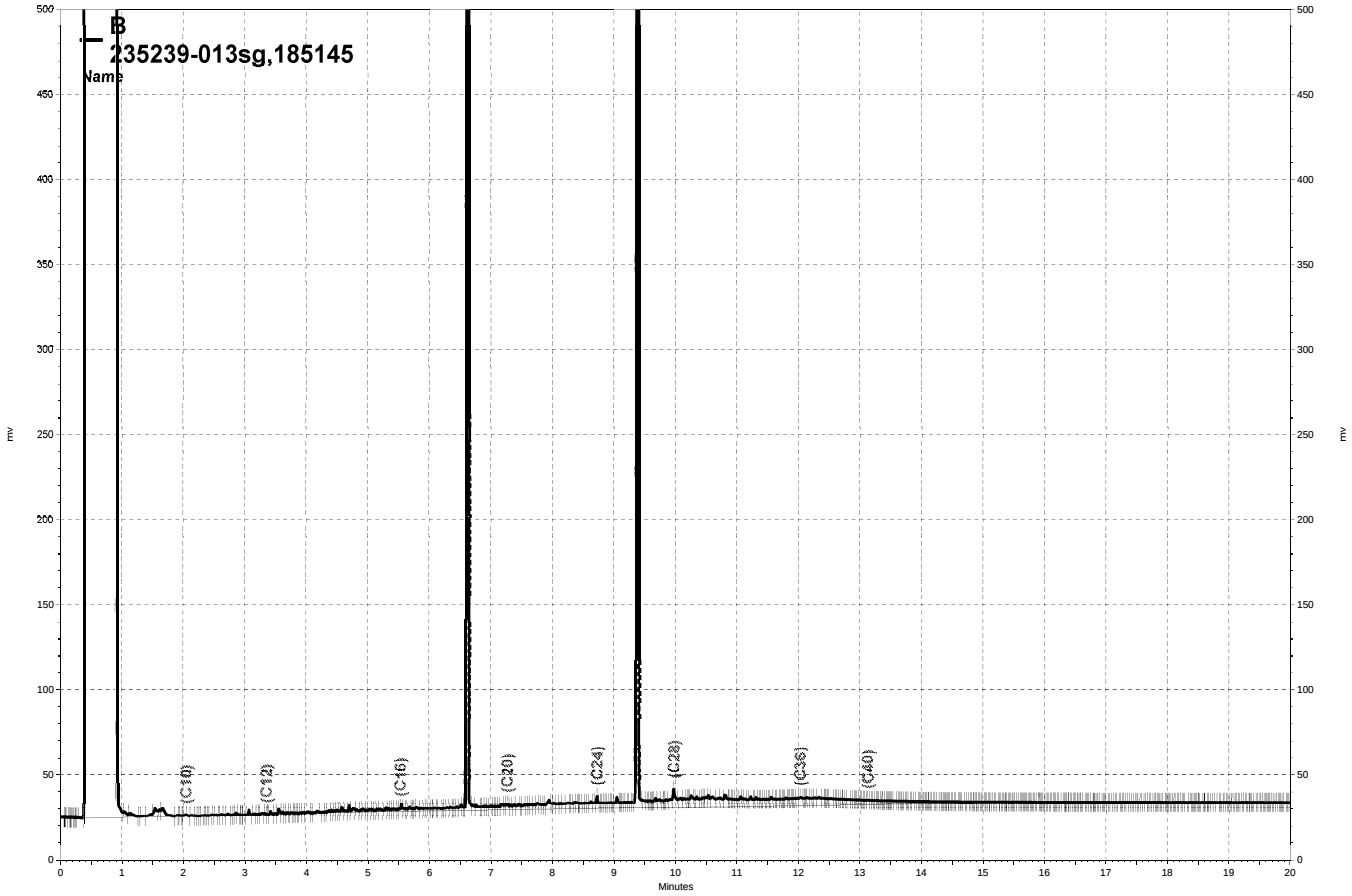

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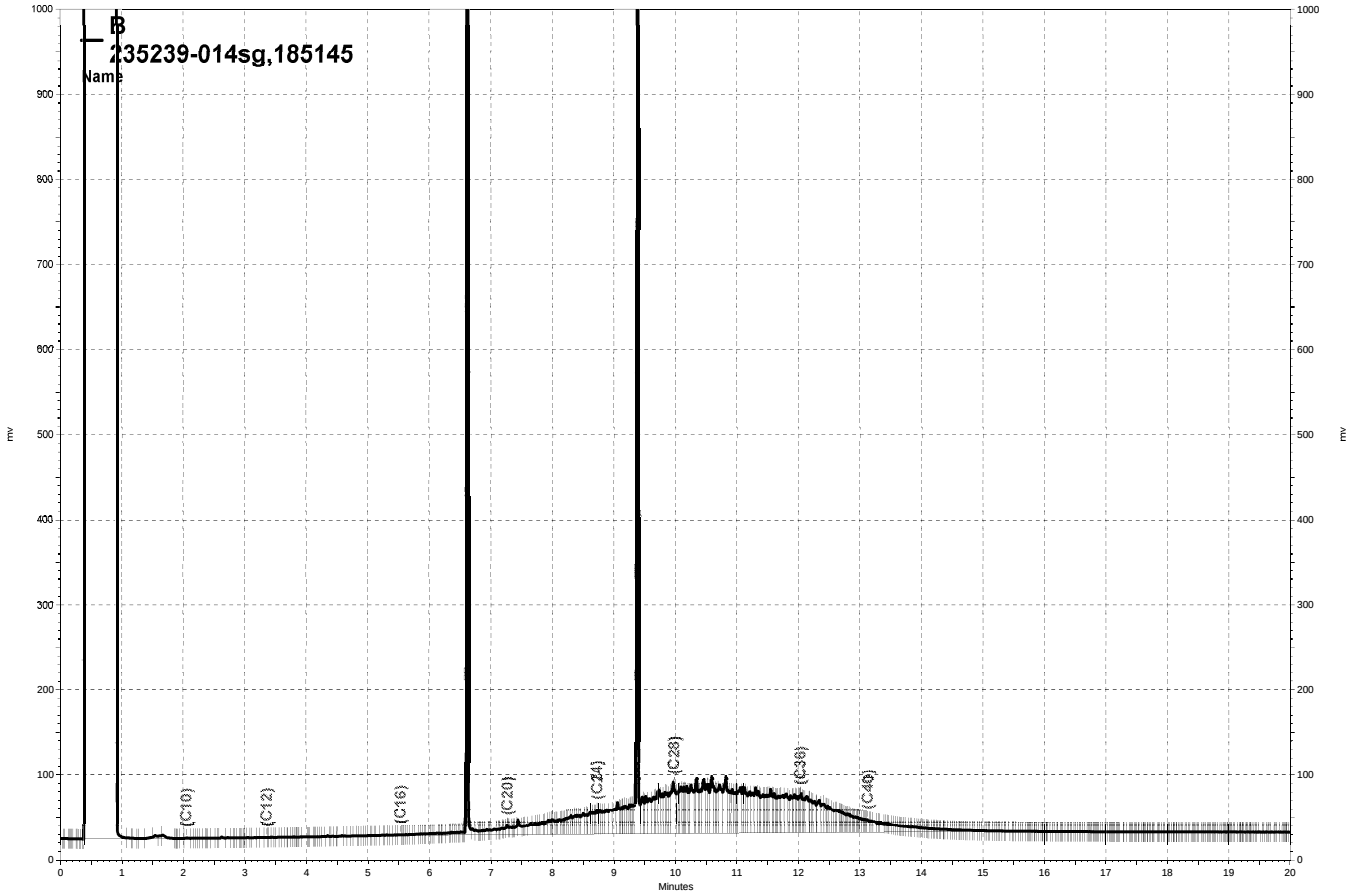

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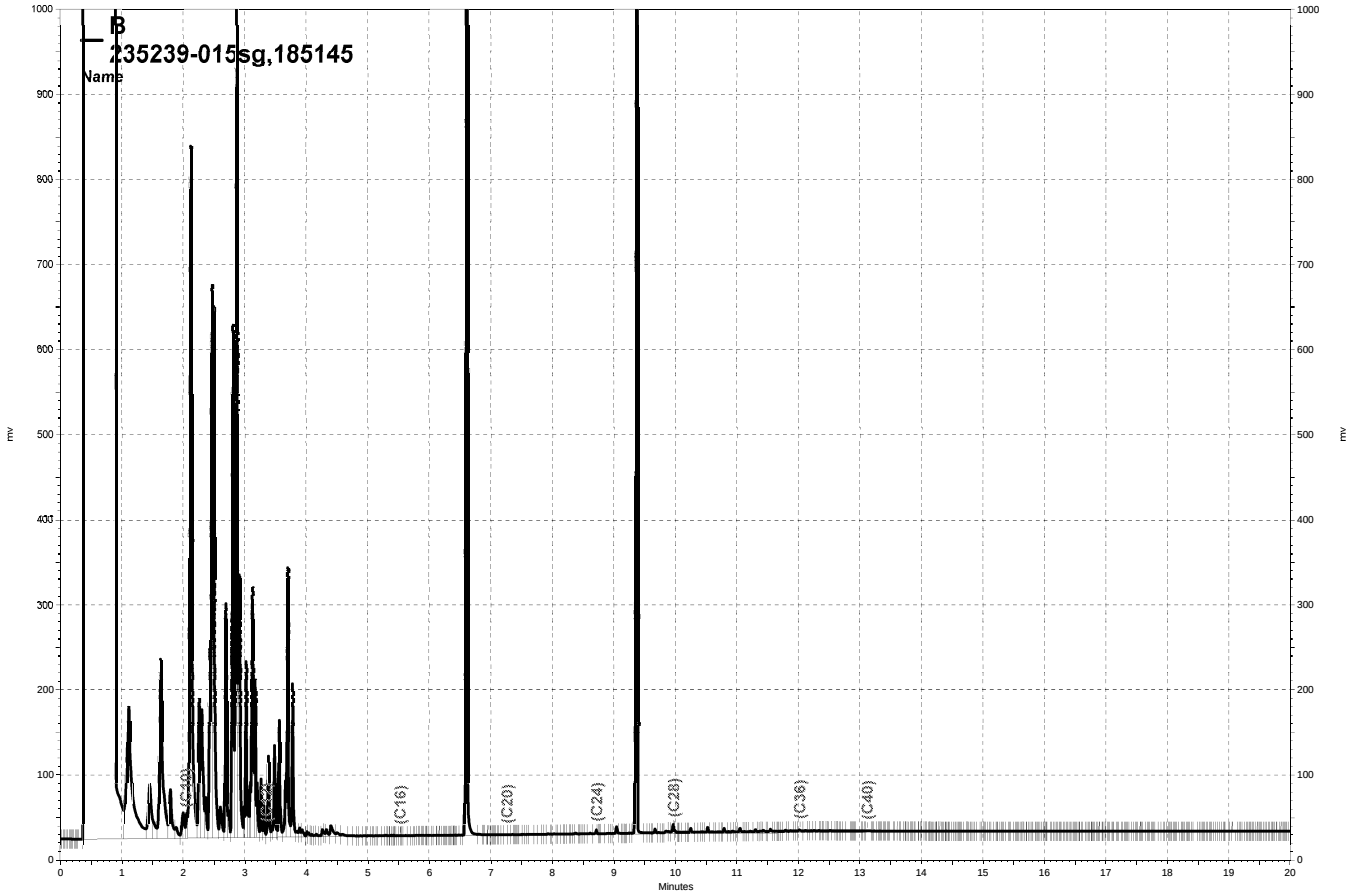

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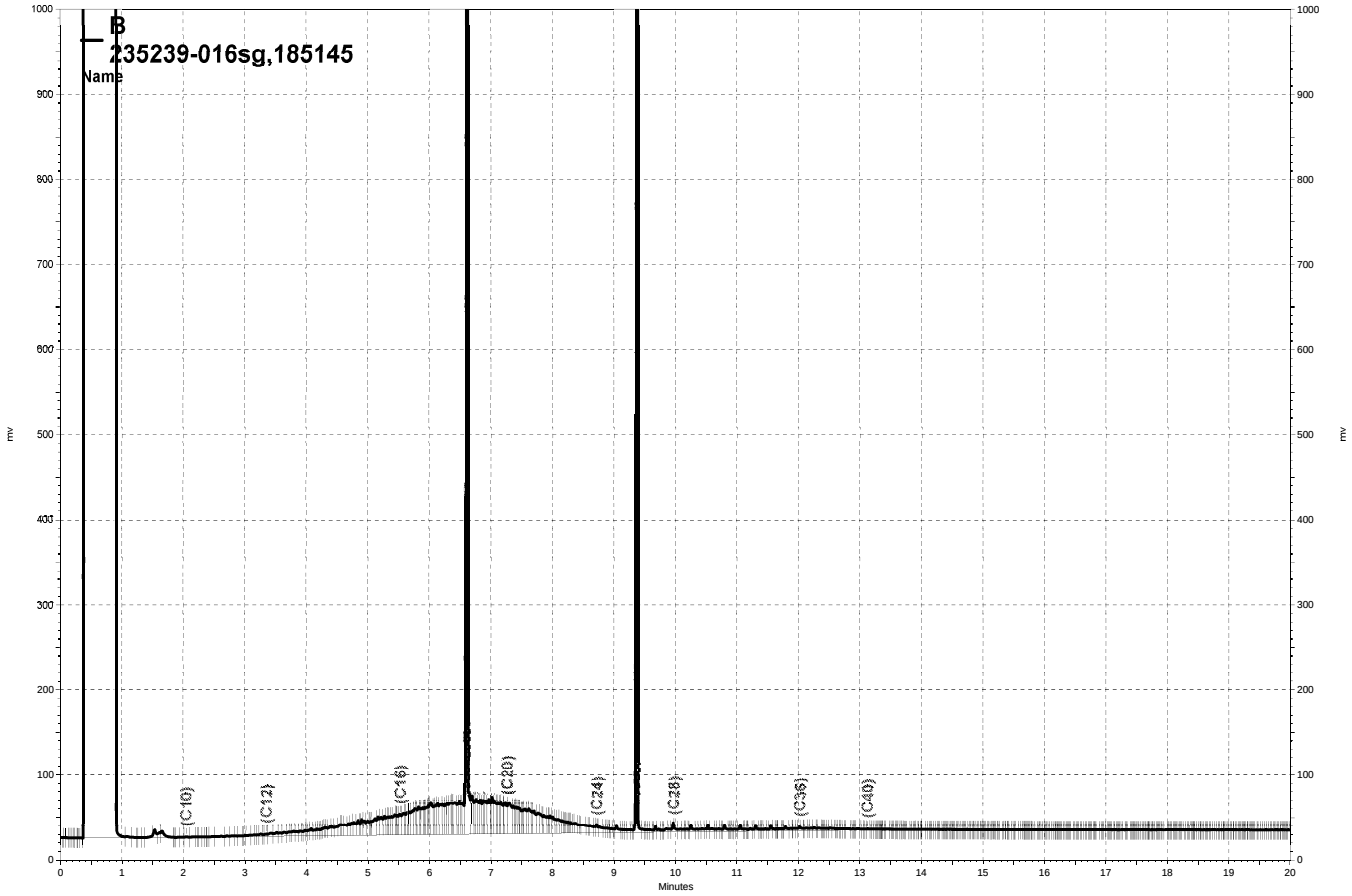

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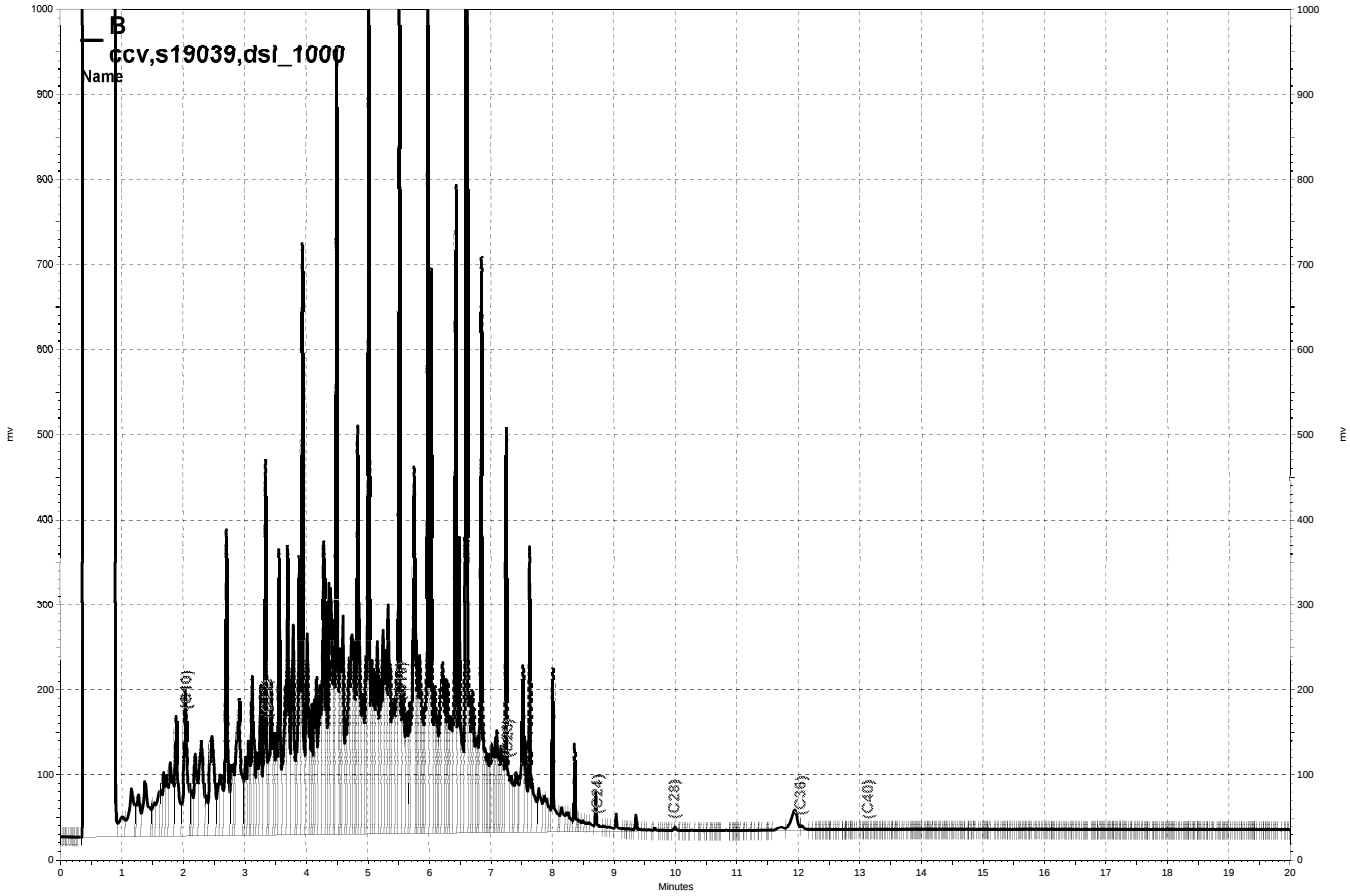

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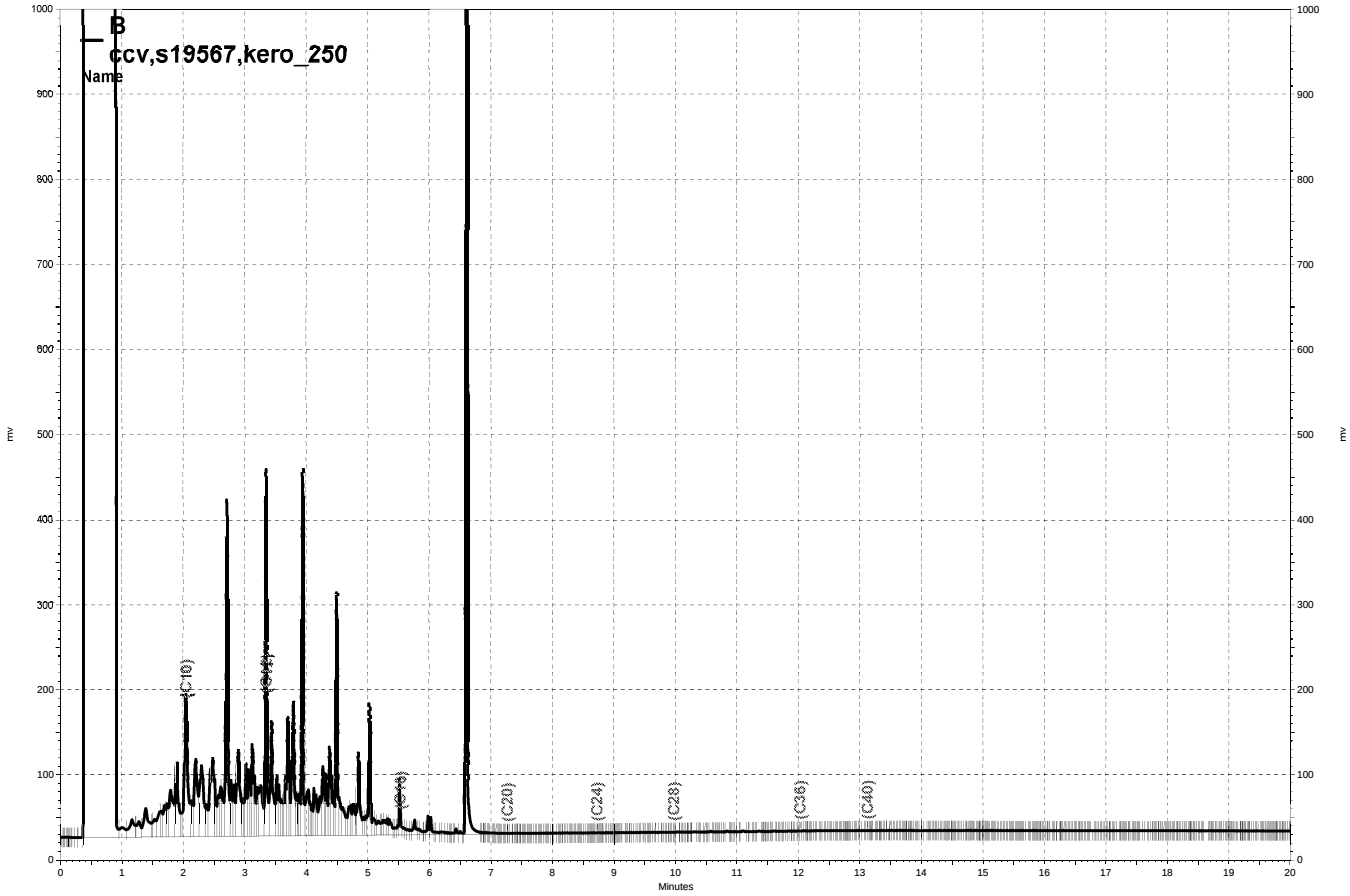

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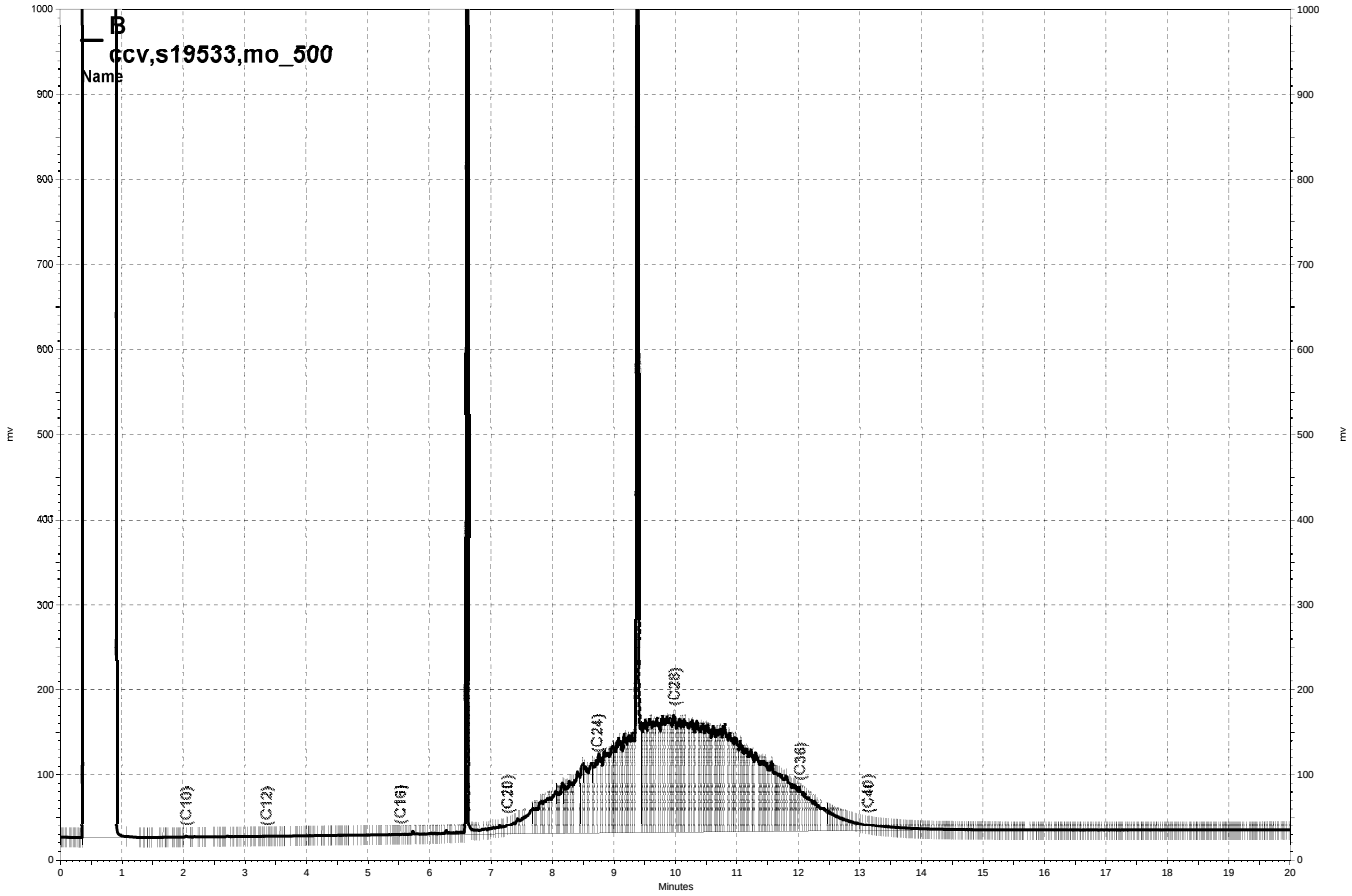

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Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	03/30/12
Units:	ug/L		

Field ID:	RW-C6	Batch#:	185171
Type:	SAMPLE	Sampled:	03/28/12
Lab ID:	235239-001	Analyzed:	04/03/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	550	50
MTBE	ND	0.50
Benzene	68	0.50
Toluene	5.3	0.50
Ethylbenzene	6.2	0.50
m,p-Xylenes	32	0.50
o-Xylene	23	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-125
1,2-Dichloroethane-d4	78	69-145
Toluene-d8	107	80-120
Bromofluorobenzene	97	80-120

Field ID:	RW-C7	Batch#:	185120
Type:	SAMPLE	Sampled:	03/28/12
Lab ID:	235239-002	Analyzed:	04/02/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
MTBE	ND	0.50
Benzene	8.9	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	101	80-125
1,2-Dichloroethane-d4	111	69-145
Toluene-d8	101	80-120
Bromofluorobenzene	101	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	03/30/12
Units:	ug/L		

Field ID:	MW-17	Batch#:	185120
Type:	SAMPLE	Sampled:	03/29/12
Lab ID:	235239-003	Analyzed:	04/02/12
Diln Fac:	1.000		

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	99	80-125
1,2-Dichloroethane-d4	117	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-120

Field ID:	MW-10	Batch#:	185120
Type:	SAMPLE	Sampled:	03/29/12
Lab ID:	235239-004	Analyzed:	04/02/12
Diln Fac:	1.000		

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	103	80-125
1,2-Dichloroethane-d4	110	69-145
Toluene-d8	94	80-120
Bromofluorobenzene	103	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	03/30/12
Units:	ug/L		

Field ID:	RW-D9-FB	Batch#:	185120
Type:	SAMPLE	Sampled:	03/29/12
Lab ID:	235239-005	Analyzed:	04/02/12
Diln Fac:	1.000		

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	98	80-125
1,2-Dichloroethane-d4	110	69-145
Toluene-d8	104	80-120
Bromofluorobenzene	101	80-120

