CITY OF OAKLAND

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Public Works Agency
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February 29, 2012

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

Subject: Groundwater Monitoring Report (Fall & Winter Quarterly Reports 2011)
Municipal Services Center (MSC) site
7101 Edgewater Drive, Oakland, California

Reference: ACEH Fuel Leak Case No. RO0000293, GeoTracker Global ID T0600100375

Dear Mr. Khatri:

The City of Oakland is pleased to submit the attached Groundwater Monitoring Report (Fall & Winter 2011 quarterly reports) prepared by Arcadis Inc. (Arcadis). The City is submitting this report as part of the ongoing remediation and obtaining a "No Further Action" status to the above referenced site. Arcadis prepared this report as a consultant to the City.

Certification

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

Please contact me at (510)238-6361 if you have questions or comments.

Sincerely

Gopal Nair
Environmental Program Specialist

ARCADIS
Infrastructure · Water · Environment · Buildings

Groundwater Monitoring Report
(Fall and Winter 2011 Quarterly Sampling Events)
Municipal Service Center Site
7101 Edgewater Drive
Oakland, California

February 29, 2012
LC010060.0016

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

ARCADIS
Infrastructure · Water · Environment · Buildings

February 29, 2012 LC010060.0016.00001

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

Subject: Groundwater Monitoring Report (Fall and Winter 2011 Quarterly Sampling Events), Municipal Service Center Site, 7101 Edgewater Drive, Oakland, California

Dear Mr. Nair:

ARCADIS U.S., Inc. (ARCADIS) is pleased to present this report summarizing data collected during the Fall and Winter 2011 quarterly groundwater monitoring events at the Municipal Service Center, located at 7101 Edgewater Drive in Oakland, California ("the Site"). These activities were performed in a manner consistent with previous sampling events conducted at the Site.

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

Sincerely,

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

Attachment

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Emeryville, California 94608
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Fax 510.652.4906
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CONTENTS

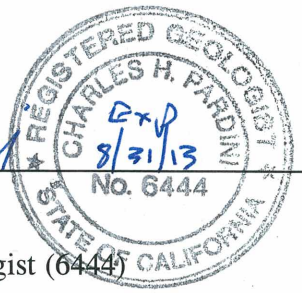
TABLE

FIGURES

APPENDICES

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)

2/29/12
February 29, 2012

* 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 Fall and Winter 2011 quarterly groundwater monitoring events conducted September 12 through 14, 2011 ("the September monitoring event") and December 21 through 22, 2011 ("the December 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 September and December monitoring events as well as the analytical results, distribution of contaminants in groundwater, conclusions, and recommendations. Also discussed are the anticipated quarterly monitoring activities to be performed during Spring and Summer 2012.

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 backfilling of the excavation of former fuel hydrant lines in the early 1990s. TBW-1 through TBW-4 were abandoned and sealed in June 2007 by Baseline Environmental Consulting ("Baseline").

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

According to the "Second Quarter 2003 Monitoring Report" (Uribe 2003), approximately 10,000 gallons of a groundwater/free product mixture were removed

from on-site wells RW-B3 and RW-B4 (Plume B) in September and October 2002, using a trailer-mounted, dual-phase extraction (DPE) unit with a 10-horsepower vacuum pump. Additionally, approximately 10,000 gallons of liquid were removed from wells RW-C3, RW-C4, RW-C5, and RW-C7 (Plume C) through five daily extractions over a two-month period. The liquid was pumped into a 21,000-gallon aboveground storage tank to allow separation of oil from water and drained through three 2,000-pound granular-activated carbon filters (in series). After filtration, the wastewater was discharged into a local storm drain. A National Pollutant Discharge Elimination System (NPDES) permit was issued prior to discharge.

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

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

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

A number of monitoring wells have been also 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 FALL AND WINTER 2011 QUARTERLY MONITORING ACTIVITIES

3.1 Field Activities

The September 2011 field activities, which included depth-to-groundwater/product measurement and well sampling, were conducted in accordance with the revised City of Oakland MSC Schedule and Protocol Table that was included in the November 6, 2009 letter to ACEH proposing a revised groundwater monitoring schedule during the September monitoring event. On December 14, 2011, a revised monitoring plan was submitted to ACEH proposing a change to quarterly monitoring at the Site. This revised monitoring plan was implemented in the December monitoring event (Appendix A).

In the September and December 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 September 12 and 13, 2011 and December 21 and 22, 2011.

In the September monitoring event, depth to water and depth to SPH in OB-C1 was measured on September 30, 2011 by OTG EnviroEngineering Solutions because the well could not be accessed on September 12 and 13, 2011.

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 in each well to avoid potential cross-contamination. Current and historical product thickness measurements, depth-to-groundwater measurements, and groundwater elevations calculated from groundwater measurements are presented in Table 1. Monitoring and remediation well locations are shown on Figures 2 and 3.

On September 12 through September 14, 2011, ARCADIS personnel collected groundwater samples from monitoring wells MW-1, MW-5, MW-6, MW-9, MW-10, MW-13, MW-14, and MW-17. Samples were also collected from remediation wells RW-C6, RW-C7, RW-D3, RW-D5, RW-D6, RW-D8, RW-D9, and RW-1.

On December 21 and December 22, 2011, 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.

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 eight monitoring wells sampled during the current monitoring event. Due to the larger diameter of the

remediation wells, a down-hole Monsoon pump was used to purge a minimum of three well-casing volumes of groundwater. New disposable tubing was used at each remediation well. All wells were allowed to recover to at least 80 percent of their original static groundwater levels before sampling. Dissolved oxygen, temperature, pH, conductivity, and oxidation-reduction potential (ORP) were measured for each well volume purged. Additionally, characteristics of the water (color, turbidity, odor, sheen) were noted on the field data sheets, which are included in Appendix B.

After the wells were purged, samples were collected using the disposable PVC, bottom-discharging bailer that was used to purge the well. 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 in both the September and December 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 September 12 and 13, 2011 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 0.52 foot mean sea level (msl) at MW-17 to 5.36 feet msl at MW-6 (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 0.0056 foot/foot (ft/ft), and toward the southwest (measured between wells MW-11 and MW-15) at approximately 0.011 ft/ft in the southern portion of the Site. A groundwater high (groundwater elevation of 6.76 feet msl) is observed in remediation well RW-A1, located in the vicinity of Plume A in the southern portion of the Site (Figure 3). The variation in the groundwater gradient may be due to differences in lithologic characteristics in the subsurface or preferential pathways (possibly due to backfilled utility trenches and underground storage tank pits). The groundwater flow direction for this sampling period was similar to that reported by Ninyo & Moore in its July 14, 2004 Spring Semiannual Groundwater Monitoring Report for the Site, and in more recent ARCADIS monitoring reports.

Depth to groundwater was measured on December 21 and 22, 2011, 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 1.28 feet msl at MW-17 to 5.48 feet msl at MW-6 (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 0.0069 foot/foot (ft/ft), and toward the southwest (measured between wells MW-11 and MW-15) at approximately 0.011 ft/ft in the southern portion of the Site. A groundwater high (groundwater elevation of 7.43 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). 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 September or December 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 C remediation wells RW-C5 and RW-C6, and Plume D remediation wells RW-D9 and RW-D10 (Table 1) during the September 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. SPH has not been detected in the Plume A wells historically.

4.3 Contaminant Distribution in Groundwater

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

The following sections summarize the analytical data collected in the September and December 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 of the limited data available. A more thorough discussion of concentration trends in both monitoring and remediation wells will be conducted in the annual monitoring report to be submitted in August 2012.

For quality assurance/quality control (QA/QC), ARCADIS collected a duplicate sample in the September and December monitoring events and analyzed them for TPHg, TPHk, TPHd, TPHmo, BTEX, and MTBE. On September 13, 2011, 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, which was greater than a 20 percent difference. This result in Table 1 has been qualified to state this difference.

On December 22, 2011, a duplicate sample was collected from remediation well RW-B4. The analytical results for the duplicate sample were consistent with those for the primary samples collected from well RW-B4 for all analytes, with the exception of TPHmo, which was greater than a 20 percent difference. The analytical laboratory stated this difference was the result of sediment in the duplicate sample that was not present in the primary sample. This result in Table 1 has been qualified to state this difference.

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

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

Analyte	Previous Screening Criteria		Recommended Screening Criteria
	SFAEPZ Tier 1 Standard (μg/l)	ESL Surface Water (Table F-2b) (μg/l)	ESL Groundwater (Table F-1b) (μg/l)
Benzene	71	71	46
Toluene	NA	40	130
Ethylbenzene	29,000	30	43
Total Xylenes	NA	100	100
MTBE	NA	180	1800
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 four of the eight monitoring wells sampled during the September monitoring event. Benzene concentrations in the monitoring wells ranged from 0.99 μg/l (MW-9) to 140 μg/l (MW-6).

Benzene was detected above the LRLs in seven of the eight groundwater samples collected from remediation wells during the September monitoring event. Benzene concentrations in the remediation wells ranged from 3.1 μg/l (RW-C7) to 1,100 μg/l/1,200 μg/l (RW-D5; primary/duplicate sample).

Benzene concentrations detected above LRLs were reported in groundwater samples collected from three of the six monitoring wells sampled during the December

monitoring event. Benzene concentrations in the monitoring wells ranged from 0.53 µg/l (MW-1) to 2.6 µg/l (MW-10).

Benzene was detected above the LRLs in five of the eight groundwater samples collected from remediation wells during the December monitoring event. Benzene concentrations in the remediation wells ranged from 8.3 µg/l (RW-C7) to 1,100 µg/l/1,100 µg/l (RW-B4; primary/duplicate sample).

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 one monitoring well (MW-6) and five remediation wells (RW-C6, RW-D3, RW-D5, RW-D6, RW-D9) during the September monitoring event were above the RWQCB ESL for benzene. In the December monitoring event, benzene concentrations in three remediation wells (RW-B4, RW-C6, and RW-D5) were above the RWQCB ESL for benzene. The benzene concentrations in monitoring wells sampled in the December monitoring event were below the ESL for benzene.

Of the monitoring wells sampled in the September and December monitoring events, only the September sample from well MW-6 contained a benzene concentration exceeding the ESL for benzene. This benzene concentration was a slight increase from the previous MW-6 sample collected in October 2010 (100 µg/l/ 110 µg/l; primary/duplicate sample). In general, the benzene in MW-6 has decreased since the well was installed, although it has displayed a relatively stable trend since Fall 2008.

4.3.3 Toluene

Toluene was reported above the LRLs in groundwater samples collected from three of the eight monitoring wells sampled during the September monitoring event. Toluene concentrations in the monitoring wells ranged from 0.84 µg/l (MW-9) to 4.6 µg/l (MW-6).

Toluene was detected above the LRLs in six of the eight groundwater samples collected from remediation wells during the September monitoring event. Toluene concentrations in the remediation wells ranged from 1.5 µg/l (RW-D8) to 100 µg/l (RW-D6).

Toluene was reported above the LRLs in the groundwater sample collected from one of the six monitoring wells sampled during the December monitoring event. Toluene was detected in monitoring well MW-5 at a concentration of 0.75 µg/l.

Toluene was detected above the LRLs in five of the eight groundwater samples collected from remediation wells during the December monitoring event. Toluene concentrations in the remediation wells ranged from 1.5 µg/l (RW-D9) to 35 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 September and December monitoring events.

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

4.3.4 Ethylbenzene

Ethylbenzene was reported above the LRLs in groundwater samples collected from two of the eight monitoring wells sampled during the September monitoring event. Ethylbenzene was detected in monitoring wells MW-5 and MW-6 at concentrations of 62 µg/l and 0.82 µg/l, respectively.

Ethylbenzene was detected above the LRLs in six of the eight groundwater samples collected from remediation wells during the September monitoring event. Ethylbenzene concentrations in the remediation wells ranged from 2.8 µg/l (RW-D8) to 200 µg/l (RW-D6).

Ethylbenzene was reported above the LRLs in the groundwater samples collected from one of the six monitoring wells sampled during the December monitoring event. Ethylbenzene was detected in monitoring well MW-5 at a concentration of 65 µg/l.

Ethylbenzene was detected above the LRLs in six of the eight groundwater samples collected from remediation wells during the current monitoring event. Ethylbenzene concentrations in the remediation wells ranged from 0.98 µg/l (RW-C7) to 64 µg/l/63 µg/l (RW-B4; primary/duplicate sample).

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-D6) during the September monitoring event were above the RWQCB ESL for ethylbenzene. In the December monitoring event, the ethylbenzene concentrations in one monitoring well (MW-5) and one remediation well (RW-B4) were above the RWQCB ESL for ethylbenzene.

Well MW-5 was the only monitoring well sampled in the September and December monitoring events with concentrations exceeding the ESL for ethylbenzene. Even though this well exceeded the ESL, the September and December ethylbenzene concentrations significantly decreased from the last sample collected in April 2010 (240 µg/l).

4.3.5 Total Xylenes

Total xylenes were reported above the LRLs in groundwater samples collected from four of the eight monitoring wells sampled during the September monitoring event.

Total xylenes concentrations in monitoring wells ranged from 0.54 µg/l (MW-1) to 7.48 µg/l (MW-5).

Total xylenes were detected above the LRLs in six of the eight groundwater samples collected from remediation wells during the September monitoring event. Total xylenes concentrations in the remediation wells ranged from 31 µg/l (RW-D9) to 480 µg/l (RW-D6).

Total xylenes were reported above the LRLs in groundwater samples collected from two of the six monitoring wells sampled during the December monitoring event. Total xylenes were detected in monitoring wells MW-1 and MW-5 at concentrations of 0.69 µg/l and 5.74 µg/l, respectively.

Total xylenes were detected above the LRLs in five of the eight groundwater samples collected from remediation wells during the December monitoring event. Total xylenes concentrations in the remediation wells ranged from 12.3 µg/l (RW-D5) to 176 µg/l/198 µg/l (RW-B4; primary/duplicate sample).

The RWQCB ESL Groundwater Screening Level (groundwater is not a current or potential drinking water resource) for total xylenes is 100 µg/l (RWQCB 2008; Table F-1b). The concentrations of total xylenes detected in monitoring wells during the September monitoring event were well below the ESL of 100 µg/l. The total xylenes concentrations in two remediation wells (RW-C6 and RW-D6) were above the RWQCB ESL for total xylenes in the September monitoring event. In the December monitoring event, the total xylenes concentration in remediation well RW-B4 was above the RWQCB ESL for total xylenes. The total xylenes concentrations in monitoring wells sampled during the December monitoring event were below the ESL for total xylenes.

The total xylenes concentrations in monitoring wells sampled during the September and December 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 groundwater samples collected from two of the eight monitoring wells sampled during the September monitoring event. MTBE was detected in wells MW-5 and MW-6 at concentrations of 12 µg/l and 2.9 µg/l, respectively.

MTBE was not detected above the LRLs in eight remediation wells sampled during the September monitoring event.

MTBE was reported above the LRLs in the groundwater sample collected from one of the six monitoring wells sampled during the December monitoring event. MTBE was detected in well MW-5 at a concentration of 9.9 µg/l.

MTBE was reported above the LRLs in the groundwater sample collected from one of the eight remediation wells sampled during the December monitoring event. MTBE was detected in well RW-C6 at a concentration of 0.51 µg/l.

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

The MTBE concentrations in monitoring wells sampled in the September and December 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 five of the eight monitoring wells sampled during the September monitoring event. TPHg concentrations in monitoring wells ranged from 68 µg/l (MW-9) to 2,900 µg/l (MW-5).

TPHg was detected above the LRLs in seven of the eight groundwater samples collected from remediation wells during the September monitoring event. TPHg concentrations in the remediation wells ranged from 150 µg/l (RW-C7) to 8,700 µg/l (RW-D6).

TPHg was reported above the LRLs in groundwater samples collected from two of the six monitoring wells sampled during the December monitoring event. TPHg was detected in monitoring wells MW-1 and MW-5 at concentrations of 230 µg/l and 2,800 µg/l, respectively.

TPHg was detected above the LRLs in five of the eight groundwater samples collected from remediation wells during the December monitoring event. TPHg concentrations in the remediation wells ranged from 380 µg/l (RW-C7) to 5,400 µg/l/5,600 µg/l (RW-D6; primary/duplicate sample).

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 two monitoring wells (MW-5 and MW-6) and six remediation wells (RW-C6, RW-D3, RW-D5, RW-D6, RW-D8, and RW-D9) during the September monitoring event were above the RWQCB ESL for TPHg. The TPHg concentrations in two monitoring wells (MW-1 and MW-5) and five remediation wells (RW-B4, RW-C6, RW-C7, RW-D5, and RW-D9) during the December monitoring event were above the RWQCB ESL for TPHg.

In the September and December monitoring events, TPHg concentrations in monitoring wells MW-1, MW-5, and MW-6 exceeded the ESL for TPHg. Although these wells exceeded the ESL, the September and December TPHg concentrations either decreased or remained relatively stable compared to those detected in the last few sampling events. The TPHg detected in MW-1 and MW-5 decreased from the last samples collected in these wells in April 2010 (380 µg/l and 4,500 µg/l, respectively). The TPHg concentration in MW-6 was relatively consistent with the October 2010 TPHg concentrations (620 µg/l/610 µg/l; primary/duplicate sample).

4.3.8 TPHd

TPHd was reported above the LRLs in groundwater samples collected from six of the eight monitoring wells sampled during the September monitoring event. TPHd concentrations in monitoring wells ranged from 51 µg/l (MW-13) to 1,800 µg/l (MW-6).

TPHd was detected above the LRLs in seven of the eight groundwater samples collected from remediation wells during the September monitoring event. TPHd concentrations in the remediation wells ranged from 70 µg/l (RW-D9) to 6,000 µg/l (RW-D8).

TPHd was reported above the LRLs in groundwater samples collected from two of the six monitoring wells sampled during the December monitoring event. TPHd was detected in monitoring wells MW-1 and MW-5 at concentrations of 100 µg/l and 1,400 µg/l.

TPHd was detected above the LRLs in seven of the eight groundwater samples collected from remediation wells during the December monitoring event. TPHd concentrations in the remediation wells ranged from 120 µg/l (RW-B1) to 8,100 µg/l (RW-C7).

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 two monitoring wells (MW-5 and MW-6) and four remediation wells (RW-C6, RW-D5, RW-D6, and RW-D8) during the September monitoring event were above the RWQCB ESL for TPHd. The TPHd concentrations in one monitoring well (MW-5) and six remediation wells (RW-A2, RW-B4, RW-C6, RW-C7, RW-D5, and RW-D9) during the December monitoring event were above the RWQCB ESL for TPHd.

In the September and December monitoring events, TPHd concentrations in monitoring wells MW-5 and MW-6 exceeded the ESL for TPHd. The TPHd concentration in MW-6 increased from the last sample collected in October 2010 (400 µg/l/370 µg/l; primary/duplicate sample), but has generally decreased since 2006. The TPHd concentration in MW-5 was generally consistent with the last sample collected in April 2010 (1,300 µg/l).

4.3.9 TPHmo

TPHmo was reported above the LRLs in groundwater samples collected from one of the eight monitoring wells sampled during the September monitoring event. TPHmo was detected in monitoring well MW-9 at a concentration of 500 µg/l.

TPHmo was detected above the LRLs in two of the eight groundwater samples collected from remediation wells during the September monitoring event. TPHmo was detected in RW-C6 and RW-D8 at concentrations of 70 µg/l and 11,000 µg/l, respectively.

TPHmo was not detected above the LRLs in the six monitoring wells sampled during the December monitoring event.

TPHmo was detected above the LRLs in five of the eight groundwater samples collected from remediation wells during the December monitoring event. TPHmo concentrations in the remediation wells ranged from 400 µg/l (RW-D9) to 1,700 µg/l (RW-C7).

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 wells (MW-9) and two remediation wells (RW-C6 and RW-D8) during the September monitoring event were above the RWQCB ESL for TPHmo. The TPHmo concentrations in five remediation wells (RW-B4 duplicate sample, RW-C6, RW-C7, RW-D5, and RW-D9) during the December monitoring event were above the RWQCB ESL for TPHmo. The TPHmo concentrations in monitoring wells sampled in the December monitoring event were below the ESL for TPHmo.

Well MW-9 was the only monitoring well sampled in the September and December monitoring events with concentrations exceeding the ESL for TPHmo. The September 2011 TPHmo concentration is the highest detected in MW-9 since 2002, as the concentrations are typically below the LRL of 300 µg/l.

4.3.10 TPHk

TPHk was reported above the LRLs in groundwater samples collected from three of the eight monitoring wells sampled during the September monitoring event. TPHk concentrations in monitoring wells ranged from 120 µg/l (MW-1) to 1,600 µg/l (MW-6).

TPHk was detected above the LRLs in six of the eight groundwater samples collected from remediation wells during the September monitoring event. TPHk concentrations in the remediation wells ranged from 72 µg/l (RW-D9) to 5,000 µg/l (RW-D8).

TPHk was reported above the LRLs in groundwater samples collected from two of the six monitoring wells sampled during the December monitoring event. TPHk was detected in monitoring wells MW-1 and MW-5 at concentrations of 120 µg/l and 1,600 µg/l, respectively.

TPHk was detected above the LRLs in seven of the eight groundwater samples collected from remediation wells during the December monitoring event. TPHk concentrations in the remediation wells ranged from 78 µg/l (RW-B1) to 5,900 µg/l (RW-C7).

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 two monitoring wells (MW-5 and MW-6) and four remediation wells (RW-C6, RW-D5, RW-D6, and RW-D8) during the September monitoring event were above the RWQCB ESL for TPHk. The TPHk concentrations in one monitoring well (MW-5) and five remediation wells (RW-B4, RW-C6, RW-C7, RW-D5, and RW-D9) during the December monitoring event were above the RWQCB ESL for TPHk.

In the September and December monitoring events, TPHk concentrations in monitoring wells MW-5 and MW-6 exceeded the ESL for TPHk. The TPHk concentration in MW-6 increased from the last sample collected in October 2010 (420 µg/l/400 µg/l; primary/duplicate sample), but has generally decreased since 2006. The TPHk concentration in MW-5 was generally consistent with the last sample collected in April 2010 (1,400 µg/l).

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 September and December monitoring events.

5.2 Blanks

One field blank was collected in the September (MW-10-FB) and December (RW-1-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 September and December monitoring events.

Additionally, laboratory method blank results were reviewed for detection of target analytes. In the September monitoring event, diesel C10-C24 and motor oil C24-C36 were detected above the LRL in the method blank for batch 178996. The associated samples have been qualified in Table 1. No analytes were detected in the method blanks above the LRL in the December 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 September and December 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 September and December monitoring events with the exception of the following:

- High surrogate recovery was observed for o-terphenyl in RW-1 in the September monitoring event, but no target analytes were detected in the sample.
- Low surrogate recoveries were observed for o-terphenyl in RW-C6 and RW-D5 during the December monitoring event.

5.5 False-Positive Petroleum Hydrocarbon Identification

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

6.0 CONCLUSIONS AND RECOMMENDATIONS

The following summarizes the data collected during the September and December monitoring events and presents the recommendations for the Spring and Summer 2012 monitoring periods.

- In the September monitoring event, groundwater elevations in the monitoring wells ranged from 0.52 feet msl at MW-17 to 5.36 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 0.0056 ft/ft toward the southwest in the southern portion of the Site at 0.011 ft/ft. A groundwater high was observed in the vicinity of well RW-A1 (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 December monitoring event, groundwater elevations in the monitoring wells ranged from 1.28 feet msl at MW-17 to 5.48 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 0.0069 ft/ft toward the southwest in the southern portion of the Site at 0.011 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 September and December monitoring events.
- In the September monitoring event, benzene was detected above the LRL in four of the eight monitoring wells and seven 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 one monitoring well (MW-6) and five remediation wells (RW-C6, RW-D3, RW-D5, RW-D6, RW-D9).
- In the December monitoring event, benzene was detected above the LRL in three of the six monitoring wells and five 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 three remediation wells (RW-B4, RW-C6, and RW-D5).
- In the September monitoring event, toluene was detected above the LRL in three of the eight monitoring wells and six 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 of 130 μg/l.
- In the December 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 of 130 μg/l.
- In the September monitoring event, ethylbenzene was detected above the LRL in two of the eight monitoring wells and six 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-D6).

- In the December monitoring event, ethylbenzene was detected above the LRL in one of the six monitoring wells and six 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 September monitoring event, total xylenes were detected above the LRL in four of the eight 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-C6 and RW-D6).
- In the December 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 September monitoring event, MTBE was detected above the LRL in two of the eight 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 December 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 September monitoring event, TPHg was detected above the LRL in five of the eight monitoring wells and seven 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 two monitoring wells (MW-5 and MW-6) and six remediation wells (RW-C6, RW-D3, RW-D5, RW-D6, RW-D8, and RW-D9).
- In the December monitoring event, TPHg was detected above the LRL in two of the six monitoring wells (MW-1 and MW-5) and five of the eight remediation wells sampled (RW-B4, RW-C6, RW-C7, RW-D5, and RW-D9). All of these 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 the September monitoring event, TPHd was detected above the LRL in six of the eight 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-6) and four remediation wells (RW-C6, RW-D5, RW-D6, and RW-D8).

- In the December monitoring event, TPHd was detected above the LRL in two 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 one monitoring well (MW-5) and six remediation wells (RW-A2, RW-B4, RW-C6, RW-C7, RW-D5, and RW-D9).
- In the September monitoring event, TPHmo was detected above the LRL in one of the eight monitoring wells (MW-9) and two of the eight remediation wells sampled (RW-C6 and RW-D8). 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 December monitoring event, TPHmo was not detected above the LRL in the six monitoring and eight remediation wells sampled.
- In the September monitoring event, TPHk was detected above the LRL in three of the eight 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 two monitoring wells (MW-5 and MW-6) and four remediation wells (RW-C6, RW-D5, RW-D6, and RW-D8).
- In the December 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 five remediation wells (RW-B4, RW-C6, RW-C7, RW-D5, and RW-D9).

Based on the results of the September and December 2011 monitoring events, ARCADIS makes the following recommendations:

- Continue quarterly SPH and groundwater monitoring on site as proposed in the December 2011 letter to ACEH.
- Conduct a concentration trend evaluation for all monitoring and remediation wells sampled as part of the quarterly monitoring from September 2011 through June 2012 in the Annual Monitoring Report to be submitted in August 2012.

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
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

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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)
10/30/09	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
MW-2														
10/4/89	10.47	---	---	8020		---	---	---	<30	<0.3	<0.3	<0.3	<0.3	---
10/4/89	10.47	---	---	8240		---	---	---	---	2	<2.0	<2.0	<2.0	---
4/27/93	10.47	---	---	8020		---	---	---	<1,000	<1.0	<1.0	<1.0	<1.0	---
4/19/95	10.47	---	---	8020		---	---	---	<50	1.8	<0.5	<0.5	<0.5	---
7/27/95	10.47	6.22	4.25	8020		---	---	---	<50	2.3	<0.5	<0.5	<0.5	---
11/20/95	10.47	7.49	2.98	8020		---	---	---	<50	2.2	<0.5	<0.5	<0.5	---
2/12/96	10.47	6.68	3.79	8020		---	---	---	<50	1.7	<0.5	<0.5	0.5	---
5/13/96	10.47	6.32	4.15	8020		---	---	---	---	2	<0.5	<0.5	<0.5	---
8/27/96	10.47	6.84	3.63	8020		---	---	---	---	2.4	<0.5	<0.5	<0.5	---
2/24/98	10.47	5.44	5.03	8020		<50	<500	<50	---	1.6	<0.5	<0.5	<0.5	---
8/19/98	10.47	6.56	3.91	8020	SGC	330	---	---	<50	4.1	3.4	0.8	2.6	<5.0
11/11/98	10.47	7.37	3.10	---		---	---	---	---	---	---	---	---	---
2/23/99	10.47	8.68	1.79	8020	SGC	200	900	<50	<50	3.5	0.6	0.6	1.2	<5.0
5/27/99	10.47	5.20	5.27	---		---	---	---	---	---	---	---	---	---
8/24/99	10.47	6.75	3.72	8020	SGC	140	700	<50	<50	2.6	<0.5	<0.5	<0.5	<5.0
11/22/99	10.47	7.58	2.89	---		---	---	---	---	---	---	---	---	---
1/18/00	10.47	7.41	3.06	8020	SGC	60 a	660	<50	<50	2.1	<0.5	<0.5	<0.5	<5.0
5/11/00	10.47	6.43	4.04	---		---	---	---	---	---	---	---	---	---
8/24/00	10.47	8.91	1.56	8020	SGC	170	440	130	<50	2.4	<0.5	<0.5	<0.5	<5.0
11/28/00	10.47	7.35	3.12	---		---	---	---	---	---	---	---	---	---
2/27/01	10.47	6.70	3.77	8020	Filtered+SGC	<59	<240	<59	<50	3.6	<0.5	<0.5	<0.5	<5
5/17/01	10.47	6.90	3.57	---		---	---	---	---	---	---	---	---	---
8/16/01	10.47	6.95	3.52		Filtered+SGC	<50	200B	<100	<50	<0.5	<0.5	<0.5	<0.5	<5.0
12/15/01	10.47	7.21	3.26	---		---	---	---	---	---	---	---	---	---
4/5/02	10.47	6.02	4.45	8021	SGC	200	400	---	<50	2.9	<0.5	<0.5	<0.5	<5
6/21/02	10.47	8.07	2.40	---		---	---	---	---	---	---	---	---	---
9/17/02	10.47	7.12	3.35	8021	SGC	<50	<300	<50	<50	2.1	<0.5	<0.5	<0.5	<2
4/23/03	10.47	6.36	4.11	8021B	SGC	<50	<300	<50	<50	1.6	<.50	<.50	<.50	<2.0
4/28/04	10.47	5.99	4.48	8260B	SGC	<100	<400	<100	<100	<0.5	<1.0	<1.0	1.3	<1.0
9/1/05 [1]	10.47	6.08	4.39	8260B	SGC	<50	<300	<50	<50	2.8	<0.5	<0.5	<0.5	0.8
4/4/2006 [3]	10.47	4.96	5.51	8260B	SGC	<50	<300	<50	<50	2.1	<0.5	<0.5	0.5	0.5
9/6/06	10.47	9.31	1.16	---	---	---	---	---	---	---	---	---	---	---

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)
4/5/07	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	---	---	---	---	---	---	---	---	---
MW-3														
10/4/89	---	---	---	8020		---	---	---	<30	<0.3	<0.3	<0.3	<0.3	---
10/4/89	---	---	---	8240		---	---	---	---	<2.0	<2.0	<2.0	<2.0	---
2/23/98	---	---	---	---		<50	<500	<50	---	---	---	---	---	---
11/11/98	---	5.83	---	---		---	---	---	---	---	---	---	---	---
2/23/99	---	---	---	---	Submerged	---	---	---	---	---	---	---	---	---
5/27/99	---	1.68	---	---		---	---	---	---	---	---	---	---	---
8/24/99	---	4.76	---	---		---	---	---	---	---	---	---	---	---
11/22/99	---	6.46	---	---		---	---	---	---	---	---	---	---	---
11/22/99	---	---	---	---	Destroyed	---	---	---	---	---	---	---	---	---
MW-4														
10/4/89	7.89	---	---	8020		---	---	---	<30	<0.3	<0.3	<0.3	<0.3	---
10/4/89	7.89	---	---	8240		---	---	---	---	<2.0	<2.0	<2.0	<2.0	---
11/11/98	7.89	6.25	1.64	---		---	---	---	---	---	---	---	---	---
2/23/99	7.89	3.10	4.79	---		---	---	---	---	---	---	---	---	---
5/27/99	7.89	4.03	3.86	---		---	---	---	---	---	---	---	---	---
8/24/99	7.89	5.07	2.82	---		---	---	---	---	---	---	---	---	---
11/22/99	7.89	6.32	1.57	---		---	---	---	---	---	---	---	---	---
11/22/99	---	---	---	---	Destroyed	---	---	---	---	---	---	---	---	---
MW-5														
12/13/91	11.15	---	---	8020		1,900	---	---	13,000	1,500	190	970	2,500	---
12/13/91	11.15	---	---	8020	Dup	---	---	---	16,000	1,400	180	870	2,500	---
12/13/91	11.15	---	---	8240		---	---	---	---	1,800	<250	1,000	3,800	---
12/13/91	11.15	---	---	8240	Dup	---	---	---	---	1,600	<250	980	3,500	---
4/27/93	11.15	---	---	8240		12,000	---	---	35,000	2,100	<1.0	1,800	2,700	---
4/19/95	11.15	---	---	8240		880	4,700	---	14,000	490	51	610	1,200	---
7/27/95	11.15	6.29	4.86	8240		590	5,000	---	22,000	1,300	54	1,500	2,400	---

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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)
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
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	---	---	---	---	---	---	---	---	---

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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)
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
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.	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---

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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)
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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

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)
11/28/00	11.51	7.30	4.21	---		---	---	---	---	---	---	---	---	---
2/27/01	11.51	5.75	5.76	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5
5/17/01	11.51	6.65	4.86	---		---	---	---	---	---	---	---	---	---
8/16/01	11.51	5.97	5.54		Filtered+SGC	<50	600B	<100	<50	<0.5	<0.5	<0.5	<0.5	<5
12/15/01	11.51	6.43	5.08	---		---	---	---	---	---	---	---	---	---
4/8/02	11.51	6.17	5.34	8021	SGC	80	<200	---	<50	<0.5	0.5	0.6	<0.5	<5
6/21/02	11.51	6.75	4.76	8021	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	3.3
9/12/02	11.51	7.05	4.46	8021	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	2.6
4/22/03	11.51	6.24	5.27	8021B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	4 C
4/28/04	11.51	6.61	4.90	8260B	SGC	<100	<400	<100	<100	1.6	<1.0	<1.0	<1.0	<1.0
9/2/05 [1]	11.51	6.56	4.95	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	3.2
4/5/06 [3]	11.51	4.58	6.93	8260B	SGC	<50	<300	<50	<50	2.7	<0.5	<0.5	<0.5	<0.5
9/6/06	11.51	6.67	4.84	---	---	---	---	---	---	---	---	---	---	---
4/5/07	11.51	6.13	5.38	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	2.7
10/2/07	11.51	7.07	4.44	---	---	---	---	---	---	---	---	---	---	---
3/20/08 [8]	11.51	6.24	5.27	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	2.7
3/20/08 dup	---	---	---	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	2.6
11/18/08	11.51	7.40	4.11	---	---	---	---	---	---	---	---	---	---	---
4/2/09 [12]	11.51	6.95	4.56	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	1.3
10/29/09	11.51	6.60	4.91	8260B	SGC	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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

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Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
2/27/01	12.22	9.50	2.72	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/17/01	12.22	9.71	2.51	---		---	---	---	---	---	---	---	---	---
5/18/01	12.22	---	---	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
8/16/01	12.22	9.80	2.42		Filtered+SGC	<50	<200	<100	<50	<0.5	<0.5	<0.5	<0.5	<5
12/15/01	12.22	9.28	2.94	8021	SGC	390	1,300	<50	<50	<0.5	<0.5	<0.5	<0.5	<5
4/8/02	12.22	9.55	2.67	8021	SGC	440	800	---	<50	<0.5	<0.5	<0.5	<0.5	<5
6/21/02	12.22	9.71	2.51	---		---	---	---	---	---	---	---	---	---
9/18/02	12.22	9.86	2.36	8021	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<2
4/22/03	12.22	9.54	2.68	8021B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<2
4/28/04	12.22	---	---	---		---	---	---	---	---	---	---	---	---
10/27/04	12.22	NM[4]	---	---		---	---	---	---	---	---	---	---	---
4/5/06 [3]	12.22	8.73	3.49	8260B	SGC	54 Y	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/6/06	12.22	9.50	2.72	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
4/3/07	12.22	9.58	2.64	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
10/3/07	12.22	9.54	2.68	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
3/21/08 [8]	12.22	9.61	2.61	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/19/08 [10]	12.22	9.58	2.64	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/2/09 [12]	12.22	9.54	2.68	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
10/30/09	12.22	9.67	2.55	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/8/10	12.22	9.57	2.65	---	SPH: None	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---

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Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
2/26/01	10.77	6.40	4.37	8020	Filtered+SGC	120	<200	<50	142	33	1.8	<0.5	<0.5	<5.0
5/17/01	10.77	9.88	0.89	---		---	---	---	---	---	---	---	---	---
5/18/01	10.77	---	---	8020	Filtered+SGC	<50	<200	<50	74	4.6	<0.5	<0.5	<0.5	<5.0
8/16/01	10.77	8.05	2.72		Filtered+SGC	<50	<200	<100	70	0.62	<0.5	<0.5	<0.5	<5
12/16/01	10.77	7.75	3.02	8021	SGC	1,400	4,100	<50	210	15	1.6	<0.5	2.2	<5
4/5/02	10.77	7.50	3.27	8021	SGC	870	1,000	---	1,498	367	11	2.1	7.8	<5
6/20/02	10.77	8.27	2.50	8021	SGC	<50	<300	<50	430	180	5.7	2.4	4.15	<2
9/18/02	10.77	8.25	2.52	8021	SGC	63 b,c	<300	60	250	49	5.8	<0.5	3.1	<2
4/22/03	10.77	7.25	3.52	8021B	SGC	<50	<300	<50	69	4.1 C	<0.5	<0.5	0.9	<2
4/28/04	10.77	---	---	---		---	---	---	---	---	---	---	---	---
10/27/04	10.77	NM[4]	---	---		---	---	---	---	---	---	---	---	---
9/6/06	10.77	8.44	2.33	8260B	SGC	210 Y	<300	150 Y	240	58	5.3	<0.5	5.68	<0.5
4/3/07	10.77	8.28	2.49	8260B	SGC	180 H Y	<300	140 H	240 Z	27	4.2	<0.5	5.32	<0.5
4/3/07	10.77	---	---	8260B	Dup	190 H Y	<300	160 H	260 Z	28	4.5	<0.5	5.87	<0.5
10/3/07	10.77	8.58	2.19	8260B	SGC	110 Y	<300	110 Y Z	240 Y	1	2.4	<0.5	3.53	<0.5
3/20/08 [8]	10.77	8.46	2.31	8260B	SGC	170 Y	<300	150 Y	230	65	4.2	<0.5	5.13	<0.5
3/20/08 dup	---	---	---	8260B	SGC	190 Y	<300	180 Y	250	66	4.4	<0.5	5.5	<0.5
11/21/08 [10]	10.77	8.63	2.14	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/2/09 [12]	10.77	8.08	2.69	8260B	SGC	130 Y	380	53 Y	70 Y	82	1.4	<0.50	1.0	<0.50
10/30/09	10.77	8.91	1.86	8260B	SGC	220Y	<300	130Y	<50	<0.50	<0.50	<0.50	0.61	<0.50
4/8/10	10.77	7.37	3.4	8260B	SPH: None	110 Y, F	<300	52 Y, F	---	---	---	---	---	---
4/8/10 dup	---	---	---	8260B		250 Y, F	<300	170 Y, F	---	---	---	---	---	---
4/29/10	10.77	7.3	3.47	8260B	SPH: None	90 Y, F	<300	<50	87	5.0	1.2	<0.50	1.8	<0.50
4/29/10 dup	---	---	---	8260B		<50 F	<300	<50	98	4.9	1.2	<0.50	1.7	<0.50
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	---	---	---	---	---	---	---	---	---
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

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)
5/11/00	10.59	7.00	3.59	8020	SGC	110 a	990	<50	145	1.62	0.5	0.5	0.9	<5.0
8/24/00	10.59	7.31	3.28	---		---	---	---	---	---	---	---	---	---
8/25/00	10.59	---	---	8020	SGC	430	1,300	110	<50	1.0	<0.5	<0.5	<0.5	<5.0
11/28/00	10.59	7.90	2.69	8020	SGC	220	1,500	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
2/27/01	10.59	5.80	4.79	8020	Filtered+SGC	85	<230	<57	<50	1.3	<0.5	<0.5	<0.5	<5.0
5/17/01	10.59	6.27	4.32	---		---	---	---	---	---	---	---	---	---
5/18/01	10.59	---	---	8020	Filtered+SGC	<50	<200	<50	<50	0.7	<0.5	<0.5	<0.5	<5.0
8/16/01	10.59	8.75	1.84		Filtered+SGC	<50	<200	<100	<50	<0.5	<0.5	<0.5	<0.5	<5
12/16/01	10.59	6.97	3.62	8021	SGC	410	2,100	<50	<50	2.4	<0.5	<0.5	<0.5	<5
4/8/02	10.59	6.51	4.08	8021	SGC	220	300	---	<50	1.1	<0.5	<0.5	<0.5	<5
6/20/02	10.59	8.10	2.49	8021	SGC	1,100 a,c	6,200	<50	120	34	<0.5	<0.5	<0.5	<2
9/17/02	10.59	7.66	2.93	8021	SGC	150 a,c	880	<50	130 a,c,j	32	<0.5	2.3	<0.5	<2
4/22/03	10.59	6.81	3.78	8021B	SGC	<50	<300	<50	51	1.0 C	<.50	1.2	<.50	<2
4/28/04	10.59	6.70	3.89	8260B	SGC	<100	<400	<100	114	14	<1.0	6.9	5.2	3.5
10/28/04	10.59	6.98	3.61	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/1/05 [1]	10.59	6.76	3.83	8260B	SGC	<50	<300	<50	110	2.4	<0.5	<0.5	0.7	<0.5
4/5/06 [3]	10.59	4.86	5.73	8260B	SGC	<50	<300	<50	<50	2.1	<0.5	<0.5	<0.5	<0.5
9/6/06	10.59	9.01	1.58	8260B	SGC	98 H Y	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
4/4/07	10.59	8.99	1.60	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
10/3/07	10.59	9.78	0.81	8260B	SGC	<50	<300	<50	<50	30	<0.5	<0.5	<0.5	<0.5
3/21/08 [8]	10.59	10.20	0.39	8260B	SGC	<50	<300	<50	<50	3.9	<0.5	<0.5	<0.5	<0.5
11/19/08 [10]	10.59	9.55	1.04	8260B	SGC	<50	<300	<50	<50	11	<0.50	<0.50	<0.50	<0.50
11/19/08 dup	---	---	---	8260B	SGC	<50	<300	<50	<50	11	<0.50	<0.50	<0.50	<0.50
4/1/09	10.59	7.52	3.07	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
10/30/09	10.59	8.80	1.79	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/8/10	10.59	6.23	4.36	---	SPH: None	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
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
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
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

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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)
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	---	---	---	---	---	---	---	---	---
MW-12														
1/18/00	10.43	8.11	2.32	---		---	---	---	---	---	---	---	---	---
1/19/00	10.43	---	---	8020	SGC	1,800 a	11,000	<50	200	<0.5	3.4	1.5	8.4	<5.0
5/11/00	10.43	6.78	3.65	8020	SGC	2,400 a	4,900	<100	370	<0.5	<0.5	<0.5	0.9	<5.0
8/24/00	10.43	7.56	2.87	---		---	---	---	---	---	---	---	---	---
8/25/00	10.43	---	---	8020	SGC	3,500	5,000	3,700	170	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	10.43	8.13	2.30	8020	SGC	2,100	14,000	<50	290	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	10.43	8.13	2.30	---	Filtered+SGC	50	<200	<50	---	---	---	---	---	---
2/27/01	10.43	6.00	4.43	8020	Filtered+SGC	320	<250	66	110	1.4	<0.5	<0.5	<0.5	<5.0
5/17/01	10.43	7.01	3.42	8020	Filtered+SGC	<50	<200	<50	220	<0.5	<0.5	<0.5	<0.5	<5.0
8/16/01	10.43	8.47	1.96	8020	Filtered+SGC	200	300B	<100	160	<0.5	<0.5	<0.5	<0.5	<5
4/8/02	10.43	6.65	3.78	8021	SGC	500	500	---	180	<0.5	<0.5	0.7	<1.5	<5
6/21/02	10.43	7.10	3.33	8021	SGC	1,100 a,b,c	3,000 h	640	180	<0.5	<0.5	0.63	1.62	<2
9/17/02	10.43	7.75	2.68	8021	SGC	220 a,b,c	360	190	130	<0.5	<0.5	<0.5	<0.5	<2
4/22/03	10.43	6.60	3.83	8021B	SGC	140 L Y	<300	120	150	<0.5	<0.5	<0.5	<0.5	<2
4/28/04	10.43	6.60	3.83	8260B	SGC	<550	1,020	<100	<100	<0.5	<1.0	<1.0	<1.0	<1.0
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

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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)
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	---	---	---	---	---	---	---	---	---
MW-13														
1/18/00	11.34	9.63	1.71	8020	SGC	8,800 a	120,000	<50	<50	<0.5	0.8	<0.5	<0.5	<5.0
5/11/00	11.34	10.12	1.22	8020	SGC	11,000 a	110,000	<500	70	1.6	5.4	1.2	7.6	<5.0
8/24/00	11.34	10.22	1.12	---		---	---	---	---	---	---	---	---	---
8/25/00	11.34	---	---	8020	SGC	3,100	13,000	1,200	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	11.34	10.50	0.84	8020	SGC	2,400	36,000	<1300	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	11.34	10.50	0.84	---	Filtered+SGC	280	1,100	<50	---	---	---	---	---	---
2/26/01	11.34	9.60	1.74	8020	Filtered+SGC	100	<260	<64	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/17/01	11.34	10.10	1.24	---		---	---	---	---	---	---	---	---	---
5/18/01	11.34	---	---	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
8/16/01	11.34	10.50	0.84		Filtered+SGC	<50	300B	<100	<50	<0.5	<0.5	<0.5	<0.5	<5
12/16/01	11.34	9.43	1.91	8021	SGC	1,900	18,000	<250	<50	<0.5	<0.5	<0.5	<0.5	<5
4/8/02	11.34	10.24	1.10	8021	SGC	440	900	---	<50	<0.5	<0.5	<0.5	<0.5	<5
6/20/02	11.34	10.75	0.59	8021	SGC	270 a,c	1,500 h	<50	<50	<0.5	<0.5	<0.5	<0.5	<2
9/18/02	11.34	10.60	0.74	8021	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<2
4/22/03	11.34	10.46	0.88	8021B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0
4/28/04	11.34	10.22	1.12	8260B	SGC	<100	799	<100	<100	<0.5	<1.0	<1.0	<1.0	<1.0
10/28/04	11.34	9.50	1.84	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/1/05 (1)	11.34	9.56	1.78	8260B	SGC	<50	320	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
4/5/06 (3)	11.34	7.86	3.48	8260B	SGC	180 H Y	910	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
9/6/06	11.34	10.53	0.81	8260B	SGC	150 H Y	730	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
4/4/07	11.34	9.73	1.61	8260B	SGC	58 H Y	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
10/3/07	11.34	10.18	1.16	8260B	SGC	120 Y	460	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
3/20/08 (8)	11.34	9.54	1.80	8260B	SGC	53 Y	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/08 (10)	11.34	10.41	0.93	8260B	SGC	120 Y	630	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/2/09 (12)	11.34	10.41	0.93	8260B	SGC	110 Y	610	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50

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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)
10/30/09	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
MW-14														
1/18/00	10.05	7.37	2.68	8020	SGC	1,700 a	22,000	<50	120	<0.5	<0.5	<0.5	<0.5	<5.0
5/11/00	10.05	6.73	3.32	8020	SGC	360 a	4,300	<100	120	<0.5	<0.5	<0.5	0.5	<5.0
8/24/00	10.05	7.30	2.75	---		---	---	---	---	---	---	---	---	---
8/25/00	10.05	---	---	8020	SGC	1,000	3,100	460	90	6.3	<0.5	<0.5	<0.5	<5.0
11/28/00	10.05	7.40	2.65	8020	SGC	380	6,400	<250	140	7.4	<0.5	<0.5	<0.5	<5.0
11/28/00	10.05	7.40	2.65	---	Filtered+SGC	<50	<200	<50	---	---	---	---	---	---
2/26/01	10.05	6.20	3.85	8020	Filtered+SGC	150	<230	<58	73	2.3	<0.5	<0.5	<0.5	<5.0
5/17/01	10.05	7.74	2.31	---		---	---	---	---	---	---	---	---	---
5/18/01	10.05	---	---	8020	Filtered+SGC	120	<200	<50	100	11	<0.5	<0.5	<0.5	<5.0
8/16/01	10.05	7.85	2.20		Filtered+SGC	<50	<200	<100	60	<0.5	<0.5	<0.5	<0.5	<5
12/16/01	10.05	6.60	3.45	8021	SGC	1,110	3,000	<50	<50	<0.5	<0.5	<0.5	<0.5	<5
4/9/02	10.05	6.58	3.47	8021	SGC	870	1,100	---	250	<0.5	<0.5	<0.5	<0.5	<5
6/20/02	10.05	7.52	2.53	8021	SGC	<50	310 h	<50	<50	<0.5	<0.5	<0.5	<0.5	<2
9/18/02	10.05	7.55	2.50	8021	SGC	<50	<300	<50	<50	1.3	<0.5	0.80	<0.5	<2
4/22/03	10.05	6.71	3.34	8021B	SGC	<50	<300	<50	61	4.2	<0.5	1.0	<0.5	12.0
4/28/04	10.05	6.81	3.24	8260B	SGC	<230	<400	<100	241	1.4	<1.0	<1.0	<1.0	<1.0
10/28/04	10.05	6.99	3.06	8260B	SGC	<50	<300	<50	56	3.5	<0.5	<0.5	<0.5	0.5
10/28/04	10.05	---	---	8260B	dup	<50	<300	<50	53	1.9	<0.5	<0.5	<0.5	<0.5
9/1/05 [(1)]	10.05	7.60	2.45	8260B	SGC	<50	<300	<50	79	6.7	<0.5	<0.5	<0.5	0.7
4/5/06 [(3)]	10.05	5.91	4.14	8260B	SGC	50 Y	<300	<50	<50	1.7	<0.5	<0.5	<0.5	<0.5
9/6/06	10.05	7.70	2.35	8260B	SGC	140 H Y	<300	79 H Y	60	<0.5	<0.5	<0.5	<0.5	0.51
4/4/07	10.05	7.52	2.53	8260B	SGC	100 H Y	<300	50 H Y	<50	<0.5	<0.5	<0.5	<0.5	<0.5
4/4/07	10.05	---	---	8260B	Dup	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
10/3/07	10.05	8.45	1.60	8260B	SGC	61 Y	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
3/20/08 [(8)]	10.05	7.80	2.25	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/08 [(10)]	10.05	8.45	1.60	8260B	SGC	150 Y	660	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/2/09 [(12)]	10.05	7.20	2.85	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
10/30/09	10.05	9.11	0.94	8260B	SGC	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
4/8/10	10.05	6.62	3.43	8260B	SPH: None	<50	<300	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
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
MW-15														

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)
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
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	---	---	---	---	---	---	---	---	---
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	---		---	---	---	---	---	---	---	---	---

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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	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
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	---	---	---	---	---	---	---	---	---
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

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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)
10/3/07	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
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	---	---	---	---	---	---	---	---	---

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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)
4/4/07	---	8.26	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	---	NM	---	---	Abandoned	---	---	---	---	---	---	---	---	---
TBW-2														
6/21/02	---	8.28	---	---		**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
4/22/03	---	6.70	---	---	SPH globules	---	---	---	---	---	---	---	---	---
4/28/04	---	6.61	---	---	SPH: None	---	---	---	---	---	---	---	---	---
10/28/04	---	7.31	---	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	---	NM	---	---		---	---	---	---	---	---	---	---	---
3/27/06	---	NM[4]	---	---		---	---	---	---	---	---	---	---	---
9/6/06	---	NM[4]	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/4/07	---	NM[4]	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	---	NM	---	---	Abandoned	---	---	---	---	---	---	---	---	---
TBW-3														
8/19/98	---	2.67	---	8020	SGC	810,000	---	---	920	3.2	<0.5	<0.5	0.77	<10
8/19/98	---	2.67	---	8260		---	---	---	---	---	---	---	---	<5.0
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	---	---	---	---	---	---	---	---	---

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)
TBW-4														
2/27/01	---	1.35	---	8020	Filtered+SGC	410	<230	<57	250	1.9	<0.5	<0.5	<0.5	<5.0
5/17/01	---	2.52	---	---		---	---	---	---	---	---	---	---	---
8/16/01	---	1.88	---	---	Filtered+SGC	2,600	700B	<100	390	<0.5	<0.5	<0.5	<0.5	<5
6/21/02	---	2.32	---	---		---	---	---	---	---	---	---	---	---
4/22/03	---	1.41	---	---	Sheen	---	---	---	---	---	---	---	---	---
4/28/04	---	2.21	---	---		---	---	---	---	---	---	---	---	---
10/27/04	---	3.37	---	---	Sheen	---	---	---	---	---	---	---	---	---
8/31/05	---	2.92	---	---		---	---	---	---	---	---	---	---	---
3/27/06	---	0.49	---	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	---	3.37	---	---	SPH:0.01 ft.	---	---	---	---	---	---	---	---	---
4/4/07	---	1.88	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	---	NM	---	---	Abandoned	---	---	---	---	---	---	---	---	---
TBW-5														
2/23/99	---	9.72	---	---	SPH: 1.45 ft.	---	---	---	---	---	---	---	---	---
5/27/99	---	7.03	---	---	SPH: 1.13 ft.	---	---	---	---	---	---	---	---	---
8/24/99	---	6.52	---	---	SPH: 1.33 ft.	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---

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Well ID/ Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
10/29/09	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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	9.46	3.81	5.65	---	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-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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---	---	---
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
OB-A1														
4/22/03	---	2.24	---	---	SPH: .01 ft.	---	---	---	---	---	---	---	---	---
4/28/04	---	3.01	---	---	SPH: None	---	---	---	---	---	---	---	---	---

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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	---	---	---	---	---	---	---	---	---
RW-B1														
4/22/03	---	7.26	---	---	Sheen	---	---	---	---	---	---	---	---	---
4/28/04	11.22	7.20	4.02	---		---	---	---	---	---	---	---	---	---
10/27/04	11.22	7.80	3.42	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	11.22	7.14	4.08	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	11.22	6.10	5.12	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	11.22	7.39	3.83	---	SPH:0.01 ft.	---	---	---	---	---	---	---	---	---
4/4/07	11.22	7.06	4.16	8260B	SGC	130 L	< 300	100 H	220	410	23	9.4	16	6.3
10/2/07	11.22	7.70	3.52	---	SPH: None	---	---	---	---	---	---	---	---	---
3/19/08	11.22	7.06	4.16	---	SPH: None	---	---	---	---	---	---	---	---	---
11/18/08	11.22	7.90	3.32	---	SPH: None	---	---	---	---	---	---	---	---	---
4/1/09	11.22	7.15	4.07	---	SPH: None	---	---	---	---	---	---	---	---	---
10/29/09	11.22	7.76	3.46	---	---	---	---	---	---	---	---	---	---	---
4/8/10	11.22	6.78	4.44	---	SPH: None	---	---	---	---	---	---	---	---	---
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
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	---	---	---	---	---	---	---	---	---

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)
9/6/06	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	---	---	---	---	---	---	---	---	---
RW-B3														
4/22/03	---	9.90	---	---	visible Product	---	---	---	---	---	---	---	---	---
4/28/04	11.14	13.20	-2.06	---	SPH: 3.09	---	---	---	---	---	---	---	---	---
10/27/04	11.14	9.33	1.81	---	SPH: None	---	---	---	---	---	---	---	---	---
8/31/05	11.14	9.60	1.54	---	SPH: 0.01	---	---	---	---	---	---	---	---	---
3/27/06	11.14	9.08	2.06	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	11.14	9.61	1.53	---	SPH: None	---	---	---	---	---	---	---	---	---
4/4/07	11.14	9.84	1.30	8260B	SGC	3,600 L Y	880	4,000 L	7900	4300	130	520	357	< 31
10/2/07	11.14	9.56	1.58	---	SPH: None	---	---	---	---	---	---	---	---	---
3/19/08	---	NM[7]	---	---	NM	---	---	---	---	---	---	---	---	---
11/18/08	11.14	9.57	1.57	---	---	---	---	---	---	---	---	---	---	---
4/1/09	11.14	9.80	1.34	---	---	---	---	---	---	---	---	---	---	---
10/29/09	11.14	9.61	1.53	---	---	---	---	---	---	---	---	---	---	---
4/8/10	11.14	9.61	1.53	---	SPH: None	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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)	---	---	---	---	---	---	---	---	---

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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)
11/20/08 (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
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---	---	---

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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)
4/8/10	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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---

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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-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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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
RW-C7														

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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)
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
OB-C1														
4/22/03	---	6.26	---	---		---	---	---	---	---	---	---	---	---
4/28/04	10.39	7.39	3.00	---	SPH: 1.27 ft.	---	---	---	---	---	---	---	---	---
10/27/04	10.39	8.06	2.33	---	SPH: 1.08 ft.	---	---	---	---	---	---	---	---	---
8/31/05	10.39	7.84	---	---	SPH: 1.55 ft.	---	---	---	---	---	---	---	---	---
3/27/06	10.39	6.15	---	---	SPH: 1.05 ft.	---	---	---	---	---	---	---	---	---
9/6/06	---	NM[4]	---	---	Buried	---	---	---	---	---	---	---	---	---
4/4/07	10.39	7.78	2.61	---	---	---	---	---	---	---	---	---	---	---
10/2/07	10.39	8.67	1.72	---	SPH: 0.02 ft.	---	---	---	---	---	---	---	---	---
3/19/08	10.39	8.49	1.90	---	SPH: 0.29 ft.	---	---	---	---	---	---	---	---	---
11/18/08	10.39	8.57	1.82	---	SPH: 0.03 ft.	---	---	---	---	---	---	---	---	---
4/1/09	10.39	7.96	2.43	---	SPH: 0.64 ft.	---	---	---	---	---	---	---	---	---
10/29/09	---	---	---	---	No Access	---	---	---	---	---	---	---	---	---
4/8/10	10.39	NM	---	---	Could not open	---	---	---	---	---	---	---	---	---
4/29/10	10.39	5.95	4.44	---	SPH: None	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---

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)
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	---	---	---	---	---	---	---	---	---
RW-D2														
4/22/03	---	7.15	---	---	SPH 1.25 ft.	---	---	---	---	---	---	---	---	---
4/28/04	10.33	7.45	2.88	---	SPH: 0.1 ft.	---	---	---	---	---	---	---	---	---
10/27/04	10.33	6.41	3.92	---	SPH: Present	---	---	---	---	---	---	---	---	---
8/31/05	10.33	8.44	---	---	SPH: 3.12 ft.	---	---	---	---	---	---	---	---	---
3/27/06	10.33	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
9/6/06	10.33	NM(2)	---	---	No Access	---	---	---	---	---	---	---	---	---
4/4/07	10.33	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	10.33	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
3/19/08	---	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
11/18/08	10.33	10.95	-0.62	---	---	---	---	---	---	---	---	---	---	---
4/1/09	---	NM(2)	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	NM(2)	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	10.33	7.21	3.12	---	SPH: None	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---

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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)
4/4/07	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	---	---	---	---	---	---	---	---	---
RW-D4														
4/22/03	---	8.11	---	---	SPH: 1.98 ft.	---	---	---	---	---	---	---	---	---
4/28/04	10.22	7.99	2.23	---	SPH: 2.09 ft.	---	---	---	---	---	---	---	---	---
10/27/04	10.22	6.49	3.73	---	SPH: Present	---	---	---	---	---	---	---	---	---
8/31/05	10.22	8.09	---	---	SPH: 2.12 ft.	---	---	---	---	---	---	---	---	---
3/27/06	10.22	NM[2]	---	---	---	---	---	---	---	---	---	---	---	---
9/6/06	10.22	NM[2]	---	---	No Access	---	---	---	---	---	---	---	---	---
4/4/07	10.22	NM[2]	---	---	---	---	---	---	---	---	---	---	---	---
10/2/07	10.22	NM[2]	---	---	---	---	---	---	---	---	---	---	---	---
3/19/08	---	NM[2]	---	---	---	---	---	---	---	---	---	---	---	---
11/19/08 [10]	10.22	9.10	1.12	8260B	SGC	55,000	9,700	46,000	7,600 Y	210	17	270	280	<1.7
4/1/09	---	NM[2]	---	---	---	---	---	---	---	---	---	---	---	---
10/29/09	---	NM[2]	---	---	SPH: None	---	---	---	---	---	---	---	---	---
4/8/10	10.22	5.00	5.22	---	SPH: None	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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]	---	---	---	---	---	---	---	---	---	---	---	---

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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	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
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---

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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
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
OB-D1														
4/22/03	---	5.41	---	---	Strong Odor	---	---	---	---	---	---	---	---	---
4/28/04	9.46	5.31	4.15	---	Strong Odor	---	---	---	---	---	---	---	---	---
10/27/04	9.46	5.89	3.57	---	---	---	---	---	---	---	---	---	---	---
8/31/05	9.46	5.42	---	---	SPH: None	---	---	---	---	---	---	---	---	---
3/27/06	9.46	3.09	6.37	---	SPH: None	---	---	---	---	---	---	---	---	---
9/6/06	9.46	8.31	1.15	---	SPH: 0.01 ft.	---	---	---	---	---	---	---	---	---
4/4/07	9.46	7.77	1.69	---	---	---	---	---	---	---	---	---	---	---
10/2/07	9.46	8.66	0.80	---	SPH: None	---	---	---	---	---	---	---	---	---
3/19/08	9.46	8.90	0.56	---	SPH: None	---	---	---	---	---	---	---	---	---
11/18/08	9.46	8.41	1.05	---	---	---	---	---	---	---	---	---	---	---

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)
4/1/09	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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---

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)
9/12/11	---	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
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
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
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

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)

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.
(12) = Depth to groundwater measured on April 1, 2009.
(13) = Well checked for SPH by OTG EniroEngineering Solutions on September 30, 2011

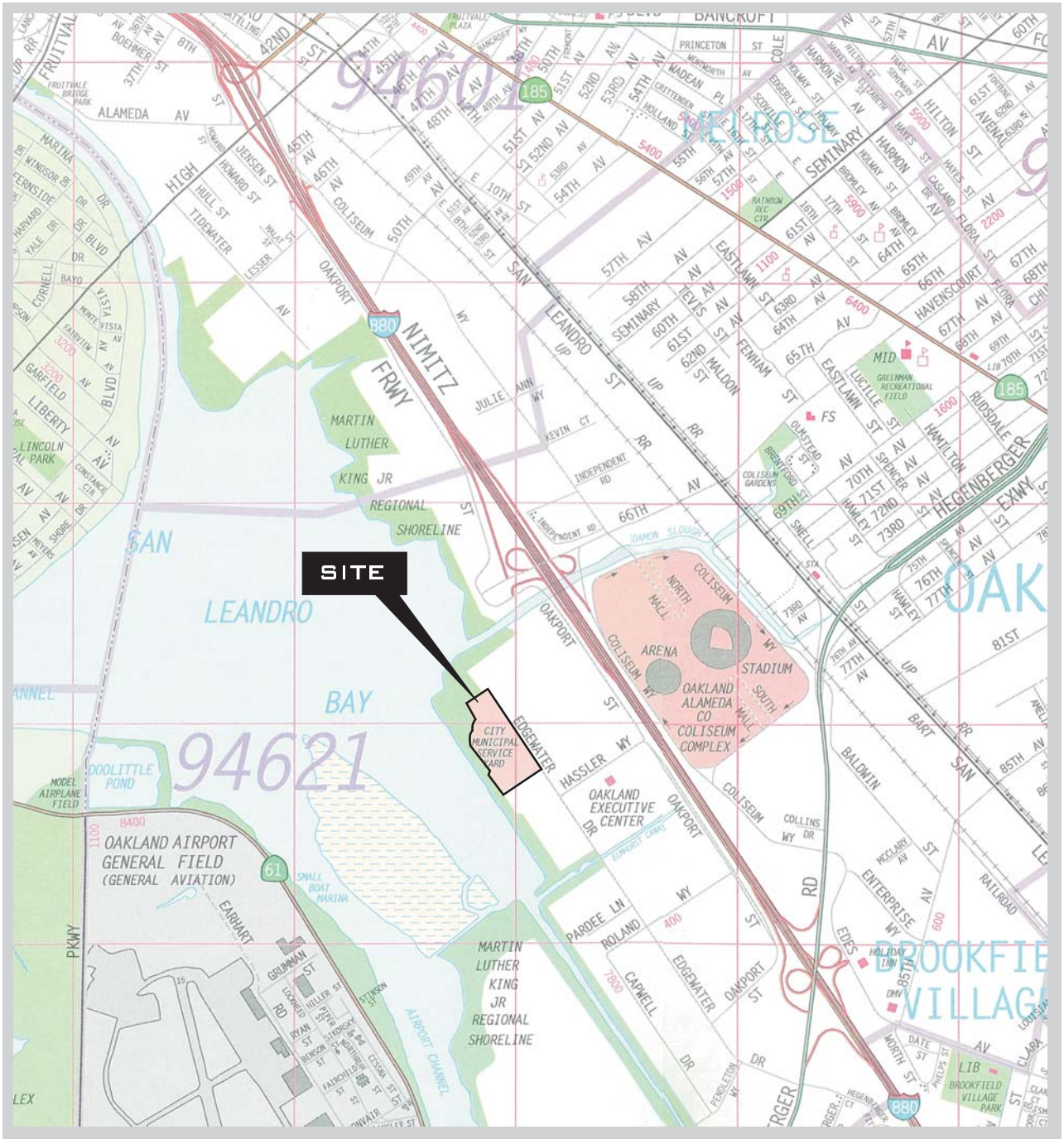
--- = Not measured/analyzed
BTEX = Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020 or 8240/8260
DTW = Depth to water
Dup = Duplicate sample
EPA = Environmental Protection Agency
Filtered = Groundwater samples were filtered through a 0.45-micron glass membrane filter.
ID = Identification
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.

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)

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

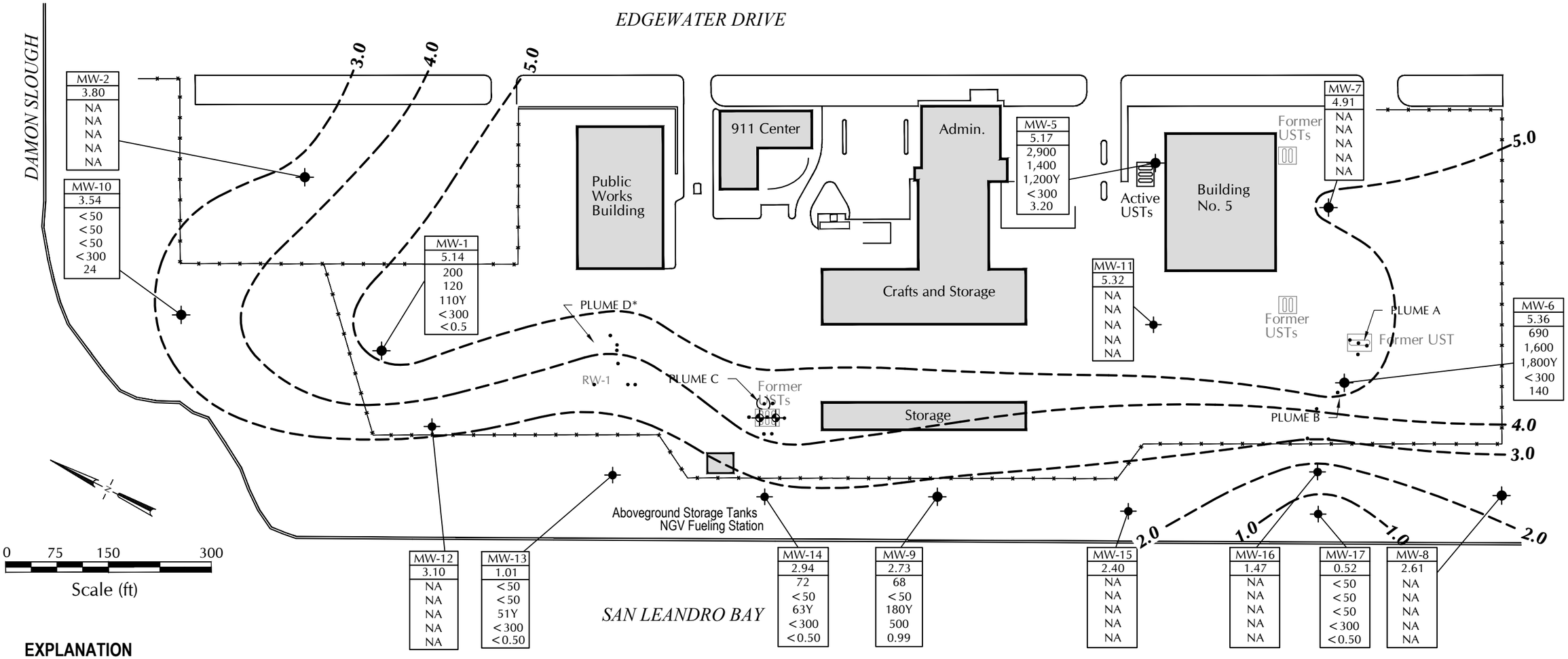
MUNICIPAL SERVICE CENTER
7101 EDGEWATER DRIVE, OAKLAND, CALIFORNIA

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

Fence

3.0 — Groundwater elevation contour; dashed where inferred

MW-6 — Monitoring Well ID

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

TPHg, TPHk, TPHd, TPHmo, B — TPHg, TPHk TPHd, TPHmo, and benzene concentrations in Micrograms per Liter (µg/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, SEPTEMBER 2011

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
- b — ANALYTES DETECTED ABOVE THE REPORTING LIMITS IN THE LABORATORY METHOD BLANK
- F — ORIGINAL AND DUPLICATE SAMPLE RESULTS RELATIVE PERCENT DIFFERENCE WAS GREATER THAN 30%

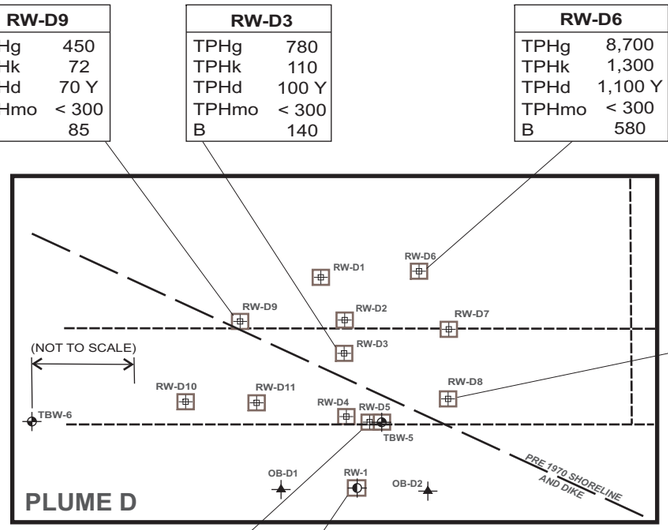
RW-D5	REMEDIATION WELL ID
TPHg / TPHg	TOTAL PETROLEUM HYDROCARBONS IN GAS
TPHk / TPHk	TOTAL PETROLEUM HYDROCARBONS IN KEROSINE
TPHd / TPHd	TOTAL PETROLEUM HYDROCARBONS IN DIESEL
TPHmo / TPHmo	TOTAL PETROLEUM HYDROCARBONS IN MOTOR OIL
B / B	BENZENE

SAMPLE — DUPLICATE

NOTES:

SPH WAS NOT DETECTED IN ANY WELLS WHERE DEPTH-TO-SPH MEASUREMENTS WERE COLLECTED IN SEPTEMBER 2011

SPH = SEPARATE-PHASE HYDROCARBONS

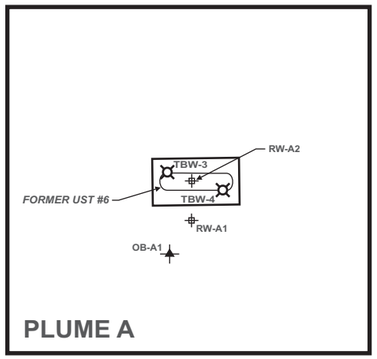


RW-D9	
TPHg	450
TPHk	72
TPHd	70 Y
TPHmo	< 300
B	85

RW-D3	
TPHg	780
TPHk	110
TPHd	100 Y
TPHmo	< 300
B	140

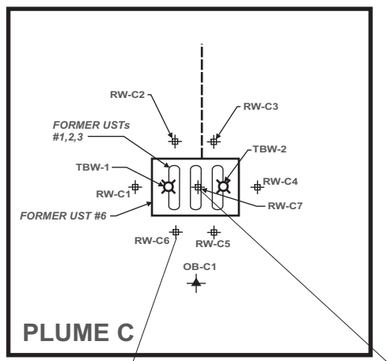
RW-D6	
TPHg	8,700
TPHk	1,300
TPHd	1,100 Y
TPHmo	< 300
B	580

RW-D8	
TPHg	790
TPHk	5,000
TPHd	6,000 Y
TPHmo	11,000
B	14



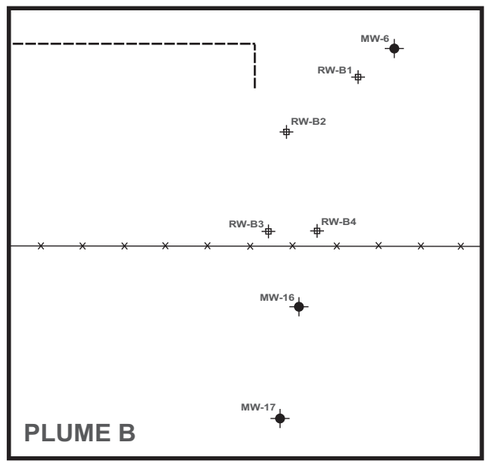
RW-D5	
TPHg	810 / 800
TPHk	210 / 260
TPHd	230 YF / 320 YF
TPHmo	< 300 / < 300
B	1,100 /1,200

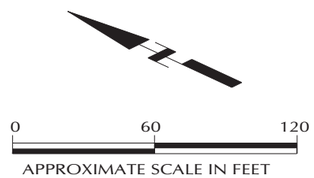
RW-1	
TPHg	< 50
TPHk	< 50
TPHd	< 50
TPHmo	< 300
B	< 0.5



RW-C6	
TPHg	2,500
TPHk	760
TPHd	870 Y,b
TPHmo	410 b
B	270

RW-C7	
TPHg	150
TPHk	< 50
TPHd	83 Y,b
TPHmo	< 300
B	3.1





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

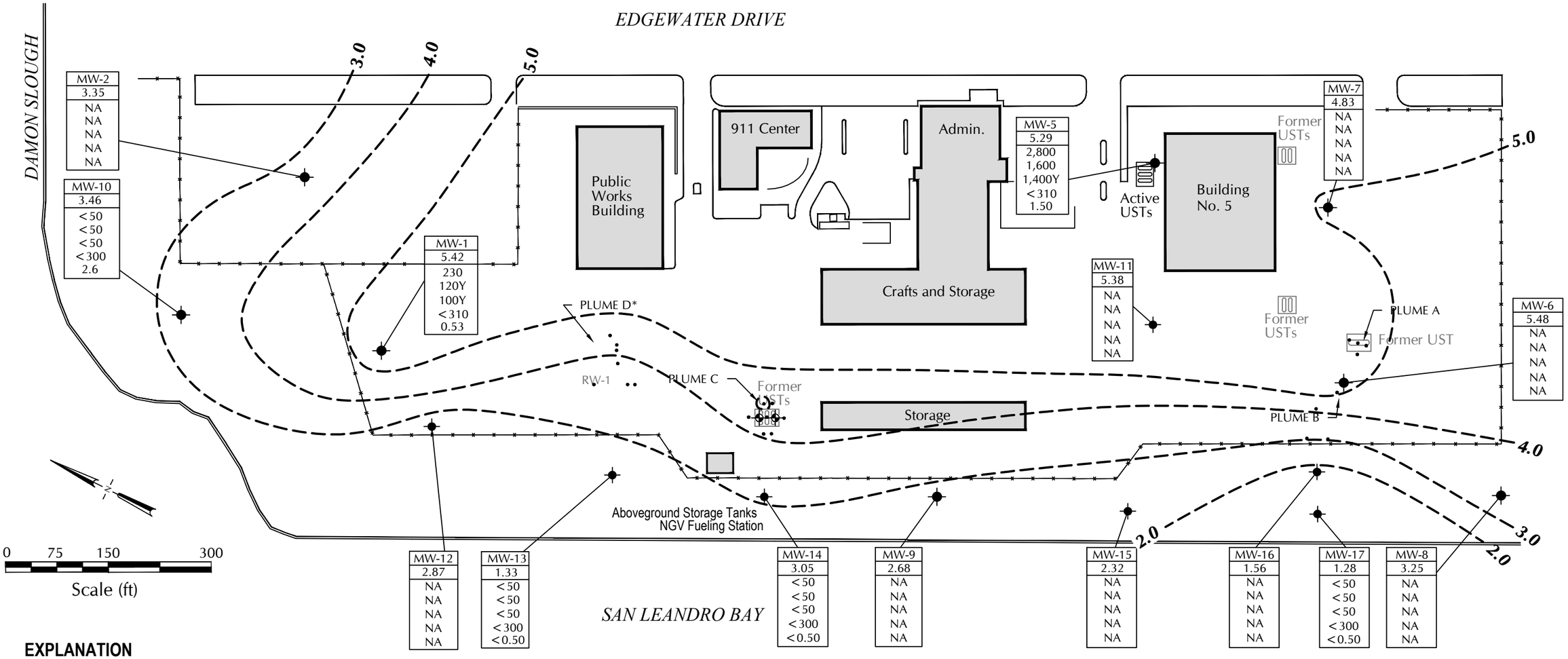
MUNICIPAL SERVICE CENTER
7101 EDGEWATER DRIVE, OAKLAND, CALIFORNIA

DETAIL PLUME MAP AND HYDROCARBON CONCENTRATIONS IN REMEDIATION WELLS SEPTEMBER 2011

ARCADIS

FIGURE 3

G:\ENVCAD\Emeryville\ACTLC00100600016\000011\CDR\LC010060 PlumeMap Sept2011.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-6 — Monitoring Well ID
5.48 — Groundwater elevation, feet above mean sea level (msl)
TPHg, TPHk TPHd, TPHmo, and benzene concentrations in Micrograms per Liter (µg/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