Field ID:	RW-D9	Batch#:	185120
Type:	SAMPLE	Sampled:	03/29/12
Lab ID:	235239-006	Analyzed:	04/02/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	940	50
MTBE	ND	0.50
Benzene	60	0.50
Toluene	2.7	0.50
Ethylbenzene	4.0	0.50
m,p-Xylenes	21	0.50
o-Xylene	17	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-125
1,2-Dichloroethane-d4	110	69-145
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	03/30/12
Units:	ug/L		

Field ID:	MW-1	Batch#:	185171
Type:	SAMPLE	Sampled:	03/29/12
Lab ID:	235239-007	Analyzed:	04/03/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	140	50
MTBE	ND	0.50
Benzene	1.0	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	0.50	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-125
1,2-Dichloroethane-d4	75	69-145
Toluene-d8	106	80-120
Bromofluorobenzene	111	80-120

Field ID:	RW-B1	Lab ID:	235239-008
Type:	SAMPLE	Sampled:	03/29/12

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	330	310	6.250	185120	04/02/12
MTBE	4.3	3.1	6.250	185120	04/02/12
Benzene	750	5.0	10.00	185166	04/03/12
Toluene	45	3.1	6.250	185120	04/02/12
Ethylbenzene	12	3.1	6.250	185120	04/02/12
m,p-Xylenes	15	3.1	6.250	185120	04/02/12
o-Xylene	16	3.1	6.250	185120	04/02/12

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	100	80-125	6.250	185120	04/02/12
1,2-Dichloroethane-d4	107	69-145	6.250	185120	04/02/12
Toluene-d8	97	80-120	6.250	185120	04/02/12
Bromofluorobenzene	99	80-120	6.250	185120	04/02/12

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	03/30/12
Units:	ug/L		

Field ID: RW-B4 Lab ID: 235239-009
Type: SAMPLE Sampled: 03/29/12

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	7,900	710	14.29	185120	04/02/12
MTBE	ND	7.1	14.29	185120	04/02/12
Benzene	1,900	13	25.00	185166	04/04/12
Toluene	40	7.1	14.29	185120	04/02/12
Ethylbenzene	140	7.1	14.29	185120	04/02/12
m,p-Xylenes	300	7.1	14.29	185120	04/02/12
o-Xylene	38	7.1	14.29	185120	04/02/12

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	99	80-125	14.29	185120	04/02/12
1,2-Dichloroethane-d4	104	69-145	14.29	185120	04/02/12
Toluene-d8	94	80-120	14.29	185120	04/02/12
Bromofluorobenzene	97	80-120	14.29	185120	04/02/12

Field ID: RW-1 Batch#: 185120
Type: SAMPLE Sampled: 03/29/12
Lab ID: 235239-010 Analyzed: 04/02/12
Diln Fac: 1.000

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	100	80-125
1,2-Dichloroethane-d4	112	69-145
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	03/30/12
Units:	ug/L		

Field ID:	RW-D5	Batch#:	185120
Type:	SAMPLE	Sampled:	03/29/12
Lab ID:	235239-011	Analyzed:	04/02/12
Diln Fac:	2.000		

Analyte	Result	RL
Gasoline C7-C12	280	100
MTBE	ND	1.0
Benzene	110	1.0
Toluene	2.1	1.0
Ethylbenzene	3.4	1.0
m,p-Xylenes	8.0	1.0
o-Xylene	2.2	1.0

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-125
1,2-Dichloroethane-d4	109	69-145
Toluene-d8	98	80-120
Bromofluorobenzene	102	80-120

Field ID:	RW-D5-D	Batch#:	185171
Type:	SAMPLE	Sampled:	03/29/12
Lab ID:	235239-012	Analyzed:	04/03/12
Diln Fac:	2.000		

Analyte	Result	RL
Gasoline C7-C12	280	100
MTBE	ND	1.0
Benzene	100	1.0
Toluene	2.3	1.0
Ethylbenzene	3.2	1.0
m,p-Xylenes	7.9	1.0
o-Xylene	2.2	1.0

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-125
1,2-Dichloroethane-d4	70	69-145
Toluene-d8	108	80-120
Bromofluorobenzene	99	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	03/30/12
Units:	ug/L		

Field ID:	MW-14	Batch#:	185120
Type:	SAMPLE	Sampled:	03/29/12
Lab ID:	235239-013	Analyzed:	04/02/12
Diln Fac:	1.000		

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	100	80-125
1,2-Dichloroethane-d4	109	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	99	80-120

Field ID:	MW-13	Batch#:	185120
Type:	SAMPLE	Sampled:	03/29/12
Lab ID:	235239-014	Analyzed:	04/02/12
Diln Fac:	1.000		

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	99	80-125
1,2-Dichloroethane-d4	109	69-145
Toluene-d8	98	80-120
Bromofluorobenzene	96	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	03/30/12
Units:	ug/L		

Field ID:	MW-5	Batch#:	185131
Type:	SAMPLE	Sampled:	03/30/12
Lab ID:	235239-015	Analyzed:	04/03/12
Diln Fac:	2.000		

Analyte	Result	RL
Gasoline C7-C12	3,700	100
MTBE	1.9	1.0
Benzene	1.9	1.0
Toluene	1.3	1.0
Ethylbenzene	95	1.0
m,p-Xylenes	7.6	1.0
o-Xylene	1.3	1.0

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-125
1,2-Dichloroethane-d4	71	69-145
Toluene-d8	105	80-120
Bromofluorobenzene	105	80-120

Field ID:	RW-A2	Batch#:	185131
Type:	SAMPLE	Sampled:	03/30/12
Lab ID:	235239-016	Analyzed:	04/02/12
Diln Fac:	1.000		

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	102	80-125
1,2-Dichloroethane-d4	78	69-145
Toluene-d8	112	80-120
Bromofluorobenzene	101	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	03/30/12
Units:	ug/L		

Type: BLANK
Lab ID: QC633954
Diln Fac: 1.000

Batch#: 185120
Analyzed: 04/02/12

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	101	80-125
1,2-Dichloroethane-d4	115	69-145
Toluene-d8	95	80-120
Bromofluorobenzene	98	80-120

Type: BLANK
Lab ID: QC633989
Diln Fac: 1.000

Batch#: 185131
Analyzed: 04/02/12

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	93	80-125
1,2-Dichloroethane-d4	73	69-145
Toluene-d8	110	80-120
Bromofluorobenzene	109	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	03/30/12
Units:	ug/L		

Type: BLANK
Lab ID: QC634120
Diln Fac: 1.000

Batch#: 185166
Analyzed: 04/03/12

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	100	80-125
1,2-Dichloroethane-d4	110	69-145
Toluene-d8	100	80-120
Bromofluorobenzene	99	80-120

Type: BLANK
Lab ID: QC634140
Diln Fac: 1.000

Batch#: 185171
Analyzed: 04/03/12

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	95	80-125
1,2-Dichloroethane-d4	80	69-145
Toluene-d8	103	80-120
Bromofluorobenzene	96	80-120

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

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	185120
Units:	ug/L	Analyzed:	04/02/12
Diln Fac:	1.000		

Type: BS Lab ID: QC633950

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	17.48	87	61-121
Benzene	20.00	21.14	106	80-121
Toluene	20.00	21.36	107	80-120
Ethylbenzene	20.00	21.84	109	80-120
m,p-Xylenes	40.00	42.24	106	80-121
o-Xylene	20.00	21.23	106	80-121

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-125
1,2-Dichloroethane-d4	113	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	99	80-120

Type: BSD Lab ID: QC633951

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	20.00	15.12	76	61-121	14	20
Benzene	20.00	19.47	97	80-121	8	20
Toluene	20.00	19.55	98	80-120	9	20
Ethylbenzene	20.00	20.80	104	80-120	5	20
m,p-Xylenes	40.00	39.48	99	80-121	7	20
o-Xylene	20.00	19.77	99	80-121	7	20

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-125
1,2-Dichloroethane-d4	114	69-145
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	185120
Units:	ug/L	Analyzed:	04/02/12
Diln Fac:	1.000		

Type: BS Lab ID: QC633952

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	986.1	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-125
1,2-Dichloroethane-d4	114	69-145
Toluene-d8	98	80-120
Bromofluorobenzene	99	80-120

Type: BSD Lab ID: QC633953

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,090	109	80-120	10	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-125
1,2-Dichloroethane-d4	113	69-145
Toluene-d8	100	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	185131
Units:	ug/L	Analyzed:	04/02/12
Diln Fac:	1.000		

Type: BS Lab ID: QC633990

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	16.81	84	61-121
Benzene	20.00	21.72	109	80-121
Toluene	20.00	21.52	108	80-120
Ethylbenzene	20.00	20.35	102	80-120
m,p-Xylenes	40.00	39.92	100	80-121
o-Xylene	20.00	19.37	97	80-121

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-125
1,2-Dichloroethane-d4	87	69-145
Toluene-d8	102	80-120
Bromofluorobenzene	102	80-120

Type: BSD Lab ID: QC633991

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	20.00	17.55	88	61-121	4	20
Benzene	20.00	21.97	110	80-121	1	20
Toluene	20.00	21.72	109	80-120	1	20
Ethylbenzene	20.00	20.30	102	80-120	0	20
m,p-Xylenes	40.00	41.24	103	80-121	3	20
o-Xylene	20.00	17.82	89	80-121	8	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-125
1,2-Dichloroethane-d4	88	69-145
Toluene-d8	100	80-120
Bromofluorobenzene	104	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	185131
Units:	ug/L	Analyzed:	04/02/12
Diln Fac:	1.000		

Type: BS Lab ID: QC633992

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	940.5	94	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-125
1,2-Dichloroethane-d4	85	69-145
Toluene-d8	105	80-120
Bromofluorobenzene	109	80-120

Type: BSD Lab ID: QC633993

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	920.3	92	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-125
1,2-Dichloroethane-d4	85	69-145
Toluene-d8	107	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	185166
Units:	ug/L	Analyzed:	04/03/12
Diln Fac:	1.000		

Type: BS Lab ID: QC634118

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	21.48	86	61-121
Benzene	25.00	28.55	114	80-121
Toluene	25.00	27.13	109	80-120
Ethylbenzene	25.00	28.86	115	80-120
m,p-Xylenes	50.00	52.68	105	80-121
o-Xylene	25.00	26.86	107	80-121

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

Type: BSD Lab ID: QC634119

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	20.03	80	61-121	7	20
Benzene	25.00	24.46	98	80-121	15	20
Toluene	25.00	23.46	94	80-120	15	20
Ethylbenzene	25.00	24.82	99	80-120	15	20
m,p-Xylenes	50.00	45.20	90	80-121	15	20
o-Xylene	25.00	23.14	93	80-121	15	20

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-125
1,2-Dichloroethane-d4	107	69-145
Toluene-d8	99	80-120
Bromofluorobenzene	98	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	185171
Units:	ug/L	Analyzed:	04/03/12
Diln Fac:	1.000		

Type: BS Lab ID: QC634136

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	20.01	80	61-121
Benzene	25.00	26.44	106	80-121
Toluene	25.00	29.44	118	80-120
Ethylbenzene	25.00	25.64	103	80-120
m,p-Xylenes	50.00	53.37	107	80-121
o-Xylene	25.00	25.56	102	80-121

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-125
1,2-Dichloroethane-d4	77	69-145
Toluene-d8	108	80-120
Bromofluorobenzene	107	80-120

Type: BSD Lab ID: QC634137

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	19.33	77	61-121	3	20
Benzene	25.00	24.60	98	80-121	7	20
Toluene	25.00	28.75	115	80-120	2	20
Ethylbenzene	25.00	24.89	100	80-120	3	20
m,p-Xylenes	50.00	52.51	105	80-121	2	20
o-Xylene	25.00	23.57	94	80-121	8	20

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-125
1,2-Dichloroethane-d4	78	69-145
Toluene-d8	114	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	235239	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	185171
Units:	ug/L	Analyzed:	04/03/12
Diln Fac:	1.000		

Type: BS Lab ID: QC634138

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	938.3	94	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-125
1,2-Dichloroethane-d4	82	69-145
Toluene-d8	107	80-120
Bromofluorobenzene	103	80-120

Type: BSD Lab ID: QC634139

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	899.2	90	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-125
1,2-Dichloroethane-d4	82	69-145
Toluene-d8	108	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Data File: \\GCMSSERVER\DD\chem\MSVOA08.i\040312.b\HD314TVH.D

Date : 03-APR-2012 16:43

Client ID: DYNA P&T

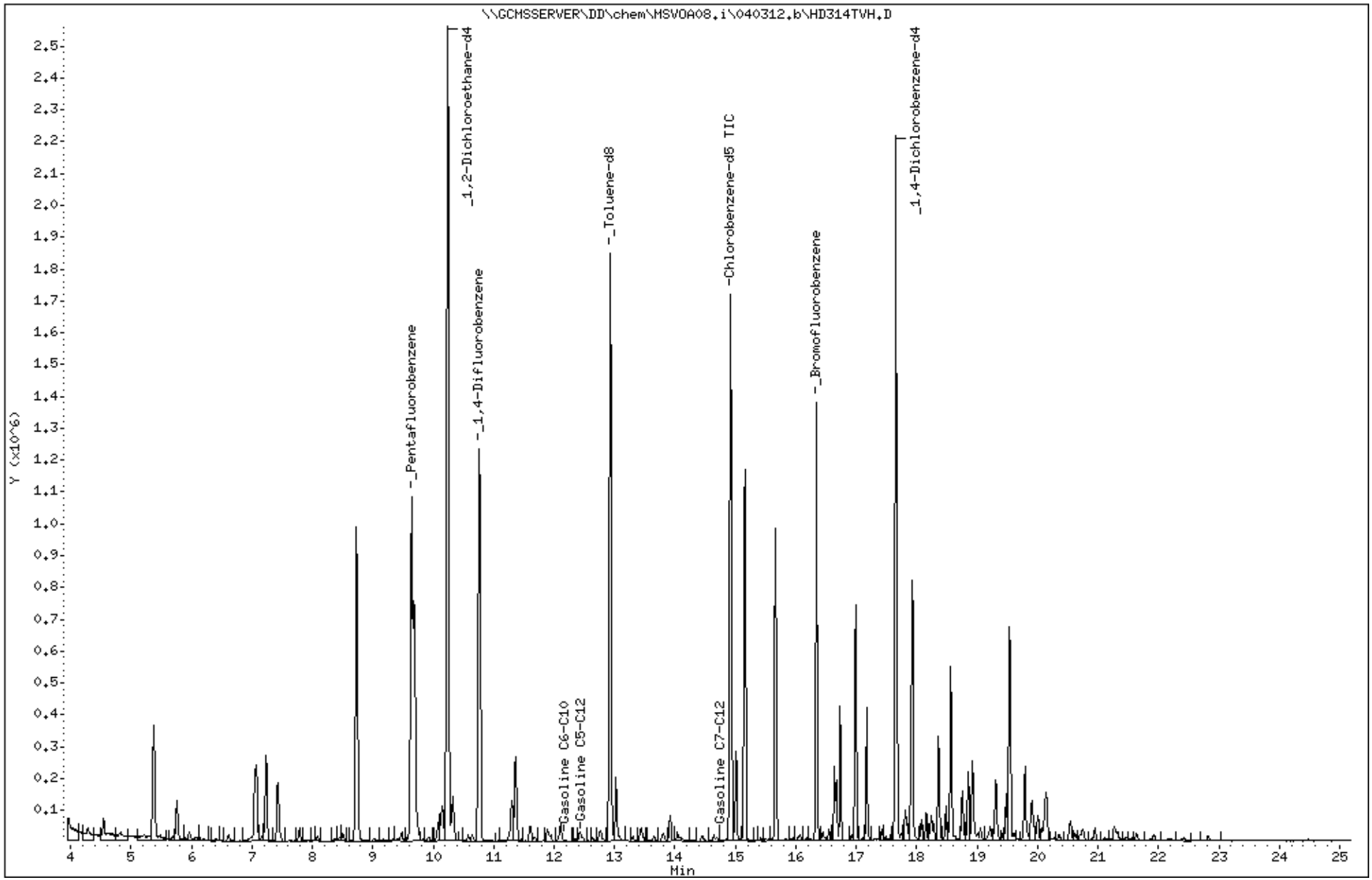
Instrument: MSVOA08.i

Sample Info: S,235239-001

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA10.i\040212.b\JD218TVH.D

Date : 02-APR-2012 18:52

Client ID: DYNA P&T

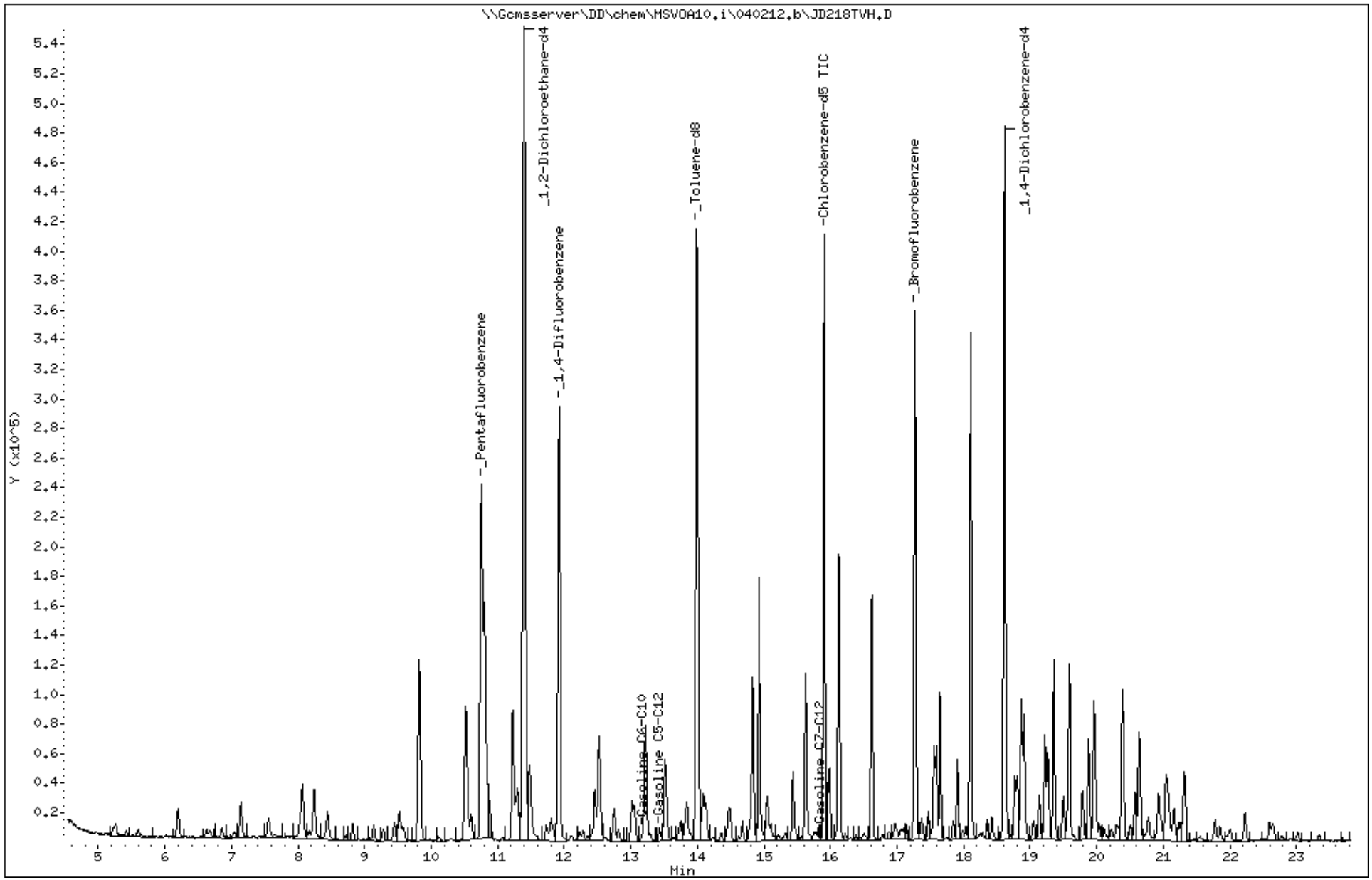
Instrument: MSVOA10.i

Sample Info: S,235239-006,185120,

Operator: VOA

Column phase:

Column diameter: 2.00



Data File: \\GCMSSERVER\DD\chem\MSVOA08.i\040312.b\HD315TVH.D

Date : 03-APR-2012 17:19

Client ID: DYNA P&T

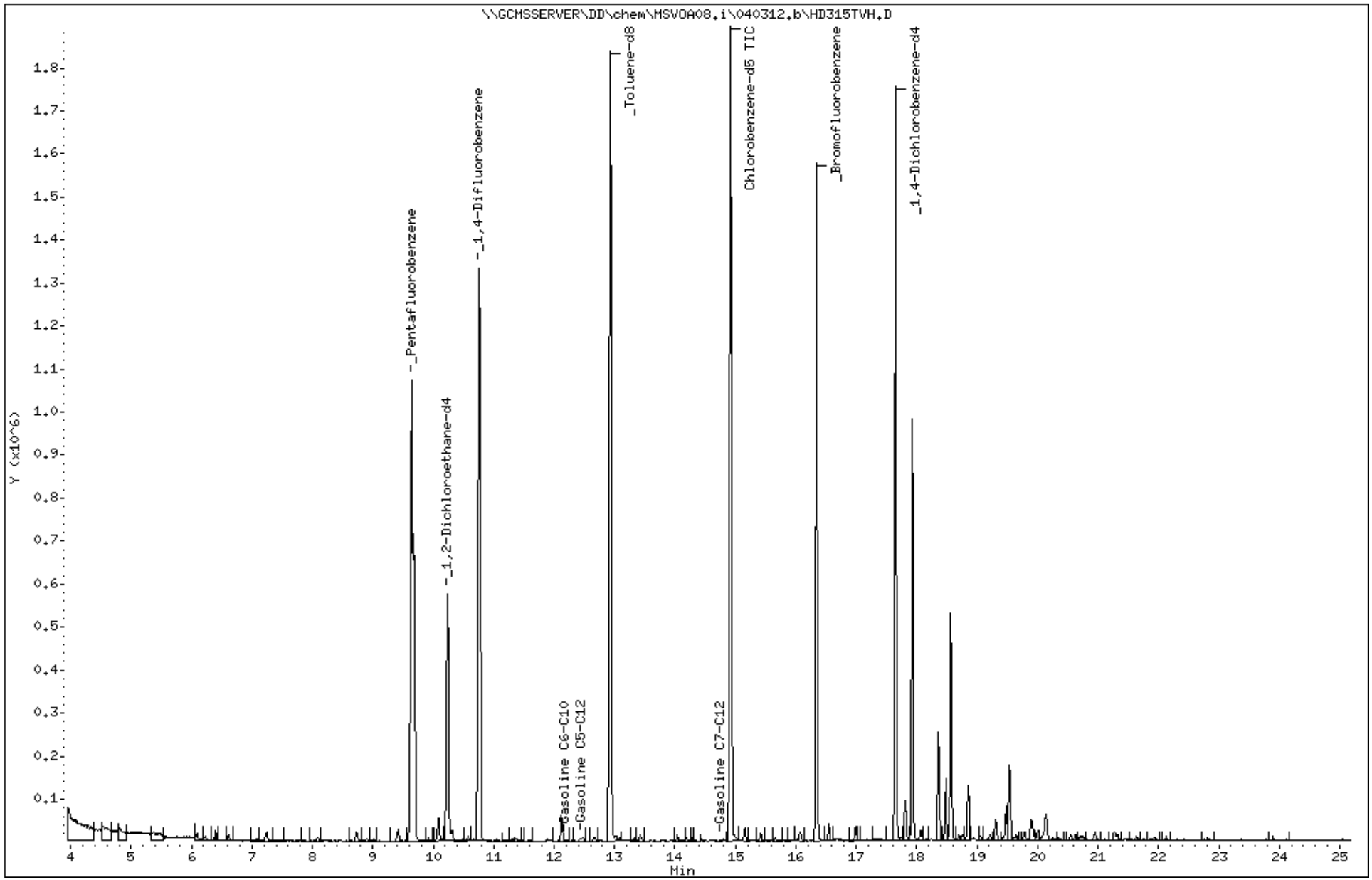
Instrument: MSVOA08.i

Sample Info: S,235239-007

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA10.i\040212.b\JD225TVH.D

Date : 02-APR-2012 23:11

Client ID: DYNA P&T

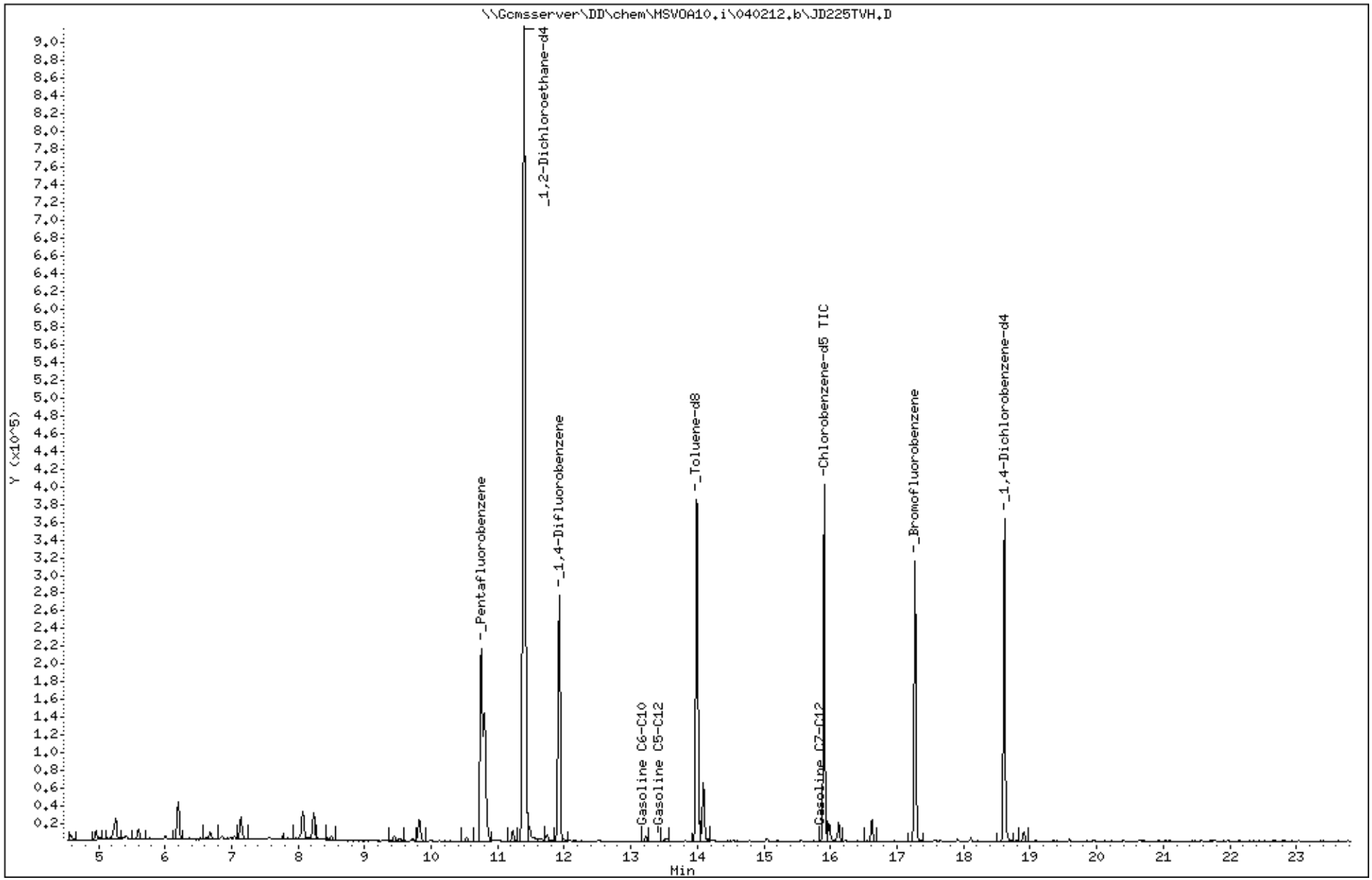
Instrument: MSVOA10.i

Sample Info: S,235239-008,185120,

Operator: VOA

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA10.i\040212.b\JD226TVH.D

Date : 02-APR-2012 23:48

Client ID: DYNA P&T

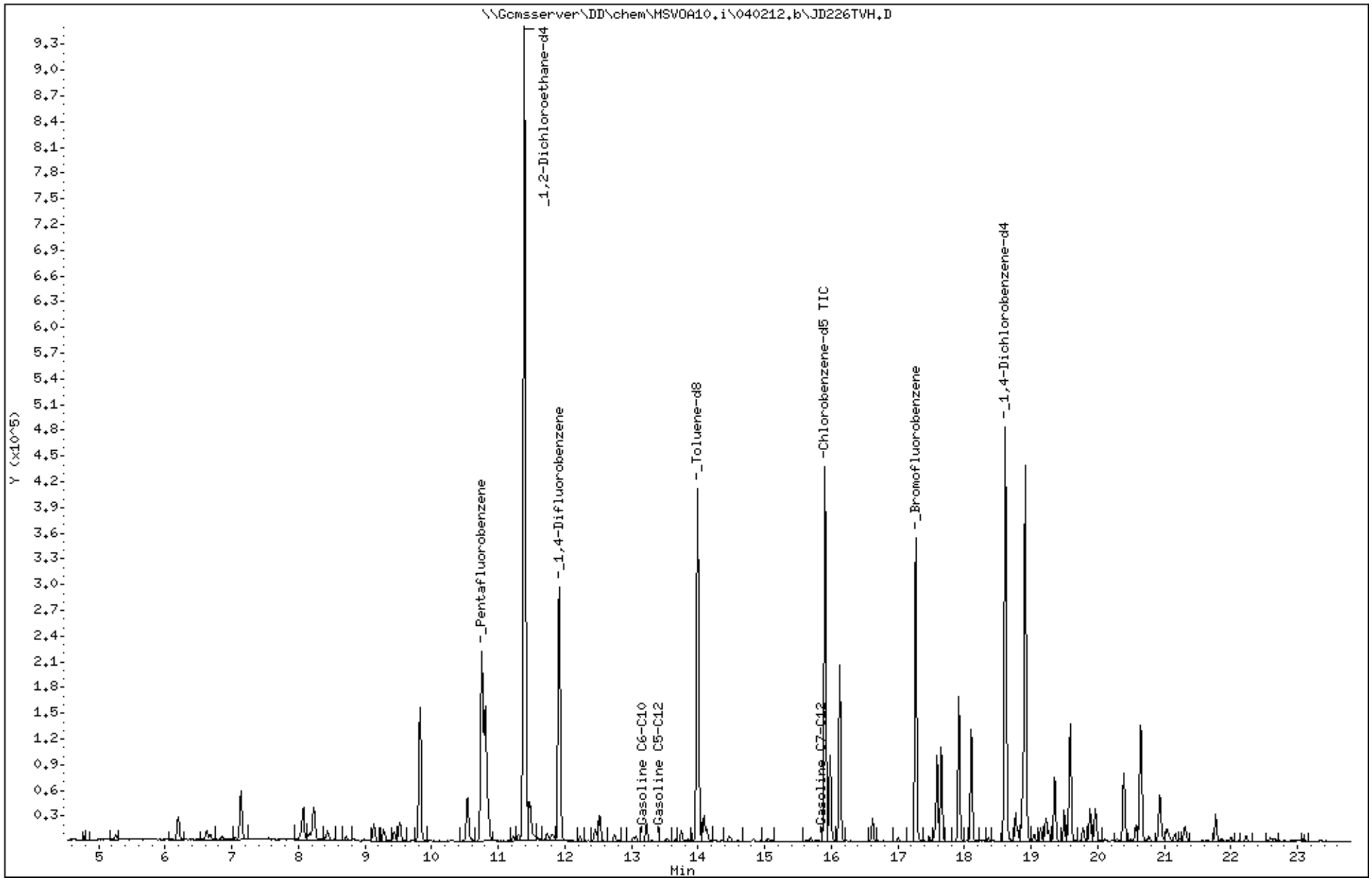
Instrument: MSVOA10.i

Sample Info: S,235239-009,185120,

Operator: VOA

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA10.i\040212.b\JD223TVH.D

Date : 02-APR-2012 21:57

Client ID: DYNA P&T

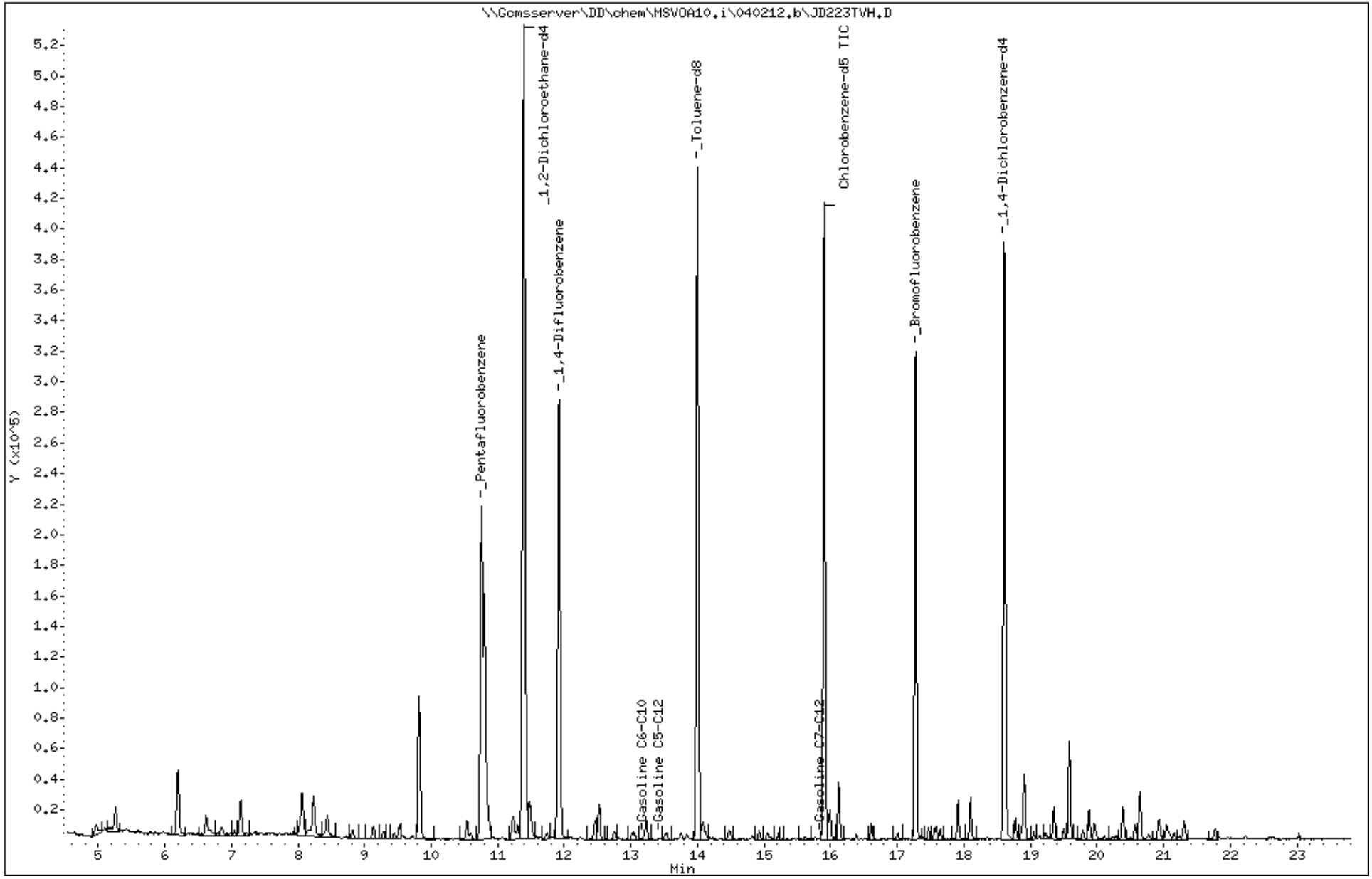
Instrument: MSVOA10.i

Sample Info: S,235239-011,185120,

Operator: VOA

Column phase:

Column diameter: 2.00



Data File: \\GCMSSERVER\DD\chem\MSVOA08.i\040312.b\HD316TVH.D

Date : 03-APR-2012 17:54

Client ID: DYNA P&T

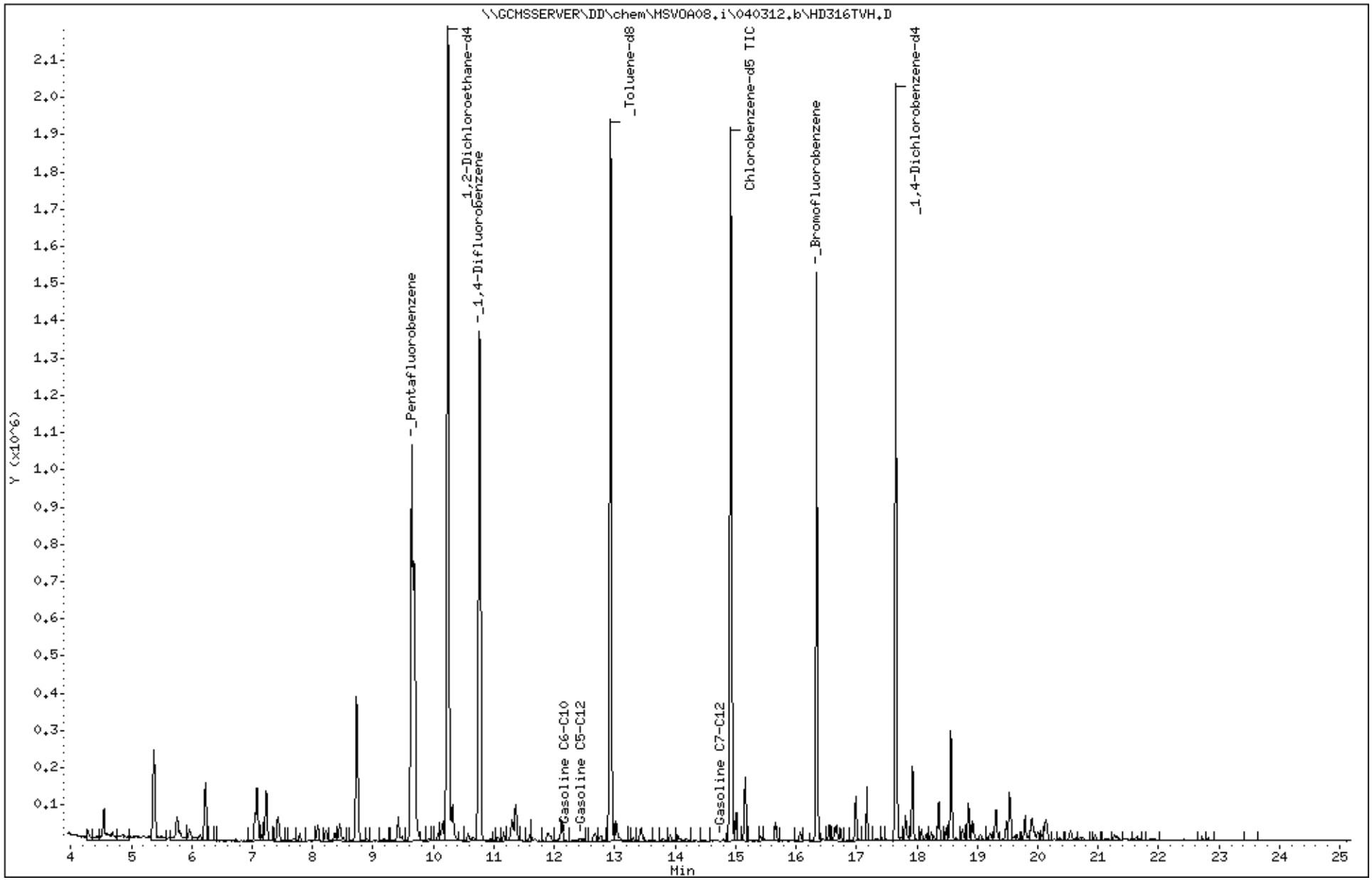
Instrument: MSVOA08.i

Sample Info: S.235239-012

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA08.i\040212.b\HD220TVH.D

Date : 03-APR-2012 00:10

Client ID: DYNA P&T

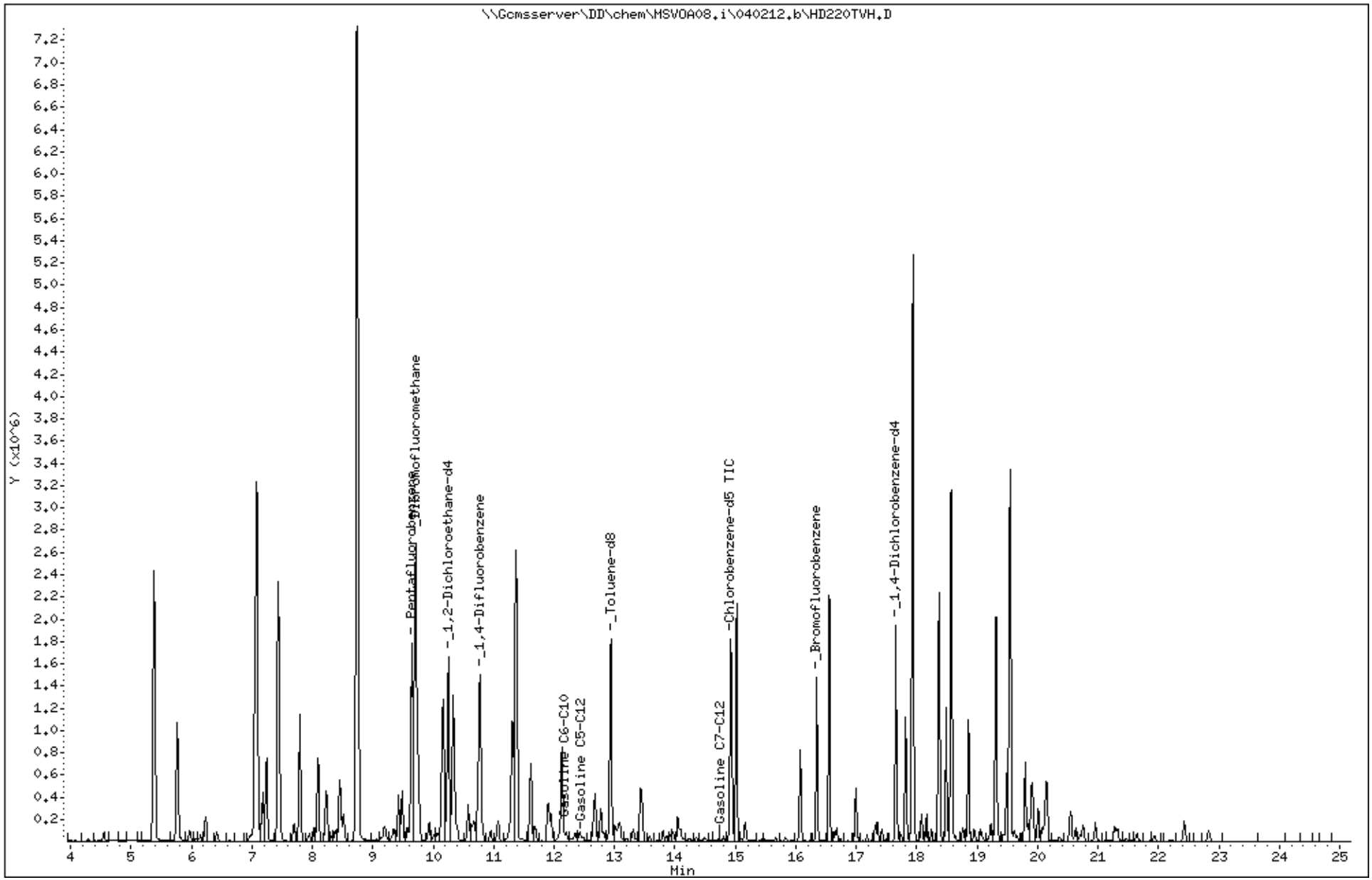
Instrument: MSVOA08.i

Sample Info: S,235239-015

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\GCMSSERVER\DD\chem\MSVOA08.i\040212.b\HD206TVH.D

Date : 02-APR-2012 15:39

Client ID: DYNA P&T

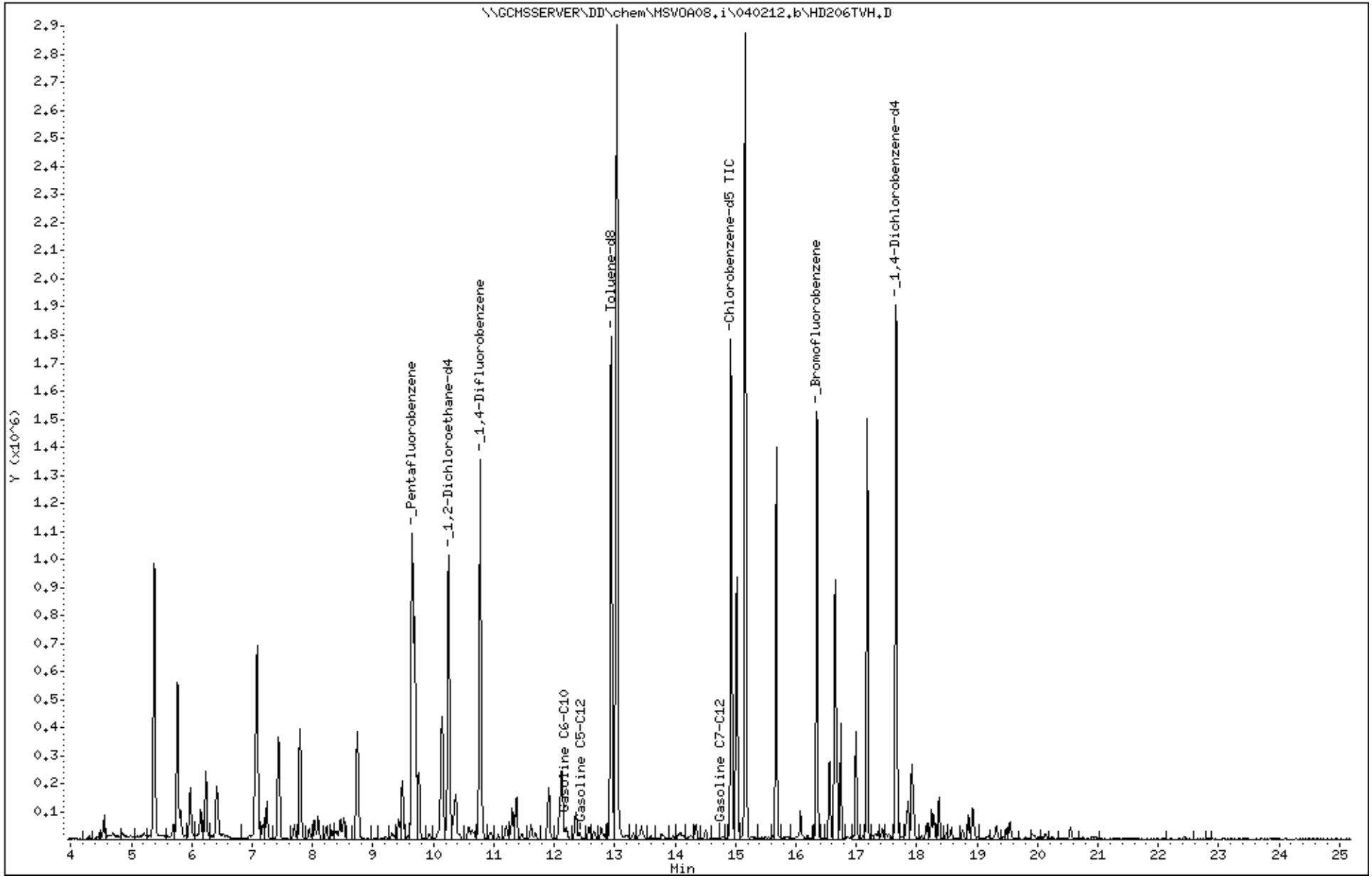
Instrument: MSVOA08.i

Sample Info: CCV/BS,QC633992,185131,S18583,.01/100

Operator: VOC

Column phase:

Column diameter: 2.00

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

Laboratory Job Number 237512
ANALYTICAL REPORT

Arcadis	Project : LC010060.0016.00003
2000 Powell St.	Location : MSC Oakland
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
RW-C6	237512-001
RW-C7	237512-002
RW-B1	237512-003
RW-B4	237512-004
MW-1	237512-005
MW-5	237512-006
MW-10	237512-007
MW-13	237512-008
MW-14	237512-009
MW-17	237512-010
RW-A2	237512-011
RW-D5	237512-012
RW-D9	237512-013
RW-1	237512-014
MW-5-FB	237512-015
MW-1-D	237512-016
TRIP BLANK	237512-017

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: Desiree N. Tetreault Date: 07/09/2012
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**237512**
Client:	**Arcadis**
Project:	**LC010060.0016.00003**
Location:	**MSC Oakland**
Request Date:	**06/27/12**
Samples Received:	**06/27/12**

This data package contains sample and QC results for sixteen water samples, requested for the above referenced project on 06/27/12. The samples were received cold and intact.

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

Volatile Organics by GC/MS (EPA 8260B):
High recovery was observed for ethylbenzene in the BS for batch 188081; the associated RPD was within limits, and the high recovery was not associated with any reported results. No other analytical problems were encountered.

CHAIN OF CUSTODY

Curtis & Tompkins Laboratories
ENVIRONMENTAL ANALYTICAL TESTING LABORATORY
In Business Since 1878

2323 Fifth Street
Berkeley, CA 94710

Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # 23752

Project No: LC010060.0016.00003 Sampler: M.D. & D.S.

Project Name: MSC Oakland Report To: Daren Roth

Project P. O. No: Company: ARCADIS

EDD Format: Report Level ☐ II ☐ III ☐ IV Telephone: (510) 652-4500

Turnaround Time: ☐ RUSH ☒ Standard Email: Daren.Roth@arcadis-us.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST		
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	TPHg/BTEX/MTBE (8260)	TPHd/TPHmo/TPHk (8015)	
1	RW-C6	6-26-12	1430	X				5	X				X	X	X	
2	RW-C7		1450	X				5	X				X	X	X	
3	RW-B1		1640	X				5	X				X	X	X	
4	RW-B4		1535	X				5	X				X	X	X	
5	MW-1	6-27-12	1455	X				5	X				X	X	X	
6	MW-5		1435	X				5	X				X	X	X	
7	MW-10		1000	X				5	X				X	X	X	
8	MW-13		0930	X				5	X				X	X	X	
9	MW-14		0850	X				5	X				X	X	X	
10	MW-17		0855	X				5	X				X	X	X	
11	RW-A2		1150	X				5	X				X	X	X	
12	RW-D5		1110	X				5	X				X	X	X	
13	RW-D9		1510	X				5	X				X	X	X	

Notes:
For TPHd, TPHmo, and TPHk use Silica Gel Cleanup.

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 6/27/12 TIME: 1635
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 6/27/12 TIME: 1635
DATE: TIME:
DATE: TIME:

CHAIN OF CUSTODY

Curtis & Tompkins Laboratories
ENVIRONMENTAL ANALYTICAL TESTING LABORATORY
In Business Since 1878
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Page 2 of 2

Chain of Custody # ______

C&T LOGIN # 237512

Project No: LC010060.0016.00003
Project Name: MSC Oakland
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ______ ☒ Standard

Sampler: M.D. & D.S.
Report To: Daren Roth
Company: ARCADIS
Telephone: (510) 652-4500
Email: Daren.Roth@arcadis-us.com

Lab No.	Sample ID.	SAMPLING Date Collected	SAMPLING Time Collected	MATRIX Water	MATRIX Solid			# of Containers	CHEMICAL PRESERVATIVE HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST TPHg/BTEX/MTBE (8260)	TPHd/TPHmo/TPHk (8015)	Hold
14	RW-1	6-27-12	1400	X				5	X				X	X	X	
15	MW-5-FB	↓	1345	X				5	X				X	X	X	
16	MW-1-D	↓	1500	X				5	X				X	X	X	
17	Trip Blank	↓	—	X				3	X							X

Notes: For TPHd, TPHmo, and TPHk use Silica Gel Clean-up.

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	6/27/12	1635	[signature]	6/27/12	1635

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 23752 Date Received 6/27/12 Number of coolers 2
Client Arcadis Project MSC Oakland

Date Opened 6/27/12 By (print) Adnan Ahmad (sign) Adnan Ahmad
Date Logged in ✓ By (print) CR (sign)

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

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☑ ~~NO~~
How many Name Date
2B. Were custody seals intact upon arrival? YES NO (N/A)
3. Were custody papers dry and intact when received? (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe)

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

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

Type of ice used: ☑ ~~Wet~~ ☐ Blue/Gel ☐ None Temp(°C) 2.6°, 4°C

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

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

8. Were Method 5035 sampling containers present? YES (NO)
If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? (YES) NO
10. Are there any missing / extra samples? YES (NO)
11. Are samples in the appropriate containers for indicated tests? (YES) NO
12. Are sample labels present, in good condition and complete? (YES) NO
13. Do the sample labels agree with custody papers? (YES) NO
14. Was sufficient amount of sample sent for tests requested? (YES) NO
15. Are the samples appropriately preserved? (YES) NO N/A
16. Did you check preservatives for all bottles for each sample? YES NO (N/A)
17. Did you document your preservative check? YES NO (N/A)
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? (YES) NO N/A
21. Was the client contacted concerning this sample delivery? YES (NO)
If YES, Who was called? By Date:

COMMENTS

Rev 10, 11/11

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	188061
Units:	ug/L	Received:	06/27/12
Diln Fac:	1.000	Prepared:	06/28/12

Field ID:	RW-C6	Sampled:	06/26/12
Type:	SAMPLE	Analyzed:	07/02/12
Lab ID:	237512-001	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	2,000	50
Diesel C10-C24	2,700	50
Motor Oil C24-C36	2,000	300

Surrogate	%REC	Limits
o-Terphenyl	81	61-129

Field ID:	RW-C7	Sampled:	06/26/12
Type:	SAMPLE	Analyzed:	06/30/12
Lab ID:	237512-002	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	150 Y	50
Diesel C10-C24	410	50
Motor Oil C24-C36	380 Y	300

Surrogate	%REC	Limits
o-Terphenyl	91	61-129

Field ID:	RW-B1	Sampled:	06/26/12
Type:	SAMPLE	Analyzed:	06/30/12
Lab ID:	237512-003	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	90 Y	50
Diesel C10-C24	130 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	72	61-129

Field ID:	RW-B4	Sampled:	06/26/12
Type:	SAMPLE	Analyzed:	07/02/12
Lab ID:	237512-004	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	4,500	50
Diesel C10-C24	3,700	50
Motor Oil C24-C36	950	300

Surrogate	%REC	Limits
o-Terphenyl	70	61-129

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	188061
Units:	ug/L	Received:	06/27/12
Diln Fac:	1.000	Prepared:	06/28/12

Field ID:	MW-1	Sampled:	06/27/12
Type:	SAMPLE	Analyzed:	06/30/12
Lab ID:	237512-005	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	120 Y	52
Diesel C10-C24	150 Y	52
Motor Oil C24-C36	ND	310

Surrogate	%REC	Limits
o-Terphenyl	103	61-129

Field ID:	MW-5	Sampled:	06/27/12
Type:	SAMPLE	Analyzed:	06/30/12
Lab ID:	237512-006	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	1,200	50
Diesel C10-C24	1,000 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	94	61-129

Field ID:	MW-10	Sampled:	06/27/12
Type:	SAMPLE	Analyzed:	06/30/12
Lab ID:	237512-007	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	101	61-129

Field ID:	MW-13	Sampled:	06/27/12
Type:	SAMPLE	Analyzed:	06/30/12
Lab ID:	237512-008	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	310 Y	50
Motor Oil C24-C36	2,000	300

Surrogate	%REC	Limits
o-Terphenyl	71	61-129

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	188061
Units:	ug/L	Received:	06/27/12
Diln Fac:	1.000	Prepared:	06/28/12

Field ID:	MW-14	Sampled:	06/27/12
Type:	SAMPLE	Analyzed:	06/30/12
Lab ID:	237512-009	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	69 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	86	61-129

Field ID:	MW-17	Sampled:	06/27/12
Type:	SAMPLE	Analyzed:	06/30/12
Lab ID:	237512-010	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	59 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	68	61-129

Field ID:	RW-A2	Sampled:	06/27/12
Type:	SAMPLE	Analyzed:	06/29/12
Lab ID:	237512-011	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	140 Y	52
Diesel C10-C24	520 Y	52
Motor Oil C24-C36	ND	310

Surrogate	%REC	Limits
o-Terphenyl	80	61-129

Field ID:	RW-D5	Sampled:	06/27/12
Type:	SAMPLE	Analyzed:	06/29/12
Lab ID:	237512-012	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	360	51
Diesel C10-C24	510	51
Motor Oil C24-C36	ND	310

Surrogate	%REC	Limits
o-Terphenyl	94	61-129

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	188061
Units:	ug/L	Received:	06/27/12
Diln Fac:	1.000	Prepared:	06/28/12