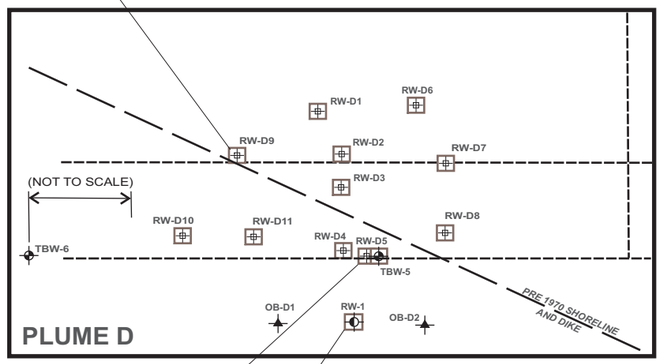
MUNICIPAL SERVICE CENTER, OAKLAND, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP AND HYDROCARBON CONCENTRATIONS IN SHALLOW GROUNDWATER, DECEMBER 2011

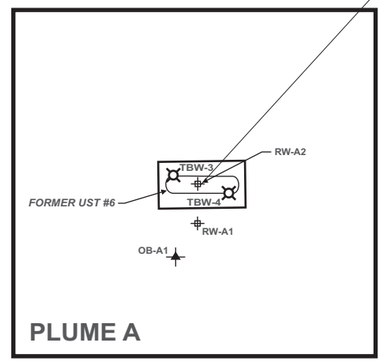
ARCADIS

FIGURE 4

RW-D9	
TPHg	1,300
TPHk	830
TPHd	730 Y
TPHmo	400
B	35

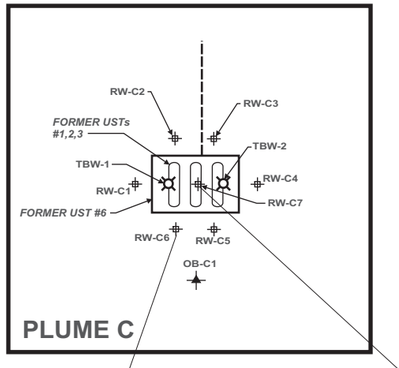


RW-A2	
TPHg	< 50
TPHk	84 Y
TPHd	360 Y
TPHmo	< 300
B	< 0.50



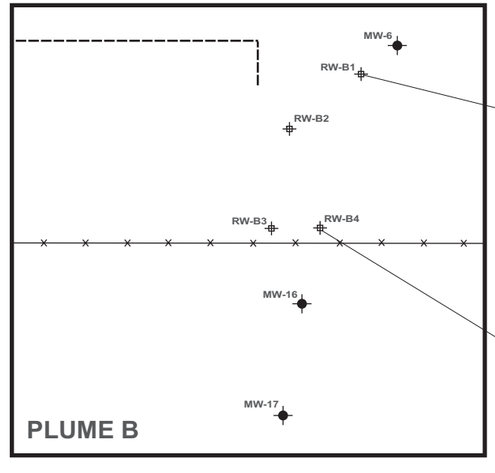
RW-D5	
TPHg	400
TPHk	740
TPHd	1,200
TPHmo	730
B	150

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



RW-C6	
TPHg	810
TPHk	830
TPHd	1,200
TPHmo	710
B	74

RW-C7	
TPHg	380
TPHk	5,900
TPHd	8,100
TPHmo	1,700
B	8.3



RW-B1	
TPHg	< 310
TPHk	78
TPHd	120
TPHmo	< 300
B	530

RW-B4	
TPHg	5,400 / 5,600
TPHk	2,200 / 2,600
TPHd	2,000 Y / 2,300 Y
TPHmo	< 300 F / 830 F
B	1,100 /1,100

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
- F — ORIGINAL AND DUPLICATE SAMPLE RESULTS RELATIVE PERCENT DIFFERENCE WAS GREATER THAN 30%

RW-B4	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 DECEMBER 2011

SPH = SEPARATE-PHASE HYDROCARBONS

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 DECEMBER 2011

ARCADIS

FIGURE 5

G:\ENVCAD\Emeryville\ACT\LC0010060\00160\00001\CDR\LC0010060 PlumeMap Sept2011.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

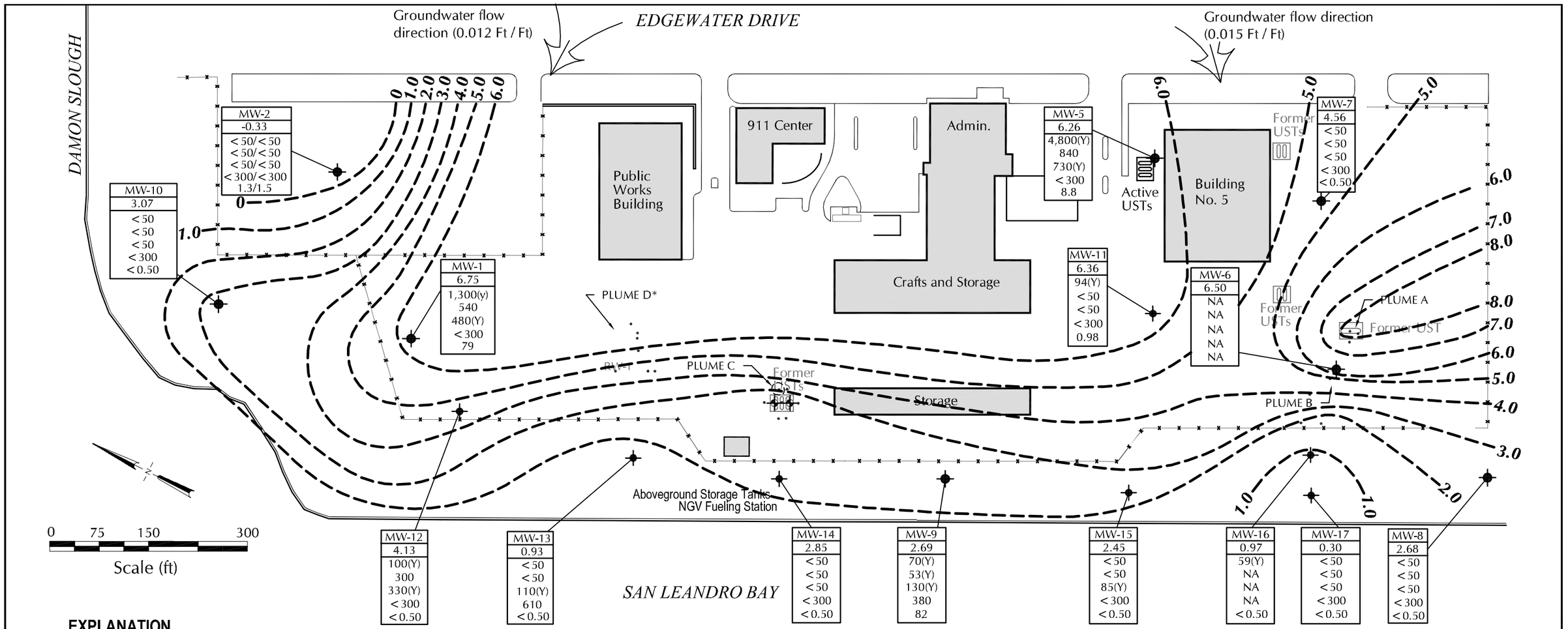
Notes:

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

Duplicate sample

Sample

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

SPH = Separate Phase Hydrocarbons

UST = Underground Storage Tank

Source: CAMBRIA

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

Municipal Service Center, Oakland, California

LFR

Figure 2

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

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

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

SER4

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

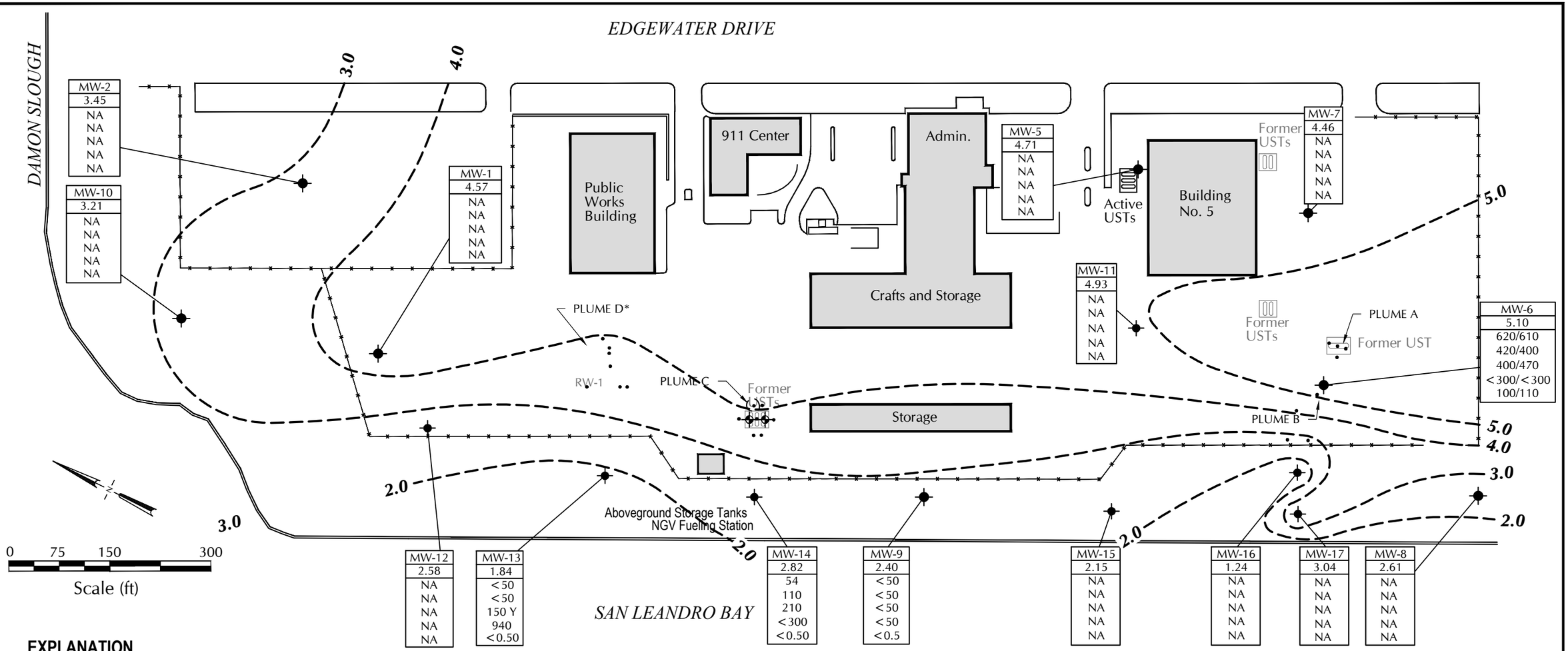
Well ID	Parameters to be Monitored												Notes
	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	Elevation	Floating	pH	Dissolved	Temp.	Specific	TPH gas	TPH	
	2011	2011	2012	2012		Product		Oxygen		Conduct.	BTEX &	d/k/mo	
						Thickness					MTBE		
MW-1	X	X	X	X	X	X	X	X	X	X	X	X	benzene at 79 ug/L in 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 (ug/L)
- Duplicate sample
- Sample

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

UST = Underground Storage Tank

Source: CAMBRIA

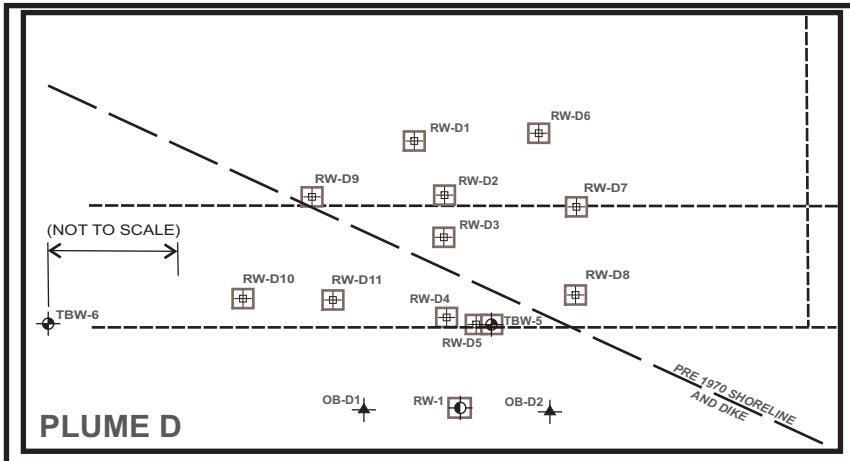
MUNICIPAL SERVICE CENTER
7101 EDGEWATER DRIVE, OAKLAND, CALIFORNIA

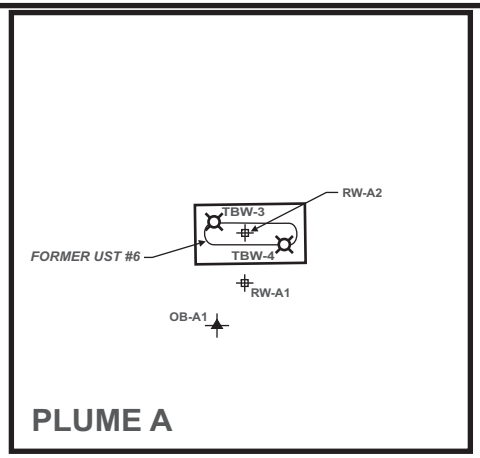
GROUNDWATER ELEVATION CONTOUR MAP AND HYDROCARBON CONCENTRATIONS IN SHALLOW GROUNDWATER, OCTOBER 2010

ARCADIS

FIGURE 2

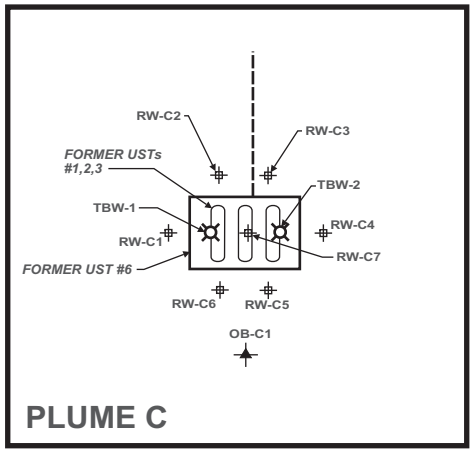
DESIGN\001\09225\11\000\09225 Plume Detail rev6.CDR

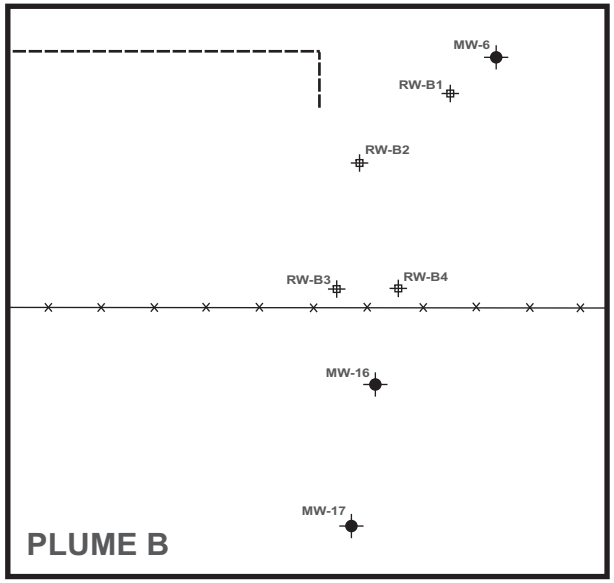




EXPLANATION

- 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

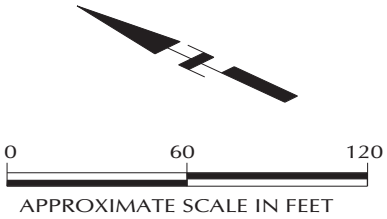




NOTES:

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. LC010060.0016.00001 Date September 12, 2011 Page 1 of ___

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

Field Personnel Andrea Valdivia and Miljan Draganic

General Observations

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)	Bolt Typ
MW-10	0747	7.05'	7.05'	1012	X		2/3 bolts; flooded	9/1
MW-13	0754	10.33'	10.33'	1018	X		Tricky lid - don't overtighten	
MW-14	0757	7.11'	7.11'	1020	X			
MW-9	0802	8.04'	8.04'	1024	X		2/3 bolts	
MW-15	0805	9.96'	9.96'	1027	X			
MW-17	0807	~~10.75'~~ 9.34'	~~10.75'~~ 9.34'	~~1029~~ 1032		X	No lid	
MW-16	0809	10.75'	10.75'	1029	X			
MW-8	0812	9.61'	9.61'	1035	X			9/16
MW-2	0827	6.67'	6.67'	1658*	X		* Lab was closed most of day	N/
MW-1	0834	4.91'	4.91'	1059	X		Flooded	N/A
MW-12	0836	7.33'	7.33'	1103	X			15/16
RW-D10	0849	5.82'	5.82'	1111	X		3/4 bolts; strong odor	9/16
RW-D9	0852	5.79'	5.79'	1113	X		3/4 bolts; strong odor	
RW-D2	0855	6.02'	6.02'	1120	X		3/4 bolts	
RW-D1	0856	6.53'	6.53'	1117	X		3/4 bolts	
RW-D6	0858	6.11'	6.11'	1125	X		3/4 bolts	
RW-D7	0859	5.99'	5.99'	1127	X		3/4 bolts	
RW-D8	0901	4.59'	4.59'	1131	X		3/4 bolts	
RW-D3	0902	6.64'	6.64'	1123	X		3/4 bolts	
RW-D5	0903	5.89'	5.89'	1135	X		3/4 bolts	
TBW-5	0904	6.55'	6.55'	1133	X		3/4 bolts	
RW-1	0906	6.21'	6.21'	1148	X		3/4 bolts; has a 2" adapter - 1½" higher than TOC	
RW-D11	0908	5.68	5.68	1144	X		3/4 bolts	
RW-D4	0910	5.92'	5.92'	1140	X		3/4 bolts	9/16
OB-D1	0911	5.69'	5.69'	1146	X			NA
OB-D2	0912	5.59'	5.59'	1152	X			N/A
TBW-6	0915	4.17'	4.17'	1101	X		0/2 bolts	Unk
RW-C3	0925	6.32'	6.32'	1157	X			N/A
RW-C2	0927	6.07'	6.07'	1158	X		3/4 bolts	9/16
RW-A2	0934	2.94'	2.94'	1207	X			3/4
RW-A1	0936	3.43'	3.43'	1209	X			3/4
OB-A1	0937	4.28'	4.28'	1211	X			N/A

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)
MW-6	0938	5.62'	5.62'	1212	X		0/2 bolts
RW-B1	0938	7.45'	7.45'	1213	X		
RW-B2	0939	7.47'	7.47'	1214	X		
RW-B3	0942	9.40'	9.40'	1216	X		
RW-B4	0940	9.62'	9.62'	1215	X		
MW-7	0946	6.60'	6.60'	1221	X		0/2 bolts
MW-5	0950	5.98'	5.98'	1224	X		0/2 bolts
MW-11	0952	6.28'	6.28'	1227	X		
☆ The wells listed below were gauged Tuesday, 09/13/11 due to limited access (MSC holiday)							
RW-C4	0818	6.26'	6.26'	0847	X		j-plug broken
RW-C5	0831	6.04'	6.04'	0849	X		Strong hydrocarbon odor; pressure in well
RW-C1	0842	5.89'	5.89'	0854	X		Flooded
RW-C7	0820	6.16'	6.16'	0900	X		
RW-C6	0826	5.89'	5.89'	0858	X		Hydrocarbon odor
OB-C1	—	—	—	—	X		Unable to open

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: September 13, 2011 Page 1 of 1

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

Sampler's Name: Andrea Valdivia Sample No.: MW-1 ☐ FB

Sampling Plan By: DCR Dated: 9/9/11 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: ~~55 gallon drum~~ storage 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. MW-1 Depth of Water 4.90'

Well Diameter: 2" Well Depth 15.82'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 10.92'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.75gal

80% DTW

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (mS/cm C)	ORP (mV)	Remarks
1509	Start	4.90'	0						Start purge
1524		9.12'	3.5	0.33	22.31	6.82	12.48	-121.1	
1529		9.97'	4.0	0.32	21.93	6.83	12.11	-124.0	
1533		10.98'	4.5	0.36	21.68	6.84	12.66	-116.3	
1536		11.83'	5.0	0.36	21.33	6.82	12.05	-124.2	
1540		12.52'	5.5	0.37	21.17	6.82	12.08	-123.9	
1545	End								Sample

Continue remarks on reverse, if needed.

ARCADIS — WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 9/14/11 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: 9/9/11 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: ~~55 gallon drum~~ storage 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. MW-5 Depth of Water 6.01'

Well Diameter: 2" Well Depth 14.30'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.29'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.33 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
1045	14.30	6.01	0						Start purging.
1048	14.30	6.07	1	0.77	21.45	6.93	2459	-46.2	
1050	14.30	6.05	2	0.76	21.47	6.92	2218	-44.2	
1054	14.30	6.06	3	0.77	21.50	6.90	2069	-40.1	
1056	14.30	6.04	4	0.74	21.52	6.89	2042	-38.8	
1058	14.30	6.05	5	0.71	21.50	6.88	2015	-37.9	
1105									Sampling

Continue remarks on reverse, if needed.

ARCADIS — WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 9/14/11 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: MW-6 ☐ FB

Sampling Plan By: DCR Dated: 9/9/11 C.O.C. No.: ☐ DUP

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

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

Date Purge Water Disposed: Where Disposed: On-site

used 1 inch bailor.

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. MW-6 Depth of Water 5.59'

Well Diameter: 2" Well Depth 14.17'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.58'

~~☒ 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
0920	14.17	5.59	ϕ						Start purge
0930	14.17	6.13	1	1.14	21.76	6.76	2871	-39.6	
0938	14.17	6.19	2	1.01	21.53	7.00	3129	-96.2	
0946	14.17	6.22	3	0.92	21.07	7.10	3367	-105.9	
0952	14.17	6.24	4	0.94	21.31	7.13	3365	-110.1	
1000	14.17	6.25	5	0.90	21.56	7.17	3363	-113.7	
1007	14.17	6.23	6	0.92	21.51	7.16	3351	-108.4	
1010									Sampling

Continue remarks on reverse, if needed.

ARCADIS — WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: September 12, 2011 Page 1 of 1

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

Sampler's Name: Andrea Valdivia Sample No.: MW-9 ☐ FB

Sampling Plan By: DCR Dated: 9/9/11 C.O.C. No.: ☐ DUP

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

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

Date Purge Water Disposed: September 12, 2011 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	2-500 mL ~~1 Liter~~ Ambers

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier ☒ Hand

Well No. MW-9 Depth of Water 8.00'

Well Diameter: 2" Well Depth 14.43'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height AV 6.43'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.02 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
1337	Start	8.00'	0						Start purge
1342		8.92'	1.0	2.51	22.94	6.62	1175	-83	
1349		9.24'	2.0	2.37	21.65	7.15	16316	-97.9	
1353			2.5	~~3.48~~		7.33	169		Readings not stabilizing - might have faulty equip
1428		8.30'	2.75	0.56	20.77	7.13	14.79	-134.8	
1439		8.72'	3.5	0.81	19.88	7.12	13.85	-131.3	
1443		8.84'	4.0	0.84	20.14	7.18	~~14.29~~ 13.49	-111.3	
1448		8.76'	4.25	0.85	20.08	7.18	13.46	-119.8	
1454		8.72'	4.5	0.82	20.10	7.16	13.47	-120.2	
1500	End								Sample

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 9/14/11 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] ☒ FB

Sampling Plan By: DCR Dated: 9/9/11 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: ~~55 gallon drum~~ storage 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. MW-10 Depth of Water 7.00'

Well Diameter: 2" Well Depth 15.15'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.15'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.3 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
0800									MW-10-FB Collected
0820	15.15	7.00	0						Begin purge
0824	15.15	7.47	1	0.54	18.52	7.05	8910	-71.8	
0827	15.15	7.50	2	0.50	18.51	7.05	7114	-84.2	
0830	15.15	7.44	3	0.51	18.47	7.06	6536	-91.7	
0833	15.15	7.53	4	0.49	18.41	7.05	6318	-97.3	
0837	15.15	7.59	5	0.49	18.36	7.06	6253	-100.4	
0840	15.15	7.56	6	0.47	18.42	7.05	6142	-99.9	
0845									Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: September 12, 2011 Page 1 of 1

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

Sampler's Name: Andrea Valdivia Sample No.: MW-13 ☐ FB

Sampling Plan By: DCR Dated: 9/9/11 C.O.C. No.: _____ ☐ DUP

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

Purge Water Storage Container Type: ~~55 gallon drum~~ storage 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. MW-13 Depth of Water ~~19.4~~ NV 9.84'

Well Diameter: 2" Well Depth 19.48'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 9.64'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.54 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
1559	Start	9.84'	0	—	—	—	—	→	Start purge
1613		10.68'	4.0	0.41	19.50	6.98	12.95	-125.7	
1618		10.70'	4.25	0.36	19.38	6.96	13.25	-123.1	
1624		10.63'	4.5	0.44	19.31	6.95	13.23	-119.1	
1629		10.60'	4.75	0.45	19.29	6.97	13.21	-117.3	
1635	End			—	—	—	—	→	Sample

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 9/12/11 Page 1 of 1

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

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

Sampling Plan By: DCR Dated: 9/9/11 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: ~~55 gallon drum~~ storage 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	2x500mL ~~1 Liter Amber~~

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier ☒ Hand

Well No. MW-14 Depth of Water 7.07'

Well Diameter: 2" Well Depth 14.65'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.58'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.2 gal

80% DTW

Time	Inlet Depth	Depth to Water	Volume Purged ~~(gal)~~ well	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (mS/cm C)	ORP (mV)	Remarks
1530	14.65	7.07	0						Start hand bail
1535	"	7.19	1	0.75	20.97	7.67	11.26	-180.8	Water is black.
1540	"	7.14	2	0.66	21.16	7.70	11.10	-183.2	"
1545	"	7.18	3	0.71	20.94	7.72	11.09	-179.4	"
1560	"	7.17	4 gal.	0.68	20.25	7.71	11.10	-187.6	"
1555									Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 9/12/11 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: 9/9/11 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: ~~55 gallon drum~~ storage 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	2-500 mL ~~1 Liter~~ Ambers

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier ☒ Hand

Well No. MW-17 Depth of Water 6.74'

Well Diameter: 2" Well Depth 17.38'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 10.64'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.7 gal

80% DTW

Time	Inlet Depth	Depth to Water	Volume Purged (well / gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (µS/cm C)	ORP (mV)	Remarks
1354	17.38	~~10.64~~ 6.74							Start hand bail
1359	"	6.87	1	1.32	21.49	6.82	29.94	-251.4	Purged water turns black
1405	"	6.92	2	0.86	21.11	7.42	29.99	-273.4	
1410	"	6.89	3	0.80	20.69	7.46	30.04	-276.1	
1413	"	6.87	6 gal	0.84	20.80	7.46	30.01	-274.9	
1418	"	6.89	6.2 gal	0.87	20.79	7.45	30.02	-268.8	
1420	"	6.90	6.4 gal	0.89	20.97	7.46	30.00	-265.1	
1425									Sampling.

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 9/13/11 Page 1 of 1

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

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

Sampling Plan By: DCR Dated: 9/9/11 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: ~~55 gallon drum~~ storage 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-1 Depth of Water 6.19'

Well Diameter: 4 Well Depth 16.73'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 10.54'

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 6.85 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
0948	16.73	6.19	0						Start purging
1000	16.73	9.69	7	0.78	22.45	6.85	8080	-77.4	
1016	16.73	11.51	14	0.39	22.41	6.87	10430	-87.2	
1026	16.73	12.14	21	0.48	21.98	6.90	13220	-94.3	
1030	16.73	12.15	22	0.51	22.07	6.90	13330	-98.3	decrease flow
1033	16.73	12.17	23	0.50	22.10	6.92	13410	-100.2	
1036	16.73	12.18	24	0.53	22.13	6.94	13510	-102.6	
1040									Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 9/13/11 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: 9/9/11 C.O.C. No.: _____ ☐ DUP

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

Purge Water Storage Container Type: ~~55 gallon drum~~ storage 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	2-500 mL ~~1 Liter~~ Amber

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier _____ ☒ Hand _____

Well No. RW-C6 Depth of Water 5.88'

Well Diameter: 4" Well Depth 13.43'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.55'

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 4.9 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
13:37	13.43	5.88	0	→					Start purging
1345	13.43	5.92	5	0.44	25.05	6.77	8402	-87.3	
1352	13.43	5.90	10	0.33	24.13	6.61	7076	-91.1	
1400	13.43	5.91	15	0.38	23.42	6.65	6997	-94.8	
1403	13.43	5.90	17	0.40	23.57	6.67	7034	-95.6	
1406	13.43	5.92	19	0.36	23.49	6.62	7009	-97.7	
1410	→								Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 9/13/11 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: RW-C7 ☐ FB

Sampling Plan By: DCR Dated: 9/9/11 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: ~~55 gallon drum~~ storage 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-C7 Depth of Water 6.14'

Well Diameter: 4" Well Depth ~~14.28~~ 14.28'

☐ 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 5.3 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
1454	14.28	6.14	0						Start purging
1500	14.28	6.15	5	0.30	23.91	6.70	9249	-68.2	
1507	14.28	6.15	10	0.37	24.01	6.66	8845	-63.0	
1514	14.28	6.15	15	0.40	24.13	6.71	8919	-65.9	
1521	14.28	6.15	20	0.35	24.18	6.69	9022	-67.4	
1525									Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: September 13, 2011 Page 1 of 1

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

Sampler's Name: Andrea Valdivia Sample No.: RW-D3 ☐ FB

Sampling Plan By: DCR Dated: 9/9/11 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: ~~55 gallon drum~~ storage 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-D3 Depth of Water 6.61'

Well Diameter: 4" Well Depth 14.57'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.96'

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 5.17 gal

Voltage output ≈ 08.5

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
1121	Start	6.61'	0	—	—	—	—	→	Start Purge
1145		9.02'	10.0	0.20	23.58	6.89	8,915	-10.6	
1150		9.09'	12.0	0.21	23.46	6.90	8,988	-17.3	
1154		9.05'	14.0	0.18	23.46	6.91	9,097	-21.3	
1157		9.06'	16.0	0.22	23.30	6.91	9,120	-21.1	
1205	End	—	—	—	—	—	—	→	Sample

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: September 13, 2011 Page 1 of 1

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

Sampler's Name: Andrea Valdivia Sample No.: RW-D5 ☐ FB

Sampling Plan By: DCR Dated: 9/9/11 C.O.C. No.: ☒ DUP RW-D5

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

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

Date Purge Water Disposed: September 13, 2011 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-D5 Depth of Water 5.90'

Well Diameter: 4" Well Depth 11.93'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 6.03'

☑ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 3.91 gal

Voltage outputs ≈ 07.7

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
0941	Start	5.90'	0	—	—	—	—	→	Start purge
0954		6.21'	6.0	0.39	23.00	6.90	5.644	-106.0	
0958		6.20'	8.0	0.36	23.70	6.89	5.424	-106.9	
AV 1002		6.24'	10.0	0.37	23.80	6.88	5.343	-102.4	
1006		6.24'	12.0	0.34	23.93	6.87	5.288	-103.3	
1010		6.24'	13.0	0.29	23.50	6.87	5.286	-103.6	
1025	End	—	—	—	—	—	—	→	Sample
1030	—	—	—	—	—	—	—	→	Duplicate

Continue remarks on reverse, if needed.

ARCADIS — WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 9/13/11 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: RW-D6 ☐ FB

Sampling Plan By: DCR Dated: 9/9/11 C.O.C. No.: ☐ DUP

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

Purge Water Storage Container Type: ~~55 gallon drum~~ storage 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	2-500 mL ~~1 Liter~~ Amber

Lab Name: Curtis and Tompkins

Delivery By ☐ Courier ☒ Hand

Well No. RW-D6 Depth of Water 6.08'

Well Diameter: 6" Well Depth 19.60'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 13.52'

☐ 4" (0.65 gal/feet) ☒ 6" (1.47 gal/feet) Well Volume 19.9 gal

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
1126	19.60	6.08	0	—	—	—	—	→	Start purge
1135	19.60	6.94	10	0.52	22.84	6.68	18.45	-84.5	"
1144	19.60	7.15	20	0.58	23.19	6.81	13.40	-73.9	"
1152	19.60	7.18	30	—	—	—	—	—	"
1200	19.60	7.21	40	0.38	24.07	6.77	15.56	-72.1	"
1210	19.60	7.25	50	0.40	24.39	6.80	15.85	-73.5	"
1218	19.60	7.28	60	0.38	24.62	6.81	16.01	-74.0	"
1220	19.60	7.30	65	0.39	24.57	6.81	16.12	-77.3	"
1230	—	—	—	—	—	—	—	→	Sampling.

Continue remarks on reverse, if needed.

ARCADIS — WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 9/13/11 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: RW-D8 ☐ FB

Sampling Plan By: DCR Dated: 9/9/11 C.O.C. No.: ____ ☐ DUP ____

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

Purge Water Storage Container Type: ~~55 gallon drum~~ storage 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-D8 Depth of Water 4.58'

Well Diameter: 6" Well Depth 19.88'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 15.30'

☐ 4" (0.65 gal/feet) ☒ 6" (1.47 gal/feet) Well Volume 22.5 gal

HHH - number of 5 gal buckets purged.

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
0815	19.88	4.58	ϕ	—	—	—	—	—	Begin purge
0845	19.88	14.21	22.5	0.94	21.81	6.78	6974	-104.6	IIII½ = 22.5 gal
0905	19.88	19.84	35.0	0.63	21.17	6.80	17439	-170.3	½II = 12.5 gal.
Well purged dry									
1105	19.88	16.40	—	—	—	—	—	—	
1320	19.88	10.77	—	—	—	—	—	—	
1610	19.88	6.04	36.0	0.46	22.19	6.81	15174	-152.4	Sampling.

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

14 - continued.

Project No. LC010060.0016.00001 Date: September 13, 2011 Page 1 of ____

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

Sampler's Name: Andrea Valdivia / Miljan Dragonic Sample No.: RW-D9 ☐ FB

Sampling Plan By: DCR Dated: 9/9/11 C.O.C. No.: ____ ☐ DUP

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

Purge Water Storage Container Type: ~~55 gallon drum~~ storage 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-D9 Depth of Water 5.75'

Well Diameter: ~~6~~ 6" Well Depth 19.90'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 14.15'

☐ 4" (0.65 gal/feet) ☒ 6" (1.47 gal/feet) Well Volume 20.80 gal

Voltage output ≈ 12.5
* Pump stopped working after troubleshooting and calling PM, decided to use other pump at another time.

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
1318	Start	5.75'	0	→					Starts purge
1330		9.52'	10.0	→					
1342		12.22'	20.0	1.38	22.15	6.36	13.33	13.0	
1340		14.05'	26.0	→					Pump stops working*
Continued on 9/14/2011									
1230	19.90	8.17	0	→					Start purge
1244	19.90	10.67	10	0.75	21.42	6.48	15.54	-21.5	"
1300	19.90	12.76	20	0.83	21.51	6.49	15.77	-26.8	"
1316	19.90	14.55	30	0.82	21.37	6.51	15.94	-31.5	"
1331	19.90	16.39	40	0.87	21.43	6.50	15.97	-24.6	"
			66						
1335	→								Sampling

Continue remarks on reverse, if needed.