Field ID:	RW-D9	Sampled:	06/27/12
Type:	SAMPLE	Analyzed:	06/29/12
Lab ID:	237512-013	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	860	50
Diesel C10-C24	800	50
Motor Oil C24-C36	630	300

Surrogate	%REC	Limits
o-Terphenyl	97	61-129

Field ID:	RW-1	Sampled:	06/27/12
Type:	SAMPLE	Analyzed:	06/29/12
Lab ID:	237512-014	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	101	61-129

Field ID:	MW-5-FB	Sampled:	06/27/12
Type:	SAMPLE	Analyzed:	06/29/12
Lab ID:	237512-015	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	114	61-129

Field ID:	MW-1-D	Sampled:	06/27/12
Type:	SAMPLE	Analyzed:	06/29/12
Lab ID:	237512-016	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	55 Y	50
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	118	61-129

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	188061
Units:	ug/L	Received:	06/27/12
Diln Fac:	1.000	Prepared:	06/28/12

Type:	BLANK	Analyzed:	06/30/12
Lab ID:	QC646030	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	61-129

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 #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	188061
Units:	ug/L	Prepared:	06/28/12
Diln Fac:	1.000	Analyzed:	06/30/12

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC646031

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,465	59	59-120

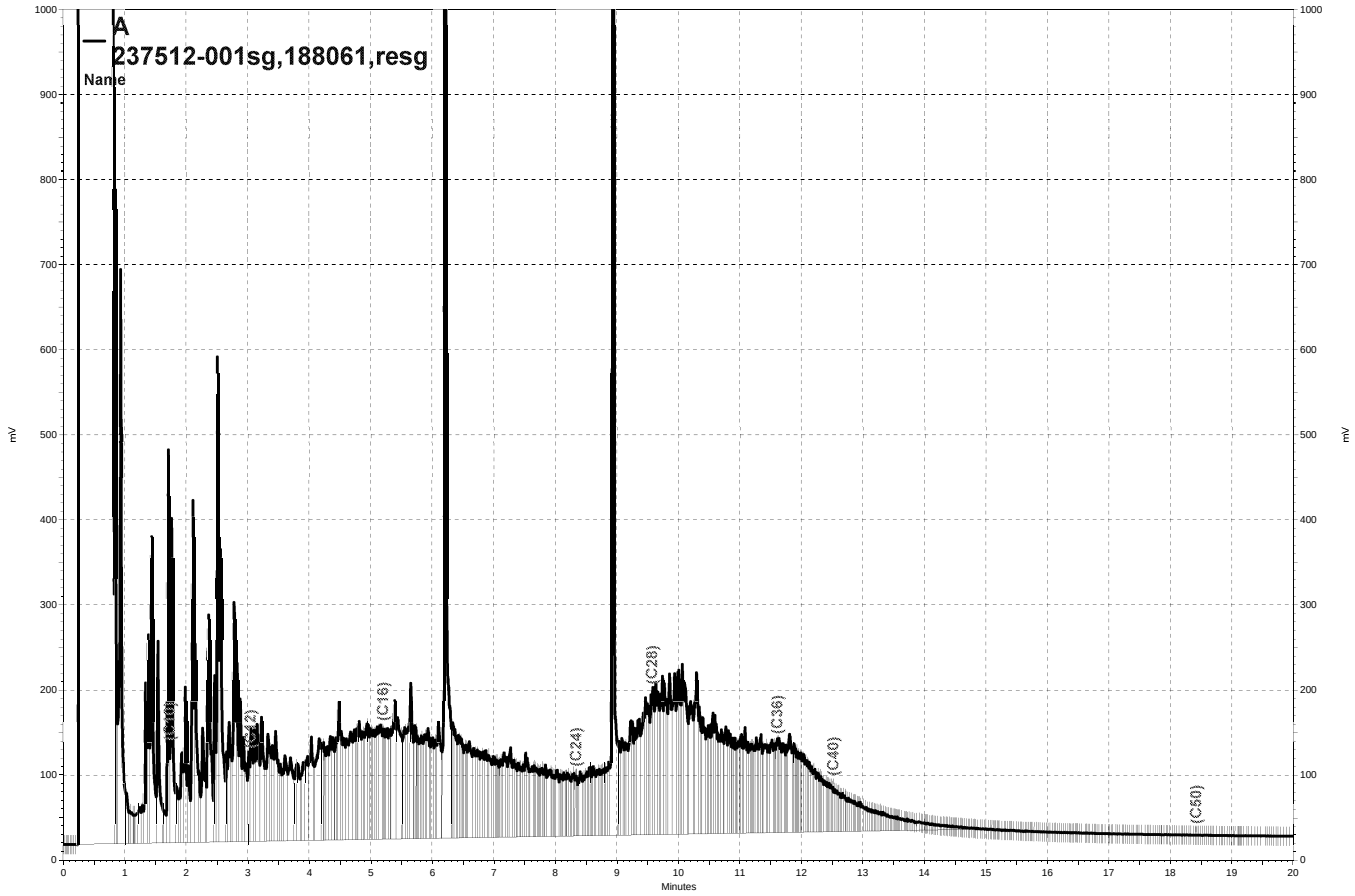
Surrogate	%REC	Limits
o-Terphenyl	72	61-129

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC646032

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,011	80	59-120	31	52

Surrogate	%REC	Limits
o-Terphenyl	108	61-129

RPD= Relative Percent Difference



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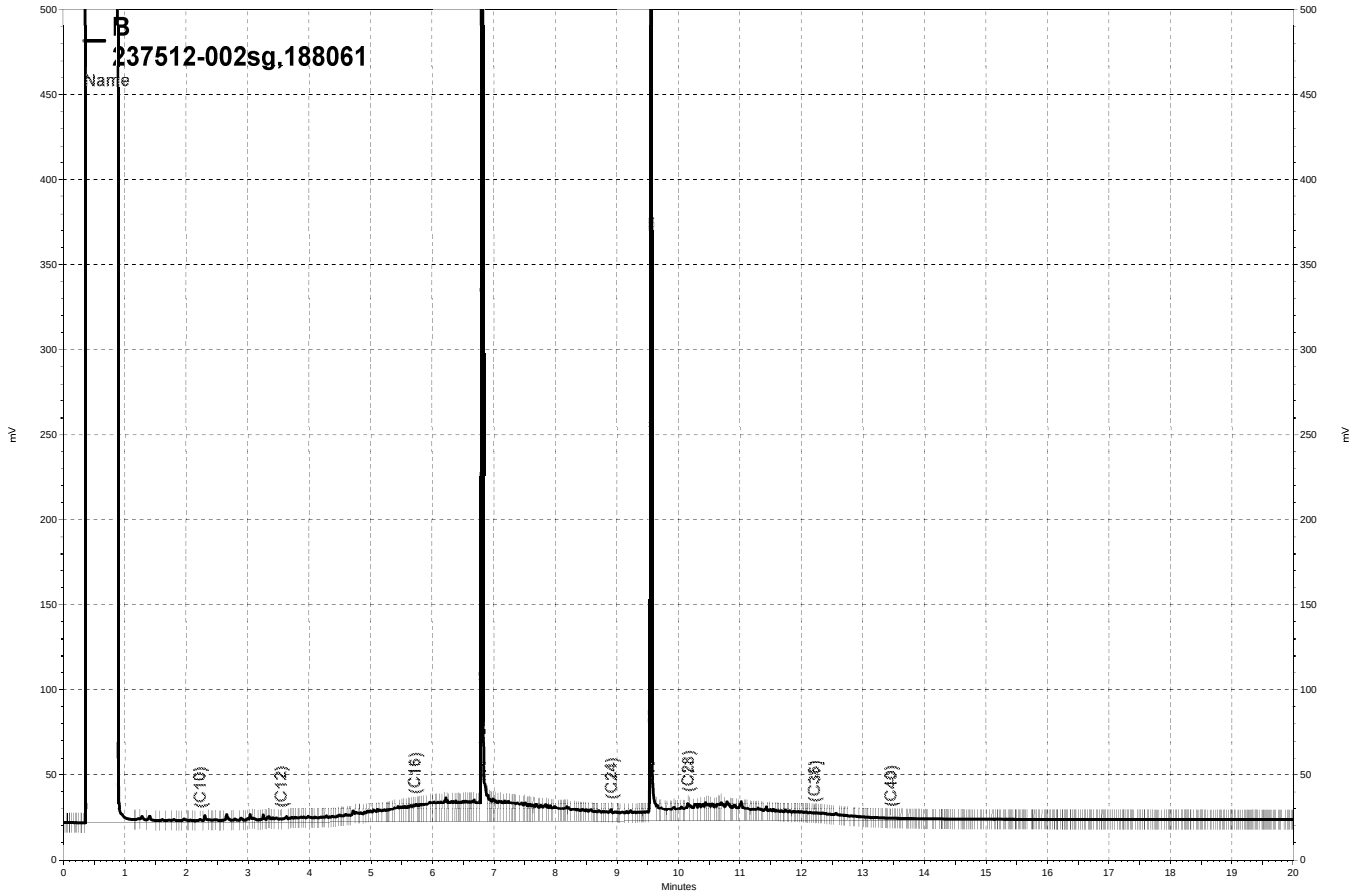

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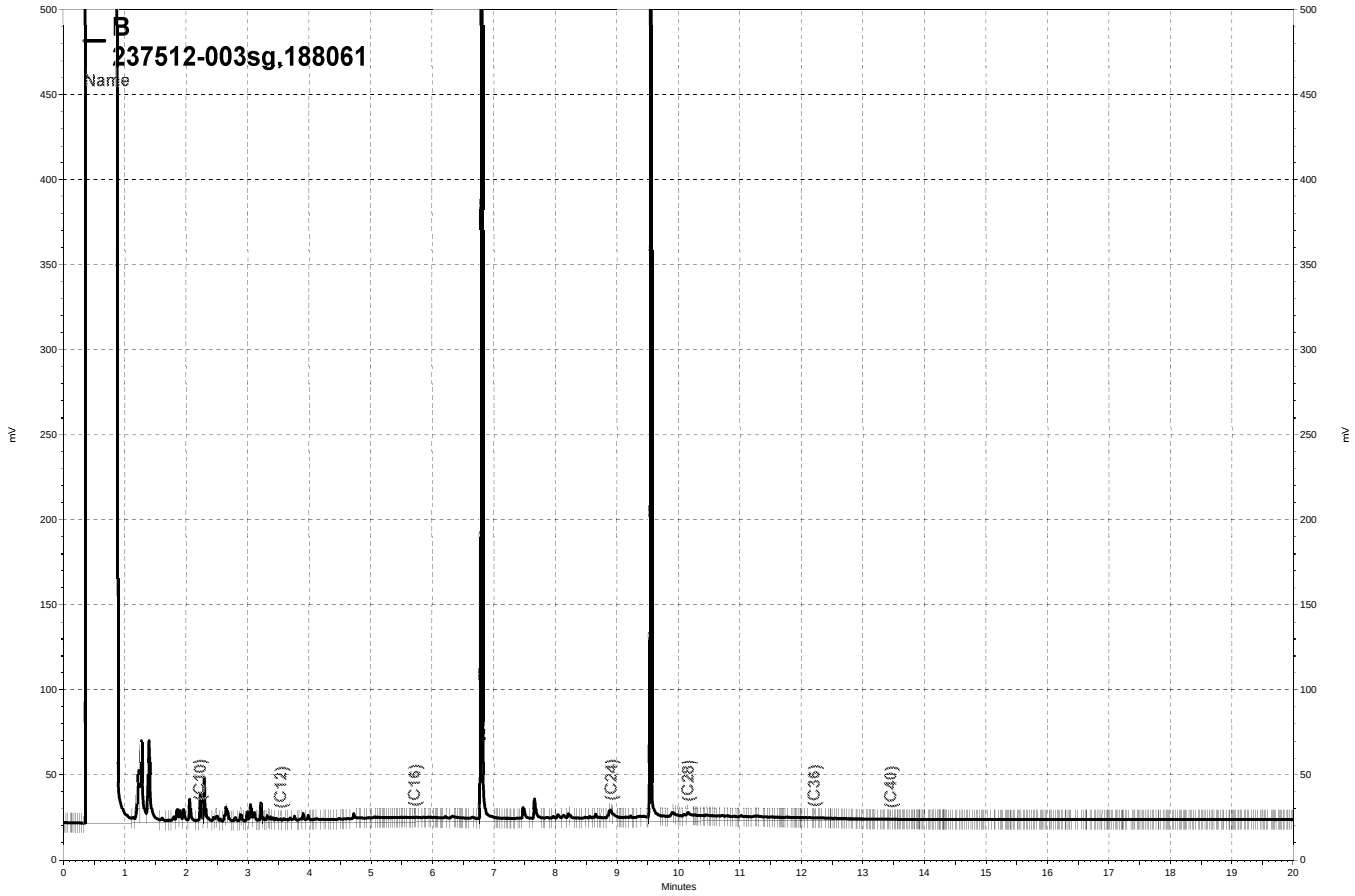

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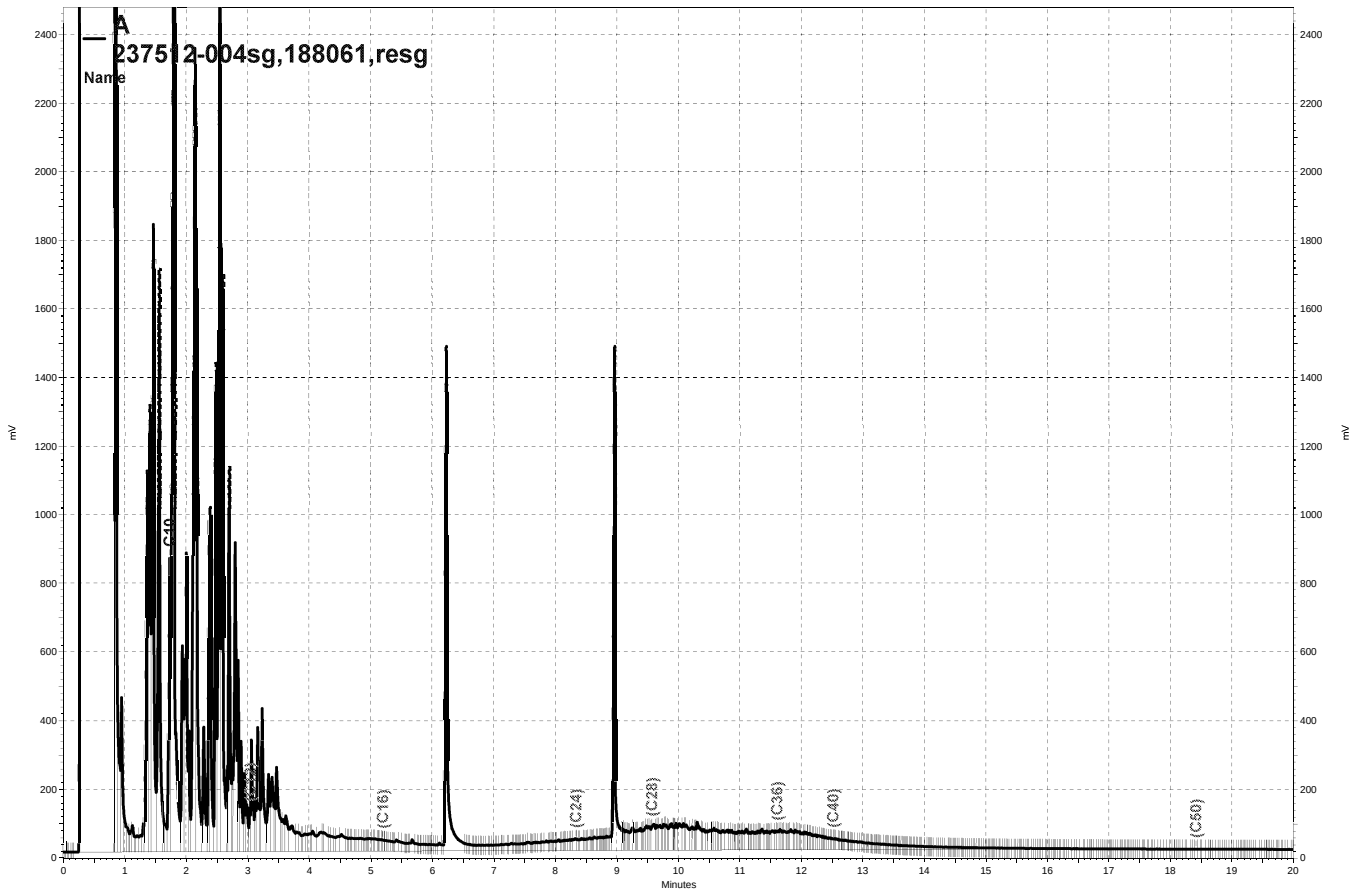

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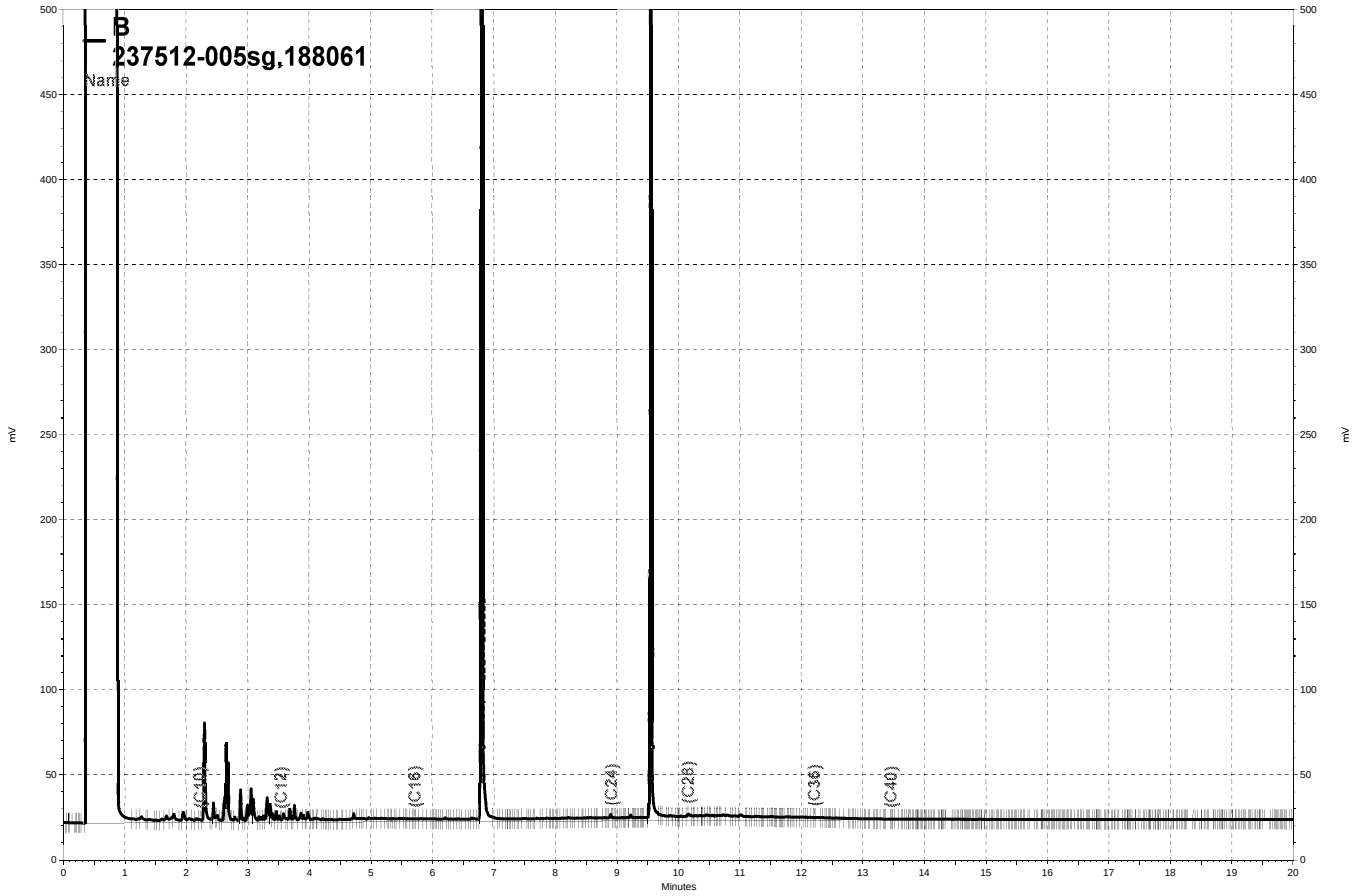

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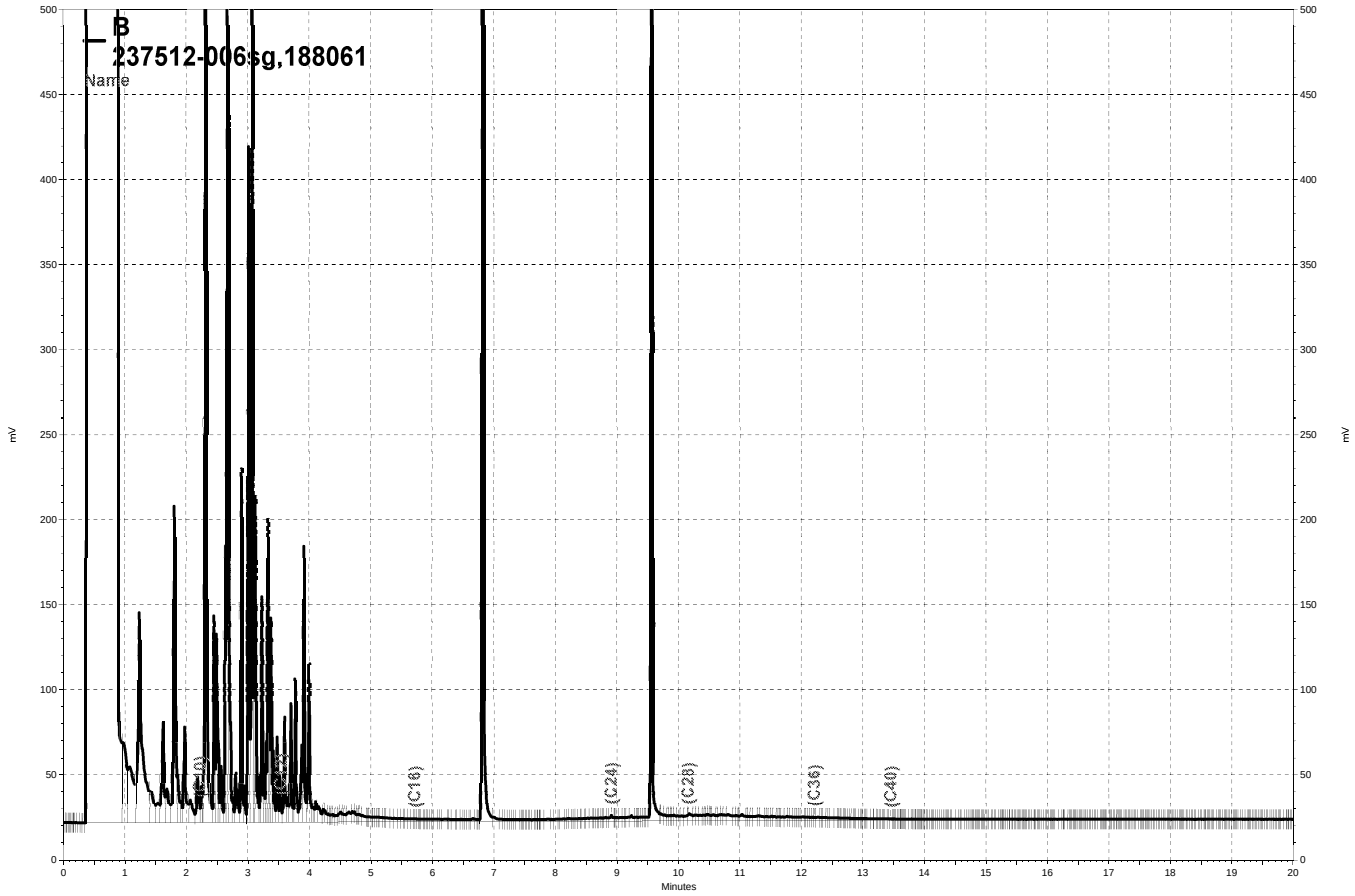

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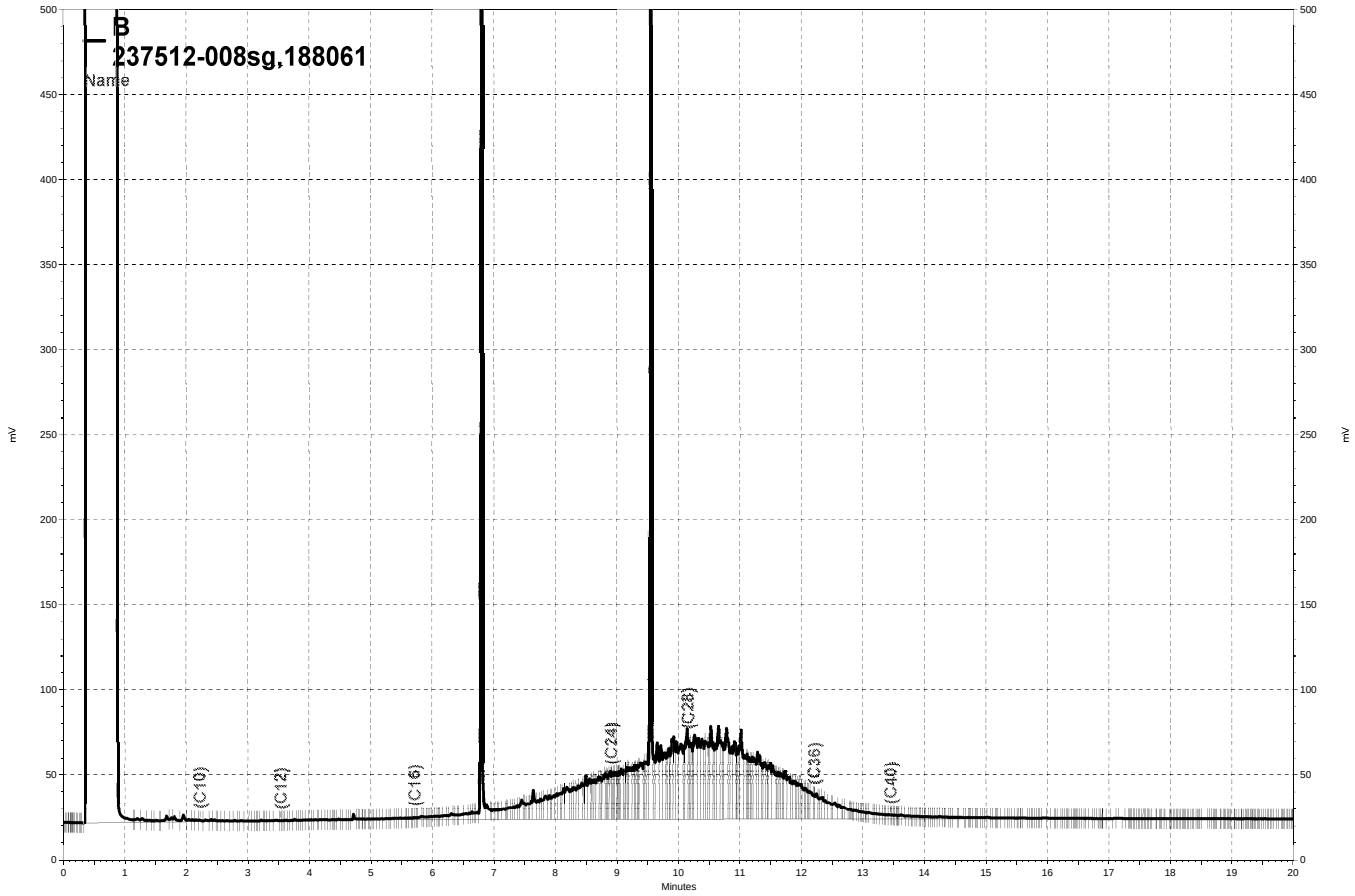