ARCADIS — WATER-LEVEL MEASUREMENTS LOG

Project No. LC010060.0016.00002 Date December 21, 2011 Page 1 of 2

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

Field Personnel Miljan Draganic and Ahmad Abdallah

General Observations

WELL NO.	Time Opened	DEPTH TO WATER 1	DEPTH TO WATER 2	Time measured ~~WATER ELEVATION~~	WELL SECURE? Y	WELL SECURE? N	REMARKS (UNITS = FEET)
MW-8	0905	8.97	8.97	1208	X		
MW-16	0910	10.66	10.66	1214		X	No bolts
MW-17	0913	8.58	8.58	1217	X		
MW-15	0916	10.04	10.04	1220	X		
MW-9	0919	8.09	8.09	1223		X	One bolt missing, two stripped
MW-14	0922	7.00	7.00	1226	X		Missing one bolt
MW-13	0925	10.01	10.01	1228	X		
MW-10	0935	7.13	7.13	1233	X		Missing one bolt; wellbox flooded
MW-2	0939	7.12	7.12	1245	X		
MW-1	0948	4.63	4.63	1251	X		Wellbox flooded; Pressurized
MW-12	0953	7.56	7.56	1256	X		
RW-D1	[1000]	6.92	6.92	1316	X		
RW-D2		6.42	6.42	1314	X		
RW-D3		7.04	7.04	1311	X		
RW-D4		6.14	6.14	1310	X		
RW-D5		6.10	6.10	1307	X		
RW-D6		6.50	6.50	1319	X		
RW-D7		6.61	6.61	1325	X		
RW-D8		5.04	5.04	1322	X		
RW-D9		6.75	6.75	1336	X		
RW-D10		5.99	5.99	1333	X		
RW-D11		5.84	5.84	1329	X		
OB-D1		5.90	5.90	1302	X		
OB-D2		6.21	6.21	1259	X		
RW-1		6.41	6.41	1304	X		
TBW-5	↓	6.75	6.75	1306	X		
TBW-6	[1036]	3.81	3.81	1254	X		
RW-C2	1040	6.46	6.46	1341		X	No bolts
RW-C3	1043	6.74	6.74	1345	X		
RW-C1	1047	5.87	5.87	1348		X	Lid broken
⊛ Could not open the remaining Plume C area wells (Jammed)							
Will seek forklift assistance from MSC employees							

Time Opened | Time Measured | 2/2

WELL NO.	~~WELL ELEVATION~~	DEPTH TO WATER 1	DEPTH TO WATER 2	~~WATER ELEVATION~~	WELL SECURE? Y	WELL SECURE? N	REMARKS (UNITS = FEET)
RW-B3	1110	9.44	9.44	1358	X		Wellbox flooded
RW-B4	1112	9.58	9.58	1400	X		Wellbox flooded
RW-B2	1114	7.63	7.63	1402	X		
RW-B1	1113	7.61	7.61	1404	X		
MW-6	1115	5.50	5.50	1406		X	No bolts
OB-A1	1116	3.28	3.28	1407	X		
RW-A1	1118	3.02	3.02	1408	X		
RW-A2	1120	2.24	2.24	1409	X		
MW-7	1126	6.68	6.68	1413		X	No bolts ; wellbox flooded
MW-5	1130	5.86	5.86	1418		X	No bolts
MW-11	1134	6.22	6.22	1422	X		
MW-18							Well not found
2/22 Opening remaining wells at Plume C with assistance of a forklift operator							
RW-C4	1030	7.06	7.06	1044	X		
RW-C5	1032	6.51	6.51	1046	X		
RW-C6	1033	6.36	6.36	1054	X		
RW-C7	1035	6.62	6.62	1042	X		
OB-C1	1037	DRY	DRY	1050	X		Total Depth = 5.45'

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12-22-11 Page 1 of 1

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

Sampler's Name: AHMAD ABDALLAH Sample No.: MW-1 ☐ FB

Sampling Plan By: DCR Dated: 12/20/11 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 4.81

Well Diameter: 2" Well Depth 15.65

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 10.84

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.8

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
1617	4.81	5.25	0.1	0.68	17.68	6.86	17.18	-125.1	
1620		7.30	2.0	0.63	17.12	6.97	11.73	-130.2	
1623		9.05	4.0	0.67	17.81	6.97	12.55	-130.4	
1627		11.51	6.0	0.69	17.92	6.95	14.55	-127.2	
1630		10.05	—	0.72	18.07	6.99	1374	-131.2	bailer Volume
1631		10.06	—	0.71	18.51	7.00	13.87	-129.2	bailer Volume
1632		10.05	—	0.69	18.08	7.00	13.89	-127.1	bailer Volume
1635									Sampled.

Continue remarks on reverse, if needed.

ARCADIS — WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12/22/11 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: 12/20/11 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 5.95'

Well Diameter: 2" Well Depth 14.28'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.33'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.33 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
1624	14.28	5.95	ϕ						Start
1627	"	5.97	1	1.17	16.29	7.23	.857	-67.9	
1630	"	6.01	2	1.10	16.21	7.30	.835	-61.0	
1632	"	5.98	3	1.07	16.27	7.20	.802	-60.2	
1634	"	5.97	4	1.11	16.34	7.15	.785	-55.1	
1637	"	5.99	5	1.06	16.33	7.11	.778	-56.9	
1640	"	5.97	6	1.09	16.33	7.13	.769	-53.4	
1643	"	5.98	7	1.05	16.32	7.09	.764	-49.6	
1645									Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12/22/11 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: 12/20/11 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 7.25'

Well Diameter: 2" Well Depth 15.13'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.88'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.26 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
1500	15.13	7.25							Start
1502		7.51	1	1.05	18.12	7.59	4.944	-87.4	
1505		7.54	2	1.00	18.16	7.70	4.516	-103.9	
1508		7.56	3	0.97	18.14	7.66	4.564	-107.3	
1510		7.63	4	0.99	18.17	7.72	4.118	-106.4	
1513		7.61	5	1.03	18.13	7.70	4.011	-104.9	
1516		7.59	6	1.00	18.20	7.75	4.071	-105.1	
1519		7.67	7	1.02	18.17	7.79	4.137	-102.3	
1520									Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12/21/11 Page 1 of 1

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

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

Sampling Plan By: DCR Dated: 12/20/11 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 10.47

Well Diameter: 2" Well Depth 19.48

☑ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 9.001

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.45

80% DTW _____

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (mS/cm C)	ORP (mV)	Remarks
1510	10.47	10.50	0.1	1.96	18.82	6.85	9.723	37.7	Initial READING
1512		12.40	1.5	1.82	18.61	6.90	11.77	-72.5	
1515		12.51	3.0	1.79	18.85	6.91	13.28	-80.2	
1517		12.40	4.5	1.75	18.96	6.99	12.62	-77.2	
1520									sampled.

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12/21/11 Page 1 of 1

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

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

Sampling Plan By: DCR Dated: 12/20/11 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 7.06'

Well Diameter: 2" Well Depth 14.66'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.60'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.2 gal.

80% DTW

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (mS/cm C)	ORP (mV)	Remarks
1514	14.66	7.22	1.2	1.64	18.51	6.68	10.98	-97.8	
1518	"	7.27	2.5	1.03	18.48	7.24	11.25	-143.7	
1523	"	7.32	3.7	0.94	18.39	7.29	11.29	-150.6	
1525	"	7.30	4.0	0.97	18.42	7.32	11.24	-148.9	
1527	"	7.36	4.5	0.96	18.46	7.33	11.27	-146.2	
1530	"	7.33	5.0	0.89	18.46	7.37	11.30	-149.1	Sampling.

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12/21/11 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: 12/20/11 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 9.55'

Well Diameter: 2" Well Depth 17.25'

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.70'

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.3 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
1612	17.25	9.57	1.5	1.17	18.01	7.00	29.01	-168.7	
1616	"	9.59	3.0	1.06	17.94	7.03	29.42	-170.1	
1619	"	9.61	4.5	1.03	17.96	7.11	29.36	-167.4	
1621	"	9.58	5.0	0.99	17.91	7.09	29.41	-162.3	
1623	"	9.57	6.0	0.95	17.93	7.13	29.39	-166.7	
1625	↳							→	Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12/22/11 Page 1 of 1

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

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

Sampling Plan By: DCR Dated: 12/20/11 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 2.28

Well Diameter: 4" Well Depth 13.60

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 11.32

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 8.30

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
0916	~~2.30~~	2.30	2.5	4.36	15.79	6.81	1.187	194.1	Initial Reading
0922	2	2.28	8.5	1.66	15.69	6.60	0.704	205.1	
0928		2.28	17.0	1.59	15.98	6.59	0.692	201.2	
0937		2.27	25.5	1.62	16.19	6.74	0.688	194.8	
0938		2.27		1.65	15.72	6.69	0.693	192.1	bailer volume
0939		2.27		1.61	15.61	6.69	0.692	191.2	baile volume
0940	↓	2.27		1.63	15.70	6.69	0.693	192.9	bailer volume
0945	—							→	sampled

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12-22-11 Page 1 of 1

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

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

Sampling Plan By: DCR Dated: 12/20/11 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 7.78

Well Diameter: 4" Well Depth 15.85

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.07

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 5.20

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
0810	7.78	7.78	—	—	—	—	—	—	Initial.
0815		9.10	5.25	7.71	16.41	7.03	2.764	269.8	
0820		8.95	10.50	7.80	17.77	7.10	4.642	64.2	
0825		9.05	15.75	7.85	17.81	7.15	4.657	34.3	
0826		9.05	—	7.90	17.85	7.16	4.880	-15.5	on bailer volume (x2)
0827		9.05	—	7.92	17.89	7.18	5.112	-17.2	on bailer volume
0828		9.05	—	7.93	17.90	7.20	5.211	-15.6	on bailer volume
0830	—	—	—	—	—	—	—	—	sampled.

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12/22/11 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: 12/20/11 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-B4 Depth of Water 9.77'

Well Diameter: 4" Well Depth 13.80'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 4.03'

☒ 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 (µS/cm C)	ORP (mV)	Remarks
0819	13.80	9.80	2.5	2.00	16.88	6.35	10.52	50.6	
0825	13.80	9.79	5.0	1.94	17.84	6.53	9.753	20.1	
0830	13.80	9.80	7.5 DUP	2.05	18.12	6.54	9.849	13.6	
0834	13.80	9.77	8.5	2.07	18.17	6.55	9.854	6.3	
0837	13.80	9.81	9.5	2.10	18.22	6.57	9.866	2.5	
0840	13.80	9.79	10	2.14	18.31	6.58	9.872	-0.2	
0840									Sampling.
0850									DUP Sampling.

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12/22/11 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: 12/20/11 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 6.38'

Well Diameter: 4" Well Depth 13.35'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 6.98

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 4.53 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
1120	13.35	6.47	5.0	1.63	18.01	6.38	8.304	38.1	
1129	"	6.40	10.0	1.43	18.14	6.50	7.774	-0.6	
1140	"	6.41	15.0	1.04	17.97	6.70	7.673	-15.5	
1148	"	6.39	17.0	1.07	18.20	6.63	7.669	-19.6	
1154	"	6.40	19.0	1.09	18.19	6.71	7.664	-14.3	
1159	"	6.42	21.0	1.06	18.24	6.65	7650	-12.8	
1200	—	—	—	—	—	—	—	→	Sampling

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12-22-11 Page 1 of 1

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

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

Sampling Plan By: DCR Dated: 12/20/11 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 6.63

Well Diameter: 4" Well Depth 14.05

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.42

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 4.81.

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
1115	6.63	6.63	0.1	0.76	18.19	6.61	9.119	66.7	Initial Reading
1120		6.63	5.0	0.73	19.85	6.66	8.180	19.7	
1125		6.63	10.0	0.71	19.78	6.69	7.024	33.3	
1130		6.63	15.0	0.75	19.67	6.65	8.079	36.1	
1131		6.63		0.75	19.67	6.66	8.102	37.1	bailer volume
1132		6.63		0.74	19.66	6.67	8.112	37.9	"
1132		6.63		0.75	19.69	6.67	8.119	38.2	"
1135									Sampled.

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12-22-11 Page 1 of 1

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

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

Sampling Plan By: DCR Dated: 12/20/11 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 6.20

Well Diameter: 4 Well Depth 11.85

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 5.65

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 3.7

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
1235	6.20	620	0.1	0.88	20.61	6.63	5.096	29.3	Initial
1240	6.20	622	4.0	0.91	21.42	6.64	5.338	13.8	
1245	"	623	8.0	0.92	21.68	6.68	5.482	5.7	
1250	"	623	12.0	0.95	21.80	6.67	5.544	-3.8	
1251	"	623	bailer vol	0.96	21.75	6.66	5.622	-1.3	bailer volume
1252	"	623	"	0.95	21.75	6.67	5.639	-1.8	"
1253	"	623	"	0.97	21.75	6.66	5.647	-0.5	"
1300								→	SAMPLED.

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12-22-11 Page 1 of 1

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

Sampler's Name: AHMAD ABDALLAH - Sample No.: RW-D9 ☐ FB

Sampling Plan By: DCR Dated: 12/20/11 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 6.85

Well Diameter: 6" Well Depth 19.95

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 13.10

☐ 4" (0.65 gal/feet) ☒ 6" (1.47 gal/feet) Well Volume 19.12

80% DTW _____

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	DO (mg/L)	Temperature (C°)	PH (SU)	Cond (mS/cm C)	ORP (mV)	Remarks
1415	6.85	7.15	2.0	27.10	18.90	6.53	19.29	305.9	Initial
1503		13.05	20.0	18.09	19.88	6.46	13.50	321.7	
1530		15.55	30.0	15.27	19.26	6.68	13.95	185.7	
1540		16.15	—	—	—	—	—	→	DRY.
1745	—	—	—	—	—	—	—	—	sampled.
1745		15.02	—	7.36	18.47	6.55	14.17	162.5	

Continue remarks on reverse, if needed.

ARCADIS WATER-QUALITY SAMPLING LOG

Project No. LC010060.0016.00001 Date: 12/22/11 Page 1 of 1

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

Sampler's Name: Miljan Draganic Sample No.: RW-1 ☒ FB @1245

Sampling Plan By: DCR Dated: 12/20/11 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 6.60'

Well Diameter: 4" Well Depth 16.71'

☐ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 10.11'

☒ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 6.57 gal.

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
1250	16.71	6.60	0	→					Begin purge
1310	"	9.31	7	5.77	20.51	6.68	11.63	31.0	
1328	"	10.70	14	4.47	20.87	6.64	12.20	28.1	
1344	"	11.81	21	4.06	20.29	6.64	13.40	17.5	
1349	"	12.19	23	3.92	20.80	6.61	13.67	11.8	
1354	"	12.48	25	3.74	21.09	6.68	13.21	8.2	
1359	"	12.74	27	3.77	21.17	6.70	13.74	9.3	
1405	"	13.01	29	3.81	21.04	6.69	13.81	6.7	
1409	"	13.27	30	3.72	21.07	6.71	13.97	4.4	Purged with bailor
1410	→								Sampling (w/ bailor)

Continue remarks on reverse, if needed.

CHAIN OF CUSTODY

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In Business Since 1878

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Berkeley, CA 94710

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

Chain of Custody # _____

C&T LOGIN # _____

Project No: LC0100060.0016.00002 Sampler: Miljan D. & Ahmad A.

Project Name: MSC Oakland Edgewater 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 (EPA 8260)	TPHd/TPHmo/TPHk (EPA 8015)*
	MW-13	12-21-11	1520	X				5	X				X	X	X
	MW-14	↓	1530	X				5	X				X	X	X
	MW-17	↓	1625	X				5	X				X	X	X
	RW-B1	12-22-11	0830	X				5	X				X	X	X
	RW-B4		0840	X				5	X				X	X	X
	RW-A2		0945	X				5	X				X	X	X
	RW-C7		1135	X				5	X				X	X	X
	RW-C6		1200	X				5	X				X	X	X
	RW-D5		1300	X				5	X				X	X	X
	RW-1-FB		1245	X				5	X				X	X	X
	RW-1		1410	X				5	X				X	X	X
	MW-10		1520	X				5	X				X	X	X
	MW-1	↓	1635	X				5	X				X	X	X

Notes:

* Use silica-gel clean-up for TPHd/TPHmo/TPHk sample analysis.

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
[signature] DATE: 12/23 TIME: 1750
DATE: TIME:
DATE: TIME:

RECEIVED BY:
[signature] DATE: 12/23/11 TIME: 1750
DATE: TIME:
DATE: TIME:

CHAIN OF CUSTODY

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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: LC010060.0016.00002 Sampler: Miljan D. & Ahmad A.

Project Name: MSC Oakland Edgewater 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	TPHd/BTEX/MTBE (EPA 8260)	TPHd/TPHmo/TPHk (EPA 8015)*	HOLD	
	MW-5	12-22-11	1645	X				5	X				X	X	X		
	RW-D9	↓	1745	X				5	X				X	X	X		
	RW-B4-D		0850	X				5	X				X	X	X		
	TB122211		—	X				2	X							X	

Notes:
* Use silica gel clean-up for TPHd/TPHmo/TPHk sample analysis

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
Daren Roth DATE: 12/23 TIME: 1250
DATE: TIME:
DATE: TIME:

RECEIVED BY:
[signature] DATE: 12/23/11 TIME: 1250
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 231057
ANALYTICAL REPORT

Arcadis	Project : LC010060.0016.00001
2000 Powell St.	Location : MSC Oakland Edgewater
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
MW-17	231057-001
MW-9	231057-002
MW-14	231057-003
MW-13	231057-004
RW-D5	231057-005
RW-D5-D	231057-006
RW-1	231057-007
RW-D3	231057-008
RW-D6	231057-009
RW-C6	231057-010
RW-C7	231057-011
MW-1	231057-012
RW-D8	231057-013
MW-10-FB	231057-014
MW-10	231057-015
MW-6	231057-016
MW-5	231057-017
RW-D9	231057-018
TRIP BLANK	231057-019

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: 09/23/2011
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**231057**
Client:	**Arcadis**
Project:	**LC010060.0016.00001**
Location:	**MSC Oakland Edgewater**
Request Date:	**09/14/11**
Samples Received:	**09/14/11**

This data package contains sample and QC results for eighteen water samples, requested for the above referenced project on 09/14/11. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):

High surrogate recovery was observed for o-terphenyl in RW-1 (lab # 231057-007); no target analytes were detected in the sample. Diesel C10-C24 and motor oil C24-C36 were detected above the RL in the method blank for batch 178996. RW-D8 (lab # 231057-013) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

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

No analytical problems were encountered.

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C&T LOGIN # 231057

Page 1 of 2

Chain of Custody # ______

Project No: LC010060.0016.00001

Project Name: MSC Oakland Edgewater

Project P. O. No:

EDD Format: Report Level ☐ II ☐ III ☐ IV

Turnaround Time: ☐ RUSH ______ ☒ Standard

Sampler: MD & AV

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
1	MW-17	9-12-11	1425	X				5	X				X	X	X	
2	MW-9	↓	1500	X				5	X				X	X	X	
3	MW-14	↓	1555	X				5	X				X	X	X	
4	MW-13	↓	1635	X				5	X				X	X	X	
5	RW-D5	9-13-11	1025	X				5	X				X	X	X	
6	RW-D5-D	↓	1030	X				5	X				X	X	X	
7	RW-1	↓	1040	X				5	X				X	X	X	
8	RW-D3	↓	1205	X				5	X				X	X	X	
9	RW-D6	↓	1230	X				5	X				X	X	X	
10	RW-C6	↓	1410	X				5	X				X	X	X	
11	RW-C7	↓	1525	X				5	X				X	X	X	
12	MW-1	↓	1545	X				5	X				X	X	X	
13	RW-D8	↓	1610	X				5	X				X	X	X	

Notes:
* Use SILICA GEL clean-up on the TPHd/TPHmo/TPHk samples prior to analyses.

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
[signature]	9/14	1510	Pat [signature]	9/14/11	1510

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 # 23057

Project No: LC010060.0016.00001 Sampler: MD & AV

Project Name: MSC Oakland Edgewater 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	
14	MW-10-FB	9-14-11	0800	X				5	X				X	X	X		
15	MW-10	↓	0845	X				5	X				X	X	X		
16	MW-6		1010	X				5	X				X	X	X		
17	MW-5		1105	X				5	X				X	X	X		
18	RW-D9		1335	X				5	X				X	X	X		
19	Trip blank	↓	—	X				2	X							X	

Notes:
* Use SILICA GEL clean-up on the TPHd/TPHmo/TPHk samples prior to analyses.

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 9/14 TIME: 1510
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 9/14/11 TIME: 1510
DATE: TIME:
DATE: TIME:

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 231057 Date Received 9/14/11 Number of coolers 2

Client ARCADIS Project LLG10060.0016.00001

Date Opened 9/14/11 By (print) V. [illegible] (sign) [signature]

Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) YES NO [NO circled]

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 [N/A circled]

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

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

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

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

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

8. Were Method 5035 sampling containers present? YES NO [NO circled]

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO [YES circled]

10. Are samples in the appropriate containers for indicated tests? YES NO [YES circled]

11. Are sample labels present, in good condition and complete? YES NO [YES circled]

12. Do the sample labels agree with custody papers? YES NO [YES circled]

13. Was sufficient amount of sample sent for tests requested? YES NO [YES circled]

14. Are the samples appropriately preserved? YES NO N/A [YES circled]

15. Did you check preservatives for all bottles for each sample? YES NO N/A [N/A circled]

16. Did you document your preservative check? YES NO N/A [N/A circled]

17. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A [N/A circled]

18. Are bubbles > 6mm absent in VOA samples? YES NO N/A [YES circled]

19. Was the client contacted concerning this sample delivery? YES NO [NO circled]

If YES, Who was called? By Date:

COMMENTS

Rev 8, 6/11

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00001	Analysis:	EPA 8015B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	MW-17	Sampled:	09/12/11
Type:	SAMPLE	Prepared:	09/15/11
Lab ID:	231057-001	Analyzed:	09/18/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	178988		

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	68-120

Field ID:	MW-9	Sampled:	09/12/11
Type:	SAMPLE	Prepared:	09/15/11
Lab ID:	231057-002	Analyzed:	09/18/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	178988		

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	180 Y	50
Motor Oil C24-C36	500	300

Surrogate	%REC	Limits
o-Terphenyl	103	68-120

Field ID:	MW-14	Sampled:	09/12/11
Type:	SAMPLE	Prepared:	09/15/11
Lab ID:	231057-003	Analyzed:	09/18/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	178988		

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	63 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	109	68-120

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
b= See narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00001	Analysis:	EPA 8015B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	MW-13	Sampled:	09/12/11
Type:	SAMPLE	Prepared:	09/15/11
Lab ID:	231057-004	Analyzed:	09/18/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	178988		

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	51 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	102	68-120

Field ID:	RW-D5	Sampled:	09/13/11
Type:	SAMPLE	Prepared:	09/15/11
Lab ID:	231057-005	Analyzed:	09/19/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	178988		

Analyte	Result	RL
Kerosene C10-C16	210	50
Diesel C10-C24	230 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	117	68-120

Field ID:	RW-D5-D	Sampled:	09/13/11
Type:	SAMPLE	Prepared:	09/15/11
Lab ID:	231057-006	Analyzed:	09/19/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	178988		

Analyte	Result	RL
Kerosene C10-C16	260	50
Diesel C10-C24	320 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	111	68-120

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
b= See narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00001	Analysis:	EPA 8015B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	RW-1	Sampled:	09/13/11
Type:	SAMPLE	Prepared:	09/15/11
Lab ID:	231057-007	Analyzed:	09/19/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	178988		

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

Surrogate	%REC	Limits
o-Terphenyl	122 *	68-120

Field ID:	RW-D3	Sampled:	09/13/11
Type:	SAMPLE	Prepared:	09/15/11
Lab ID:	231057-008	Analyzed:	09/19/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	178988		

Analyte	Result	RL
Kerosene C10-C16	110	50
Diesel C10-C24	100 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	114	68-120

Field ID:	RW-D6	Sampled:	09/13/11
Type:	SAMPLE	Prepared:	09/15/11
Lab ID:	231057-009	Analyzed:	09/19/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	178988		

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	117	68-120

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
b= See narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00001	Analysis:	EPA 8015B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	RW-C6	Sampled:	09/13/11
Type:	SAMPLE	Prepared:	09/15/11
Lab ID:	231057-010	Analyzed:	09/19/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	178996		

Analyte	Result	RL
Kerosene C10-C16	760	50
Diesel C10-C24	870 Y b	50
Motor Oil C24-C36	410 b	300

Surrogate	%REC	Limits
o-Terphenyl	116	68-120

Field ID:	RW-C7	Sampled:	09/13/11
Type:	SAMPLE	Prepared:	09/15/11
Lab ID:	231057-011	Analyzed:	09/19/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	178996		

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	83 Y b	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	110	68-120

Field ID:	MW-1	Sampled:	09/13/11
Type:	SAMPLE	Prepared:	09/19/11
Lab ID:	231057-012	Analyzed:	09/20/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	179094		

Analyte	Result	RL
Kerosene C10-C16	120	50
Diesel C10-C24	110 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	106	68-120

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
b= See narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00001	Analysis:	EPA 8015B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	RW-D8	Sampled:	09/13/11
Type:	SAMPLE	Prepared:	09/19/11
Lab ID:	231057-013	Analyzed:	09/21/11
Diln Fac:	5.000	Cleanup Method:	EPA 3630C
Batch#:	179094		

Analyte	Result	RL
Kerosene C10-C16	5,000	250
Diesel C10-C24	6,000 Y	250
Motor Oil C24-C36	11,000	1,500

Surrogate	%REC	Limits
o-Terphenyl	81	68-120

Field ID:	MW-10-FB	Sampled:	09/14/11
Type:	SAMPLE	Prepared:	09/19/11
Lab ID:	231057-014	Analyzed:	09/20/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	179094		

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

Surrogate	%REC	Limits
o-Terphenyl	103	68-120

Field ID:	MW-10	Sampled:	09/14/11
Type:	SAMPLE	Prepared:	09/19/11
Lab ID:	231057-015	Analyzed:	09/20/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	179094		

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

Surrogate	%REC	Limits
o-Terphenyl	95	68-120

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
b= See narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00001	Analysis:	EPA 8015B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	MW-6	Sampled:	09/14/11
Type:	SAMPLE	Prepared:	09/19/11
Lab ID:	231057-016	Analyzed:	09/20/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	179094		

Analyte	Result	RL
Kerosene C10-C16	1,600	50
Diesel C10-C24	1,800 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	95	68-120

Field ID:	MW-5	Sampled:	09/14/11
Type:	SAMPLE	Prepared:	09/19/11
Lab ID:	231057-017	Analyzed:	09/20/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	179094		

Analyte	Result	RL
Kerosene C10-C16	1,400	50
Diesel C10-C24	1,200 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	95	68-120

Field ID:	RW-D9	Sampled:	09/14/11
Type:	SAMPLE	Prepared:	09/19/11
Lab ID:	231057-018	Analyzed:	09/21/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	179094		

Analyte	Result	RL
Kerosene C10-C16	72	50
Diesel C10-C24	70 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	106	68-120

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
b= See narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00001	Analysis:	EPA 8015B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Type:	BLANK	Prepared:	09/15/11
Lab ID:	QC609179	Analyzed:	09/19/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	178988		

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

Surrogate	%REC	Limits
o-Terphenyl	109	68-120

Type:	BLANK	Prepared:	09/15/11
Lab ID:	QC609218	Analyzed:	09/21/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	178996		

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	490 b	50
Motor Oil C24-C36	10,000 b	300

Surrogate	%REC	Limits
o-Terphenyl	104	68-120

Type:	BLANK	Prepared:	09/19/11
Lab ID:	QC609646	Analyzed:	09/20/11
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	179094		

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

Surrogate	%REC	Limits
o-Terphenyl	115	68-120

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
b= See narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00001	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	178988
Units:	ug/L	Prepared:	09/15/11
Diln Fac:	1.000	Analyzed:	09/18/11

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC609180

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,087	83	61-120

Surrogate	%REC	Limits
o-Terphenyl	101	68-120

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC609181

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,445	98	61-120	16	20

Surrogate	%REC	Limits
o-Terphenyl	114	68-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC609219	Batch#:	178996
Matrix:	Water	Prepared:	09/15/11
Units:	ug/L	Analyzed:	09/22/11

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,397	96	61-120

Surrogate	%REC	Limits
o-Terphenyl	120	68-120

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	178996
MSS Lab ID:	231088-002	Sampled:	09/15/11
Matrix:	Water	Received:	09/15/11
Units:	ug/L	Prepared:	09/15/11
Diln Fac:	1.000	Analyzed:	09/16/11

Type: MS Lab ID: QC609220

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	1,406	2,500	4,164	110	33-140

Surrogate	%REC	Limits
o-Terphenyl	118	68-120

Type: MSD Lab ID: QC609221

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	3,872	99	33-140	7	30

Surrogate	%REC	Limits
o-Terphenyl	119	68-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00001	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	179094
Units:	ug/L	Prepared:	09/19/11
Diln Fac:	1.000	Analyzed:	09/20/11

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC609647

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,112	84	61-120

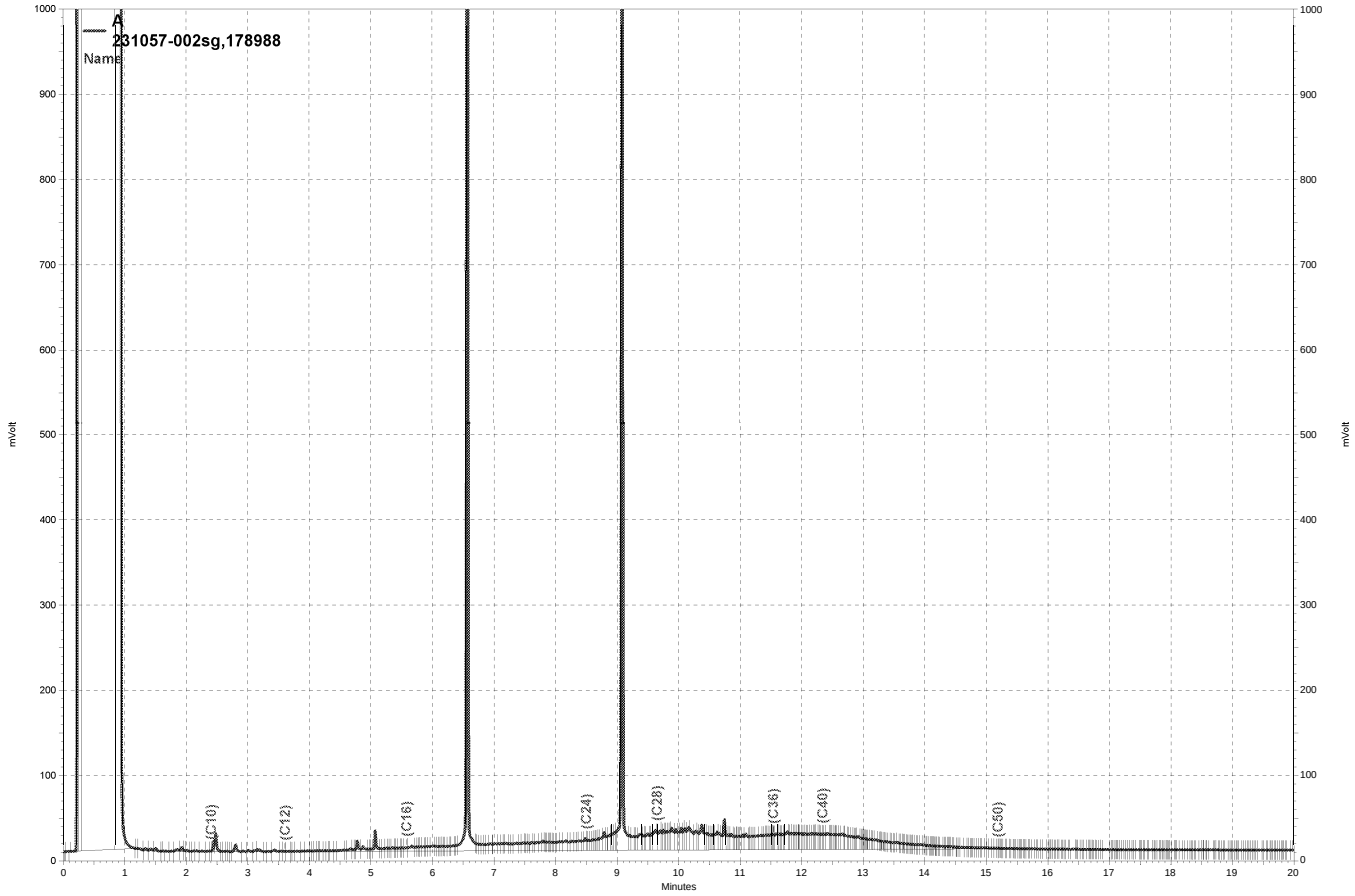
Surrogate	%REC	Limits
o-Terphenyl	97	68-120

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC609648

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,177	87	61-120	3	20

Surrogate	%REC	Limits
o-Terphenyl	102	68-120

RPD= Relative Percent Difference



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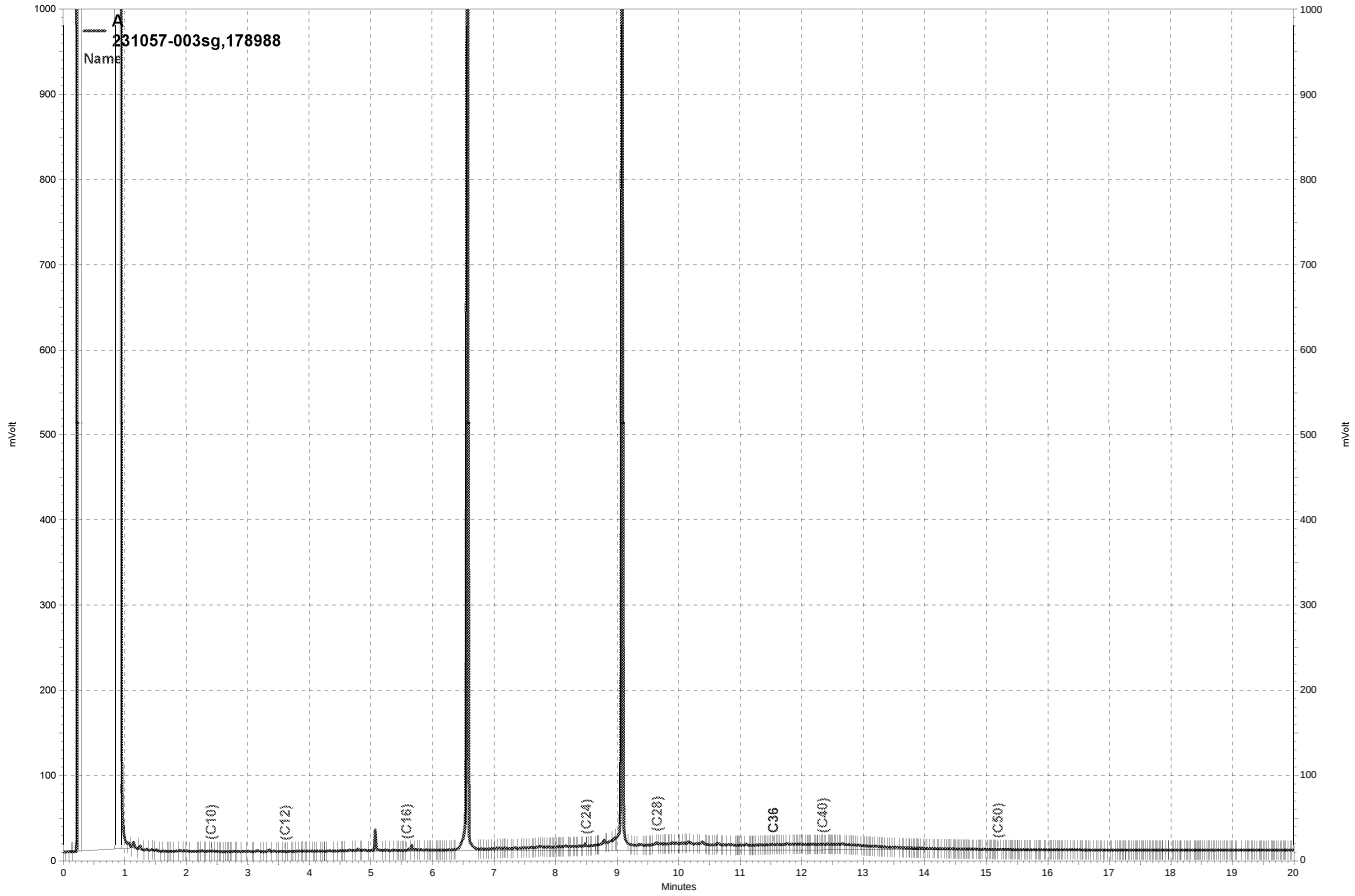

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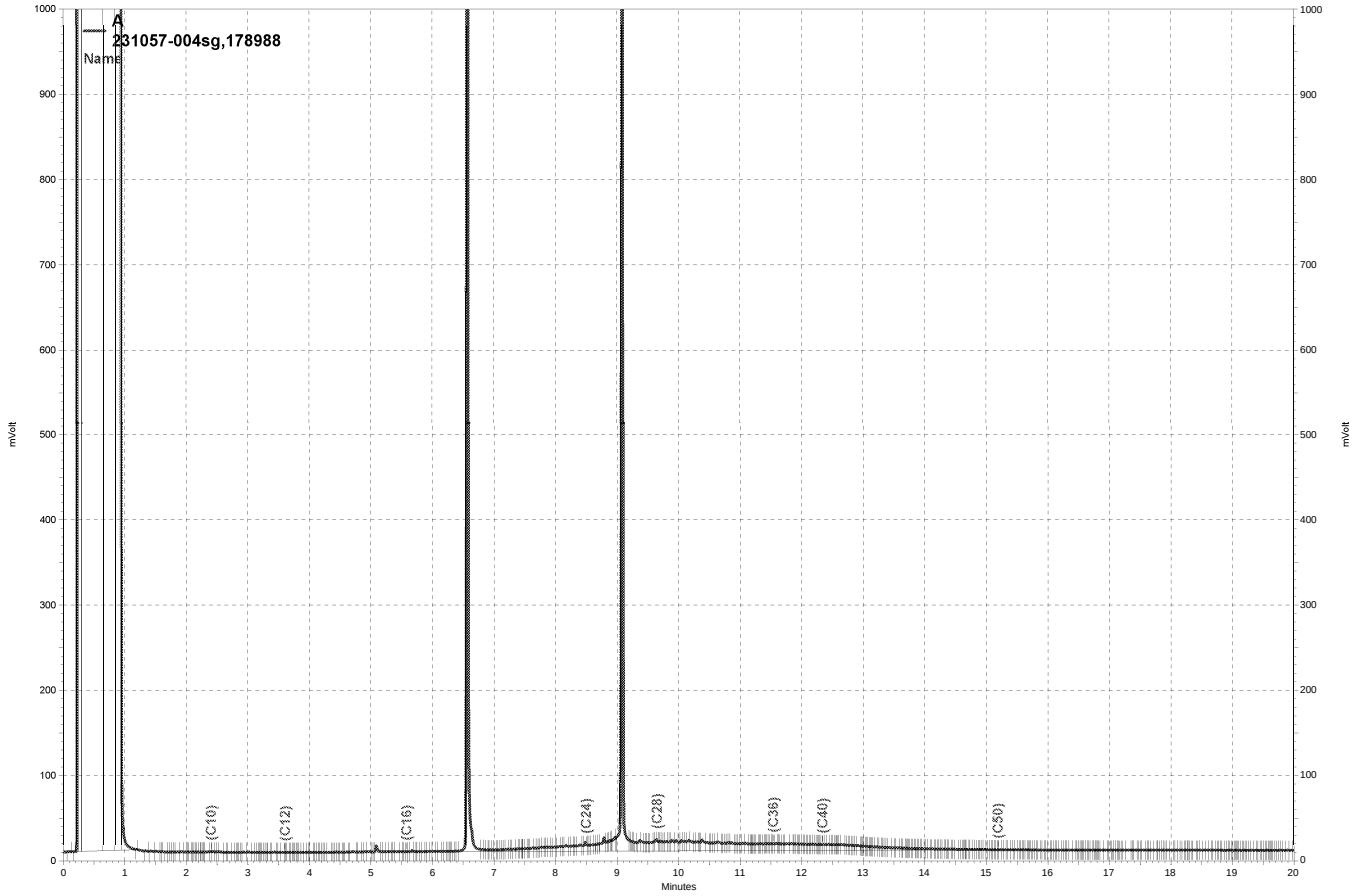