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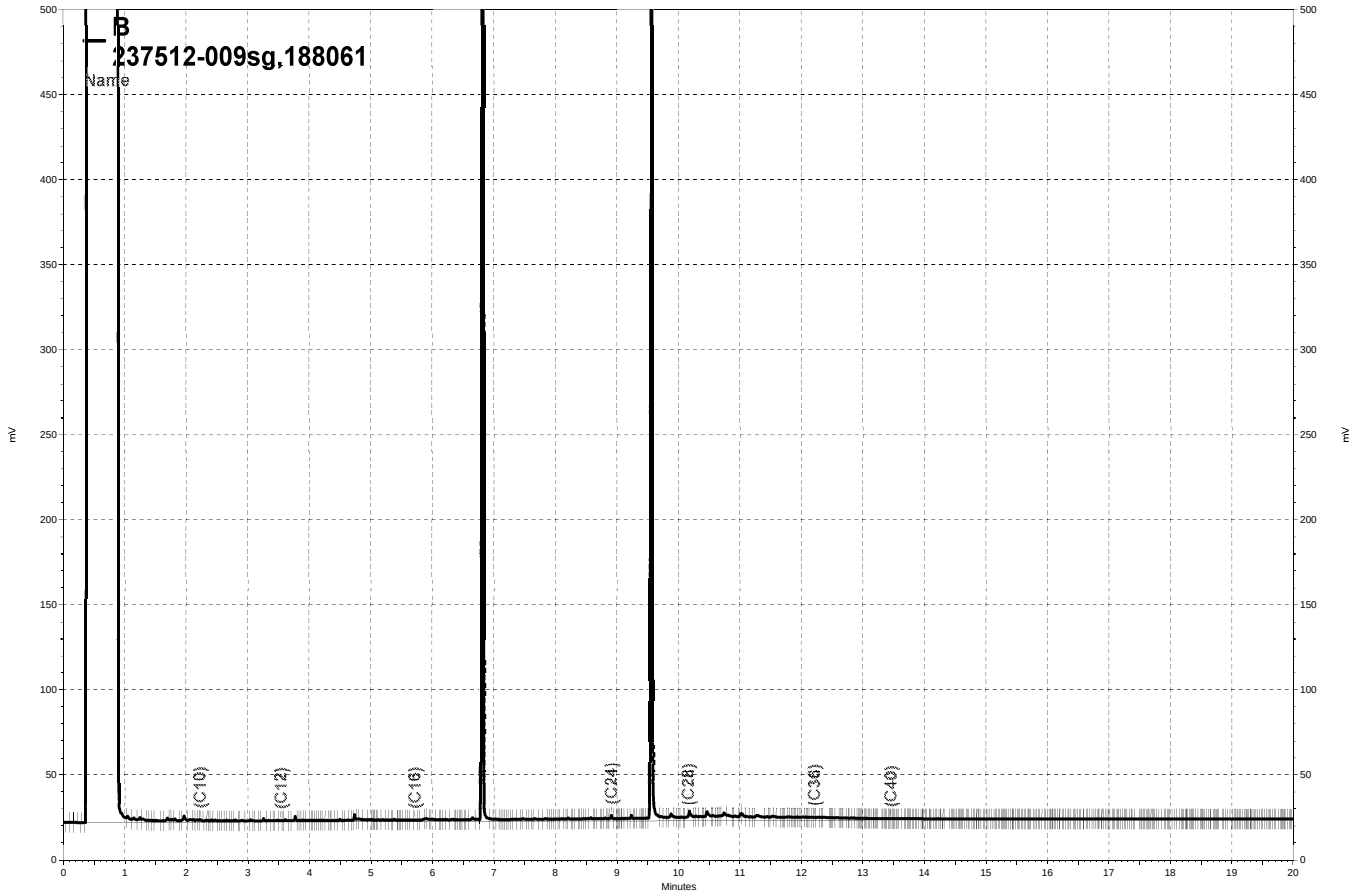

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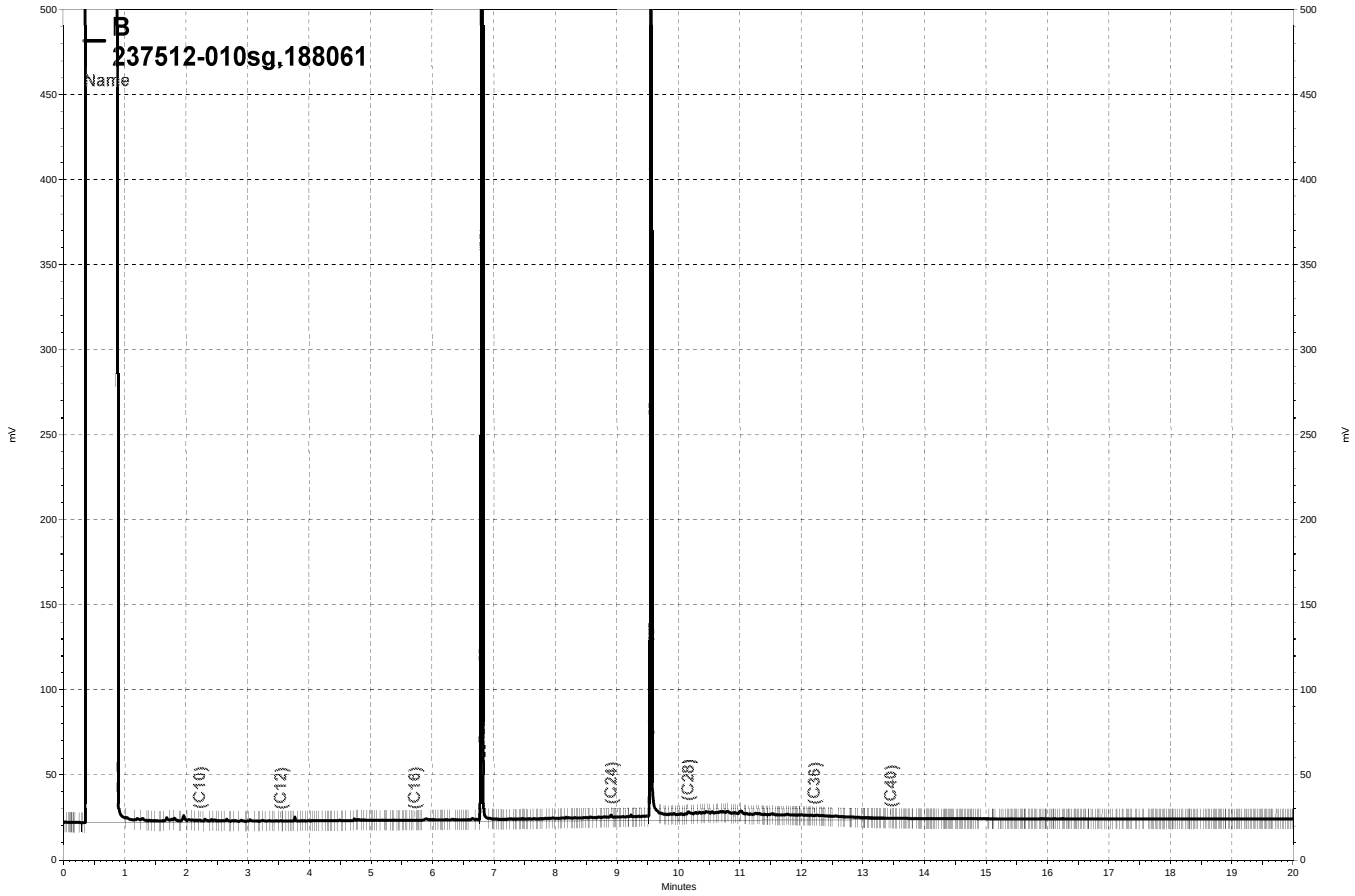

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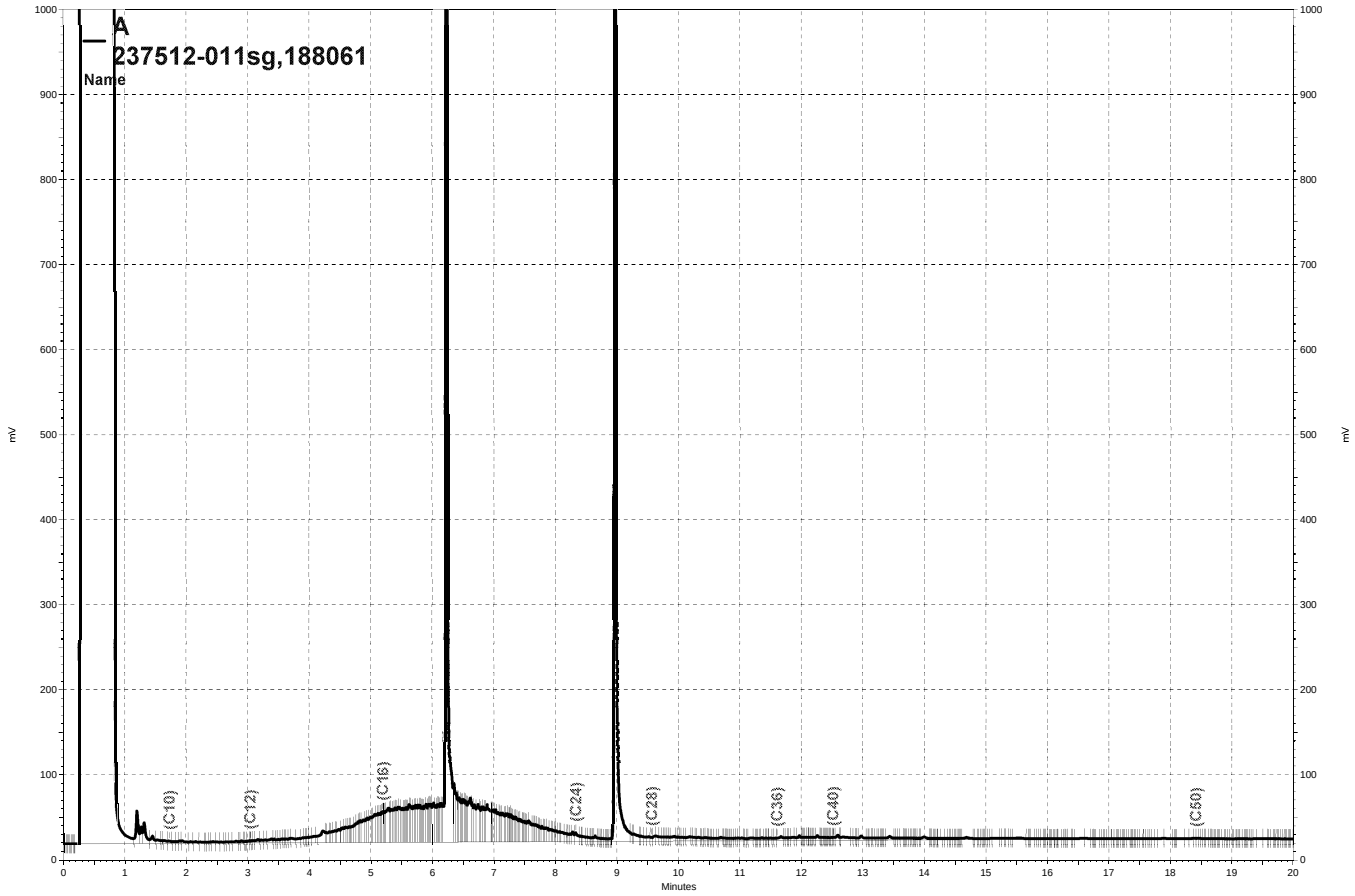

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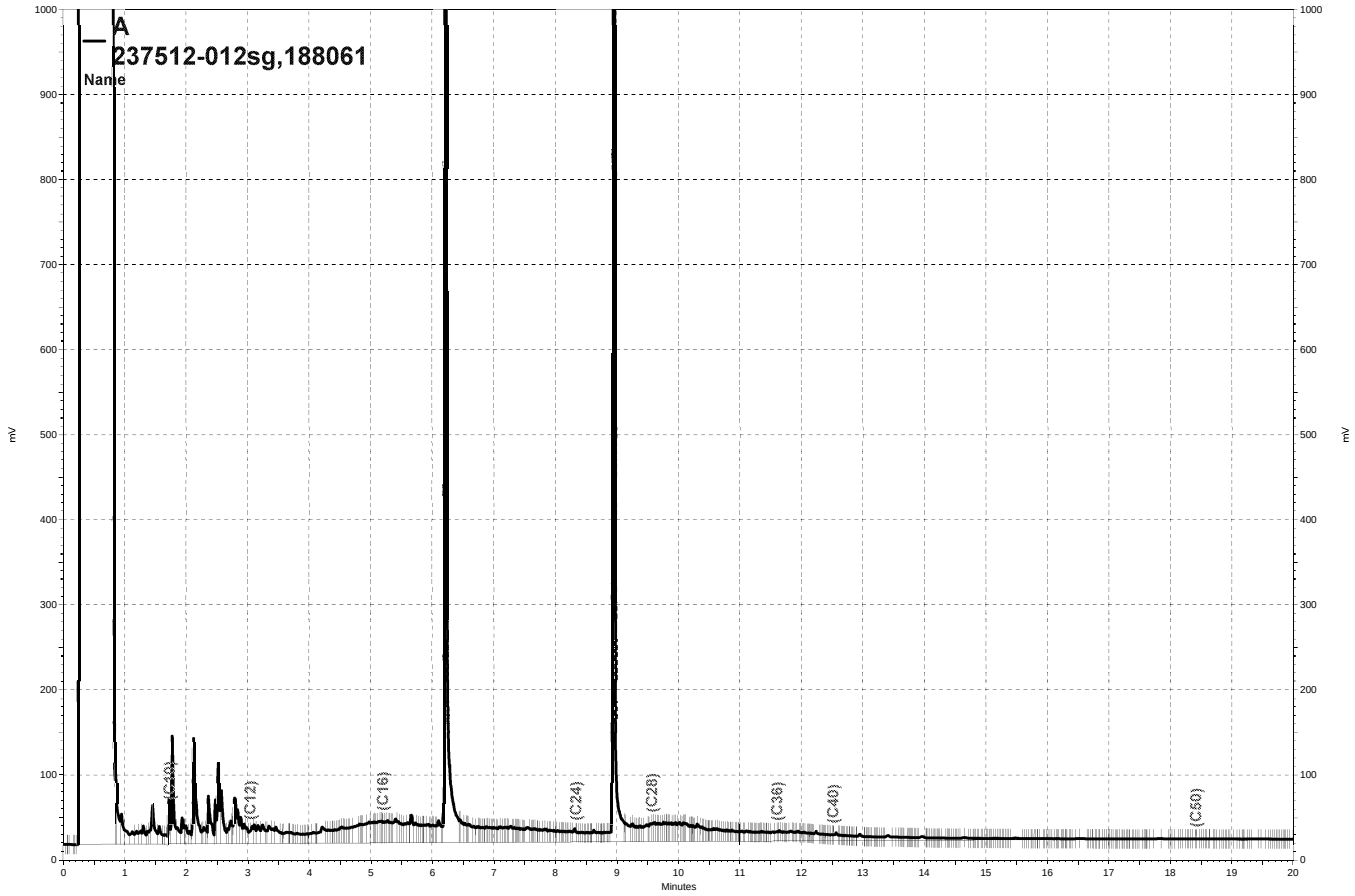

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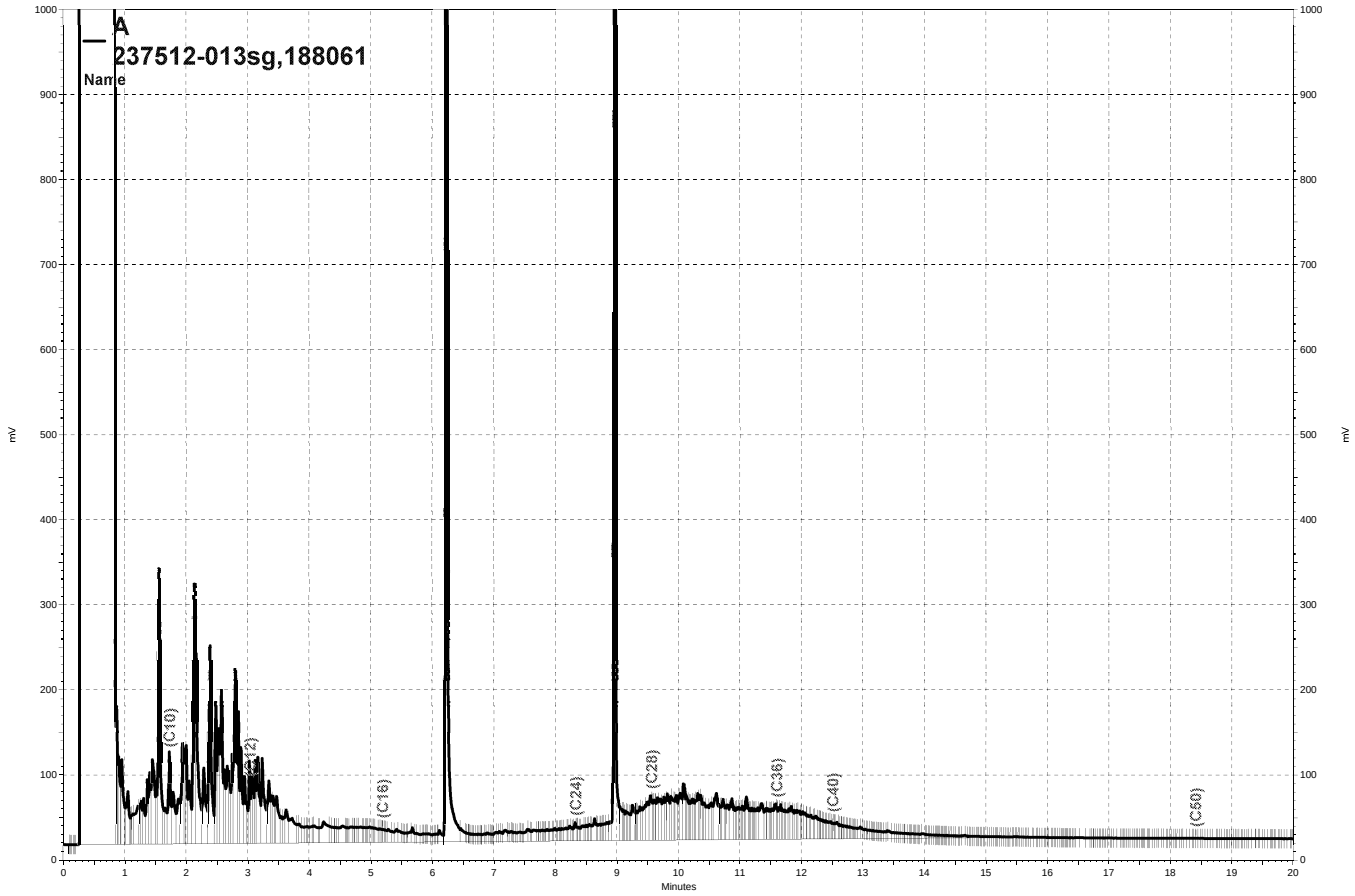

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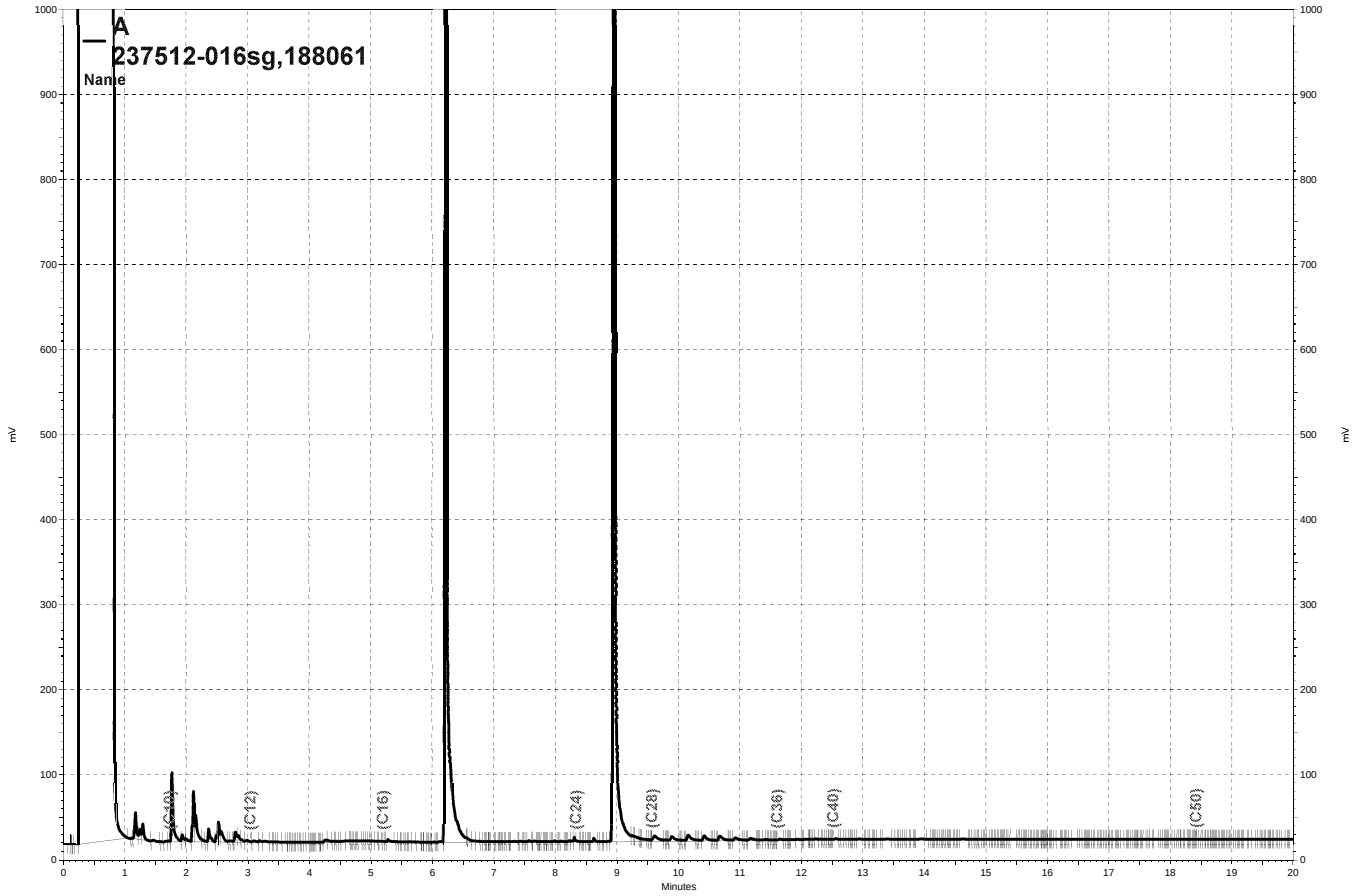

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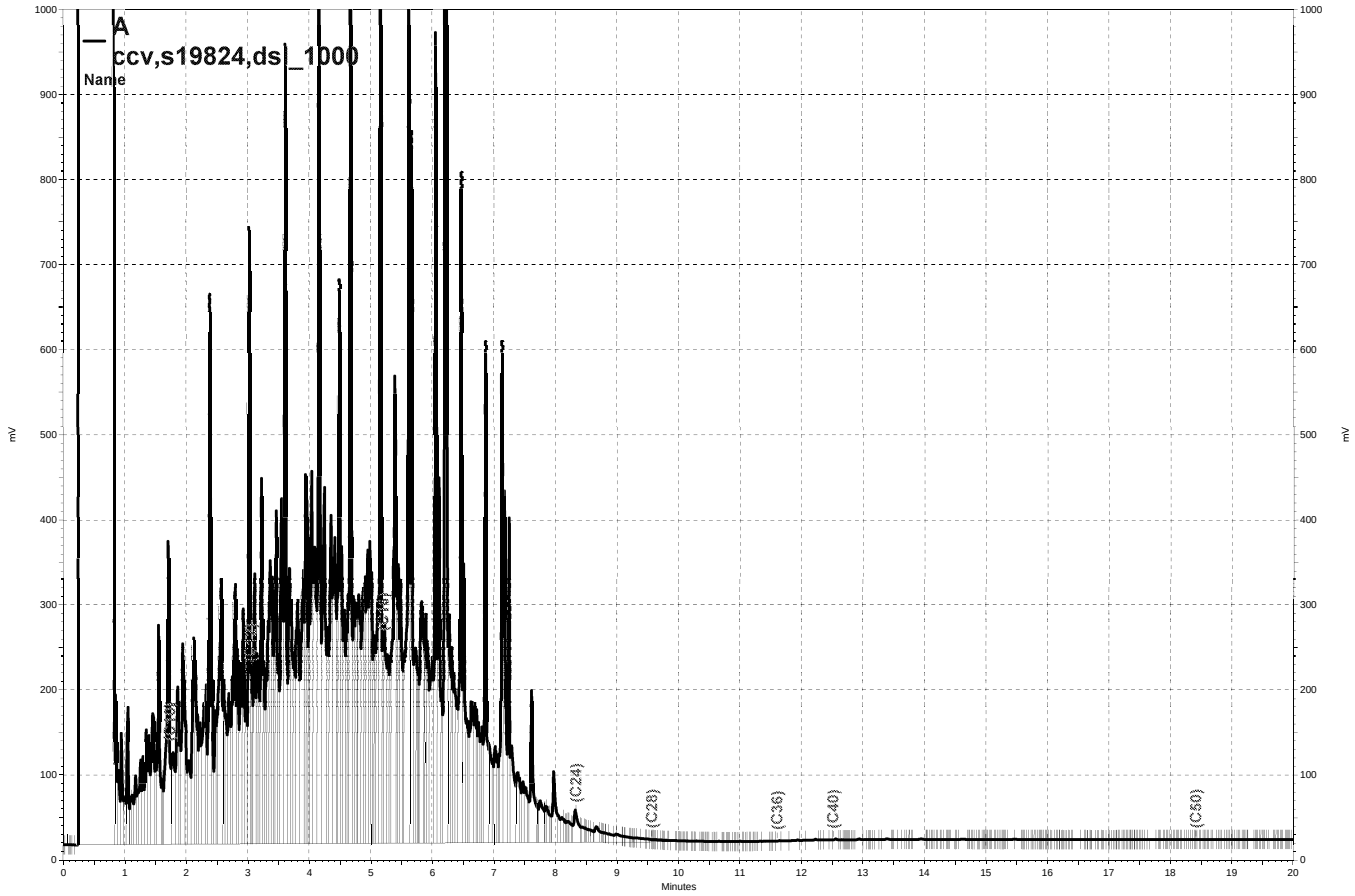

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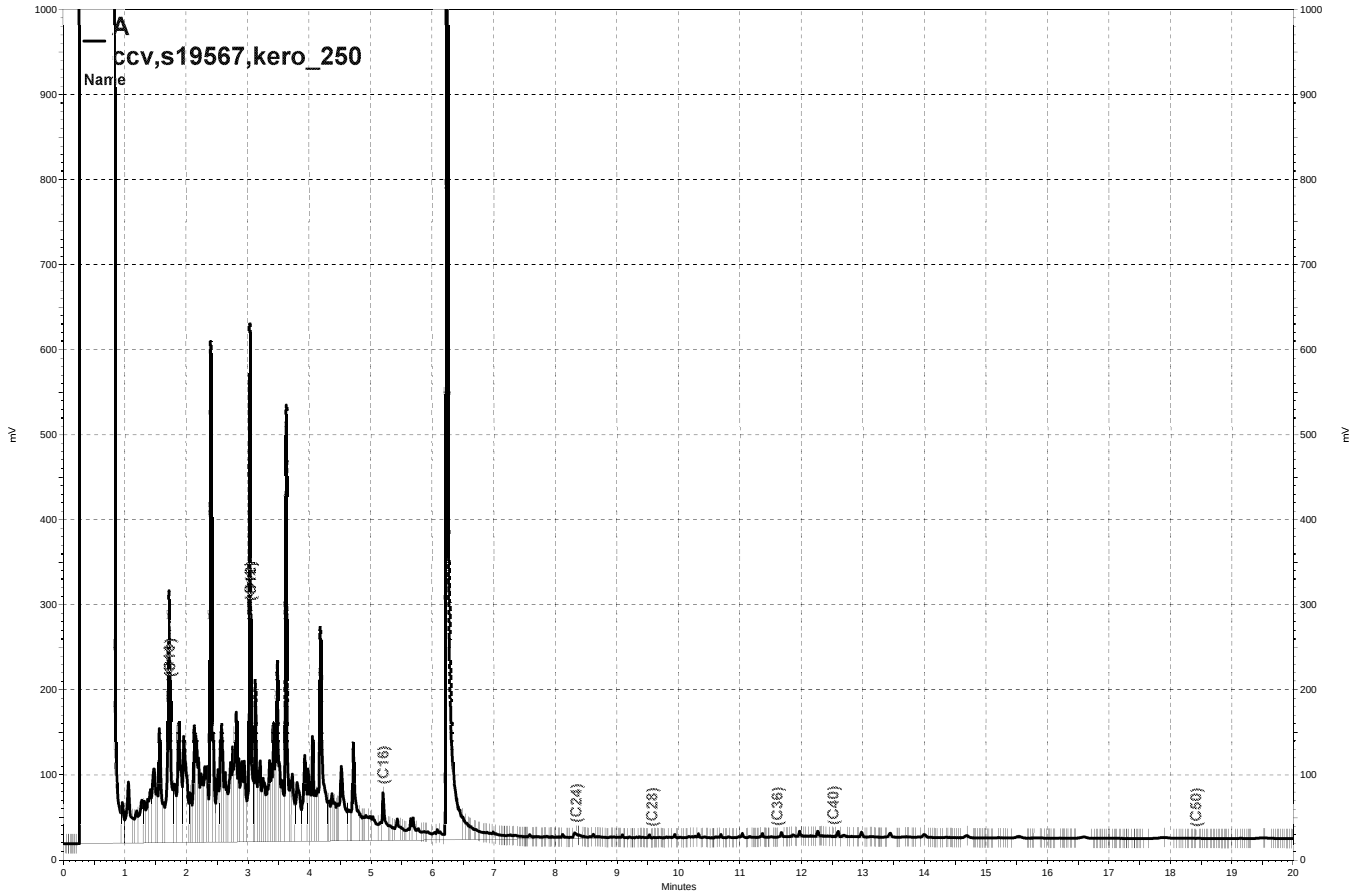

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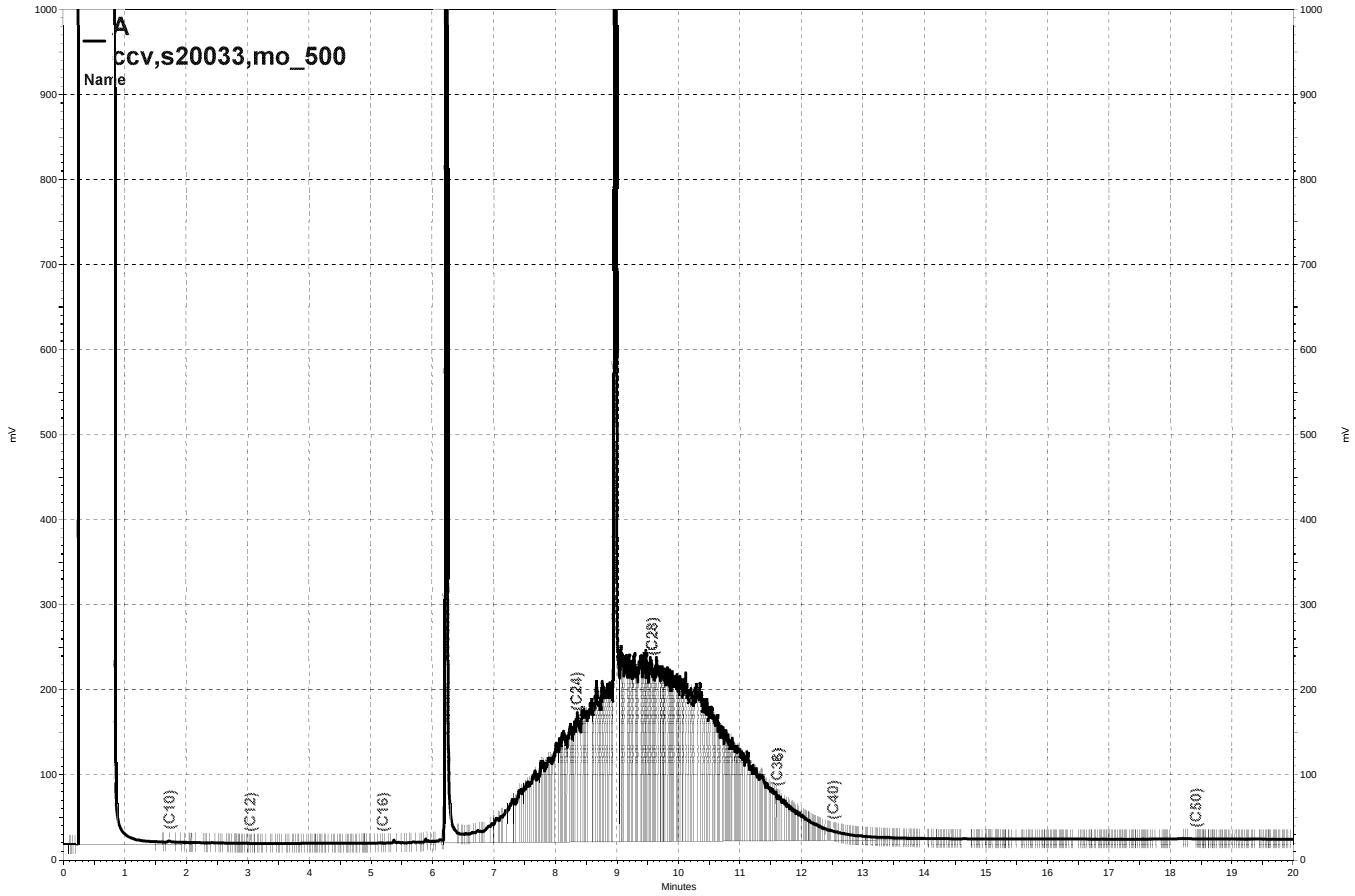

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Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	06/27/12
Units:	ug/L		

Field ID:	RW-C6	Batch#:	188084
Type:	SAMPLE	Sampled:	06/26/12
Lab ID:	237512-001	Analyzed:	06/29/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	1,000	50
MTBE	ND	0.50
Benzene	89	0.50
Toluene	8.5	0.50
Ethylbenzene	9.1	0.50
m,p-Xylenes	53	0.50
o-Xylene	48	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-125
1,2-Dichloroethane-d4	101	69-145
Toluene-d8	93	80-120
Bromofluorobenzene	93	80-120

Field ID:	RW-C7	Batch#:	188040
Type:	SAMPLE	Sampled:	06/26/12
Lab ID:	237512-002	Analyzed:	06/28/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
MTBE	ND	0.50
Benzene	0.70	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	0.80	0.50
o-Xylene	0.75	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-125
1,2-Dichloroethane-d4	114	69-145
Toluene-d8	95	80-120
Bromofluorobenzene	96	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	06/27/12
Units:	ug/L		

Field ID:	RW-B1	Batch#:	188040
Type:	SAMPLE	Sampled:	06/26/12
Lab ID:	237512-003	Analyzed:	06/28/12
Diln Fac:	10.00		

Analyte	Result	RL
Gasoline C7-C12	520	500
MTBE	ND	5.0
Benzene	650	5.0
Toluene	100	5.0
Ethylbenzene	13	5.0
m,p-Xylenes	22	5.0
o-Xylene	20	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-125
1,2-Dichloroethane-d4	97	69-145
Toluene-d8	95	80-120
Bromofluorobenzene	98	80-120

Field ID:	RW-B4	Batch#:	188040
Type:	SAMPLE	Sampled:	06/26/12
Lab ID:	237512-004	Analyzed:	06/28/12
Diln Fac:	25.00		

Analyte	Result	RL
Gasoline C7-C12	7,600	1,300
MTBE	ND	13
Benzene	1,700	13
Toluene	42	13
Ethylbenzene	130	13
m,p-Xylenes	350	13
o-Xylene	42	13

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-125
1,2-Dichloroethane-d4	99	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	93	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	06/27/12
Units:	ug/L		

Field ID:	MW-1	Batch#:	188040
Type:	SAMPLE	Sampled:	06/27/12
Lab ID:	237512-005	Analyzed:	06/28/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	130	50
MTBE	ND	0.50
Benzene	0.58	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	97	80-125
1,2-Dichloroethane-d4	114	69-145
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-120

Field ID:	MW-5	Lab ID:	237512-006
Type:	SAMPLE	Sampled:	06/27/12

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	4,100	130	2.500	188084	06/29/12
MTBE	7.6	0.50	1.000	188040	06/28/12
Benzene	2.1	0.50	1.000	188040	06/28/12
Toluene	1.3	0.50	1.000	188040	06/28/12
Ethylbenzene	80	0.50	1.000	188040	06/28/12
m,p-Xylenes	8.2	0.50	1.000	188040	06/28/12
o-Xylene	1.3	0.50	1.000	188040	06/28/12

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	96	80-125	1.000	188040	06/28/12
1,2-Dichloroethane-d4	109	69-145	1.000	188040	06/28/12
Toluene-d8	96	80-120	1.000	188040	06/28/12
Bromofluorobenzene	98	80-120	1.000	188040	06/28/12

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	06/27/12
Units:	ug/L		

Field ID:	MW-10	Batch#:	188040
Type:	SAMPLE	Sampled:	06/27/12
Lab ID:	237512-007	Analyzed:	06/28/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
MTBE	ND	0.50
Benzene	10	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	93	80-125
1,2-Dichloroethane-d4	98	69-145
Toluene-d8	99	80-120
Bromofluorobenzene	96	80-120

Field ID:	MW-13	Batch#:	188040
Type:	SAMPLE	Sampled:	06/27/12
Lab ID:	237512-008	Analyzed:	06/28/12
Diln Fac:	1.000		

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	92	80-125
1,2-Dichloroethane-d4	98	69-145
Toluene-d8	99	80-120
Bromofluorobenzene	98	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	06/27/12
Units:	ug/L		

Field ID:	MW-14	Batch#:	188040
Type:	SAMPLE	Sampled:	06/27/12
Lab ID:	237512-009	Analyzed:	06/28/12
Diln Fac:	1.000		

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	93	80-125
1,2-Dichloroethane-d4	101	69-145
Toluene-d8	94	80-120
Bromofluorobenzene	97	80-120

Field ID:	MW-17	Batch#:	188040
Type:	SAMPLE	Sampled:	06/27/12
Lab ID:	237512-010	Analyzed:	06/28/12
Diln Fac:	1.000		

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	94	80-125
1,2-Dichloroethane-d4	105	69-145
Toluene-d8	93	80-120
Bromofluorobenzene	97	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	06/27/12
Units:	ug/L		

Field ID:	RW-A2	Batch#:	188040
Type:	SAMPLE	Sampled:	06/27/12
Lab ID:	237512-011	Analyzed:	06/28/12
Diln Fac:	1.000		

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	95	80-125
1,2-Dichloroethane-d4	99	69-145
Toluene-d8	95	80-120
Bromofluorobenzene	97	80-120

Field ID:	RW-D5	Lab ID:	237512-012
Type:	SAMPLE	Sampled:	06/27/12

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	390	100	2.000	188040	06/28/12
MTBE	ND	1.0	2.000	188040	06/28/12
Benzene	820	8.3	16.67	188081	06/29/12
Toluene	6.1	1.0	2.000	188040	06/28/12
Ethylbenzene	4.4	1.0	2.000	188040	06/28/12
m,p-Xylenes	4.6	1.0	2.000	188040	06/28/12
o-Xylene	2.1	1.0	2.000	188040	06/28/12

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	95	80-125	2.000	188040	06/28/12
1,2-Dichloroethane-d4	90	69-145	2.000	188040	06/28/12
Toluene-d8	95	80-120	2.000	188040	06/28/12
Bromofluorobenzene	93	80-120	2.000	188040	06/28/12

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	06/27/12
Units:	ug/L		

Field ID:	RW-D9	Batch#:	188040
Type:	SAMPLE	Sampled:	06/27/12
Lab ID:	237512-013	Analyzed:	06/28/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	1,400	50
MTBE	ND	0.50
Benzene	28	0.50
Toluene	1.1	0.50
Ethylbenzene	2.7	0.50
m,p-Xylenes	9.4	0.50
o-Xylene	5.4	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-125
1,2-Dichloroethane-d4	107	69-145
Toluene-d8	94	80-120
Bromofluorobenzene	91	80-120

Field ID:	RW-1	Batch#:	188040
Type:	SAMPLE	Sampled:	06/27/12
Lab ID:	237512-014	Analyzed:	06/28/12
Diln Fac:	1.000		

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	96	80-125
1,2-Dichloroethane-d4	98	69-145
Toluene-d8	98	80-120
Bromofluorobenzene	96	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	06/27/12
Units:	ug/L		

Field ID:	MW-5-FB	Batch#:	188119
Type:	SAMPLE	Sampled:	06/27/12
Lab ID:	237512-015	Analyzed:	07/02/12
Diln Fac:	1.000		

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	94	80-125
1,2-Dichloroethane-d4	102	69-145
Toluene-d8	94	80-120
Bromofluorobenzene	99	80-120

Field ID:	MW-1-D	Batch#:	188119
Type:	SAMPLE	Sampled:	06/27/12
Lab ID:	237512-016	Analyzed:	07/02/12
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	120	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	97	80-125
1,2-Dichloroethane-d4	104	69-145
Toluene-d8	93	80-120
Bromofluorobenzene	95	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	06/27/12
Units:	ug/L		

Type: BLANK
Lab ID: QC645943
Diln Fac: 1.000

Batch#: 188040
Analyzed: 06/28/12

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	97	80-125
1,2-Dichloroethane-d4	107	69-145
Toluene-d8	97	80-120
Bromofluorobenzene	102	80-120

Type: BLANK
Lab ID: QC646105
Diln Fac: 1.000

Batch#: 188081
Analyzed: 06/29/12

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	91	80-125
1,2-Dichloroethane-d4	79	69-145
Toluene-d8	101	80-120
Bromofluorobenzene	93	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Received:	06/27/12
Units:	ug/L		

Type: BLANK
Lab ID: QC646113
Diln Fac: 1.000

Batch#: 188084
Analyzed: 06/29/12

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	95	80-125
1,2-Dichloroethane-d4	100	69-145
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-120

Type: BLANK
Lab ID: QC646287
Diln Fac: 1.000

Batch#: 188119
Analyzed: 07/02/12

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	94	80-125
1,2-Dichloroethane-d4	96	69-145
Toluene-d8	95	80-120
Bromofluorobenzene	101	80-120

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

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	188040
Units:	ug/L	Analyzed:	06/28/12
Diln Fac:	1.000		

Type: BS Lab ID: QC645939

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	23.56	94	61-121
Benzene	25.00	25.48	102	80-121
Toluene	25.00	25.03	100	80-120
Ethylbenzene	25.00	27.12	108	80-120
m,p-Xylenes	50.00	52.76	106	80-121
o-Xylene	25.00	25.88	104	80-121

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-125
1,2-Dichloroethane-d4	113	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	96	80-120

Type: BSD Lab ID: QC645940

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	22.72	91	61-121	4	20
Benzene	25.00	23.54	94	80-121	8	20
Toluene	25.00	24.52	98	80-120	2	20
Ethylbenzene	25.00	24.93	100	80-120	8	20
m,p-Xylenes	50.00	49.06	98	80-121	7	20
o-Xylene	25.00	24.09	96	80-121	7	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-125
1,2-Dichloroethane-d4	110	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	95	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	188040
Units:	ug/L	Analyzed:	06/28/12
Diln Fac:	1.000		

Type: BS Lab ID: QC645941

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	989.9	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-125
1,2-Dichloroethane-d4	111	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC645942

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	925.8	93	80-120	7	20

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

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	188081
Units:	ug/L	Analyzed:	06/29/12
Diln Fac:	1.000		

Type: BS Lab ID: QC646103

Analyte	Spiked	Result	%REC	Limits
MTBE	37.50	34.51	92	61-121
Benzene	37.50	41.40	110	80-121
Toluene	37.50	44.95	120	80-120
Ethylbenzene	37.50	45.99	123 *	80-120
m,p-Xylenes	75.00	89.92	120	80-121
o-Xylene	37.50	41.72	111	80-121

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-125
1,2-Dichloroethane-d4	76	69-145
Toluene-d8	99	80-120
Bromofluorobenzene	93	80-120

Type: BSD Lab ID: QC646104

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	37.50	32.62	87	61-121	6	20
Benzene	37.50	39.40	105	80-121	5	20
Toluene	37.50	40.91	109	80-120	9	20
Ethylbenzene	37.50	41.84	112	80-120	9	20
m,p-Xylenes	75.00	81.54	109	80-121	10	20
o-Xylene	37.50	38.55	103	80-121	8	20

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-125
1,2-Dichloroethane-d4	77	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	91	80-120

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

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	188084
Units:	ug/L	Analyzed:	06/29/12
Diln Fac:	1.000		

Type: BS Lab ID: QC646109

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	24.39	98	61-121
Benzene	25.00	26.71	107	80-121
Toluene	25.00	25.36	101	80-120
Ethylbenzene	25.00	26.25	105	80-120
m,p-Xylenes	50.00	50.18	100	80-121
o-Xylene	25.00	25.32	101	80-121

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-125
1,2-Dichloroethane-d4	105	69-145
Toluene-d8	95	80-120
Bromofluorobenzene	93	80-120

Type: BSD Lab ID: QC646110

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	23.37	93	61-121	4	20
Benzene	25.00	24.96	100	80-121	7	20
Toluene	25.00	23.89	96	80-120	6	20
Ethylbenzene	25.00	24.15	97	80-120	8	20
m,p-Xylenes	50.00	48.78	98	80-121	3	20
o-Xylene	25.00	24.26	97	80-121	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-125
1,2-Dichloroethane-d4	103	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	94	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	188084
Units:	ug/L	Analyzed:	06/29/12
Diln Fac:	1.000		

Type: BS Lab ID: QC646111

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	931.9	93	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-125
1,2-Dichloroethane-d4	101	69-145
Toluene-d8	95	80-120
Bromofluorobenzene	94	80-120

Type: BSD Lab ID: QC646112

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	851.5	85	80-120	9	20

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-125
1,2-Dichloroethane-d4	100	69-145
Toluene-d8	95	80-120
Bromofluorobenzene	98	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	188119
Units:	ug/L	Analyzed:	07/02/12
Diln Fac:	1.000		

Type: BS Lab ID: QC646283

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	24.34	97	61-121
Benzene	25.00	25.42	102	80-121
Toluene	25.00	24.00	96	80-120
Ethylbenzene	25.00	25.46	102	80-120
m,p-Xylenes	50.00	49.50	99	80-121
o-Xylene	25.00	24.45	98	80-121

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-125
1,2-Dichloroethane-d4	99	69-145
Toluene-d8	93	80-120
Bromofluorobenzene	95	80-120

Type: BSD Lab ID: QC646284

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	24.19	97	61-121	1	20
Benzene	25.00	25.05	100	80-121	1	20
Toluene	25.00	23.96	96	80-120	0	20
Ethylbenzene	25.00	24.79	99	80-120	3	20
m,p-Xylenes	50.00	48.99	98	80-121	1	20
o-Xylene	25.00	23.86	95	80-121	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-125
1,2-Dichloroethane-d4	97	69-145
Toluene-d8	95	80-120
Bromofluorobenzene	92	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	237512	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	188119
Units:	ug/L	Analyzed:	07/02/12
Diln Fac:	1.000		

Type: BS Lab ID: QC646285

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	918.8	92	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-125
1,2-Dichloroethane-d4	98	69-145
Toluene-d8	95	80-120
Bromofluorobenzene	93	80-120

Type: BSD Lab ID: QC646286

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	860.5	86	80-120	7	20

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-125
1,2-Dichloroethane-d4	99	69-145
Toluene-d8	92	80-120
Bromofluorobenzene	91	80-120