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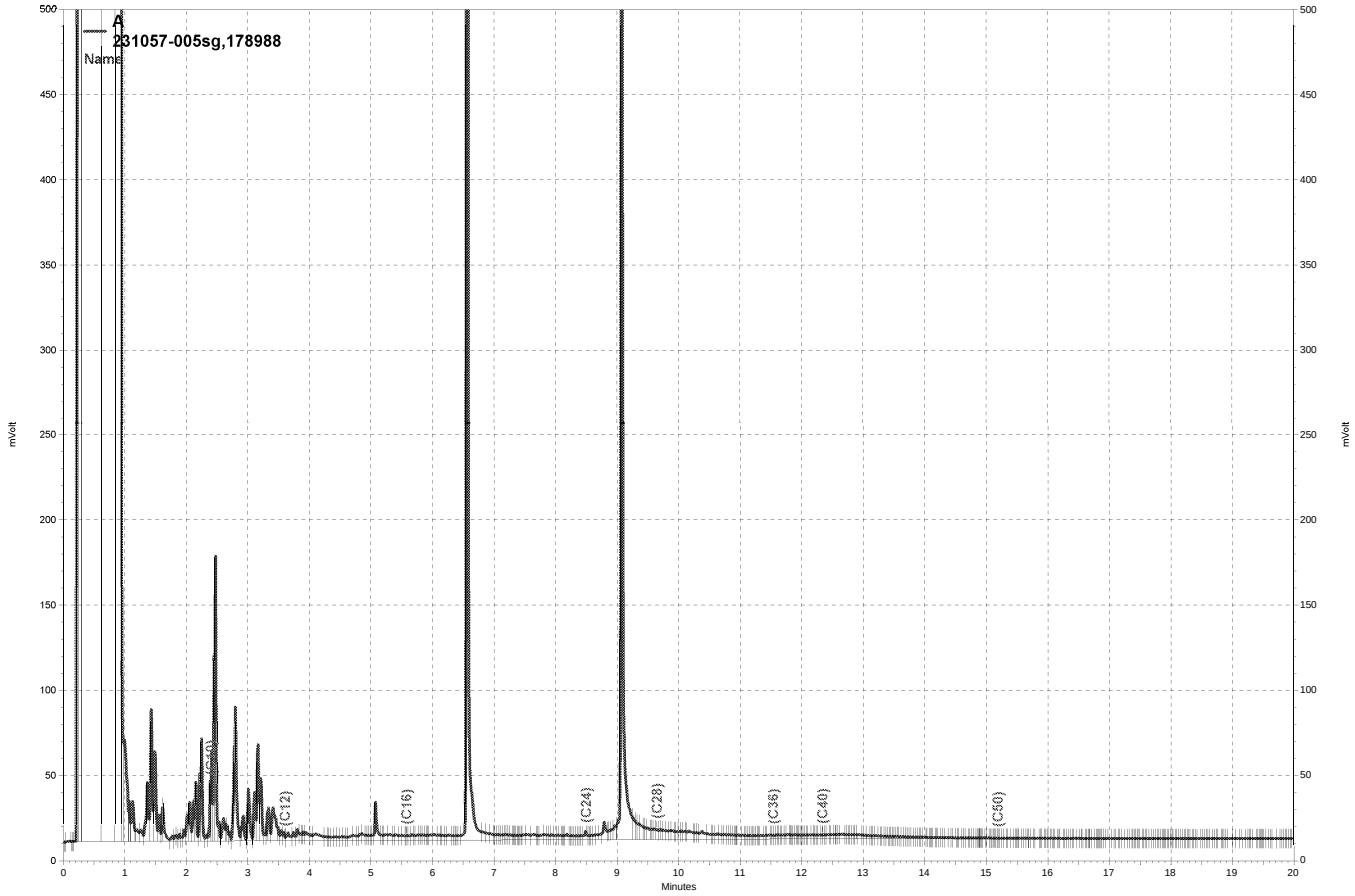

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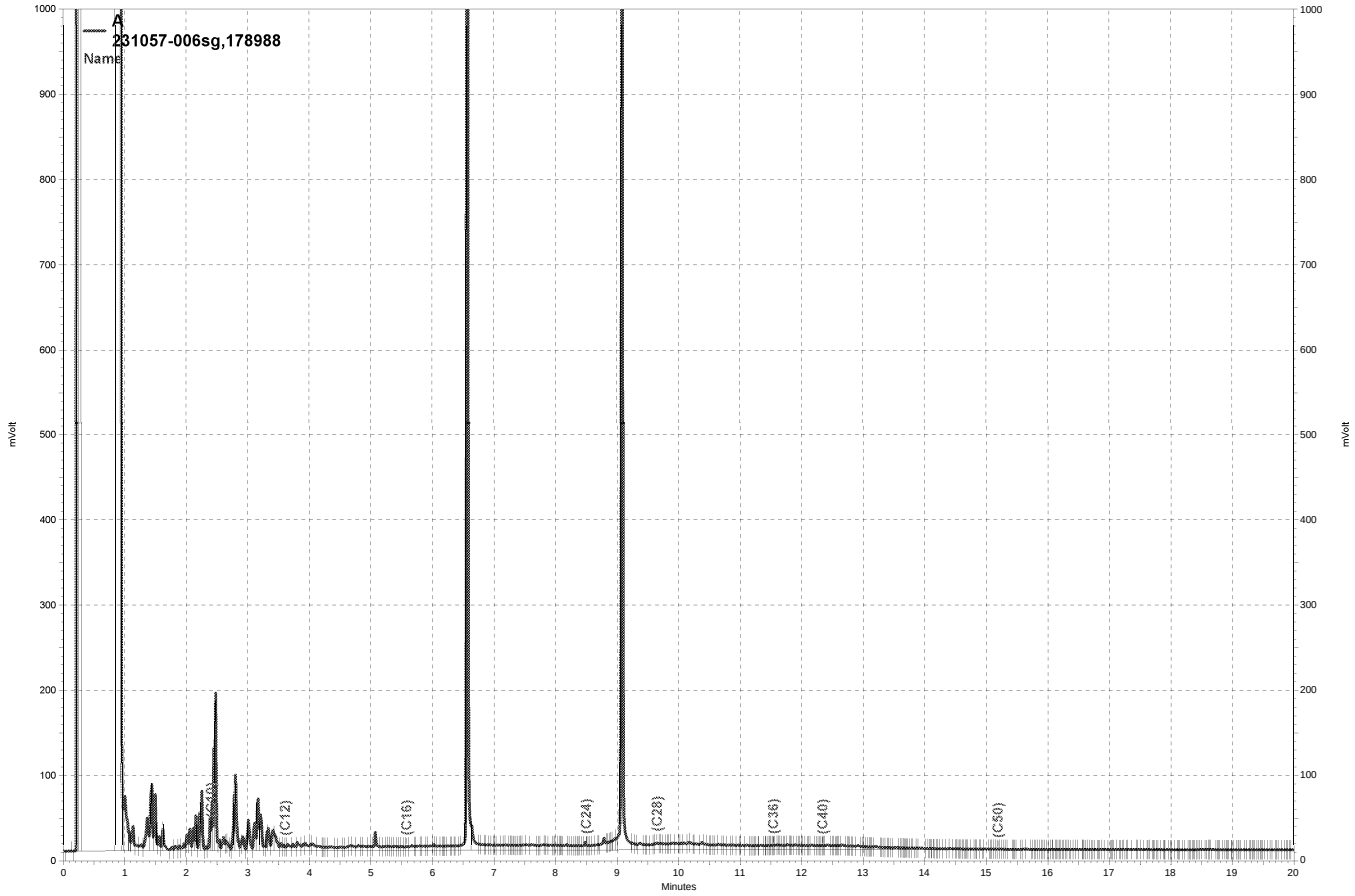

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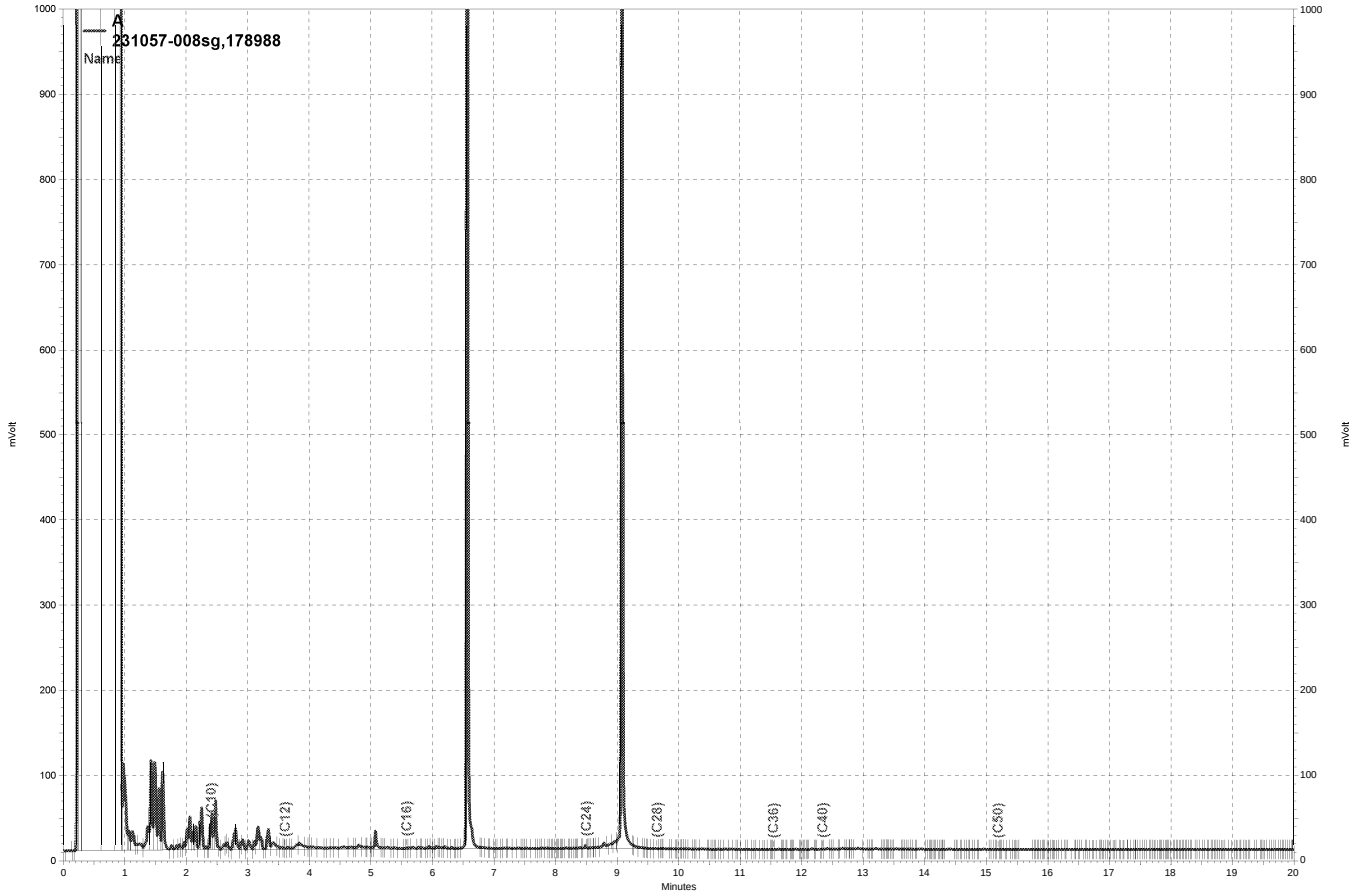

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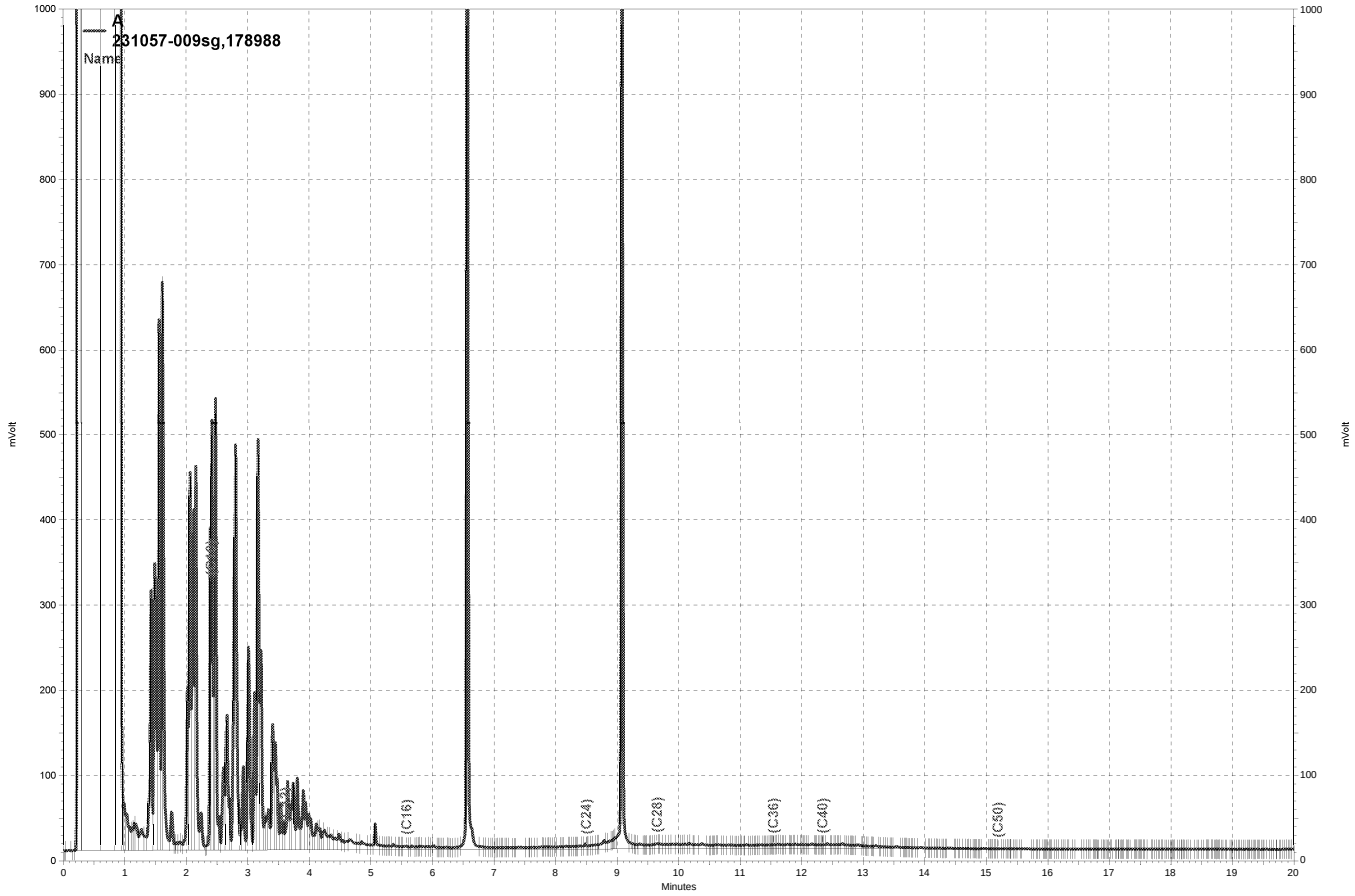

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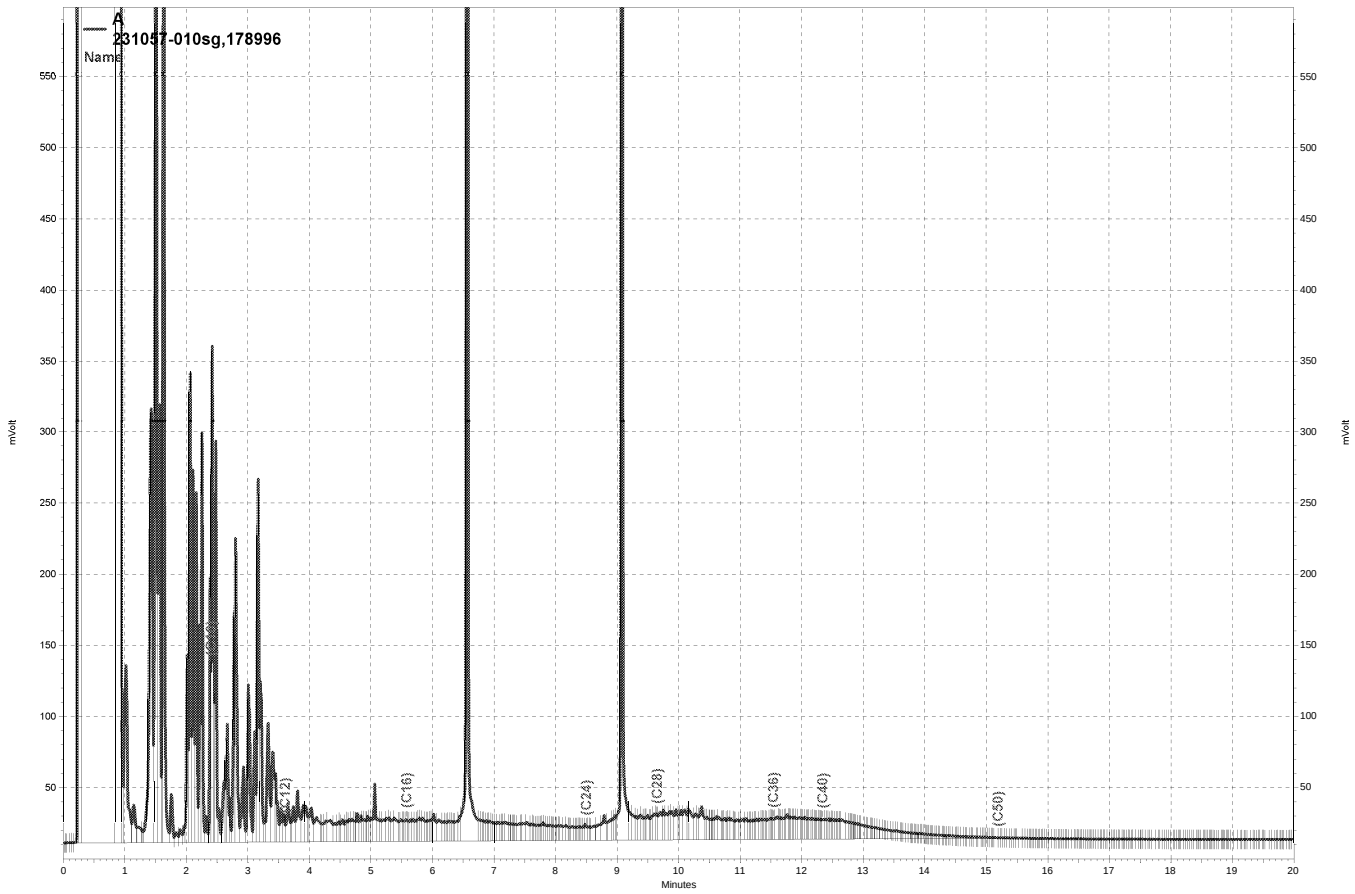

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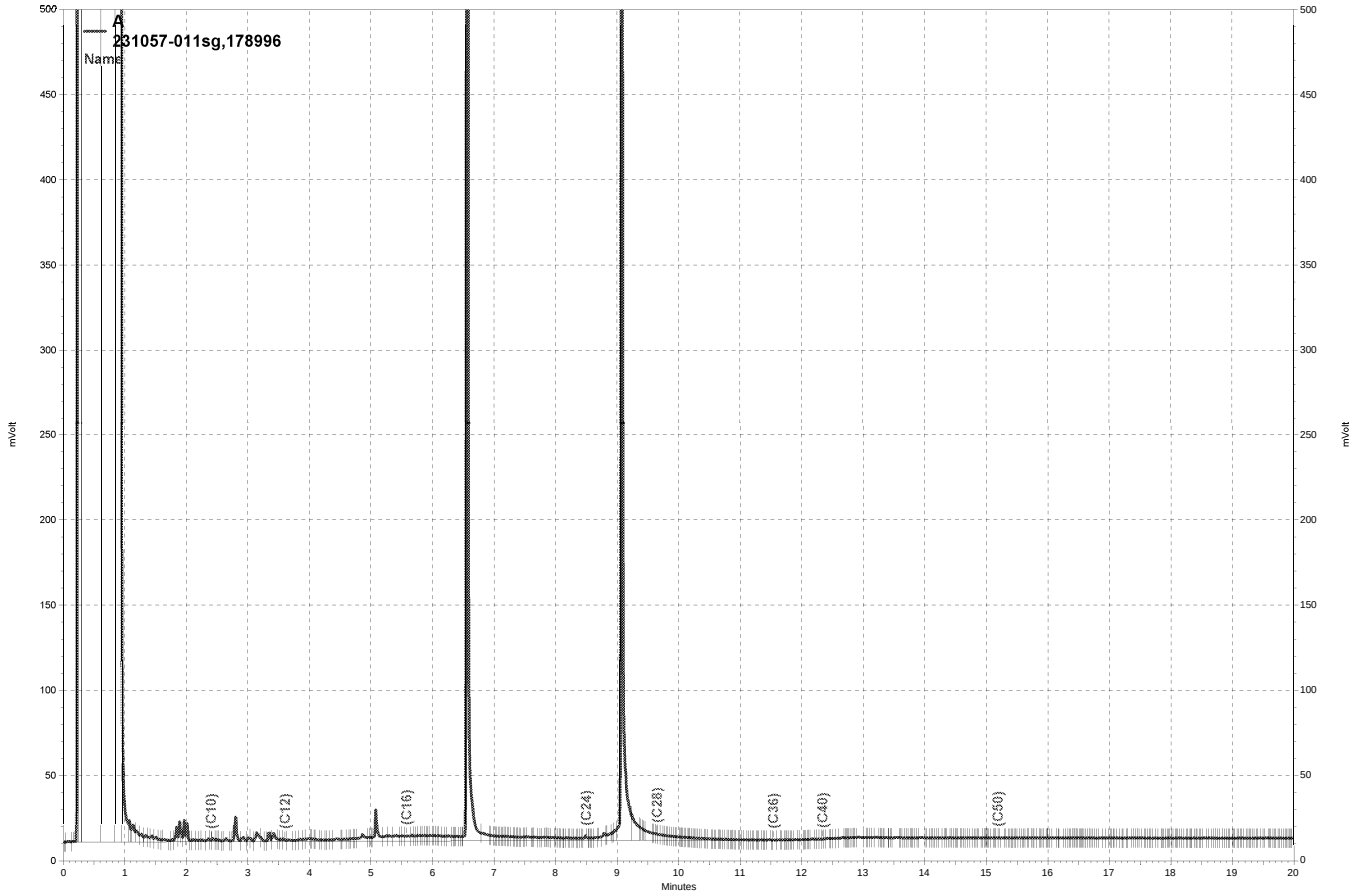

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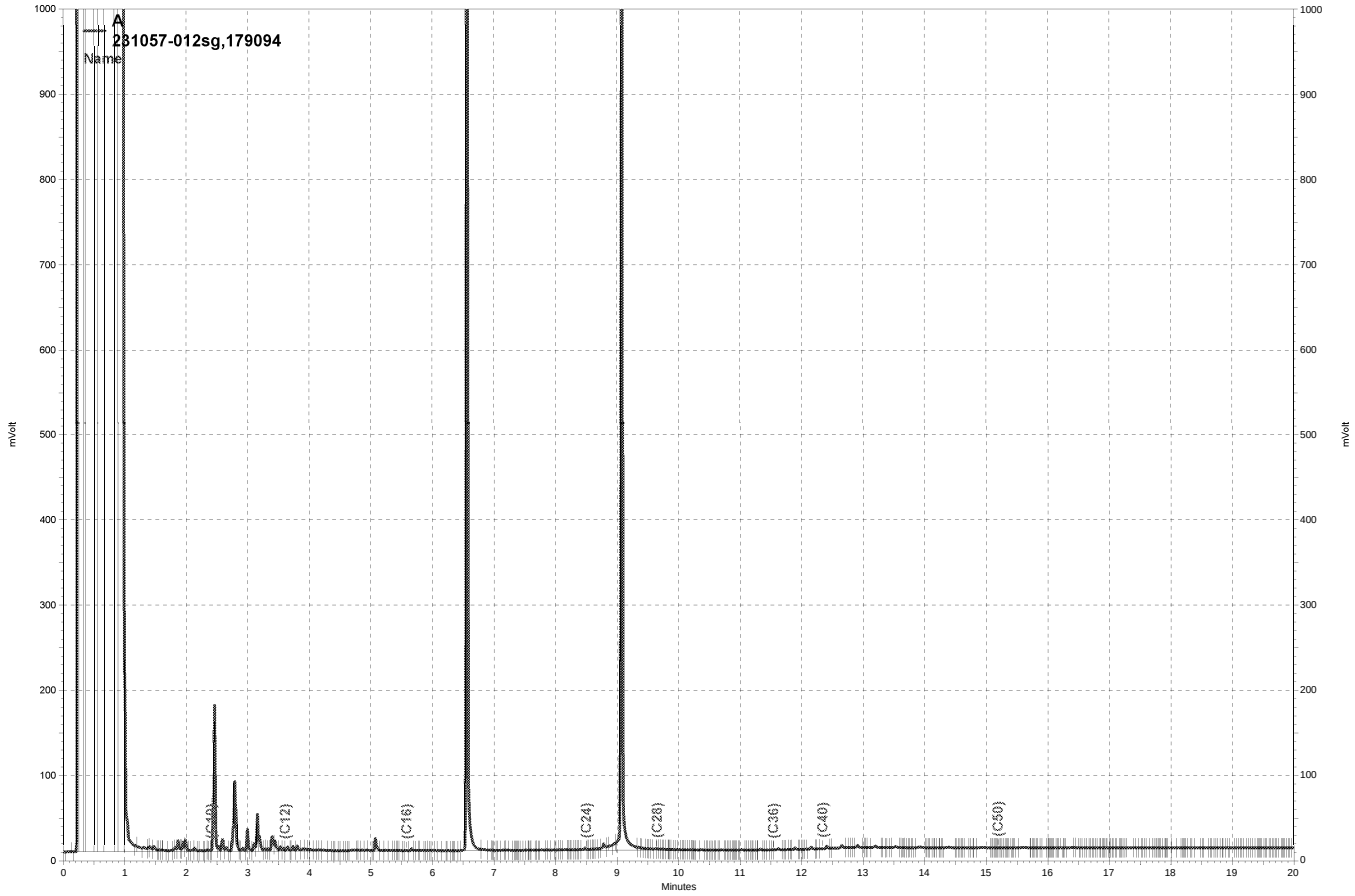

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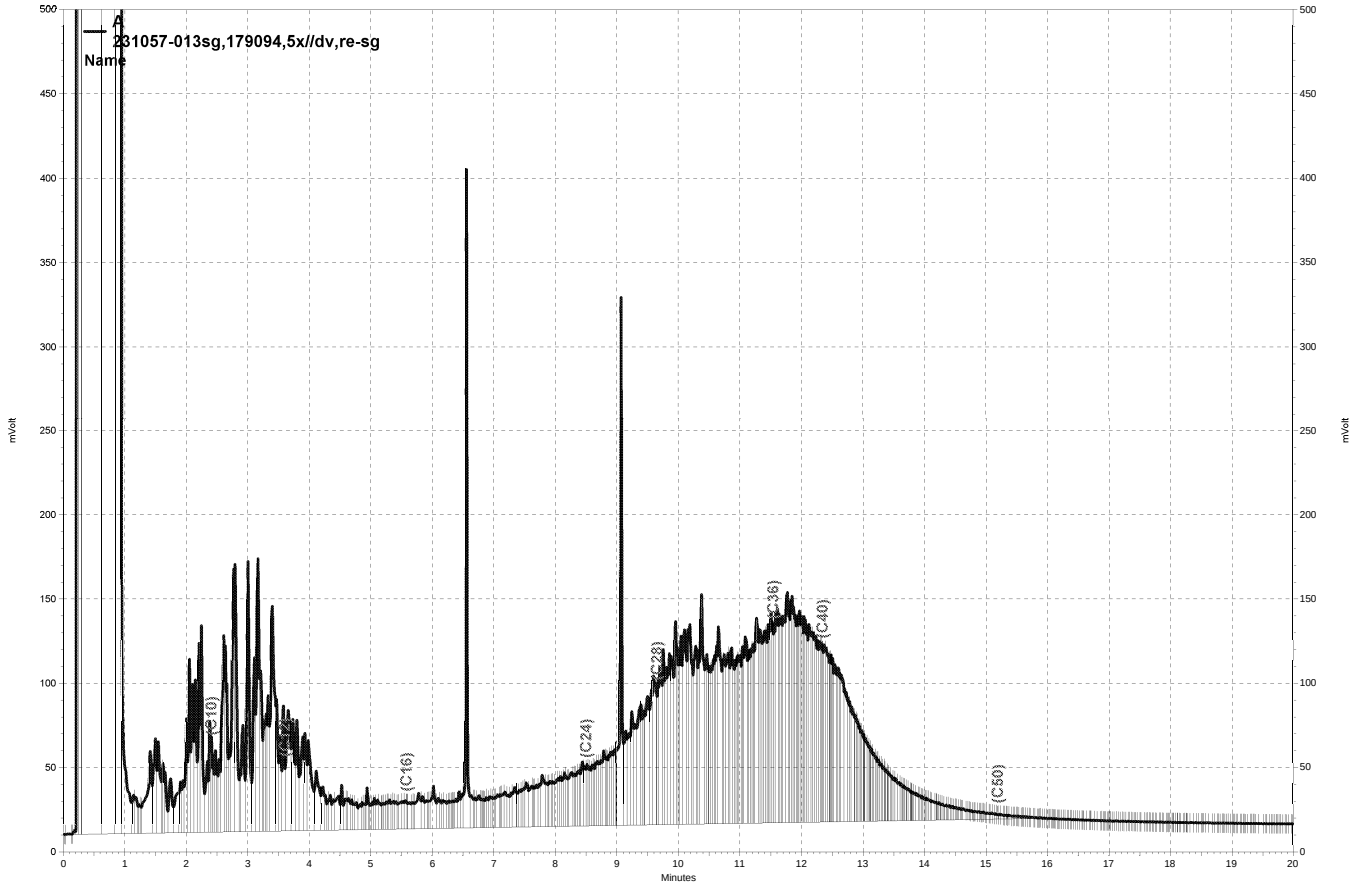

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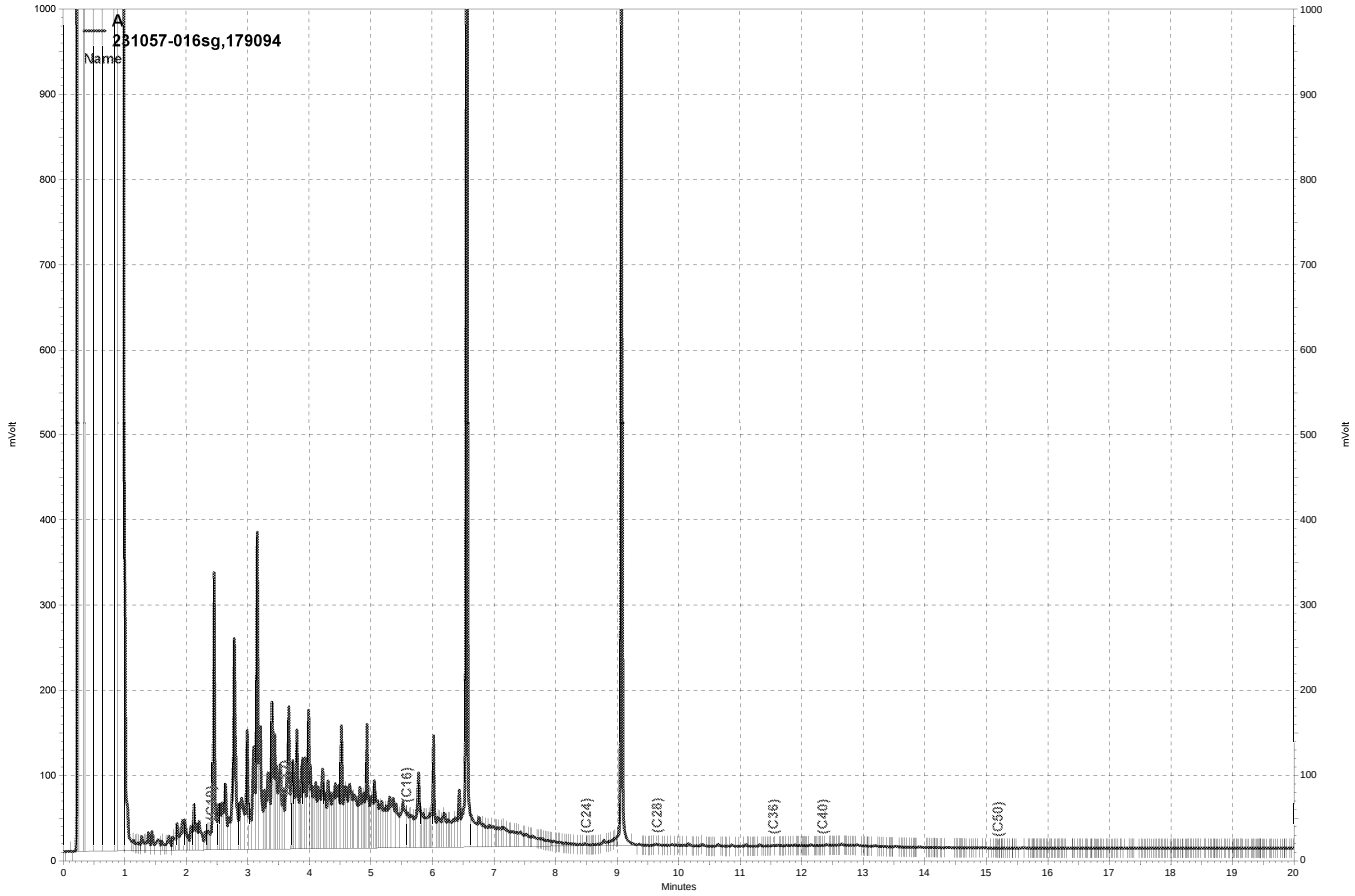

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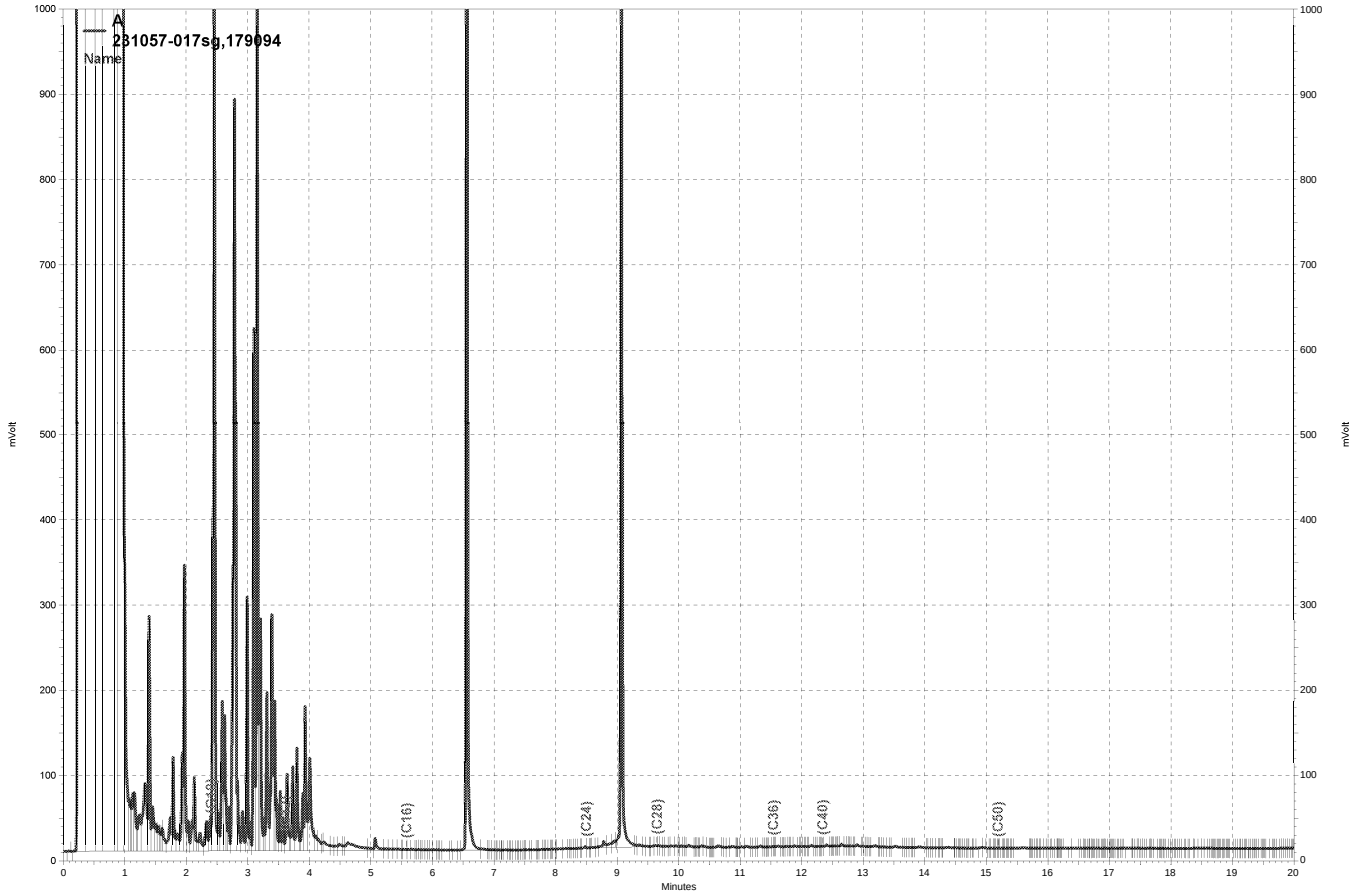