RPD= Relative Percent Difference

Data File: \\Gcmsserver\DD\chem\MSVOA09.i\062912.b\IFT20TVH.D

Date : 29-JUN-2012 19:36

Client ID: DYNA P&T

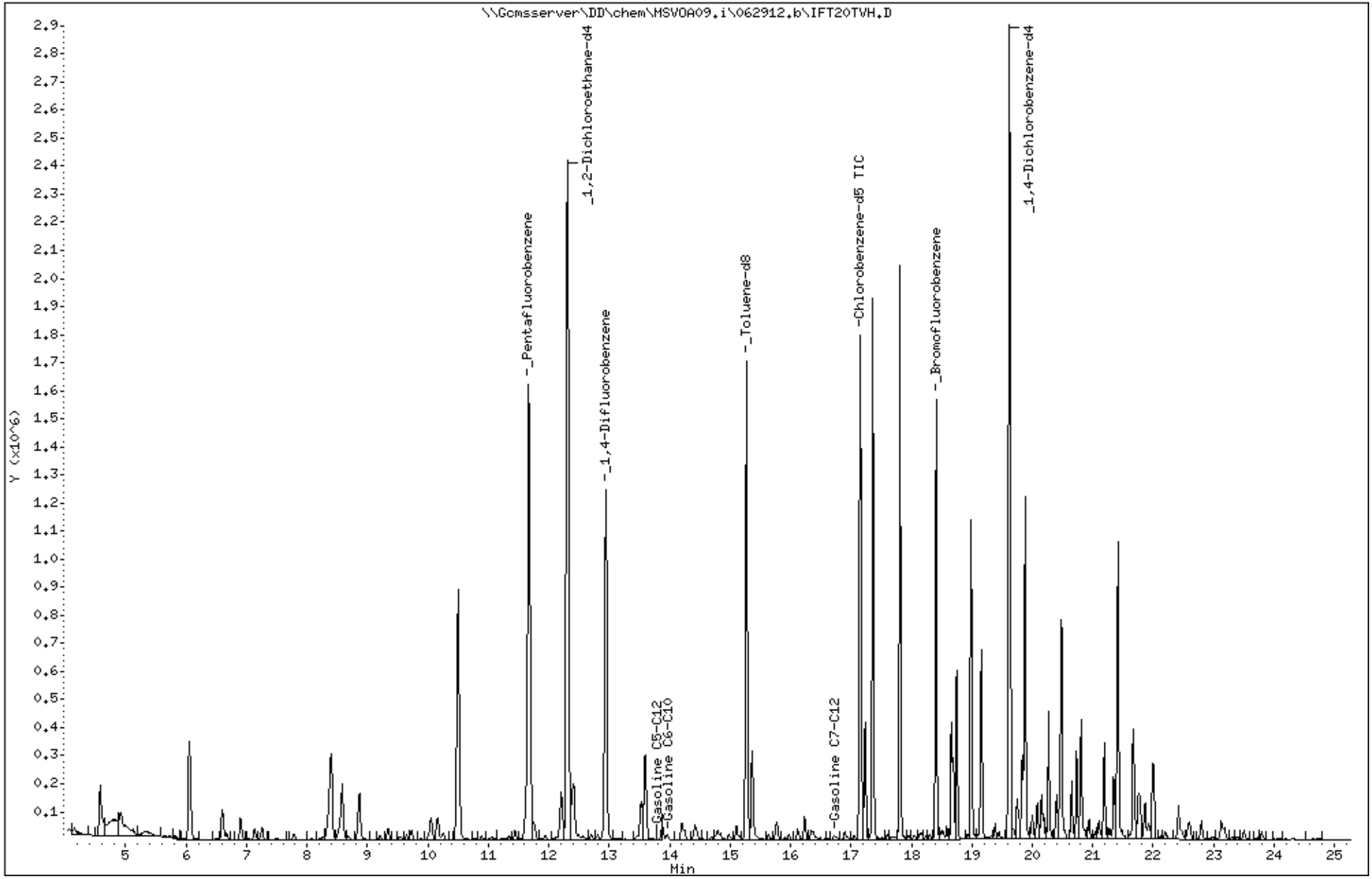
Instrument: MSVOA09.i

Sample Info: S,237512-001

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 28-JUN-2012 20:39

Client ID: DYNA P&T

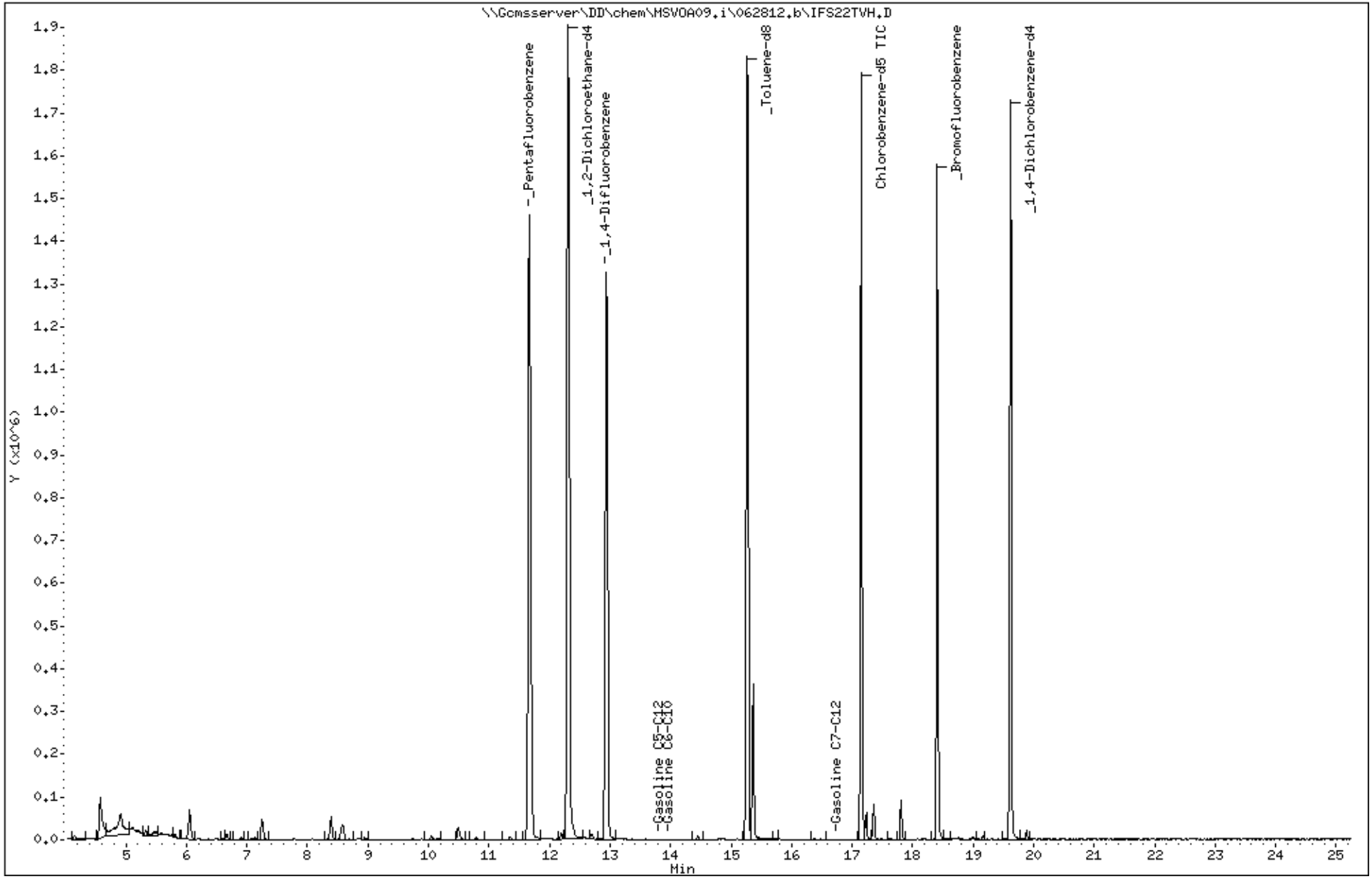
Instrument: MSVOA09.i

Sample Info: S,237512-003

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 28-JUN-2012 21:12

Client ID: DYNA P&T

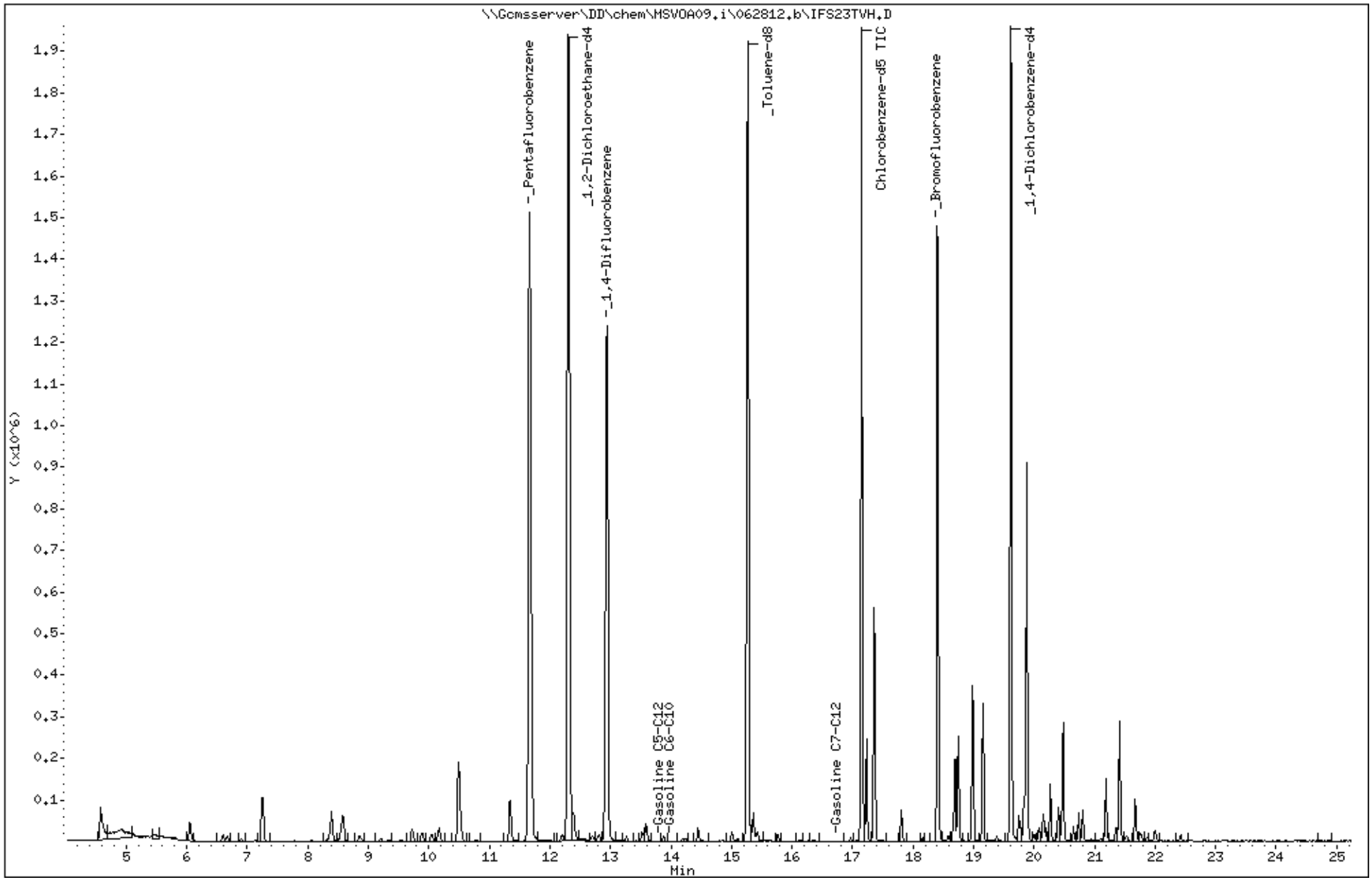
Instrument: MSVOA09.i

Sample Info: S,237512-004

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 28-JUN-2012 15:04

Client ID: DYNA P&T

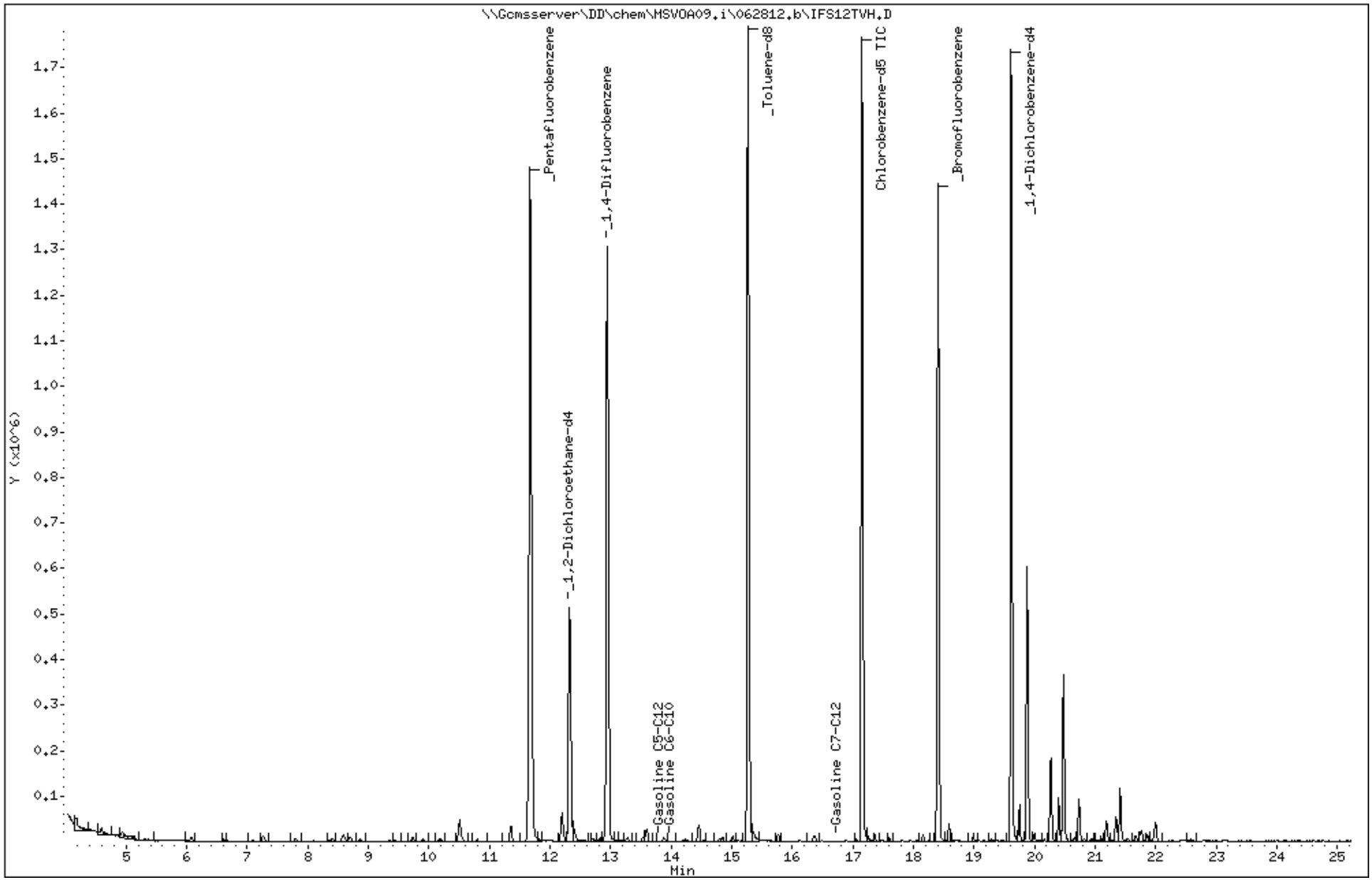
Instrument: MSVOA09.i

Sample Info: S,237512-005

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 29-JUN-2012 20:09

Client ID: DYNA P&T

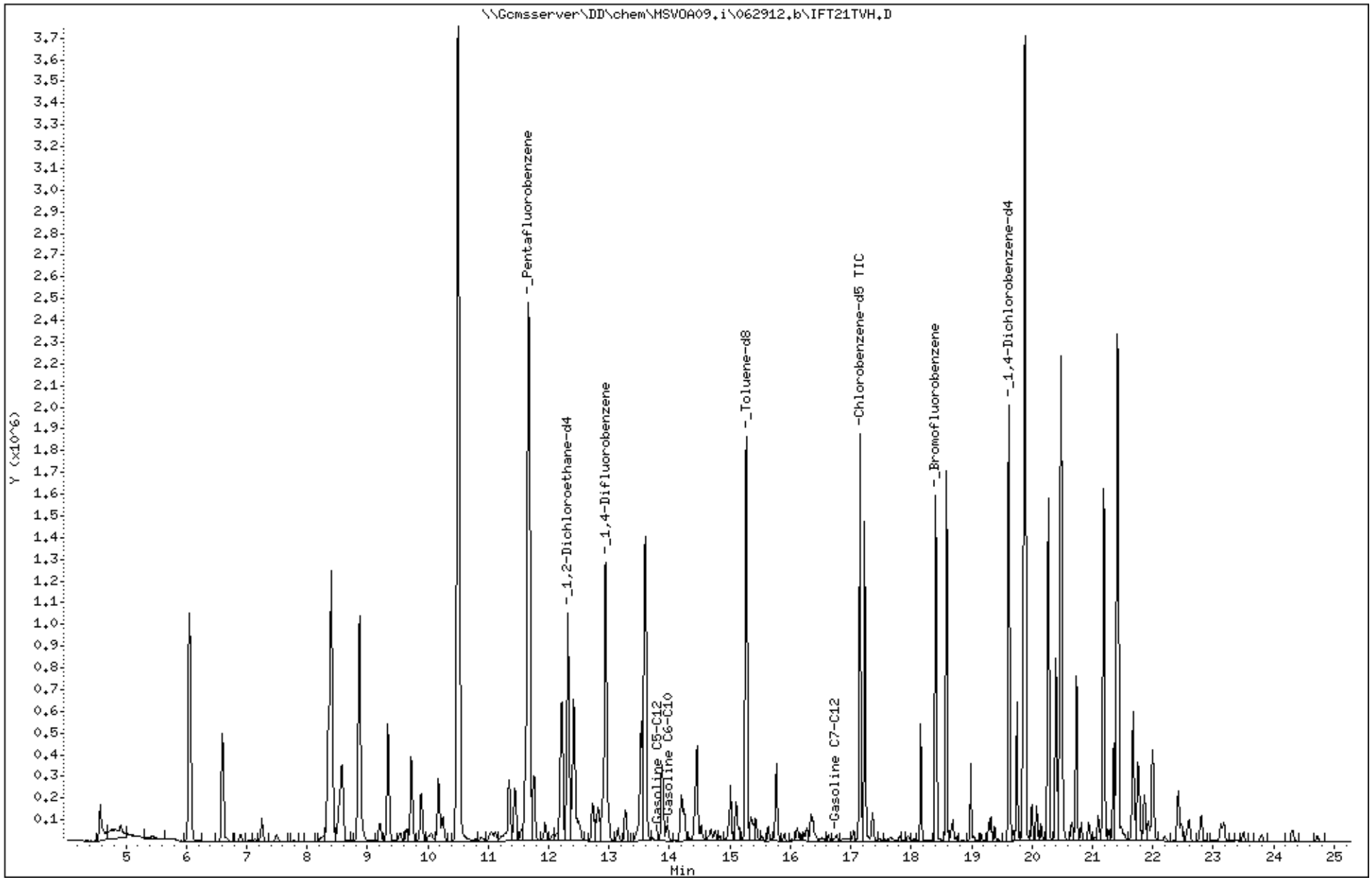
Instrument: MSVOA09.i

Sample Info: S,237512-006

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA09.i\062812.b\IFS21TVH.D

Date : 28-JUN-2012 20:06

Client ID: DYNA P&T

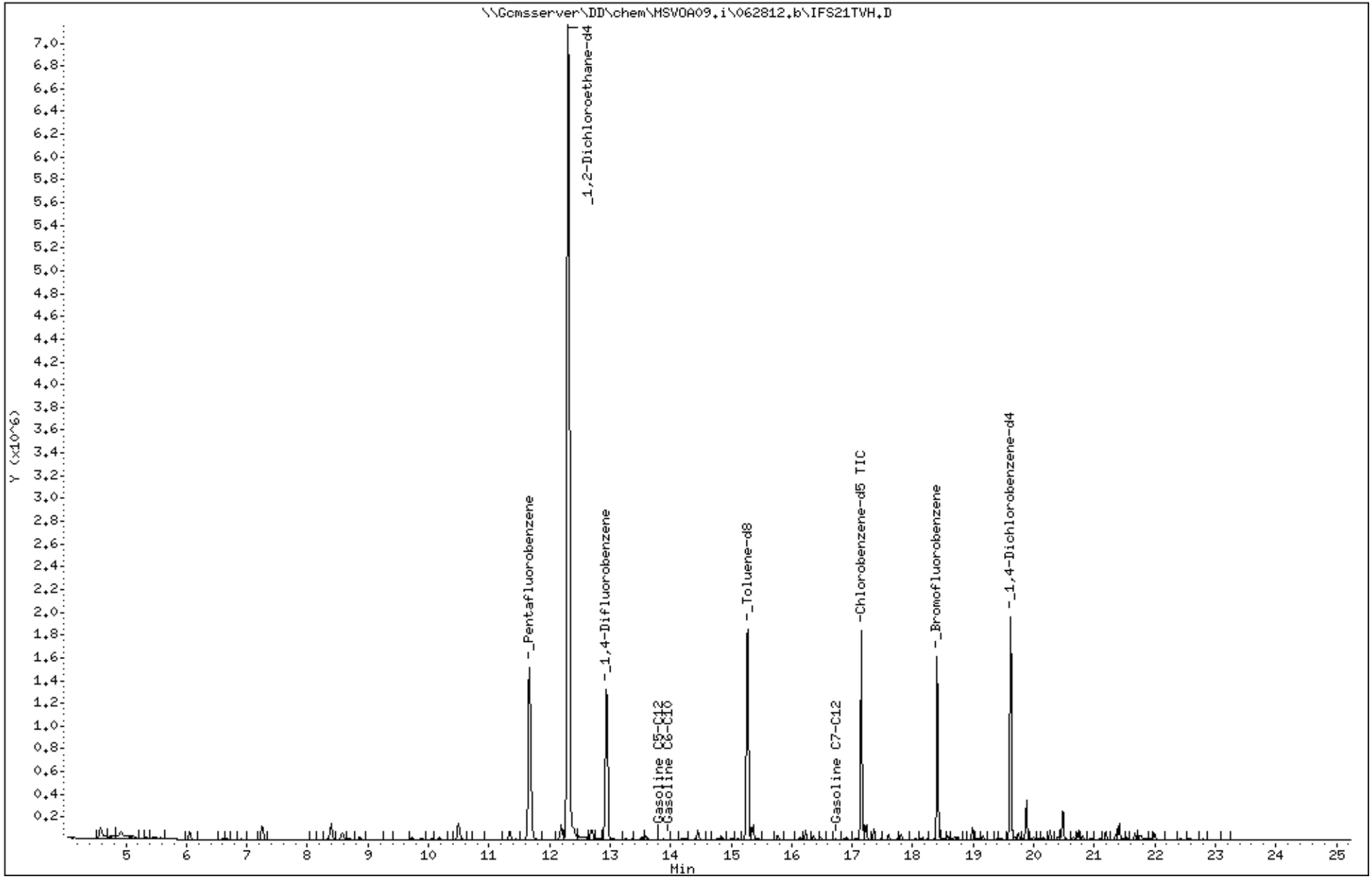
Instrument: MSVOA09.i

Sample Info: S,237512-012

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA09.i\062812.b\IFS19TVH.D

Date : 28-JUN-2012 18:59

Client ID: DYNA P&T

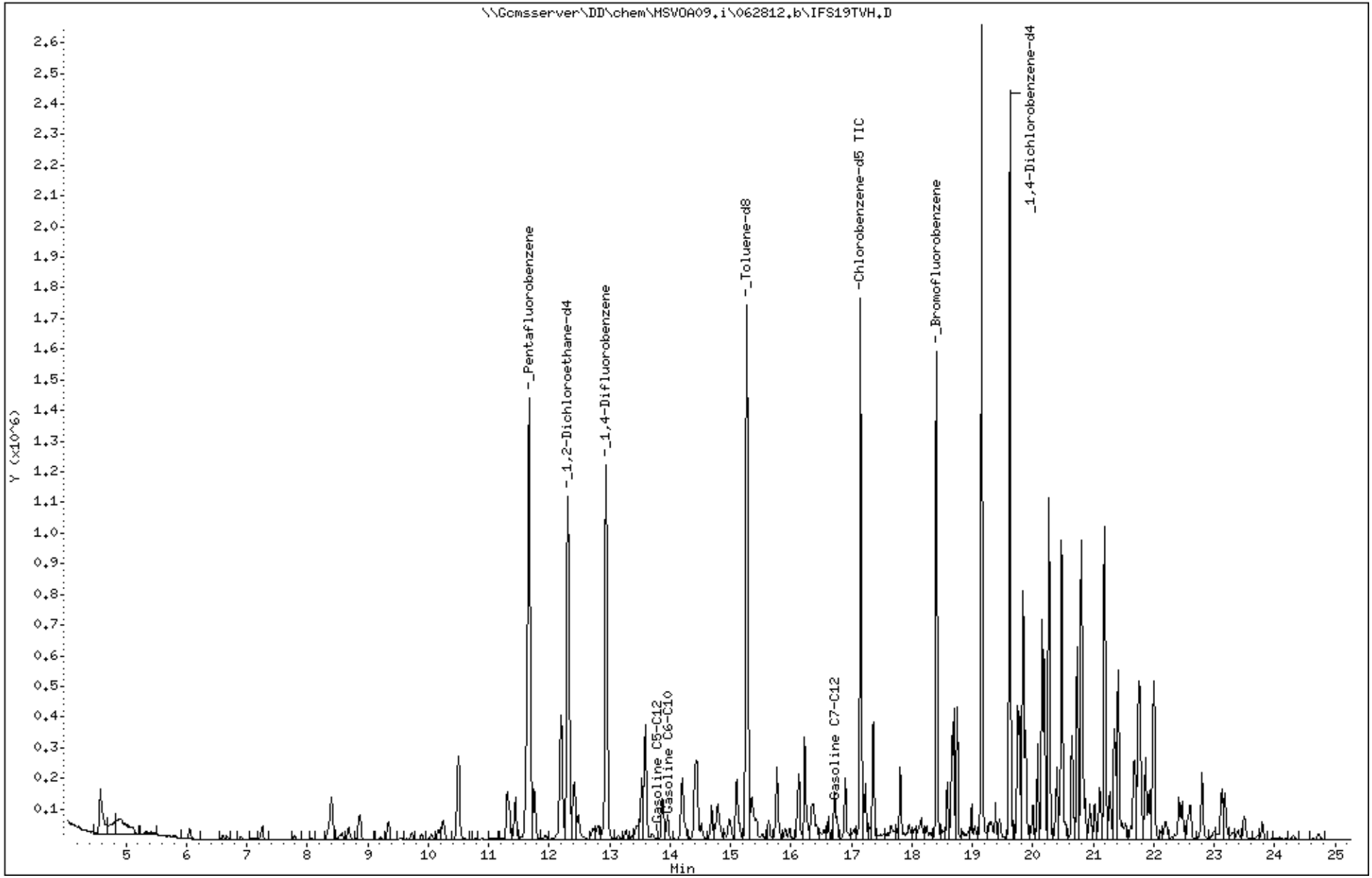
Instrument: MSVOA09.i

Sample Info: S,237512-013

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 02-JUL-2012 15:43

Client ID: DYNA P&T

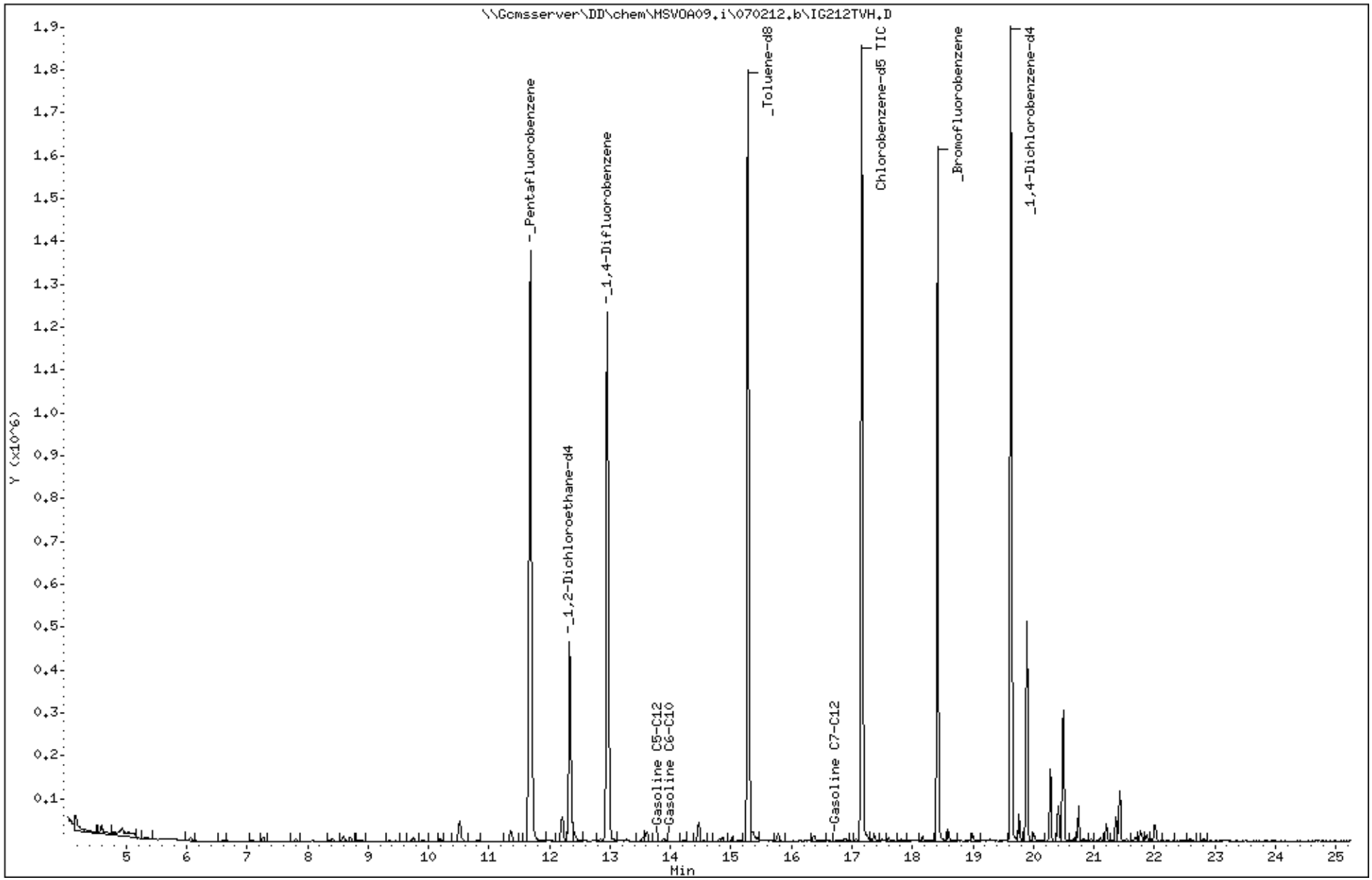
Instrument: MSVOA09.i

Sample Info: S,237512-016

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA09.i\062812.b\IFS07TVH.D

Date : 28-JUN-2012 12:16

Client ID: DYNA P&T

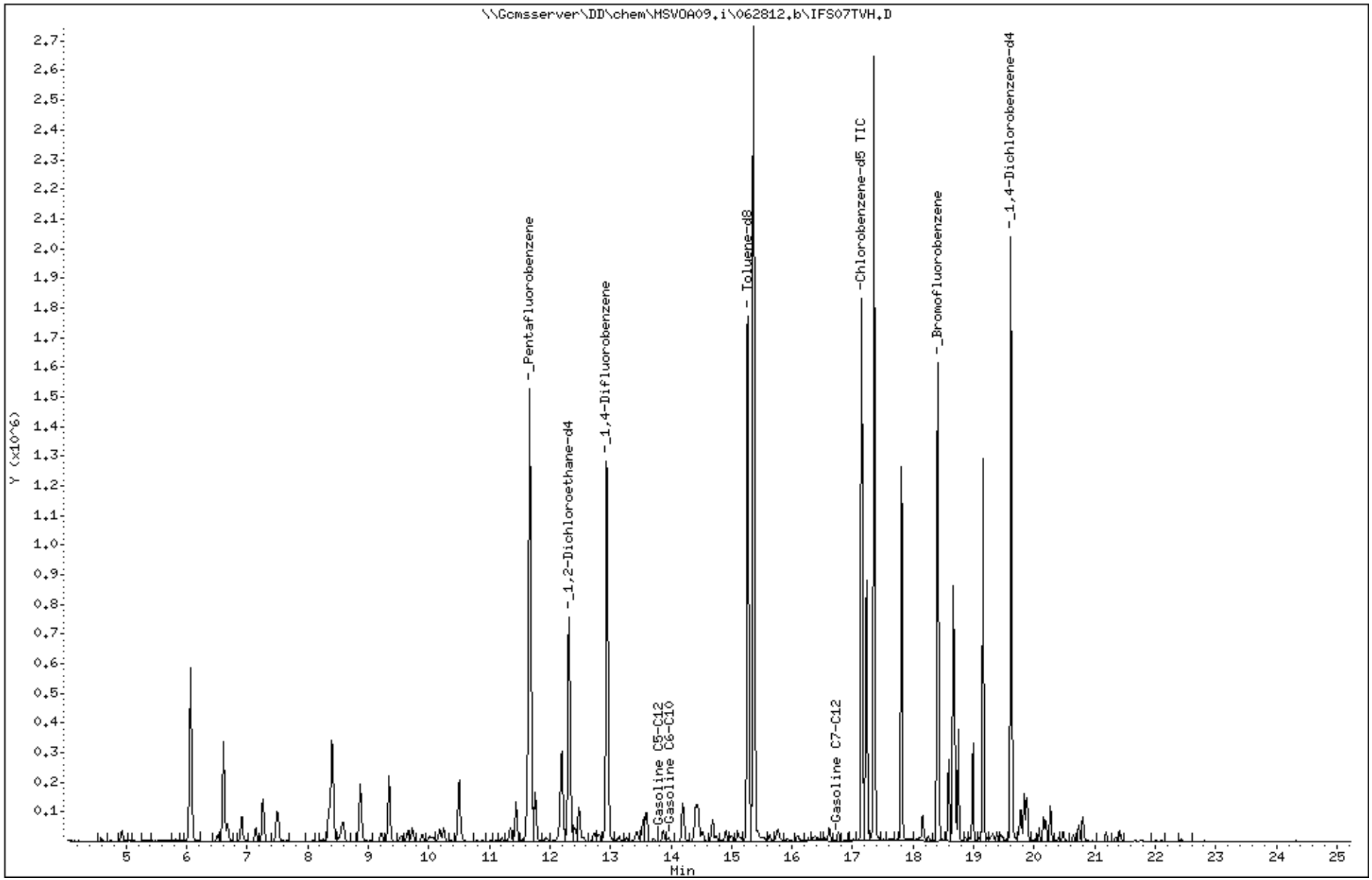
Instrument: MSVOA09.i

Sample Info: BS,QC645941,188040,S19732,.01/100

Operator: VOC

Column phase:

Column diameter: 2.00

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

Laboratory Job Number 238394
ANALYTICAL REPORT

Arcadis	Project : LC010060.0016.00003
2000 Powell St.	Location : MSC Oakland
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
RW-C6	238394-001
TB073112	238394-002

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: 08/06/2012

Tracy Babjar
Project Manager
(510) 204-2226

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**238394**
Client:	**Arcadis**
Project:	**LC010060.0016.00003**
Location:	**MSC Oakland**
Request Date:	**07/31/12**
Samples Received:	**07/31/12**

This data package contains sample and QC results for one water sample, requested for the above referenced project on 07/31/12. The sample was received cold and intact. All data were e-mailed to Daren Roth on 08/06/12.

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

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

Attn: Tracy Babjar

CHAIN OF CUSTODY

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ENVIRONMENTAL ANALYTICAL TESTING LABORATORY
In Business Since 1878

2323 Fifth Street
Berkeley, CA 94710

Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody #

C&T LOGIN # 238394

Project No: LC010060.0016.00003
Project Name: MSC Oakland
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ☒ Standard

Sampler: Miljan Draganic
Report To: Daren Roth
Company: ARCADIS
Telephone: (510) 652-4500
Email: Daren.Roth@arcadis-us.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST			
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	TPHg/BTEX/MTBE (8260)	TPHd/TPHmo/TPHk (8015)	HOLD	
1	RW-C6	7/31/12	1145	X				5	X				X	X	X		
2	TB073112	7/31/12	—	X				2	X								

Notes:
Use Silica Gel clean-up for TPHd/mo/k analysis.

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 7/31 TIME: 1255
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 7/31 TIME: 1855
DATE: TIME:
DATE: TIME:

COOLER RECEIPT CHECKLIST Curtis & Tompkins, Ltd.