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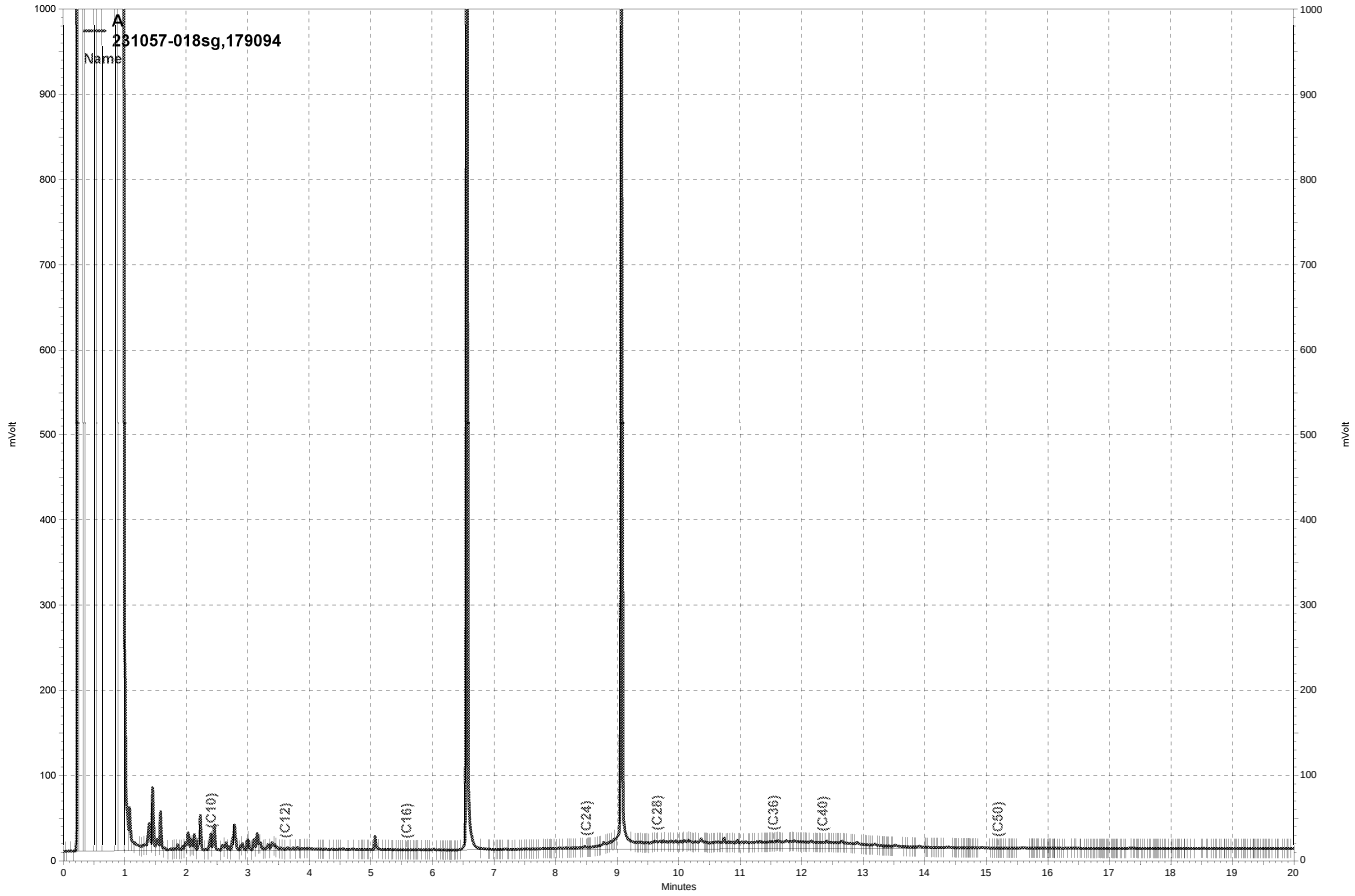

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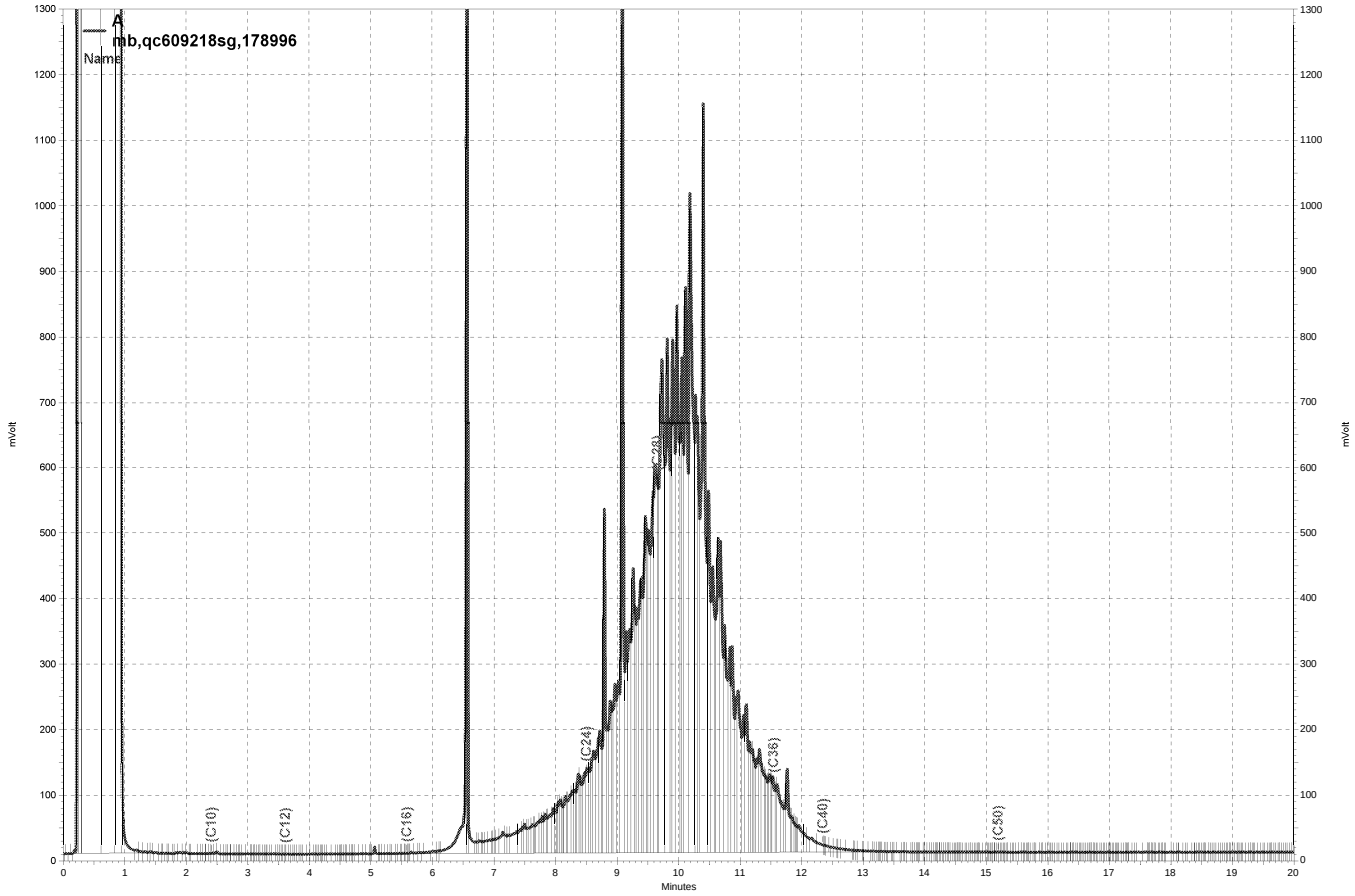

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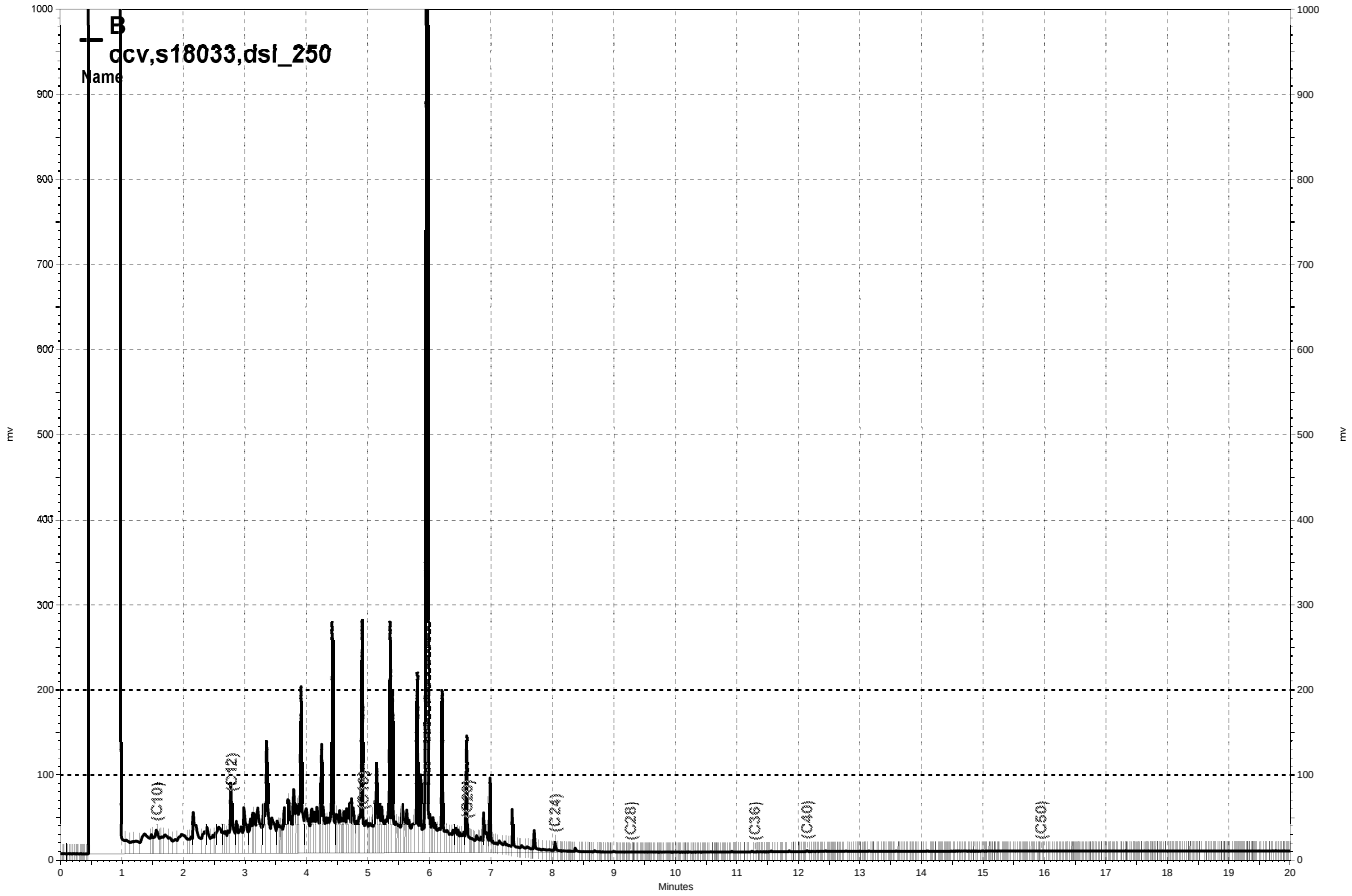

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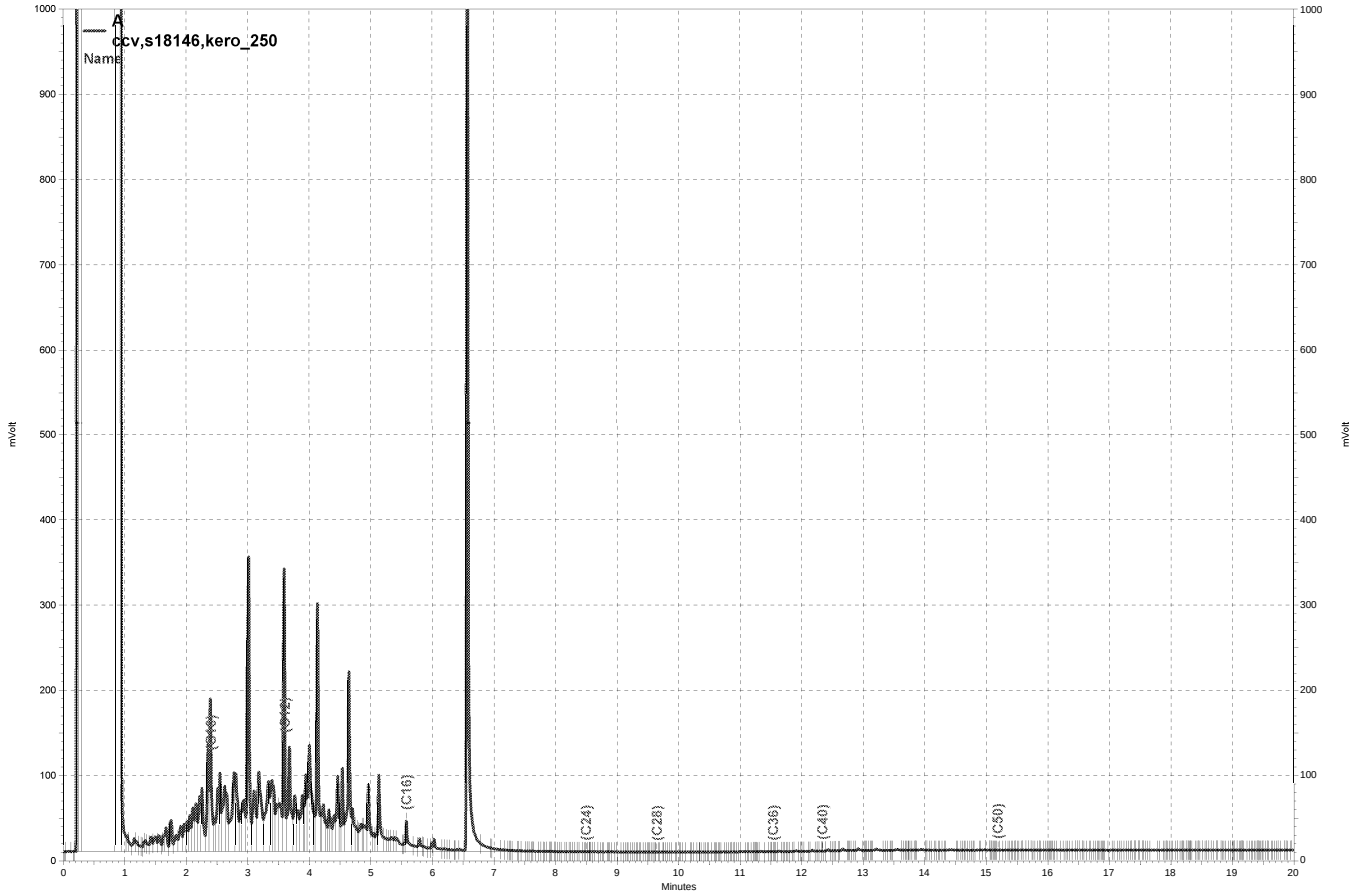

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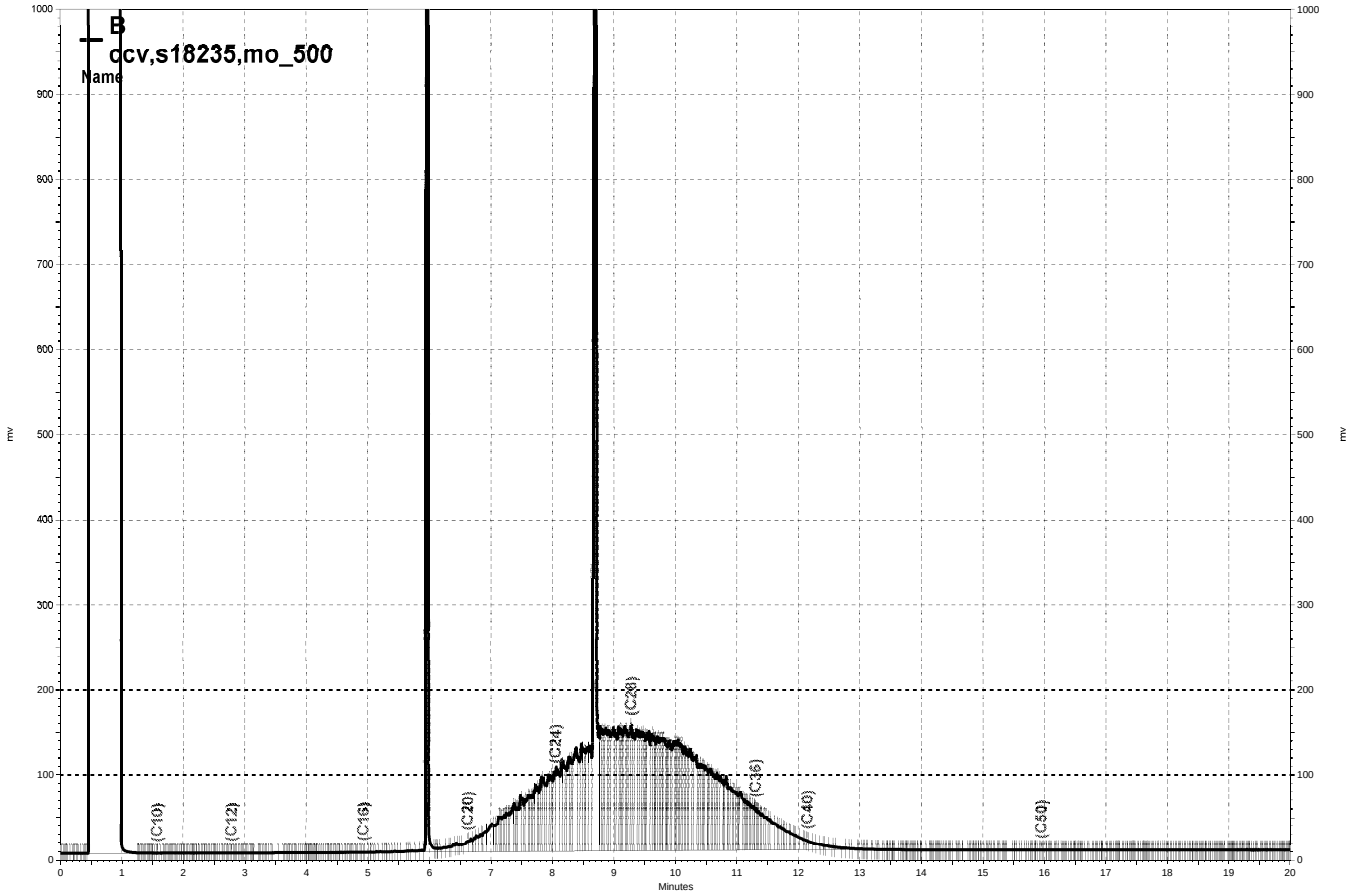

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Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	MW-17	Batch#:	179019
Type:	SAMPLE	Sampled:	09/12/11
Lab ID:	231057-001	Analyzed:	09/16/11
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	97	80-127
1,2-Dichloroethane-d4	94	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	93	80-120

Field ID:	MW-9	Batch#:	179019
Type:	SAMPLE	Sampled:	09/12/11
Lab ID:	231057-002	Analyzed:	09/16/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	68	50
MTBE	ND	0.50
Benzene	0.99	0.50
Toluene	0.84	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	1.1	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-127
1,2-Dichloroethane-d4	94	73-145
Toluene-d8	94	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	MW-14	Batch#:	179019
Type:	SAMPLE	Sampled:	09/12/11
Lab ID:	231057-003	Analyzed:	09/16/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	72	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	80-127
1,2-Dichloroethane-d4	94	73-145
Toluene-d8	96	80-120
Bromofluorobenzene	93	80-120

Field ID:	MW-13	Batch#:	179019
Type:	SAMPLE	Sampled:	09/12/11
Lab ID:	231057-004	Analyzed:	09/16/11
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	97	80-127
1,2-Dichloroethane-d4	94	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID: RW-D5 Lab ID: 231057-005
Type: SAMPLE Sampled: 09/13/11

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	810	500	10.00	179019	09/16/11
MTBE	ND	5.0	10.00	179019	09/16/11
Benzene	1,100	10	20.00	179050	09/18/11
Toluene	11	5.0	10.00	179019	09/16/11
Ethylbenzene	21	5.0	10.00	179019	09/16/11
m,p-Xylenes	21	5.0	10.00	179019	09/16/11
o-Xylene	5.9	5.0	10.00	179019	09/16/11

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	97	80-127	10.00	179019	09/16/11
1,2-Dichloroethane-d4	87	73-145	10.00	179019	09/16/11
Toluene-d8	97	80-120	10.00	179019	09/16/11
Bromofluorobenzene	92	80-120	10.00	179019	09/16/11

Field ID: RW-D5-D Lab ID: 231057-006
Type: SAMPLE Sampled: 09/13/11

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	800	500	10.00	179019	09/16/11
MTBE	ND	5.0	10.00	179019	09/16/11
Benzene	1,200	10	20.00	179050	09/18/11
Toluene	12	5.0	10.00	179019	09/16/11
Ethylbenzene	19	5.0	10.00	179019	09/16/11
m,p-Xylenes	19	5.0	10.00	179019	09/16/11
o-Xylene	5.1	5.0	10.00	179019	09/16/11

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	96	80-127	10.00	179019	09/16/11
1,2-Dichloroethane-d4	89	73-145	10.00	179019	09/16/11
Toluene-d8	99	80-120	10.00	179019	09/16/11
Bromofluorobenzene	90	80-120	10.00	179019	09/16/11

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	RW-1	Batch#:	179019
Type:	SAMPLE	Sampled:	09/13/11
Lab ID:	231057-007	Analyzed:	09/16/11
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	97	80-127
1,2-Dichloroethane-d4	92	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	90	80-120

Field ID:	RW-D3	Batch#:	179050
Type:	SAMPLE	Sampled:	09/13/11
Lab ID:	231057-008	Analyzed:	09/18/11
Diln Fac:	2.500		

Analyte	Result	RL
Gasoline C7-C12	780	130
MTBE	ND	1.3
Benzene	140	1.3
Toluene	46	1.3
Ethylbenzene	13	1.3
m,p-Xylenes	38	1.3
o-Xylene	31	1.3

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-127
1,2-Dichloroethane-d4	88	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	89	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	RW-D6	Batch#:	179050
Type:	SAMPLE	Sampled:	09/13/11
Lab ID:	231057-009	Analyzed:	09/18/11
Diln Fac:	10.00		

Analyte	Result	RL
Gasoline C7-C12	8,700	500
MTBE	ND	5.0
Benzene	580	5.0
Toluene	100	5.0
Ethylbenzene	200	5.0
m,p-Xylenes	210	5.0
o-Xylene	270	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-127
1,2-Dichloroethane-d4	88	73-145
Toluene-d8	96	80-120
Bromofluorobenzene	88	80-120

Field ID:	RW-C6	Batch#:	179050
Type:	SAMPLE	Sampled:	09/13/11
Lab ID:	231057-010	Analyzed:	09/18/11
Diln Fac:	5.000		

Analyte	Result	RL
Gasoline C7-C12	2,500	250
MTBE	ND	2.5
Benzene	270	2.5
Toluene	54	2.5
Ethylbenzene	18	2.5
m,p-Xylenes	230	2.5
o-Xylene	190	2.5

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-127
1,2-Dichloroethane-d4	86	73-145
Toluene-d8	94	80-120
Bromofluorobenzene	88	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	RW-C7	Batch#:	179019
Type:	SAMPLE	Sampled:	09/13/11
Lab ID:	231057-011	Analyzed:	09/16/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	150	50
MTBE	ND	0.50
Benzene	3.1	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	80-127
1,2-Dichloroethane-d4	98	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	90	80-120

Field ID:	MW-1	Batch#:	179019
Type:	SAMPLE	Sampled:	09/13/11
Lab ID:	231057-012	Analyzed:	09/16/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	200	50
MTBE	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	0.54	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-127
1,2-Dichloroethane-d4	93	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	RW-D8	Batch#:	179019
Type:	SAMPLE	Sampled:	09/13/11
Lab ID:	231057-013	Analyzed:	09/16/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	790	50
MTBE	ND	0.50
Benzene	14	0.50
Toluene	1.5	0.50
Ethylbenzene	2.8	0.50
m,p-Xylenes	31	0.50
o-Xylene	18	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-127
1,2-Dichloroethane-d4	90	73-145
Toluene-d8	95	80-120
Bromofluorobenzene	89	80-120

Field ID:	MW-10-FB	Batch#:	179050
Type:	SAMPLE	Sampled:	09/14/11
Lab ID:	231057-014	Analyzed:	09/18/11
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	80-127
1,2-Dichloroethane-d4	91	73-145
Toluene-d8	94	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	MW-10	Batch#:	179050
Type:	SAMPLE	Sampled:	09/14/11
Lab ID:	231057-015	Analyzed:	09/18/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
MTBE	ND	0.50
Benzene	24	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	80-127
1,2-Dichloroethane-d4	88	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	91	80-120

Field ID:	MW-6	Lab ID:	231057-016
Type:	SAMPLE	Sampled:	09/14/11

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	690	50	1.000	179050	09/18/11
MTBE	2.9	0.50	1.000	179050	09/18/11
Benzene	140	3.6	7.143	179063	09/19/11
Toluene	4.6	0.50	1.000	179050	09/18/11
Ethylbenzene	0.82	0.50	1.000	179050	09/18/11
m,p-Xylenes	3.8	0.50	1.000	179050	09/18/11
o-Xylene	0.58	0.50	1.000	179050	09/18/11

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	97	80-127	1.000	179050	09/18/11
1,2-Dichloroethane-d4	84	73-145	1.000	179050	09/18/11
Toluene-d8	98	80-120	1.000	179050	09/18/11
Bromofluorobenzene	92	80-120	1.000	179050	09/18/11

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Field ID:	MW-5	Batch#:	179063
Type:	SAMPLE	Sampled:	09/14/11
Lab ID:	231057-017	Analyzed:	09/19/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	2,900	50
MTBE	12	0.50
Benzene	3.2	0.50
Toluene	1.0	0.50
Ethylbenzene	62	0.50
m,p-Xylenes	6.5	0.50
o-Xylene	0.98	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-127
1,2-Dichloroethane-d4	90	73-145
Toluene-d8	92	80-120
Bromofluorobenzene	88	80-120

Field ID:	RW-D9	Batch#:	179063
Type:	SAMPLE	Sampled:	09/14/11
Lab ID:	231057-018	Analyzed:	09/19/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	450	50
MTBE	ND	0.50
Benzene	85	0.50
Toluene	3.5	0.50
Ethylbenzene	3.9	0.50
m,p-Xylenes	20	0.50
o-Xylene	11	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-127
1,2-Dichloroethane-d4	85	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	89	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Type:	BLANK	Batch#:	179019
Lab ID:	QC609336	Analyzed:	09/16/11
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	80-127
1,2-Dichloroethane-d4	91	73-145
Toluene-d8	96	80-120
Bromofluorobenzene	92	80-120

Type:	BLANK	Batch#:	179050
Lab ID:	QC609453	Analyzed:	09/18/11
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	80-127
1,2-Dichloroethane-d4	91	73-145
Toluene-d8	96	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Received:	09/14/11
Units:	ug/L		

Type:	BLANK	Batch#:	179063
Lab ID:	QC609525	Analyzed:	09/19/11
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	80-127
1,2-Dichloroethane-d4	95	73-145
Toluene-d8	101	80-120
Bromofluorobenzene	89	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	179019
Units:	ug/L	Analyzed:	09/16/11
Diln Fac:	1.000		

Type: BS Lab ID: QC609326

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	15.80	79	59-123
Benzene	20.00	19.66	98	80-122
Toluene	20.00	19.58	98	80-120
Ethylbenzene	20.00	20.28	101	80-120
m,p-Xylenes	40.00	38.25	96	80-120
o-Xylene	20.00	19.46	97	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-127
1,2-Dichloroethane-d4	92	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-120

Type: BSD Lab ID: QC609327

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	20.00	15.05	75	59-123	5	20
Benzene	20.00	18.87	94	80-122	4	20
Toluene	20.00	18.98	95	80-120	3	20
Ethylbenzene	20.00	19.88	99	80-120	2	20
m,p-Xylenes	40.00	36.91	92	80-120	4	20
o-Xylene	20.00	18.45	92	80-120	5	20

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-127
1,2-Dichloroethane-d4	91	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	91	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	179019
Units:	ug/L	Analyzed:	09/16/11
Diln Fac:	1.000		

Type: BS Lab ID: QC609328

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,093	109	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127
1,2-Dichloroethane-d4	87	73-145
Toluene-d8	96	80-120
Bromofluorobenzene	92	80-120

Type: BSD Lab ID: QC609335

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	963.6	96	80-120	13	20

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-127
1,2-Dichloroethane-d4	92	73-145
Toluene-d8	102	80-120
Bromofluorobenzene	92	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	179050
Units:	ug/L	Analyzed:	09/18/11
Diln Fac:	1.000		

Type: BS Lab ID: QC609454

Analyte	Spiked	Result	%REC	Limits
MTBE	21.25	16.43	77	59-123
Benzene	21.25	21.29	100	80-122
Toluene	21.25	22.05	104	80-120
Ethylbenzene	21.25	23.02	108	80-120
m,p-Xylenes	42.50	42.81	101	80-120
o-Xylene	21.25	21.07	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-127
1,2-Dichloroethane-d4	92	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-120

Type: BSD Lab ID: QC609455

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	21.25	14.78	70	59-123	11	20
Benzene	21.25	19.79	93	80-122	7	20
Toluene	21.25	19.94	94	80-120	10	20
Ethylbenzene	21.25	20.04	94	80-120	14	20
m,p-Xylenes	42.50	38.13	90	80-120	12	20
o-Xylene	21.25	19.27	91	80-120	9	20

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-127
1,2-Dichloroethane-d4	91	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	91	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	179050
Units:	ug/L	Analyzed:	09/18/11
Diln Fac:	1.000		

Type: BS Lab ID: QC609456

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	850.0	844.6	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-127
1,2-Dichloroethane-d4	88	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	89	80-120

Type: BSD Lab ID: QC609457

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	850.0	781.6	92	80-120	8	20

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-127
1,2-Dichloroethane-d4	88	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	89	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	179063
Units:	ug/L	Analyzed:	09/19/11
Diln Fac:	1.000		

Type: BS Lab ID: QC609521

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	20.62	82	59-123
Benzene	25.00	26.22	105	80-122
Toluene	25.00	27.15	109	80-120
Ethylbenzene	25.00	27.07	108	80-120
m,p-Xylenes	50.00	52.17	104	80-120
o-Xylene	25.00	27.06	108	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-127
1,2-Dichloroethane-d4	90	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	89	80-120

Type: BSD Lab ID: QC609522

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	18.12	72	59-123	13	20
Benzene	25.00	23.63	95	80-122	10	20
Toluene	25.00	23.85	95	80-120	13	20
Ethylbenzene	25.00	24.00	96	80-120	12	20
m,p-Xylenes	50.00	47.51	95	80-120	9	20
o-Xylene	25.00	23.62	94	80-120	14	20

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-127
1,2-Dichloroethane-d4	90	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	89	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	231057	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	179063
Units:	ug/L	Analyzed:	09/19/11
Diln Fac:	1.000		

Type: BS Lab ID: QC609523

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,115	112	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-127
1,2-Dichloroethane-d4	89	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	89	80-120

Type: BSD Lab ID: QC609524

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	966.1	97	80-120	14	20

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-127
1,2-Dichloroethane-d4	89	73-145
Toluene-d8	96	80-120
Bromofluorobenzene	87	80-120

RPD= Relative Percent Difference

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Instrument: MSVOA10.i

Sample Info: S,231057-002

Operator: VOA

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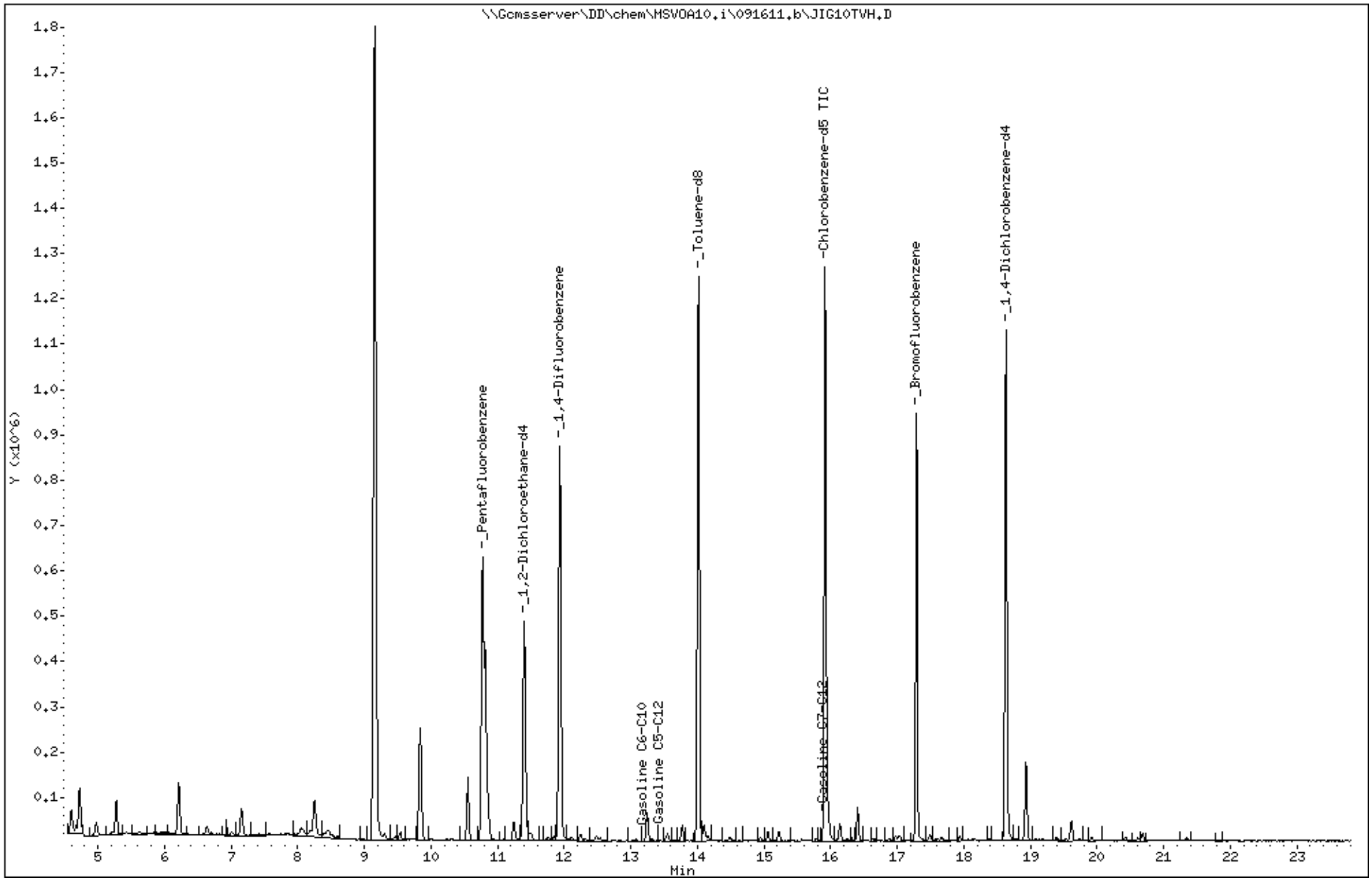

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Sample Info: S,231057-003

Operator: VOA

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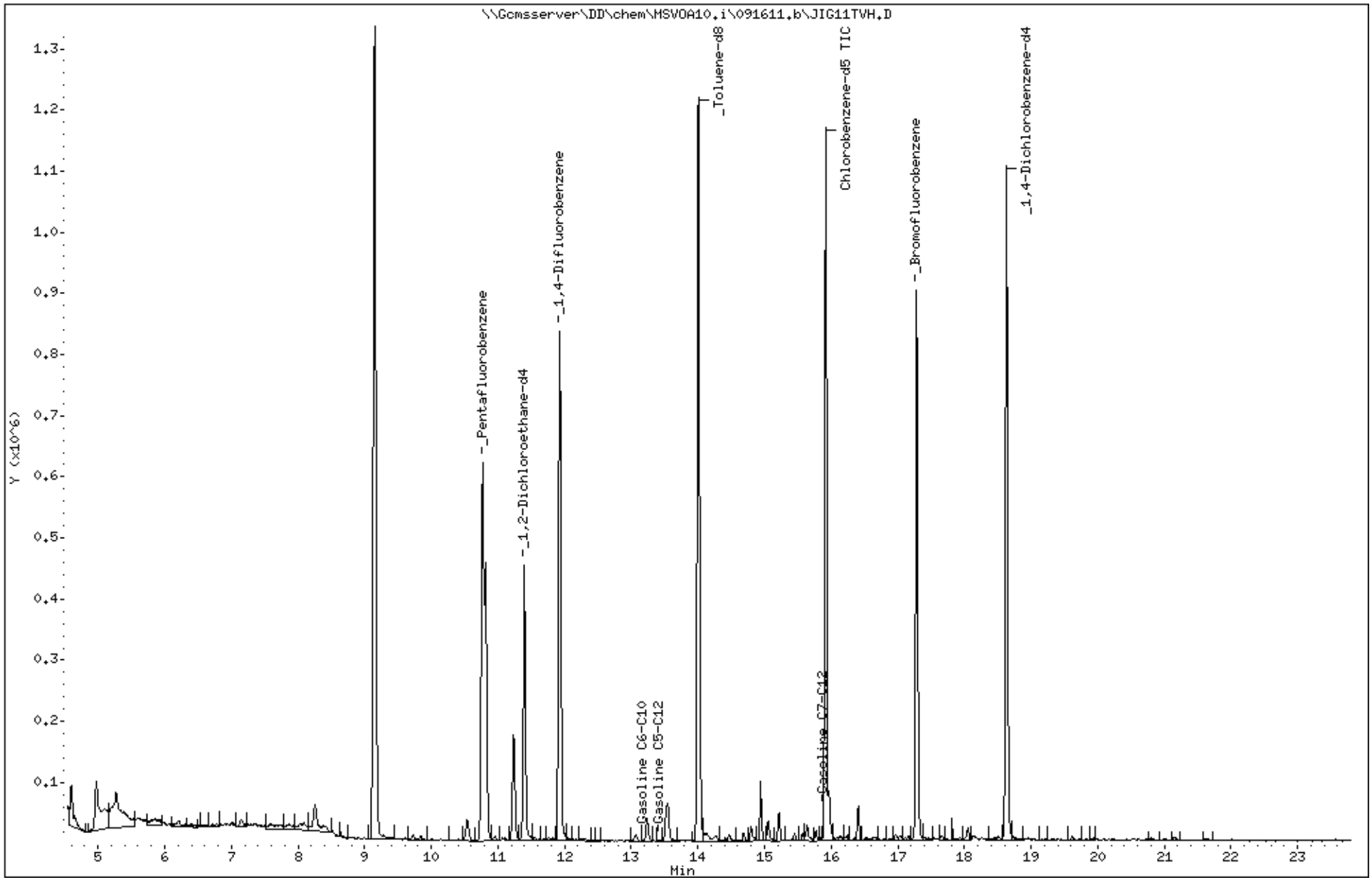