Login # 238394 Date Received 7/31/12 Number of coolers 1
Client Arcadis Project MSC Oakland

Date Opened 7/31/12 By (print) AM (sign)
Date Logged in ↓ By (print) ↓ (sign) ↓

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

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many Name Date
2B. Were custody seals intact upon arrival? YES NO (N/A)
3. Were custody papers dry and intact when received? (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe)

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

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

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 4.0

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

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

8. Were Method 5035 sampling containers present? YES (NO)
If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? (YES) NO
10. Are there any missing / extra samples? YES (NO)
11. Are samples in the appropriate containers for indicated tests? (YES) NO
12. Are sample labels present, in good condition and complete? (YES) NO
13. Do the sample labels agree with custody papers? (YES) NO
14. Was sufficient amount of sample sent for tests requested? (YES) NO
15. Are the samples appropriately preserved? (YES) NO N/A
16. Did you check preservatives for all bottles for each sample? YES NO (N/A)
17. Did you document your preservative check? YES NO (N/A)
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? (YES) NO N/A
21. Was the client contacted concerning this sample delivery? YES (NO)
If YES, Who was called? By Date:

COMMENTS

Rev 10, 11/11

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	238394	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Field ID:	RW-C6	Sampled:	07/31/12
Matrix:	Water	Received:	07/31/12
Units:	ug/L	Prepared:	08/01/12
Diln Fac:	1.000	Analyzed:	08/02/12
Batch#:	189031		

Type: SAMPLE Cleanup Method: EPA 3630C
Lab ID: 238394-001

Analyte	Result	RL
Kerosene C10-C16	790 Y	49
Diesel C10-C24	890 Y	49
Motor Oil C24-C36	410	290

Surrogate	%REC	Limits
o-Terphenyl	72	61-134

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC650016

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

Surrogate	%REC	Limits
o-Terphenyl	77	61-134

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 #:	238394	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00003	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	189031
Units:	ug/L	Prepared:	08/01/12
Diln Fac:	1.000	Analyzed:	08/02/12

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC650017

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,649	66	60-120

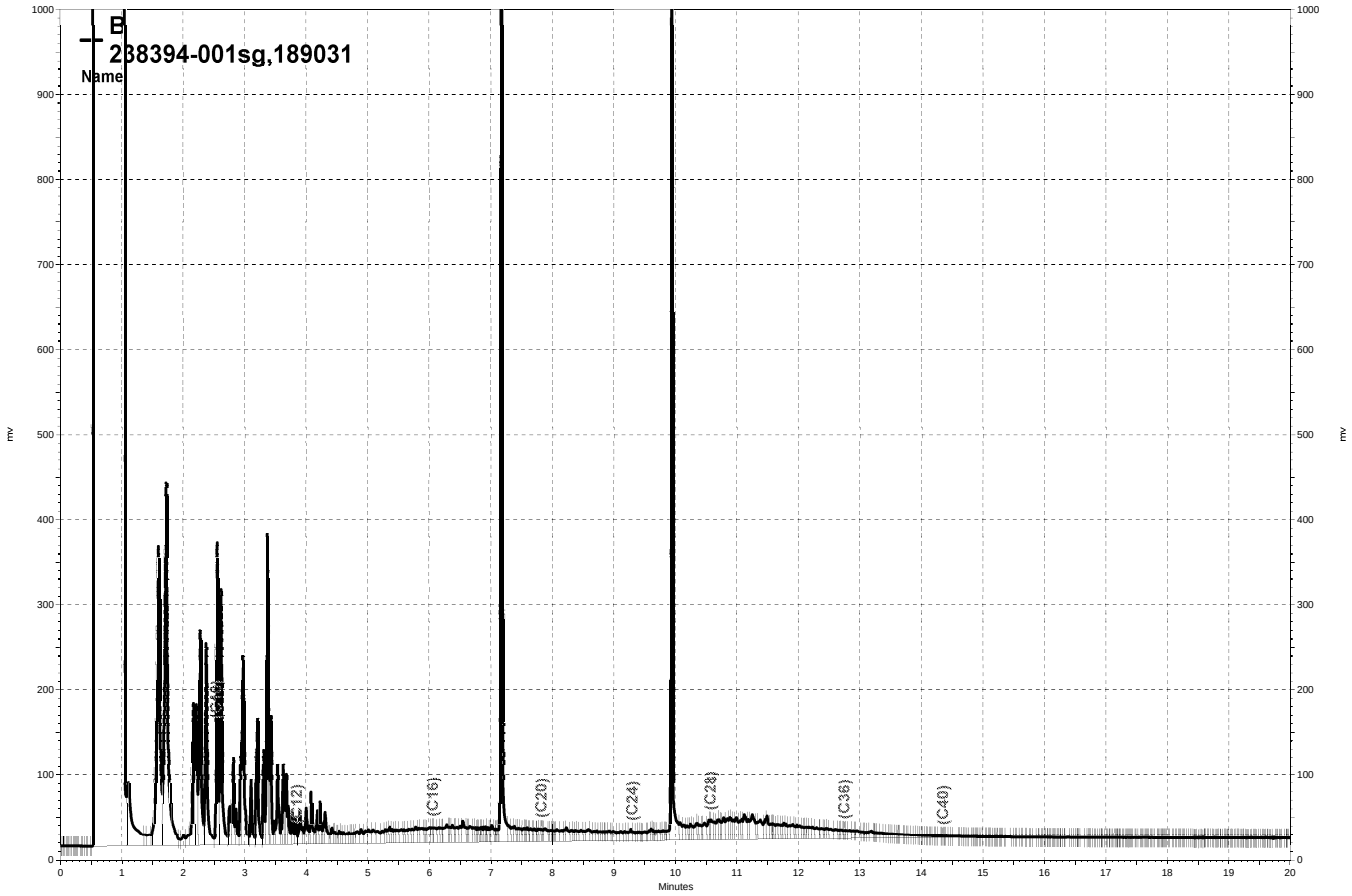
Surrogate	%REC	Limits
o-Terphenyl	78	61-134

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC650018

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,859	74	60-120	12	35

Surrogate	%REC	Limits
o-Terphenyl	89	61-134

RPD= Relative Percent Difference



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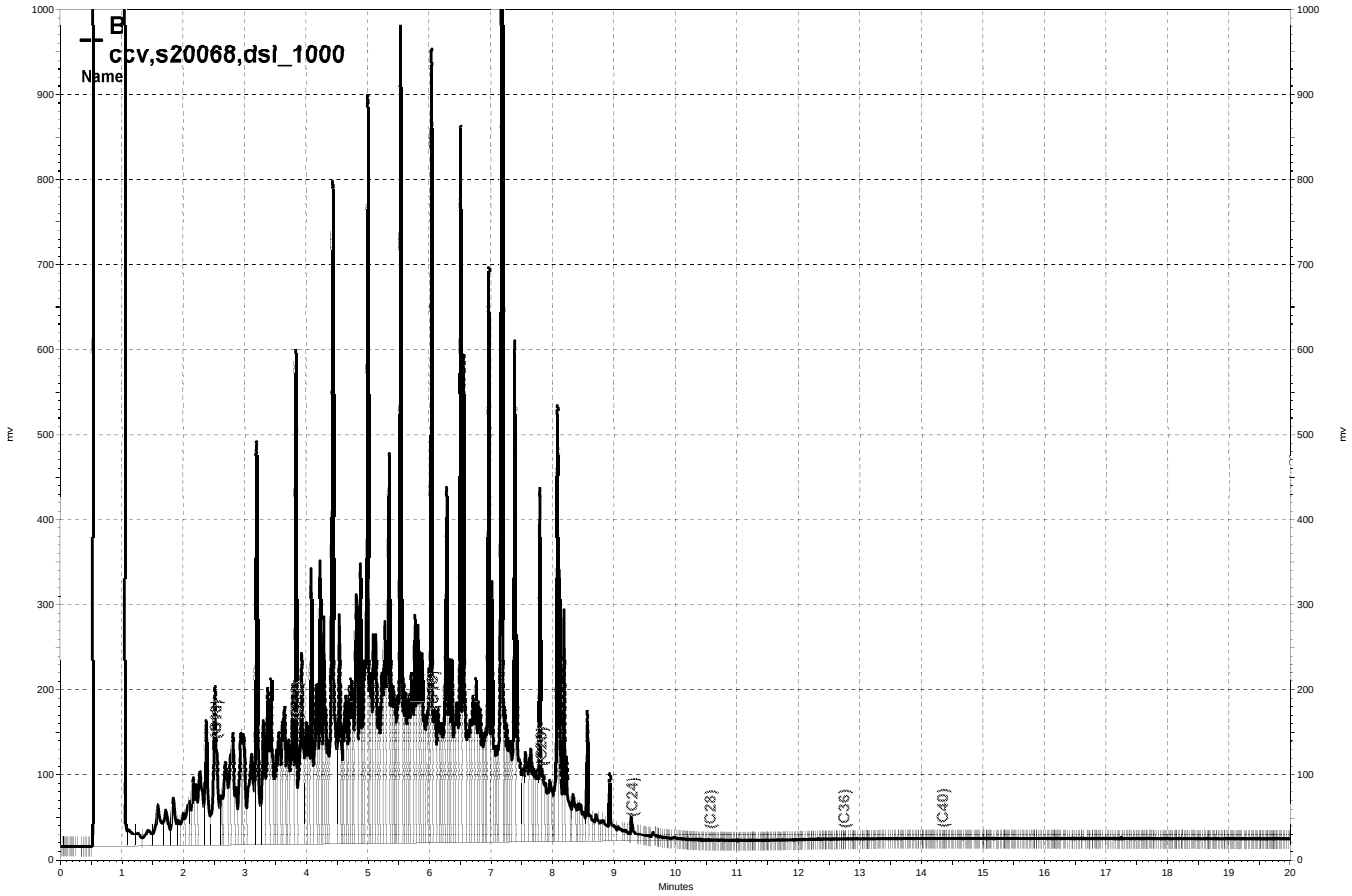

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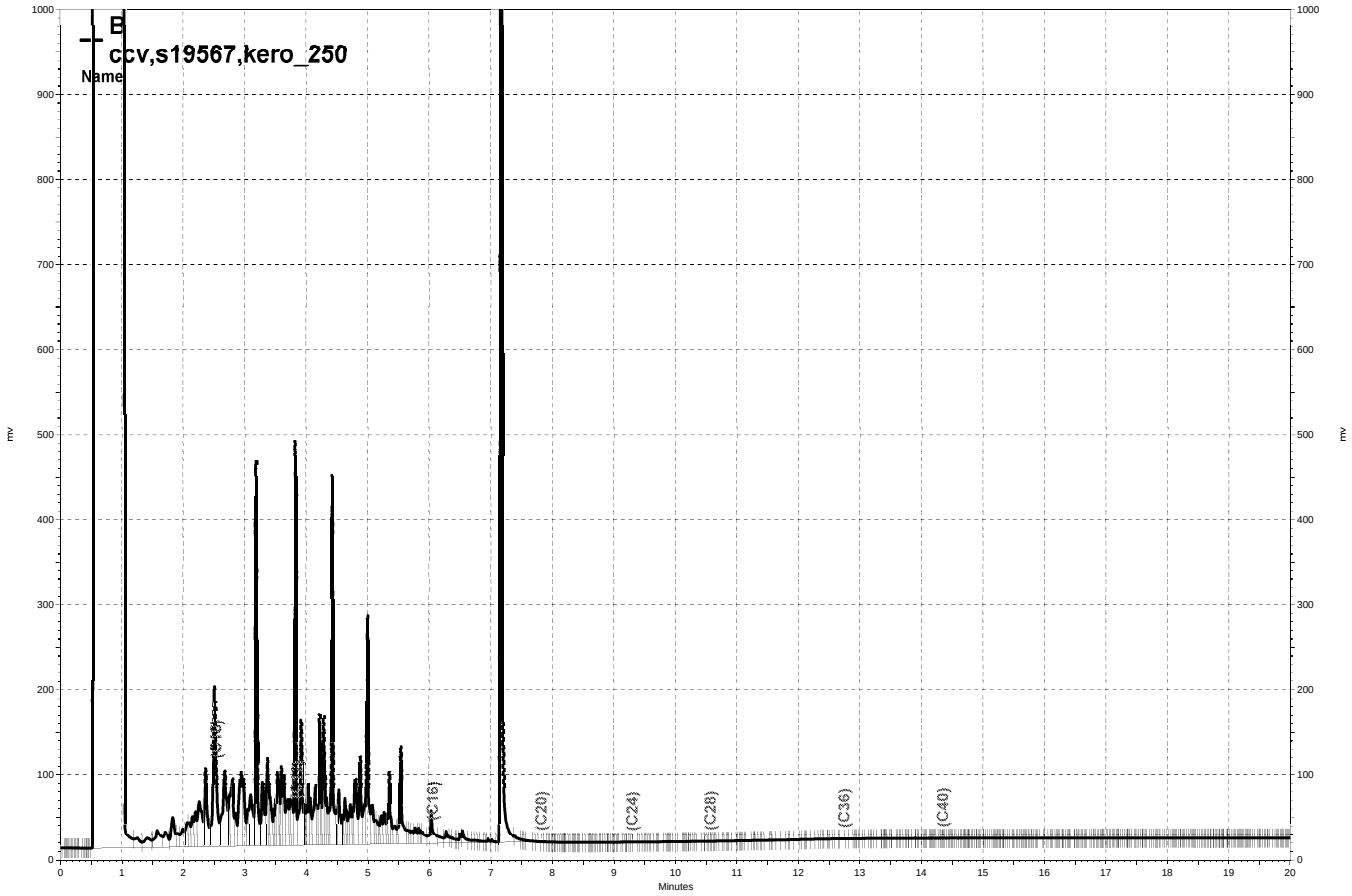

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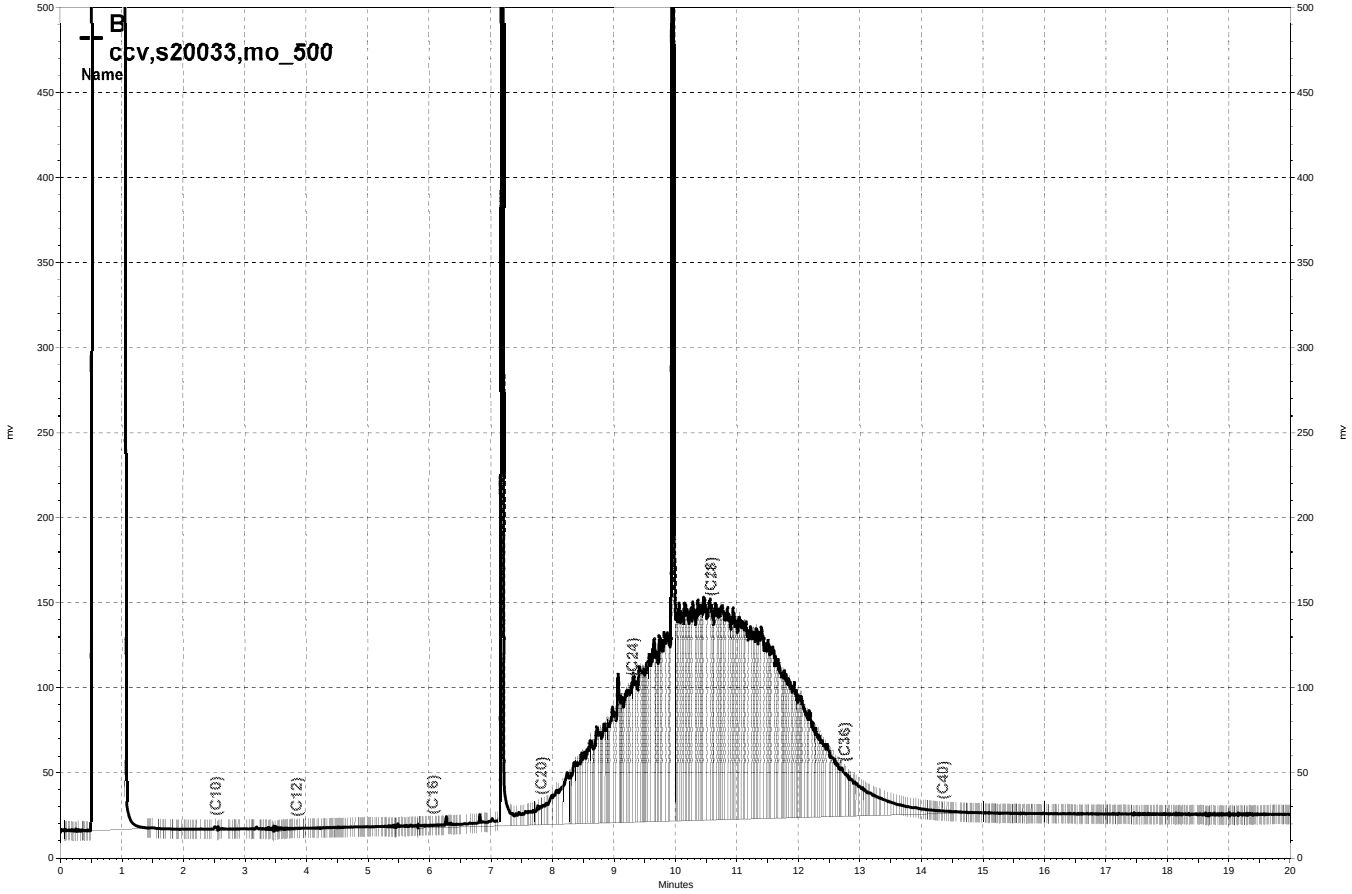

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Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	238394	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Field ID:	RW-C6	Sampled:	07/31/12
Matrix:	Water	Received:	07/31/12
Units:	ug/L		

Type: SAMPLE Lab ID: 238394-001

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	1,500	50	1.000	189066	08/02/12
MTBE	ND	0.50	1.000	189066	08/02/12
Benzene	150	1.3	2.500	189092	08/03/12
Toluene	18	0.50	1.000	189066	08/02/12
Ethylbenzene	11	0.50	1.000	189066	08/02/12
m,p-Xylenes	79	0.50	1.000	189066	08/02/12
o-Xylene	79	0.50	1.000	189066	08/02/12

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	89	80-127	1.000	189066	08/02/12
1,2-Dichloroethane-d4	101	69-148	1.000	189066	08/02/12
Toluene-d8	98	80-120	1.000	189066	08/02/12
Bromofluorobenzene	97	80-121	1.000	189066	08/02/12

Type: BLANK Batch#: 189066
Lab ID: QC650173 Analyzed: 08/02/12
Diln Fac: 1.000

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	80-127
1,2-Dichloroethane-d4	105	69-148
Toluene-d8	96	80-120
Bromofluorobenzene	96	80-121

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	238394	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Field ID:	RW-C6	Sampled:	07/31/12
Matrix:	Water	Received:	07/31/12
Units:	ug/L		

Type:	BLANK	Batch#:	189092
Lab ID:	QC650289	Analyzed:	08/03/12
Diln Fac:	1.000		

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	91	80-127
1,2-Dichloroethane-d4	105	69-148
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-121

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

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	238394	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	189066
Units:	ug/L	Analyzed:	08/02/12
Diln Fac:	1.000		

Type: BS Lab ID: QC650174

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	17.91	90	59-120
Benzene	20.00	20.28	101	80-123
Toluene	20.00	19.86	99	80-120
Ethylbenzene	20.00	20.63	103	80-123
m,p-Xylenes	40.00	41.88	105	80-123
o-Xylene	20.00	19.81	99	80-122

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-127
1,2-Dichloroethane-d4	101	69-148
Toluene-d8	94	80-120
Bromofluorobenzene	90	80-121

Type: BSD Lab ID: QC650175

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	20.00	17.22	86	59-120	4	20
Benzene	20.00	19.34	97	80-123	5	20
Toluene	20.00	19.70	98	80-120	1	20
Ethylbenzene	20.00	20.44	102	80-123	1	20
m,p-Xylenes	40.00	42.36	106	80-123	1	20
o-Xylene	20.00	20.36	102	80-122	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	87	80-127
1,2-Dichloroethane-d4	100	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	90	80-121

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	238394	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	189066
Units:	ug/L	Analyzed:	08/02/12
Diln Fac:	1.000		

Type: BS Lab ID: QC650176

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	800.0	772.8	97	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	87	80-127
1,2-Dichloroethane-d4	94	69-148
Toluene-d8	97	80-120
Bromofluorobenzene	94	80-121

Type: BSD Lab ID: QC650177

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	800.0	695.3	87	80-120	11	20

Surrogate	%REC	Limits
Dibromofluoromethane	88	80-127
1,2-Dichloroethane-d4	108	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	96	80-121

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	238394	Location:	MSC Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00003	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	189092
Units:	ug/L	Analyzed:	08/03/12
Diln Fac:	1.000		

Type: BS Lab ID: QC650287

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	20.51	82	59-120
Benzene	25.00	25.12	100	80-123
Toluene	25.00	26.16	105	80-120
Ethylbenzene	25.00	27.22	109	80-123
m,p-Xylenes	50.00	55.15	110	80-123
o-Xylene	25.00	26.16	105	80-122

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-127
1,2-Dichloroethane-d4	103	69-148
Toluene-d8	98	80-120
Bromofluorobenzene	91	80-121

Type: BSD Lab ID: QC650288

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	20.58	82	59-120	0	20
Benzene	25.00	24.41	98	80-123	3	20
Toluene	25.00	26.49	106	80-120	1	20
Ethylbenzene	25.00	26.52	106	80-123	3	20
m,p-Xylenes	50.00	54.25	109	80-123	2	20
o-Xylene	25.00	26.18	105	80-122	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-127
1,2-Dichloroethane-d4	105	69-148
Toluene-d8	102	80-120
Bromofluorobenzene	95	80-121

RPD= Relative Percent Difference

Data File: \\Gcmsserver\DD\chem\MSVOA09.i\080212.b\IH218TVH.D

Date : 02-AUG-2012 20:34

Client ID: DYNA P&T

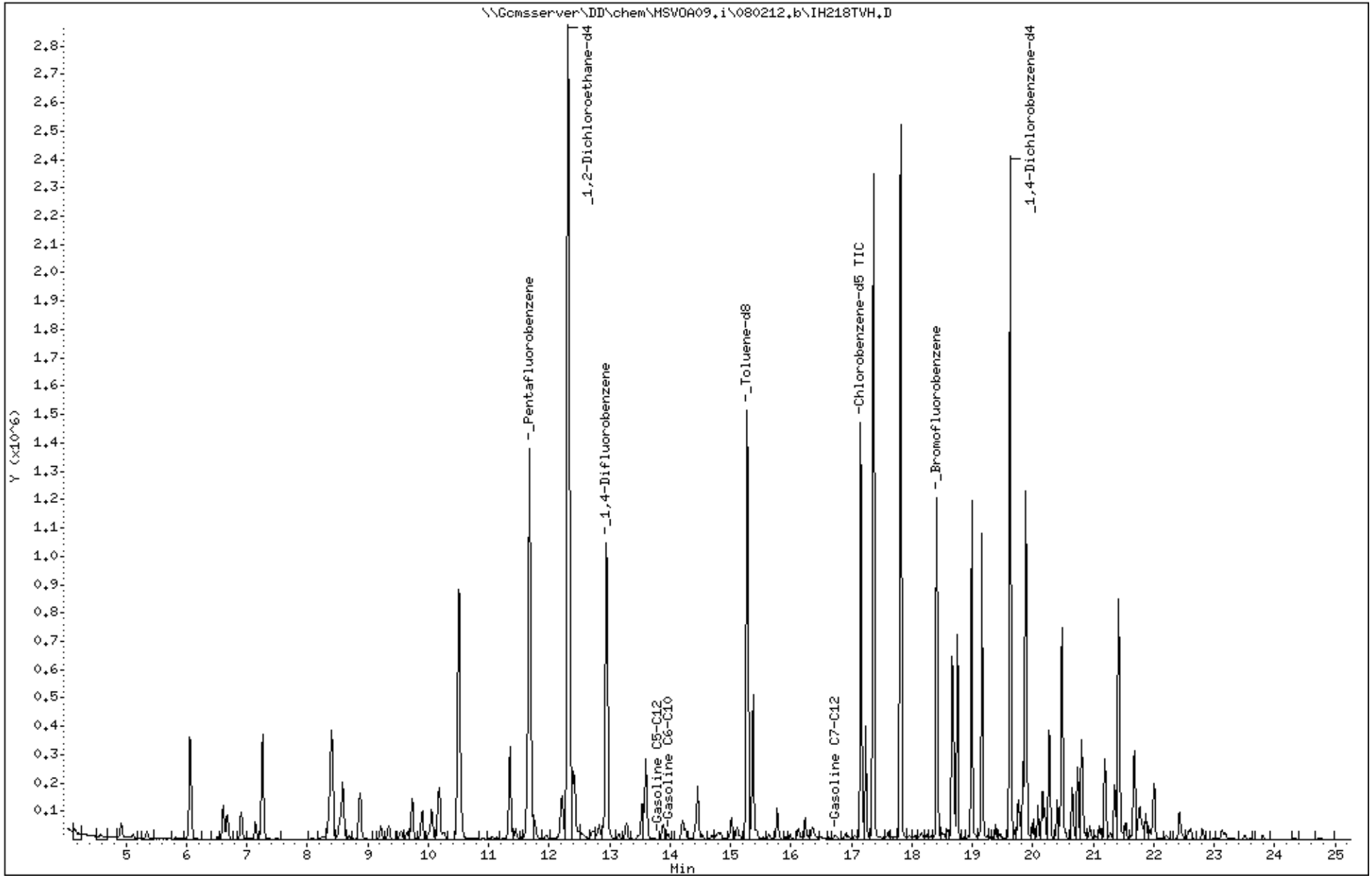
Instrument: MSVOA09.i

Sample Info: S,238394-001

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 02-AUG-2012 17:47

Client ID: DYNA P&T

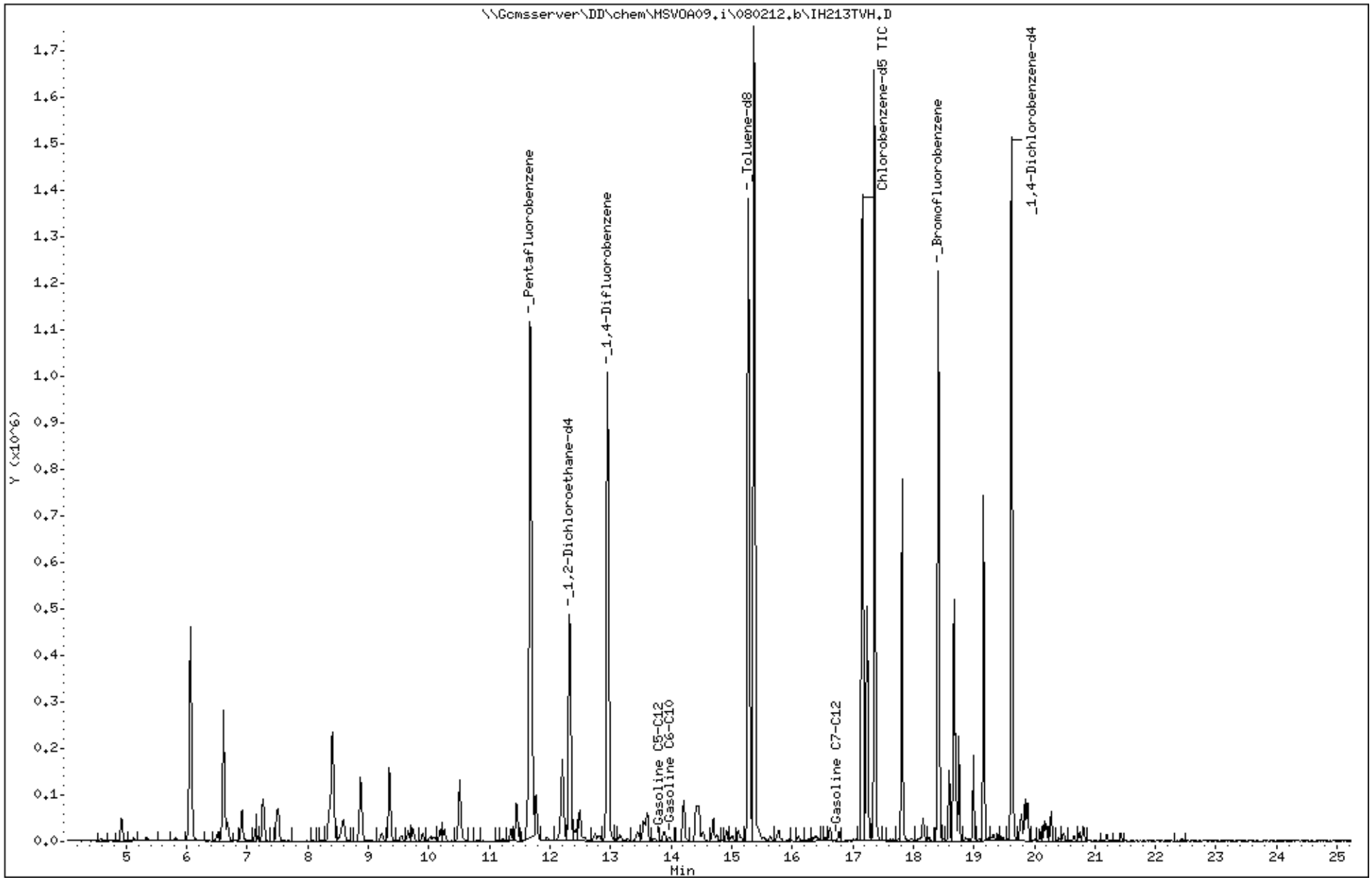
Instrument: MSVOA09.i

Sample Info: CCV/BS,QC650176,189066,S19732,.008/100

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.