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Date : 16-SEP-2011 17:53

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Sample Info: S,231057-005

Operator: VOA

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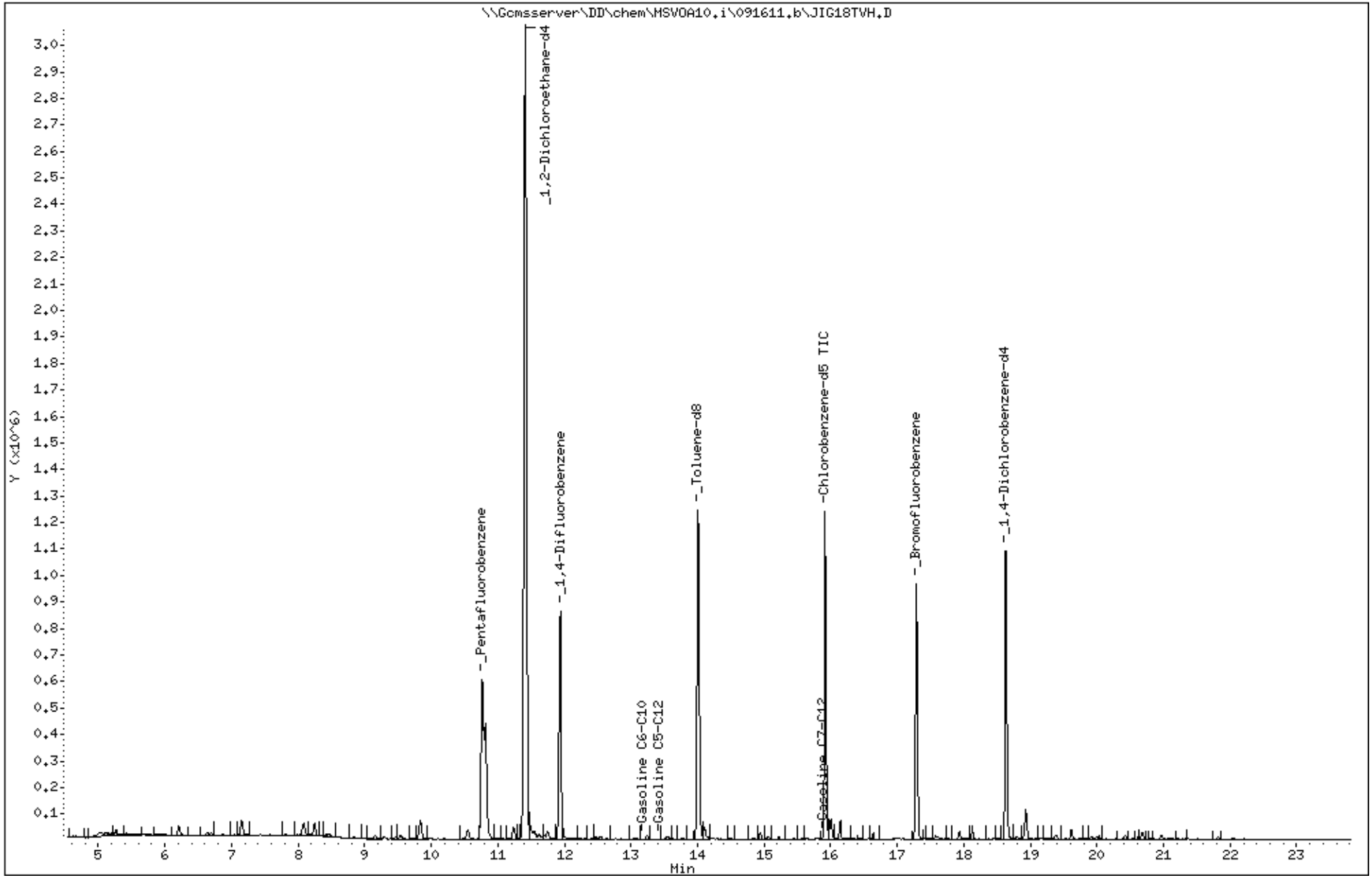

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Date : 16-SEP-2011 18:30

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Operator: VOA

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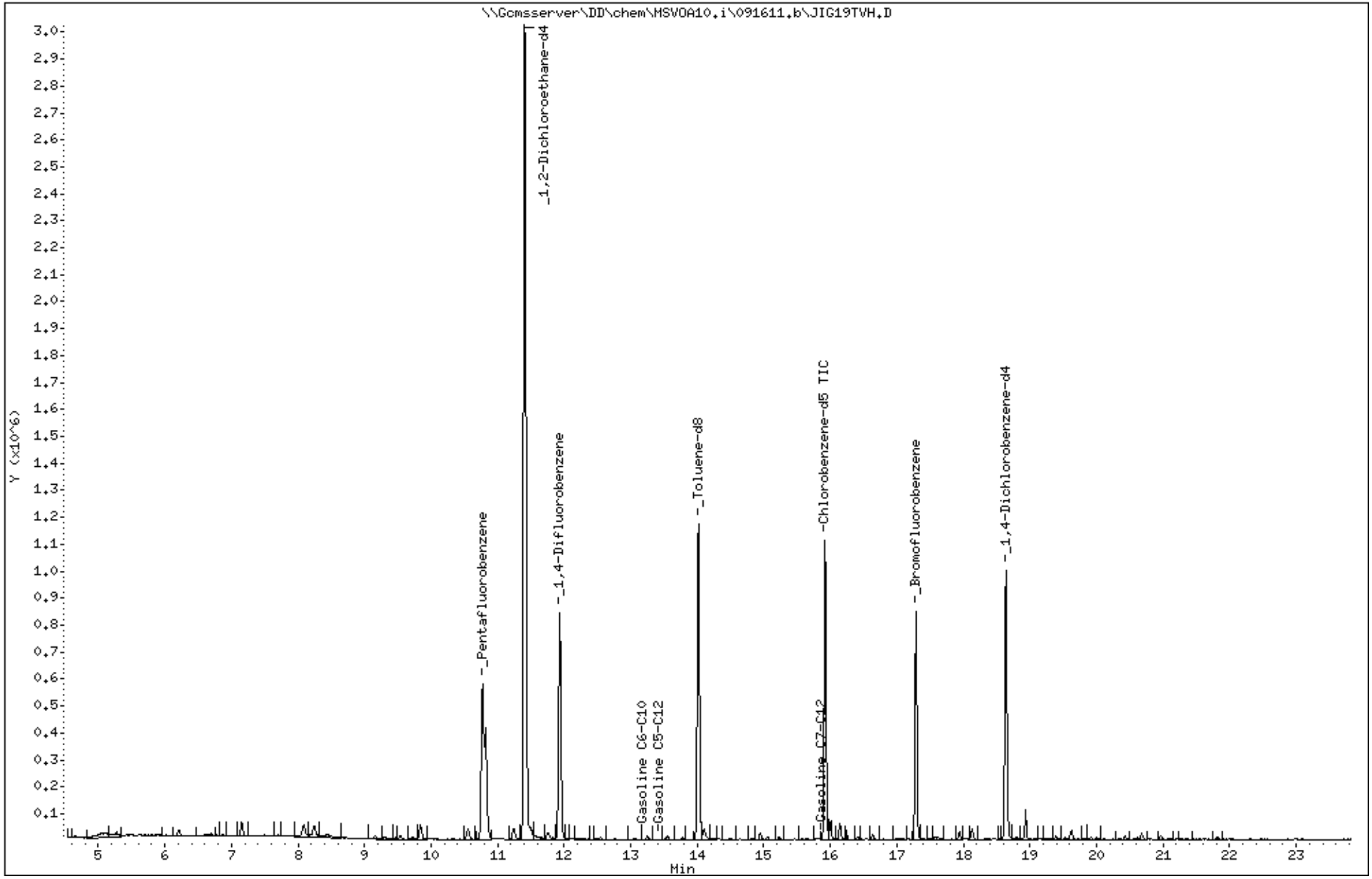

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Date : 18-SEP-2011 19:22

Client ID: DYNA P&T

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Operator: VOA

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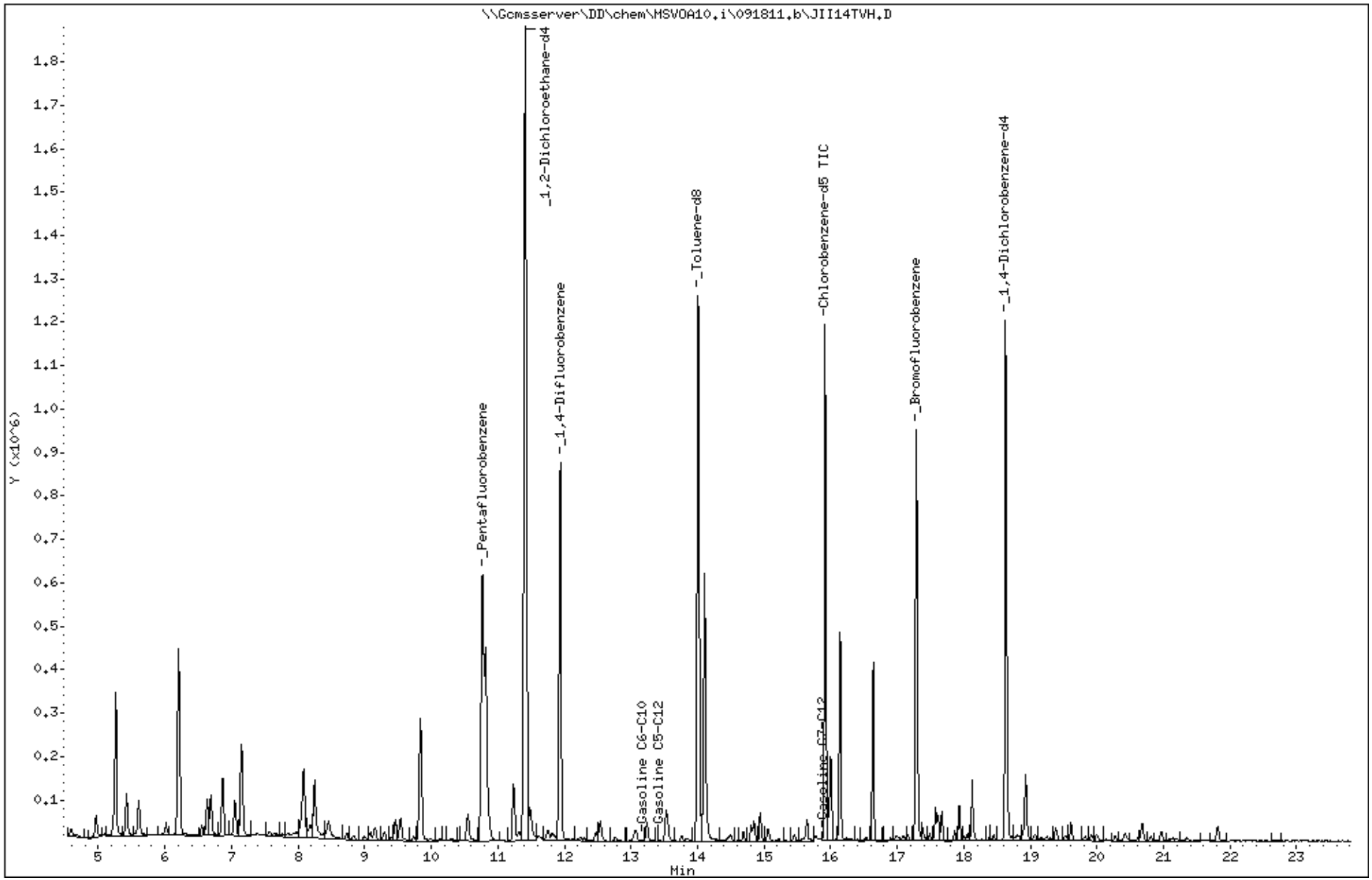
Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA10.i\091811.b\JII16TVH.D

Date : 18-SEP-2011 20:36

Client ID: DYNA P&T

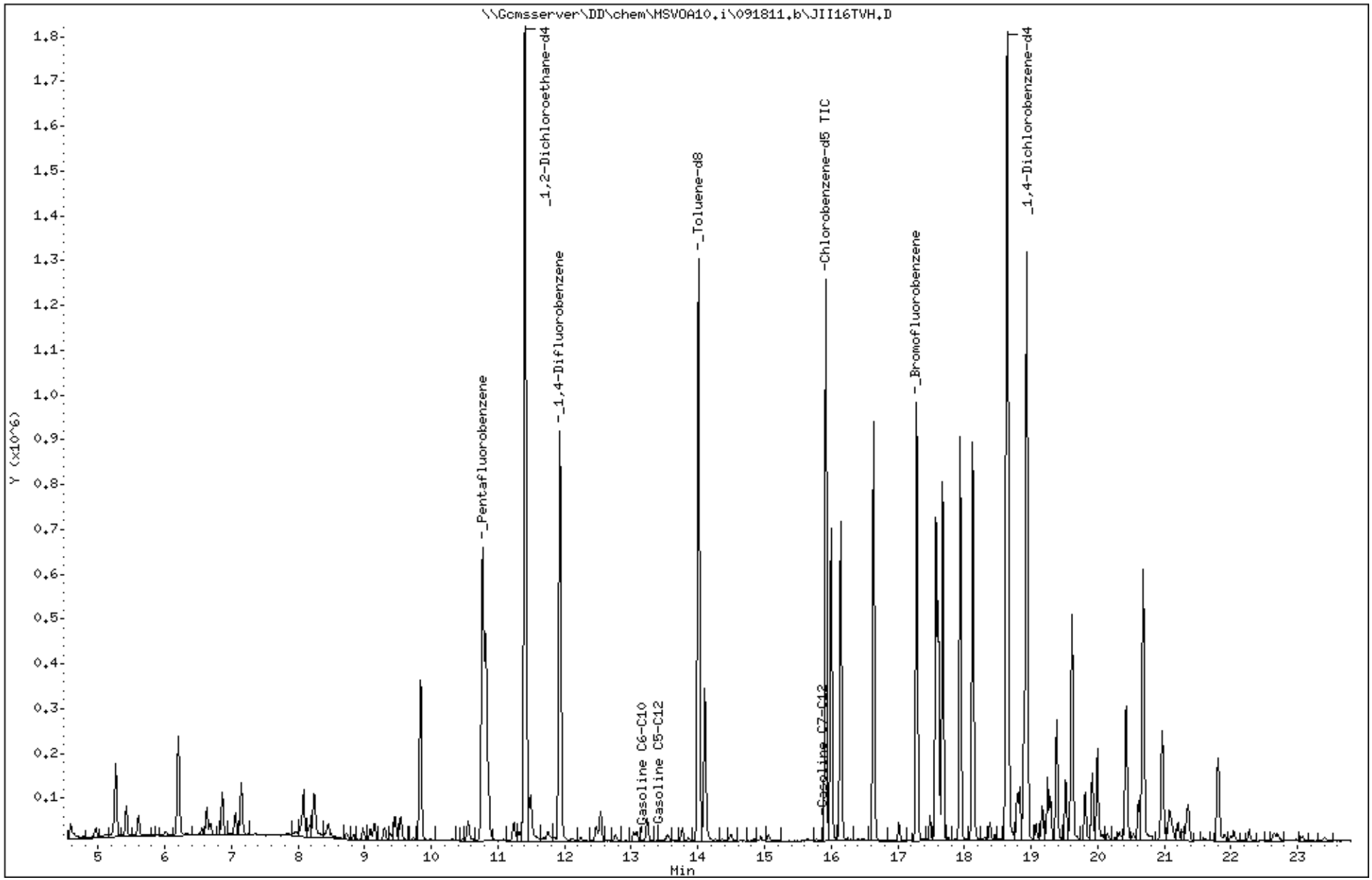
Instrument: MSVOA10.i

Sample Info: S,231057-009

Operator: VOA

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA10.i\091811.b\JII15TVH.D

Date : 18-SEP-2011 19:59

Client ID: DYNA P&T

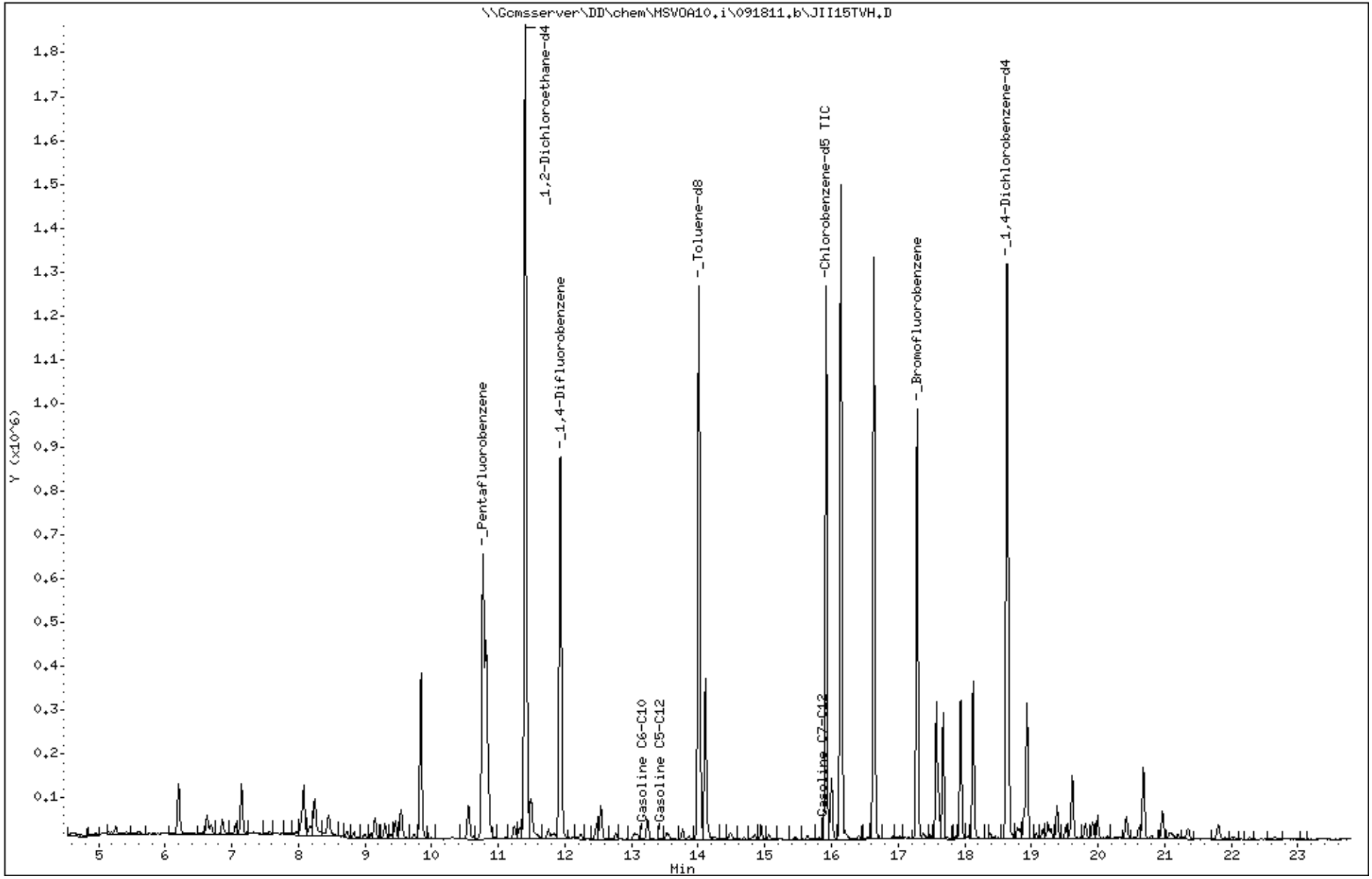
Instrument: MSVOA10.i

Sample Info: S,231057-010

Operator: VOA

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA10.i\091611.b\JIG13TVH.D

Date : 16-SEP-2011 14:48

Client ID: DYNA P&T

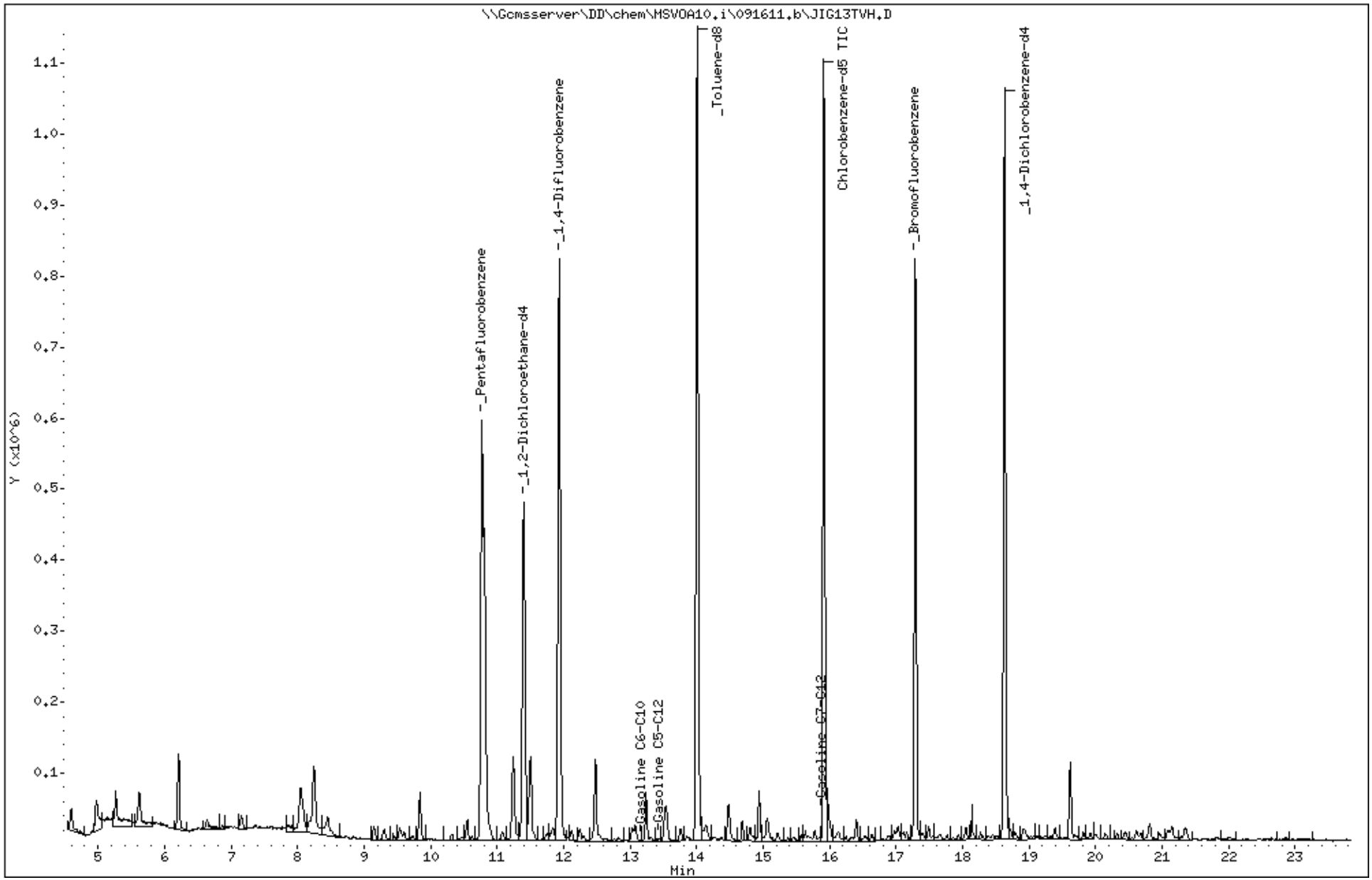
Instrument: MSVOA10.i

Sample Info: S,231057-011

Operator: VOA

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA10.i\091611.b\JIG14TVH.D

Date : 16-SEP-2011 15:25

Client ID: DYNA P&T

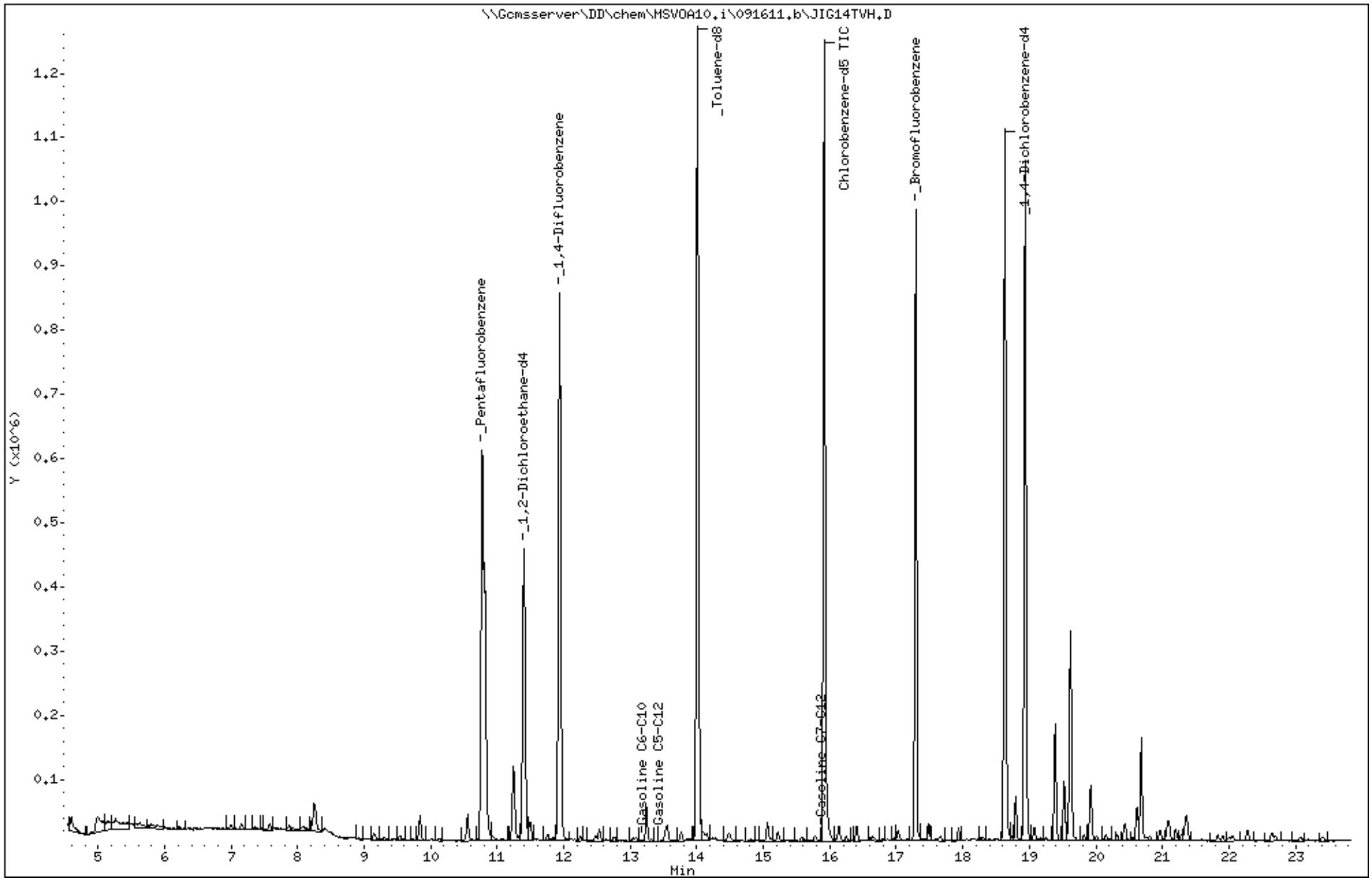
Instrument: MSVOA10.i

Sample Info: S,231057-012

Operator: VOA

Column phase:

Column diameter: 2.00



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Date : 16-SEP-2011 16:02

Client ID: DYNA P&T

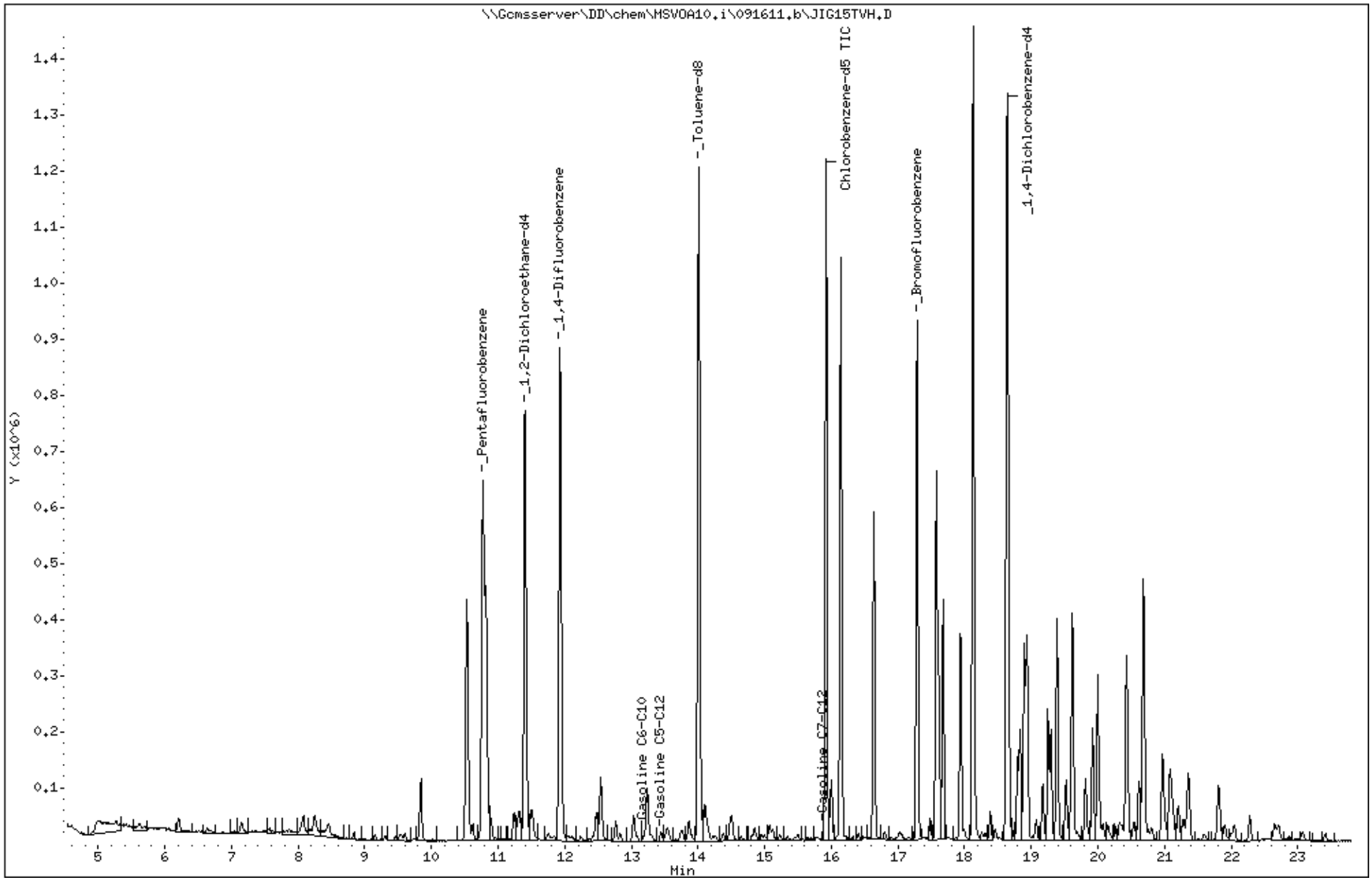
Instrument: MSVOA10.i

Sample Info: S,231057-013

Operator: VOA

Column phase:

Column diameter: 2.00



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Date : 18-SEP-2011 17:30

Client ID: DYNA P&T

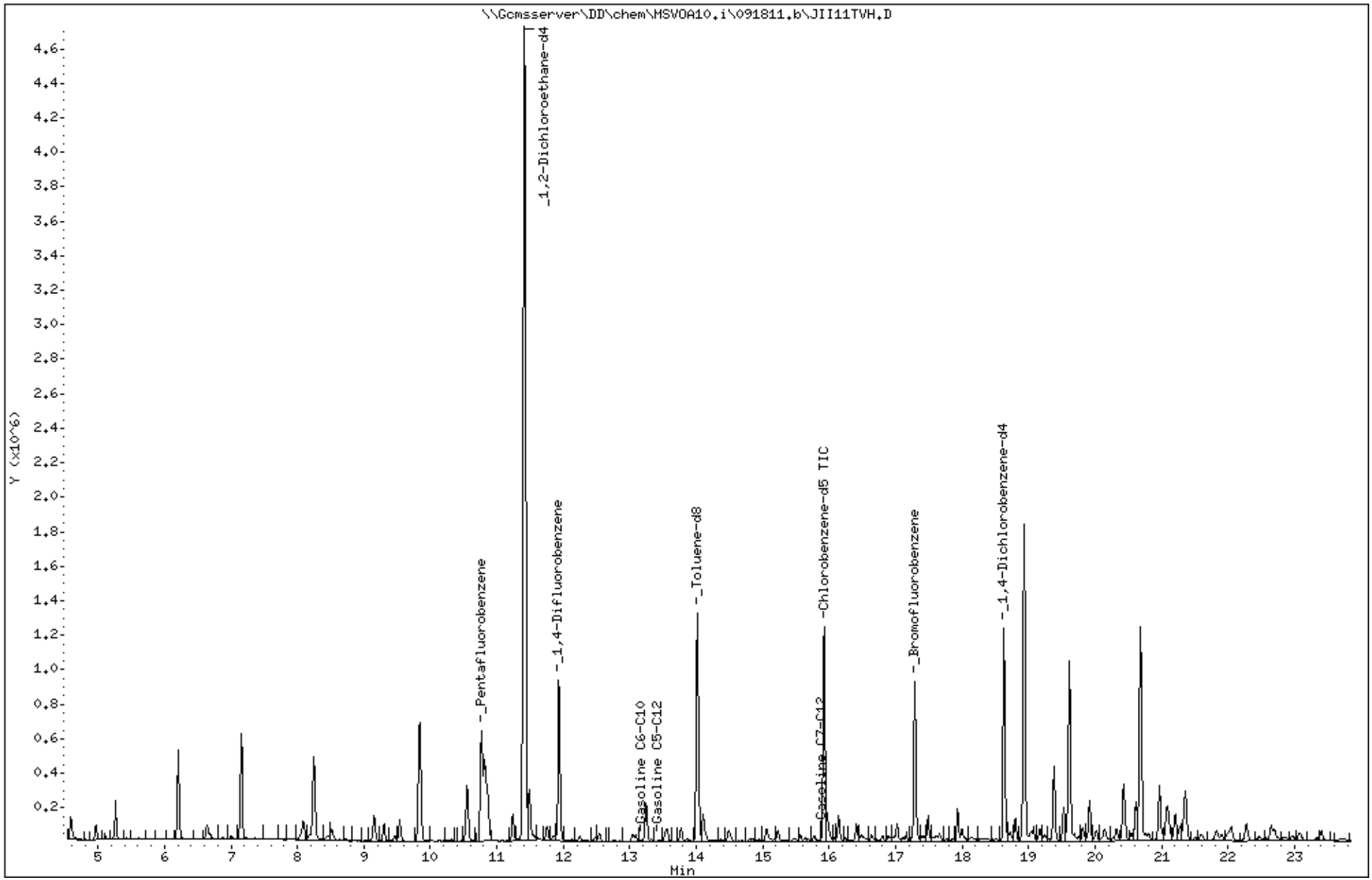
Instrument: MSVOA10.i

Sample Info: S,231057-016

Operator: VOA

Column phase:

Column diameter: 2.00



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Date : 19-SEP-2011 14:16

Client ID: DYNA P&T

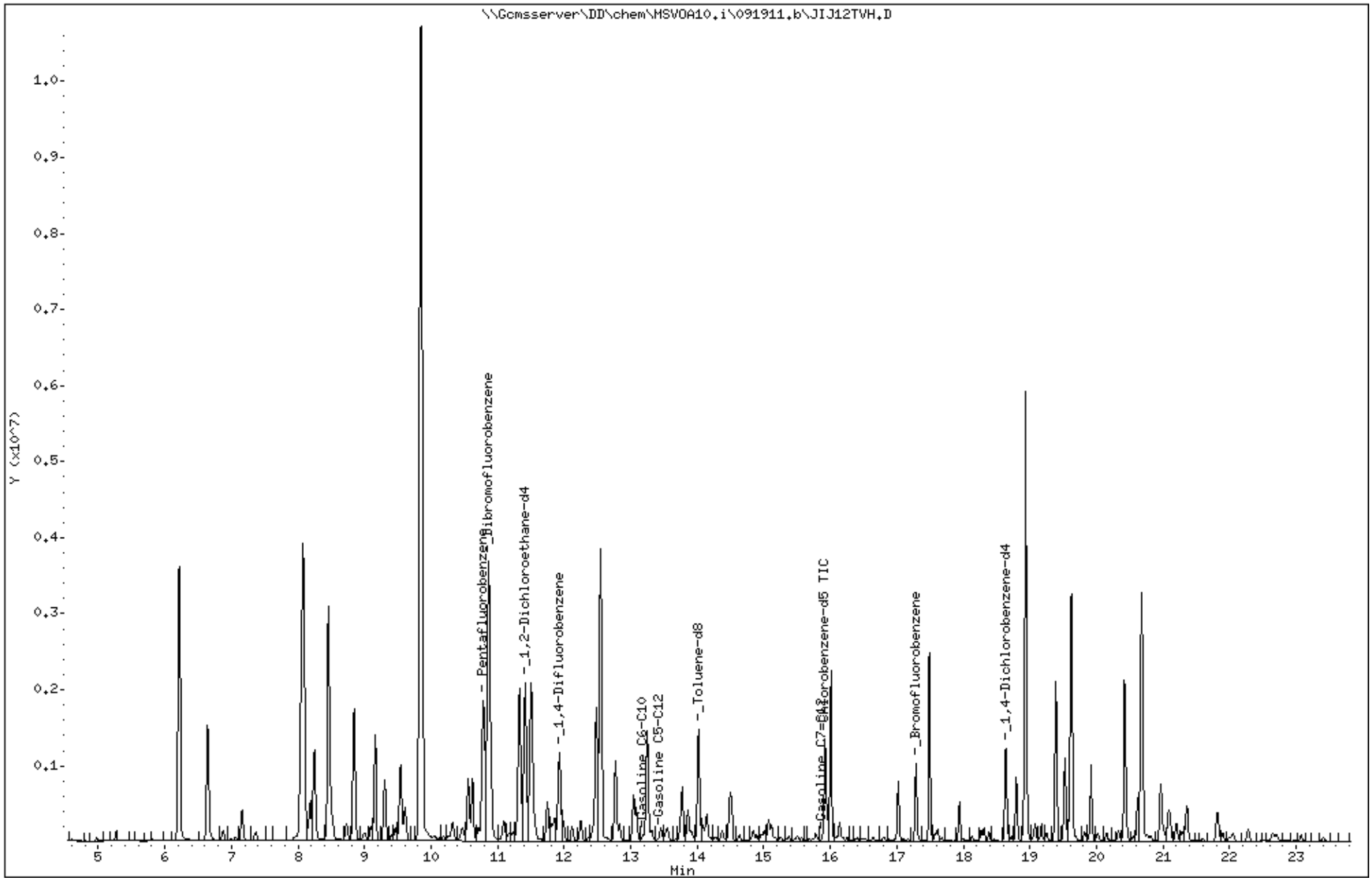
Instrument: MSVOA10.i

Sample Info: S,231057-017

Operator: VOA

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA10.i\091911.b\JIJ13TVH.D

Date : 19-SEP-2011 14:53

Client ID: DYNA P&T

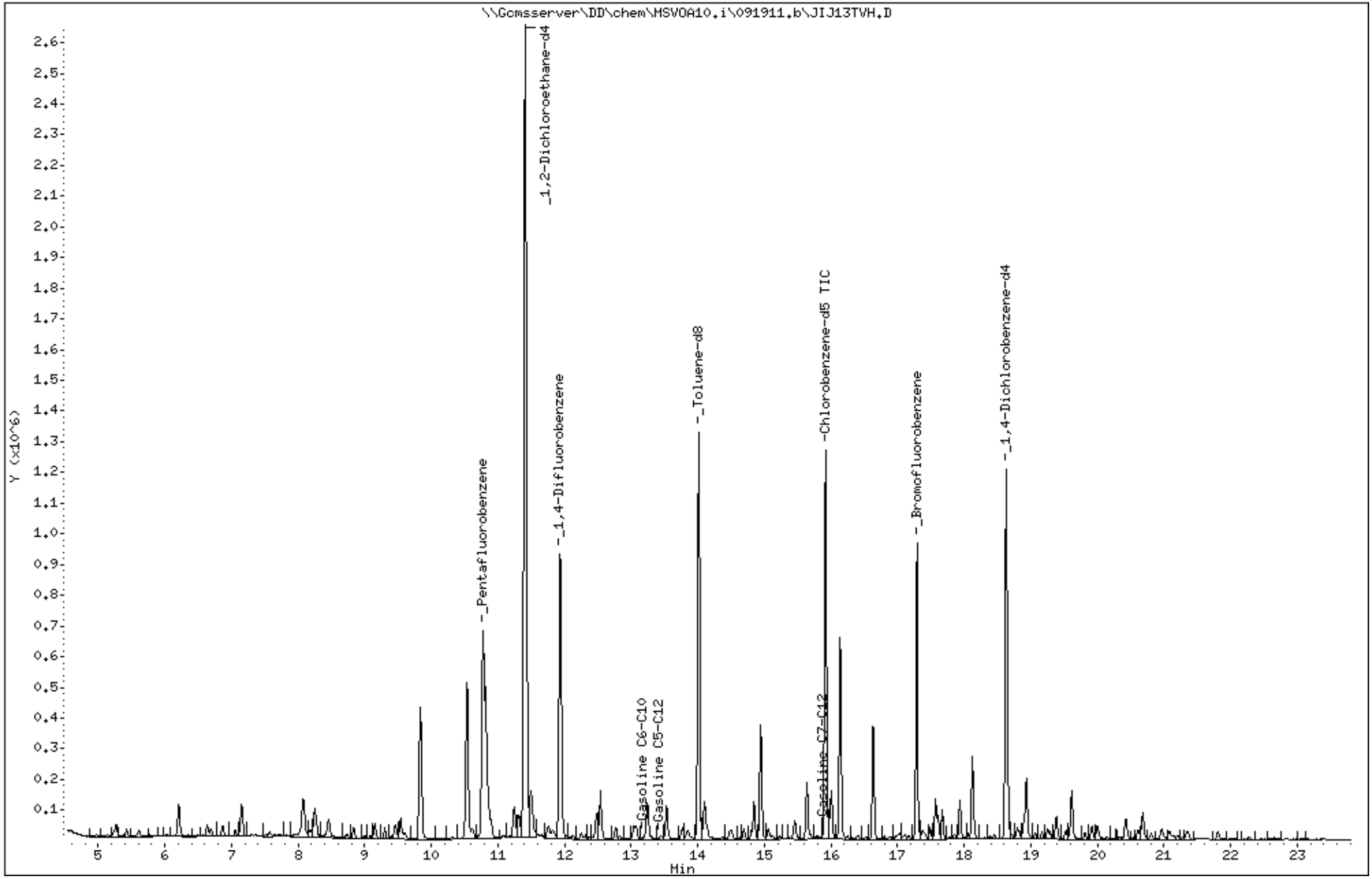
Instrument: MSVOA10.i

Sample Info: S,231057-018

Operator: VOA

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA10.i\091611.b\JIG05TVH.D

Date : 16-SEP-2011 09:53

Client ID: DYNA P&T

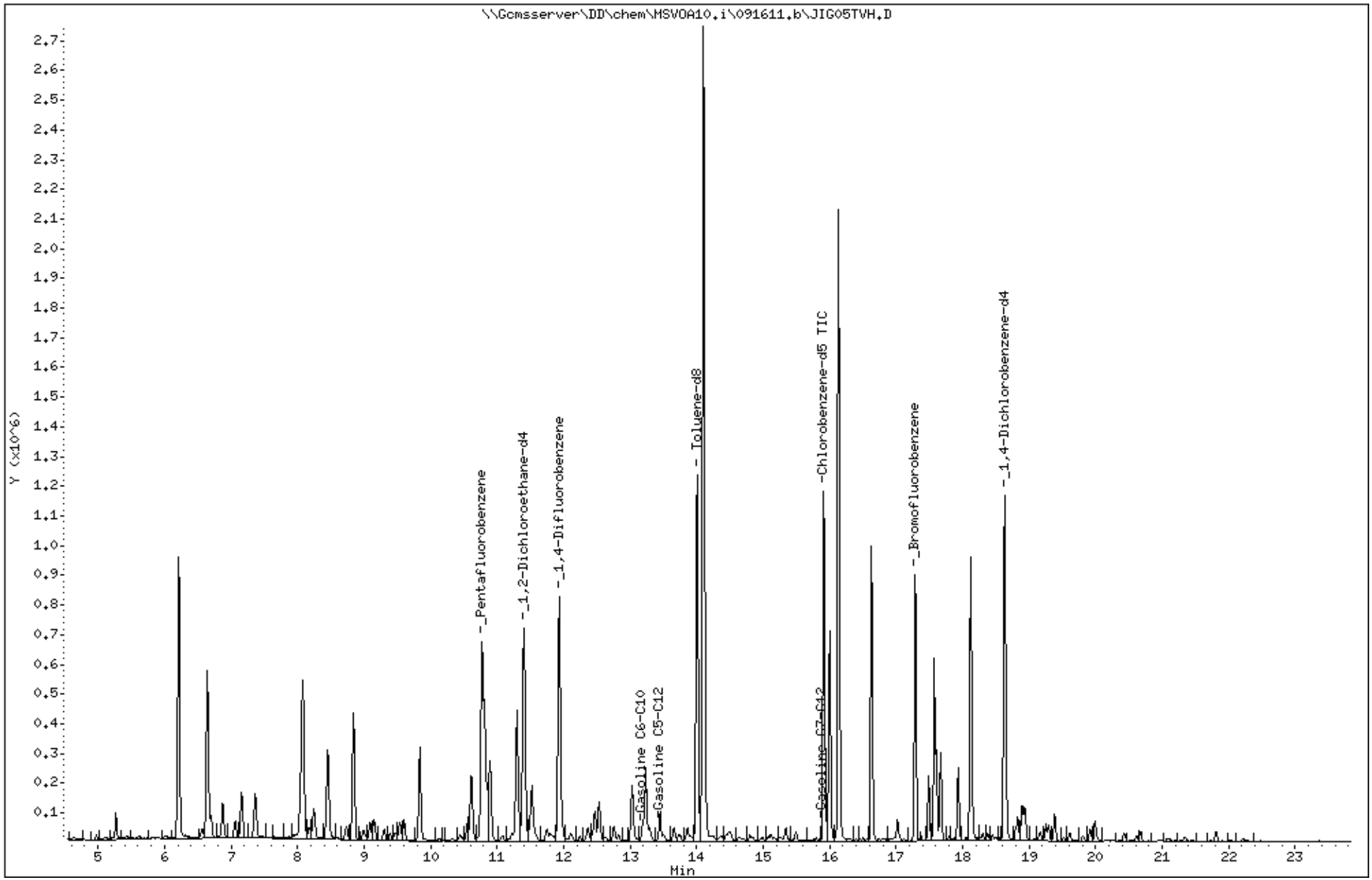
Instrument: MSVOA10.i

Sample Info: CCV/bs,qc609328

Operator: VOA

Column phase:

Column diameter: 2.00

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Analytical Laboratories, Since 1878

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

Laboratory Job Number 233497
ANALYTICAL REPORT

Arcadis
2000 Powell St.
Emeryville, CA 94608

Project : LC010060.0016.00002
Location : MSC Oakland Edgewater
Level : II

Sample ID	Lab ID
MW-13	233497-001
MW-14	233497-002
MW-17	233497-003
RW-B1	233497-004
RW-B4	233497-005
RW-A2	233497-006
RW-C7	233497-007
RW-C6	233497-008
RW-D5	233497-009
RW-1-FB	233497-010
RW-1	233497-011
MW-10	233497-012
MW-1	233497-013
MW-5	233497-014
RW-D9	233497-015
RW-B4-D	233497-016
TB122211	233497-017

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: _____ Date: 01/05/2012
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**233497**
Client:	**Arcadis**
Project:	**LC010060.0016.00002**
Location:	**MSC Oakland Edgewater**
Request Date:	**12/23/11**
Samples Received:	**12/23/11**

This data package contains sample and QC results for sixteen water samples, requested for the above referenced project on 12/23/11. The samples were received cold and intact. All data were e-mailed to Daren Roth on 01/05/12.

TPH-Extractables by GC (EPA 8015B):

Low surrogate recoveries were observed for o-terphenyl in RW-C6 (lab # 233497-008) and RW-D5 (lab # 233497-009). No other analytical problems were encountered.

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

No analytical problems were encountered.

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Page 2 of 2

Chain of Custody # ____

C&T LOGIN # 233497

Project No: LC010060.0016.00002

Sampler: Miljan D. & Ahmad A.

Project Name: MSC Oakland Edgewater

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 (EPA 8260)	TPHd/TPHmo/TPHk (EPA 8015)⊛	HOLD
14	MW-5	12-22-11	1645	X				5	X				X	X	X	
15	RW-D9	↓	1745	X				5	X				X	X	X	
16	RW-B4-D	↓	0850	X				5	X				X	X	X	
17	TB122211	↓	—	X				2	X							X

Notes:
⊛ Use silica gel clean-up for TPHd/TPHmo/TPHk sample analysis

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	12/23	1250	[signature]	12/23/11	1250
[signature]	12/23/11	1530			

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C&T LOGIN # 233497

Page 1 of 2

Chain of Custody # ________

Project No: LC010060.0016.00002

Project Name: MSC Oakland Edgewater

Project P. O. No:

EDD Format: Report Level ☒ II ☐ III ☐ IV

Turnaround Time: ☐ RUSH ________ ☒ Standard

Sampler: Miljan D. & Ahmad A.

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 (EPA 8260)	TPHd/TPHmo/TPHk (EPA 8015) ⊛
1	MW-13	12-21-11	1520	X				5	X				X	X	X
2	MW-14	↓	1530	X				5	X				X	X	X
3	MW-17	↓	1625	X				5	X				X	X	X
4	RW-B1	12-22-11	0830	X				5	X				X	X	X
5	RW-B4	↓	0840	X				5	X				X	X	X
6	RW-A2	↓	0945	X				5	X				X	X	X
7	RW-C7	↓	1135	X				5	X				X	X	X
8	RW-C6	↓	1200	X				5	X				X	X	X
9	RW-D5	↓	1300	X				5	X				X	X	X
10	RW-1-FB	↓	1245	X				5	X				X	X	X
11	RW-1	↓	1410	X				5	X				X	X	X
12	MW-10	↓	1520	X				5	X				X	X	X
13	MW-1	↓	1635	X				5	X				X	X	X

Notes:
⊛ Use silica-gel clean-up for TPHd/TPHmo/TPHk sample analysis.

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	12/23	1250	[signature]	12/23/11	1250
[signature]	12/23/11	530			

COOLER RECEIPT CHECKLIST Curtis & Tompkins, Ltd.

Login # 233497 Date Received 12/23/11 Number of coolers 2
Client Arcadis Project MSC Oakland Ed, sweeper

Date Opened 12/23/11 By (print) C. Morrow (sign) [signature]
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) 2.1, 1.9

☐ 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 #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00002	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	12/23/11

Field ID:	MW-13	Sampled:	12/21/11
Type:	SAMPLE	Prepared:	12/23/11
Lab ID:	233497-001	Analyzed:	12/28/11
Batch#:	182442	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	68-120

Field ID:	MW-14	Sampled:	12/21/11
Type:	SAMPLE	Prepared:	12/23/11
Lab ID:	233497-002	Analyzed:	12/28/11
Batch#:	182442	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	104	68-120

Field ID:	MW-17	Sampled:	12/21/11
Type:	SAMPLE	Prepared:	12/23/11
Lab ID:	233497-003	Analyzed:	12/28/11
Batch#:	182442	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	68-120

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00002	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	12/23/11

Field ID:	RW-B1	Sampled:	12/22/11
Type:	SAMPLE	Prepared:	12/23/11
Lab ID:	233497-004	Analyzed:	12/28/11
Batch#:	182442	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	78	50
Diesel C10-C24	120	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	71	68-120

Field ID:	RW-B4	Sampled:	12/22/11
Type:	SAMPLE	Prepared:	12/23/11
Lab ID:	233497-005	Analyzed:	12/28/11
Batch#:	182442	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	2,200	50
Diesel C10-C24	2,000 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	72	68-120

Field ID:	RW-A2	Sampled:	12/22/11
Type:	SAMPLE	Prepared:	12/23/11
Lab ID:	233497-006	Analyzed:	12/28/11
Batch#:	182442	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	84 Y	50
Diesel C10-C24	360 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	95	68-120

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00002	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	12/23/11

Field ID:	RW-C7	Sampled:	12/22/11
Type:	SAMPLE	Prepared:	12/23/11
Lab ID:	233497-007	Analyzed:	12/28/11
Batch#:	182442	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	5,900	50
Diesel C10-C24	8,100	50
Motor Oil C24-C36	1,700	300

Surrogate	%REC	Limits
o-Terphenyl	87	68-120

Field ID:	RW-C6	Sampled:	12/22/11
Type:	SAMPLE	Prepared:	12/23/11
Lab ID:	233497-008	Analyzed:	12/28/11
Batch#:	182442	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	830	50
Diesel C10-C24	1,200	50
Motor Oil C24-C36	710	300

Surrogate	%REC	Limits
o-Terphenyl	59 *	68-120

Field ID:	RW-D5	Sampled:	12/22/11
Type:	SAMPLE	Prepared:	12/23/11
Lab ID:	233497-009	Analyzed:	01/05/12
Batch#:	182442	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	740	50
Diesel C10-C24	1,200	50
Motor Oil C24-C36	730	300

Surrogate	%REC	Limits
o-Terphenyl	67 *	68-120

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00002	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	12/23/11

Field ID:	RW-1-FB	Sampled:	12/22/11
Type:	SAMPLE	Prepared:	12/23/11
Lab ID:	233497-010	Analyzed:	12/28/11
Batch#:	182442	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	68-120

Field ID:	RW-1	Sampled:	12/22/11
Type:	SAMPLE	Prepared:	12/29/11
Lab ID:	233497-011	Analyzed:	01/03/12
Batch#:	182510	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	77	68-120

Field ID:	MW-10	Sampled:	12/22/11
Type:	SAMPLE	Prepared:	12/29/11
Lab ID:	233497-012	Analyzed:	01/03/12
Batch#:	182510	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	91	68-120

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00002	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	12/23/11

Field ID:	MW-1	Sampled:	12/22/11
Type:	SAMPLE	Prepared:	12/29/11
Lab ID:	233497-013	Analyzed:	01/03/12
Batch#:	182510	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	120 Y	51
Diesel C10-C24	100 Y	51
Motor Oil C24-C36	ND	310

Surrogate	%REC	Limits
o-Terphenyl	101	68-120

Field ID:	MW-5	Sampled:	12/22/11
Type:	SAMPLE	Prepared:	12/29/11
Lab ID:	233497-014	Analyzed:	01/03/12
Batch#:	182510	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	1,600	51
Diesel C10-C24	1,400 Y	51
Motor Oil C24-C36	ND	310

Surrogate	%REC	Limits
o-Terphenyl	94	68-120

Field ID:	RW-D9	Sampled:	12/22/11
Type:	SAMPLE	Prepared:	12/29/11
Lab ID:	233497-015	Analyzed:	01/03/12
Batch#:	182510	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	830	51
Diesel C10-C24	730 Y	51
Motor Oil C24-C36	400	310

Surrogate	%REC	Limits
o-Terphenyl	82	68-120

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00002	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	12/23/11

Field ID:	RW-B4-D	Sampled:	12/22/11
Type:	SAMPLE	Prepared:	12/29/11
Lab ID:	233497-016	Analyzed:	01/04/12
Batch#:	182510	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	2,600	50
Diesel C10-C24	2,300 Y	50
Motor Oil C24-C36	830	300

Surrogate	%REC	Limits
o-Terphenyl	81	68-120

Type:	BLANK	Prepared:	12/23/11
Lab ID:	QC623431	Analyzed:	12/28/11
Batch#:	182442	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	68-120

Type:	BLANK	Prepared:	12/29/11
Lab ID:	QC623676	Analyzed:	01/03/12
Batch#:	182510	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	102	68-120

*= Value outside of QC limits; see narrative
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 #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00002	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	182442
Units:	ug/L	Prepared:	12/23/11
Diln Fac:	1.000	Analyzed:	12/28/11

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC623432

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,123	85	61-120

Surrogate	%REC	Limits
o-Terphenyl	99	68-120

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC623433

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,965	79	61-120	8	20

Surrogate	%REC	Limits
o-Terphenyl	92	68-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0016.00002	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	182510
Units:	ug/L	Prepared:	12/29/11
Diln Fac:	1.000	Analyzed:	01/03/12

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC623677

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,845	74	61-120

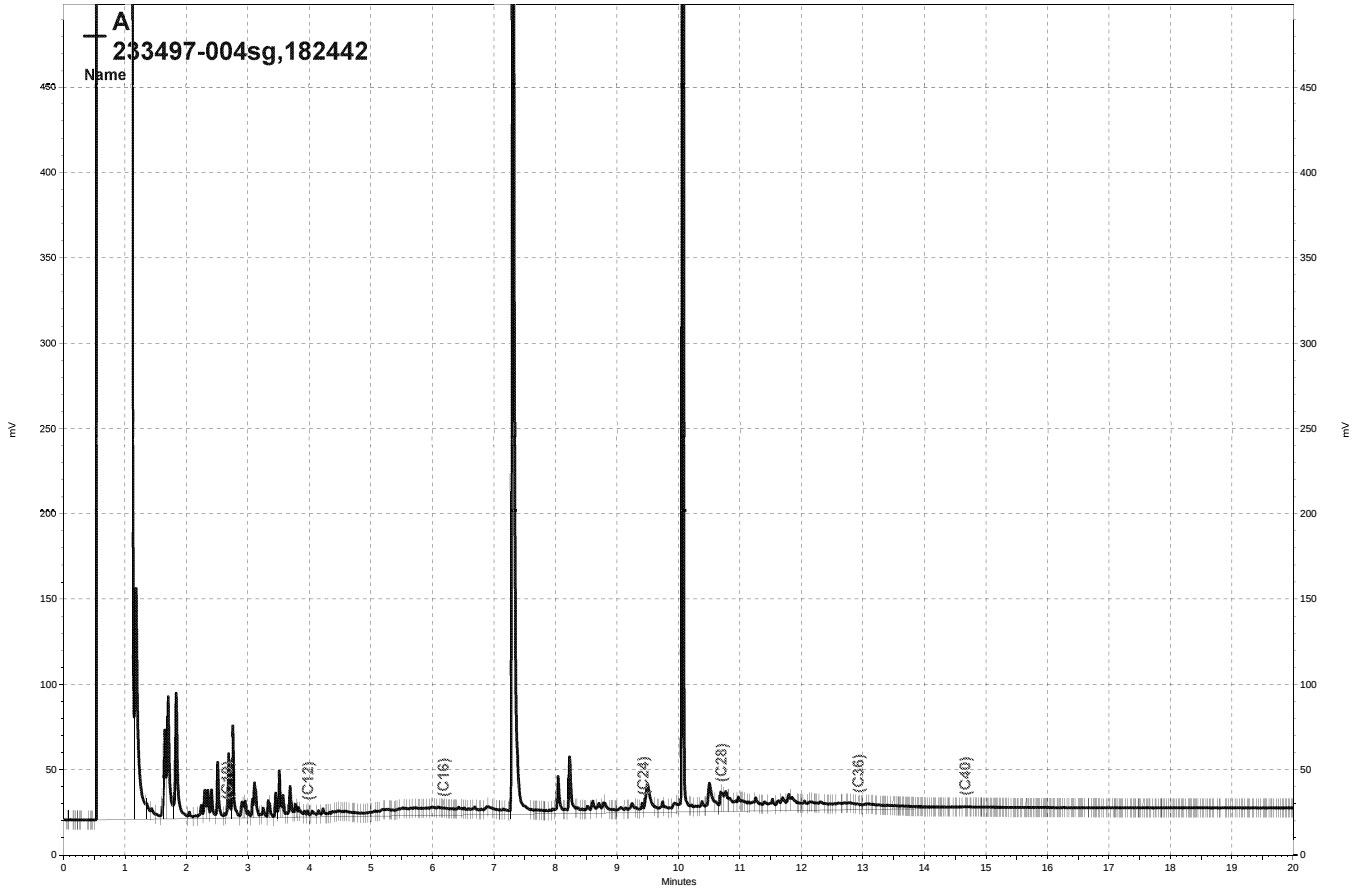
Surrogate	%REC	Limits
o-Terphenyl	89	68-120

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC623678

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,034	81	61-120	10	20

Surrogate	%REC	Limits
o-Terphenyl	97	68-120

RPD= Relative Percent Difference



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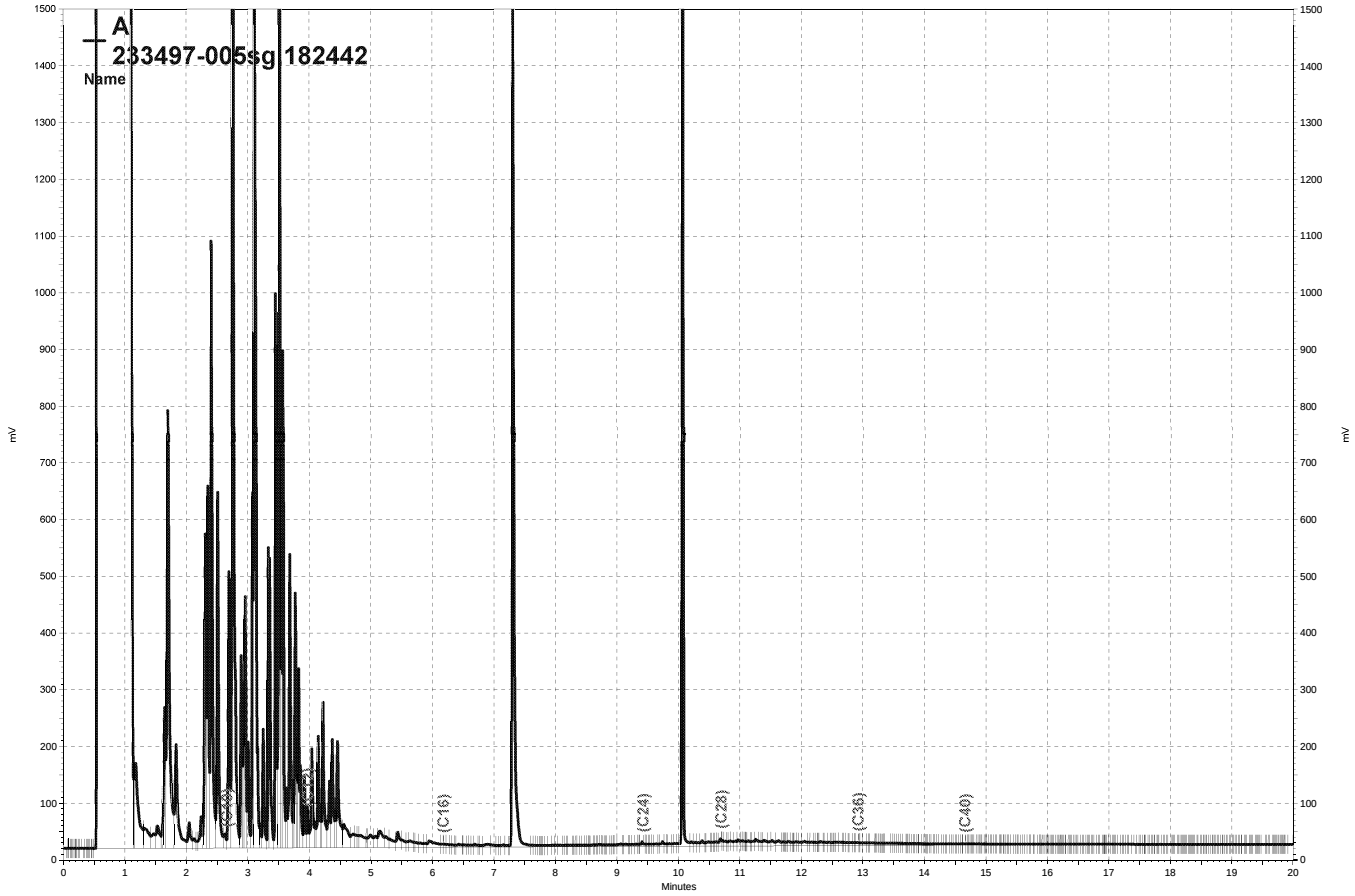

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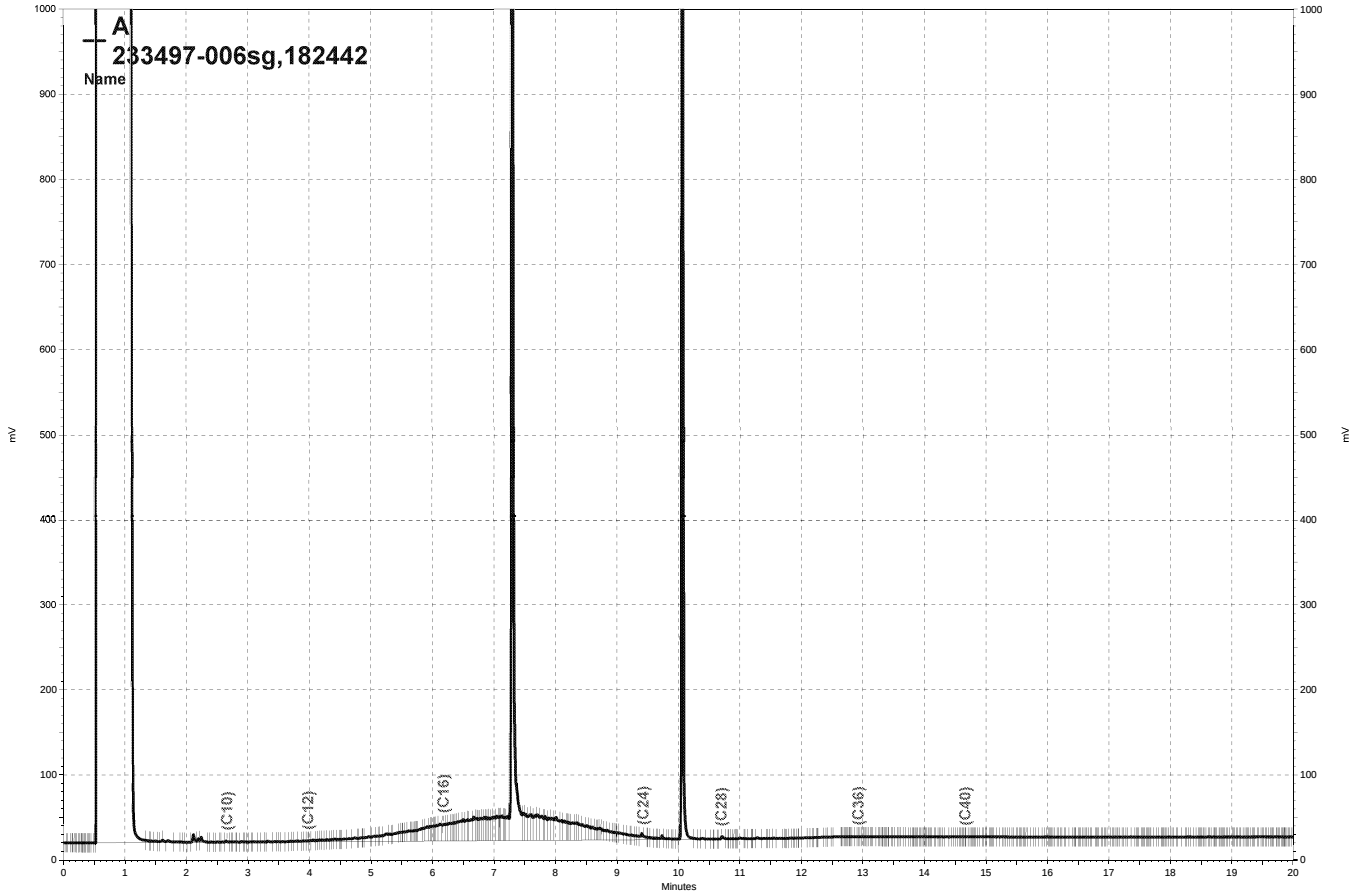

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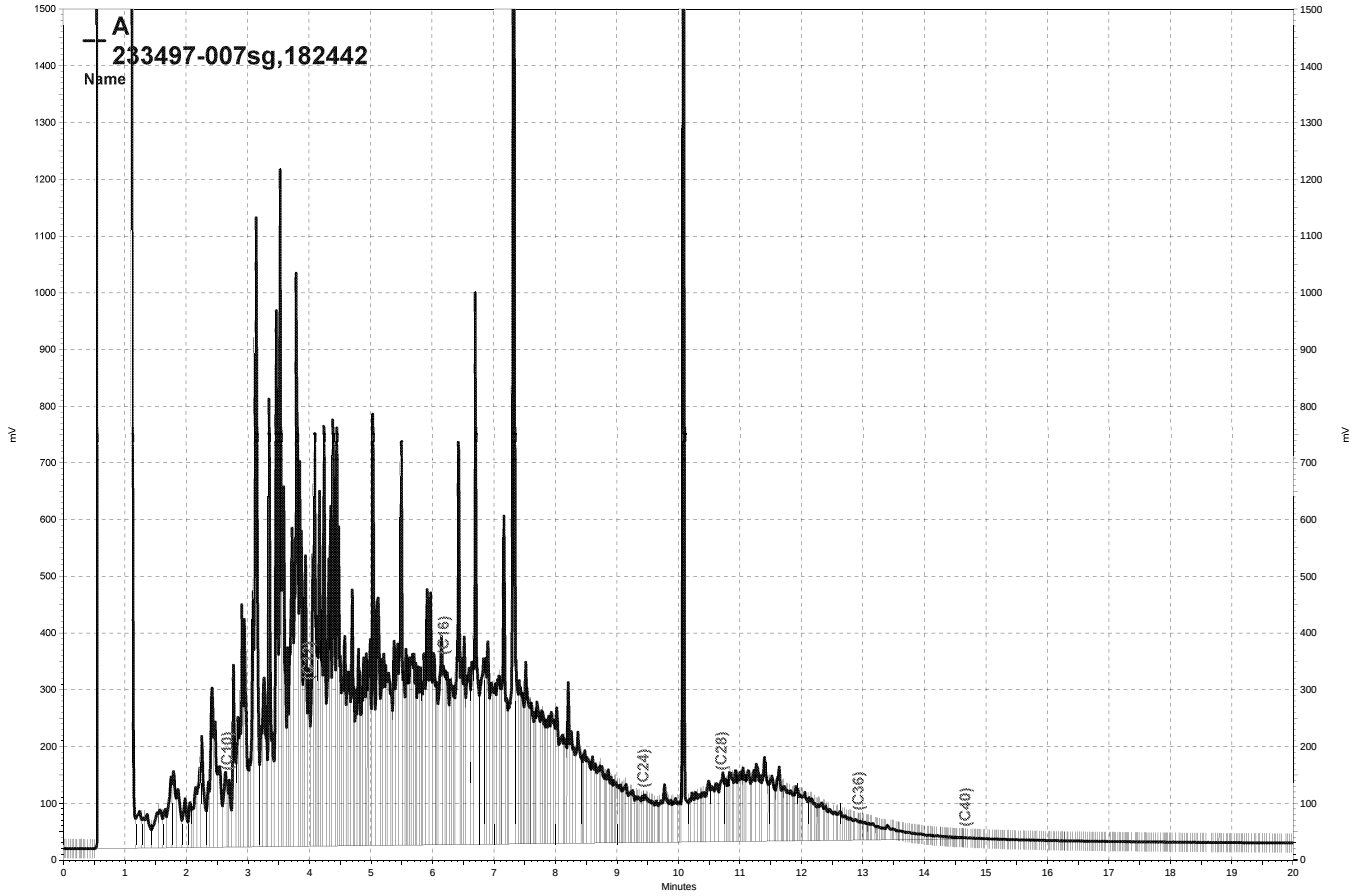

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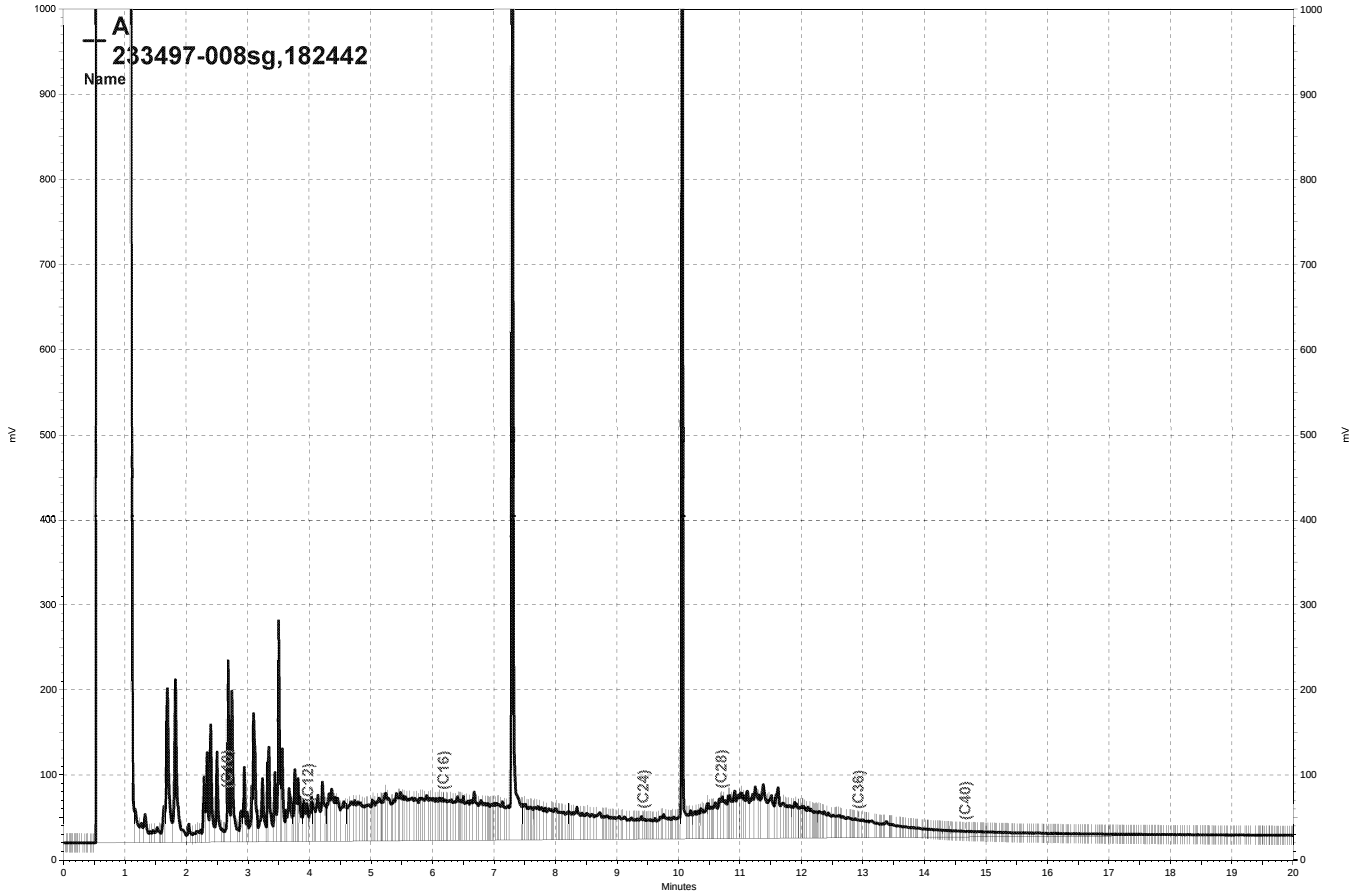

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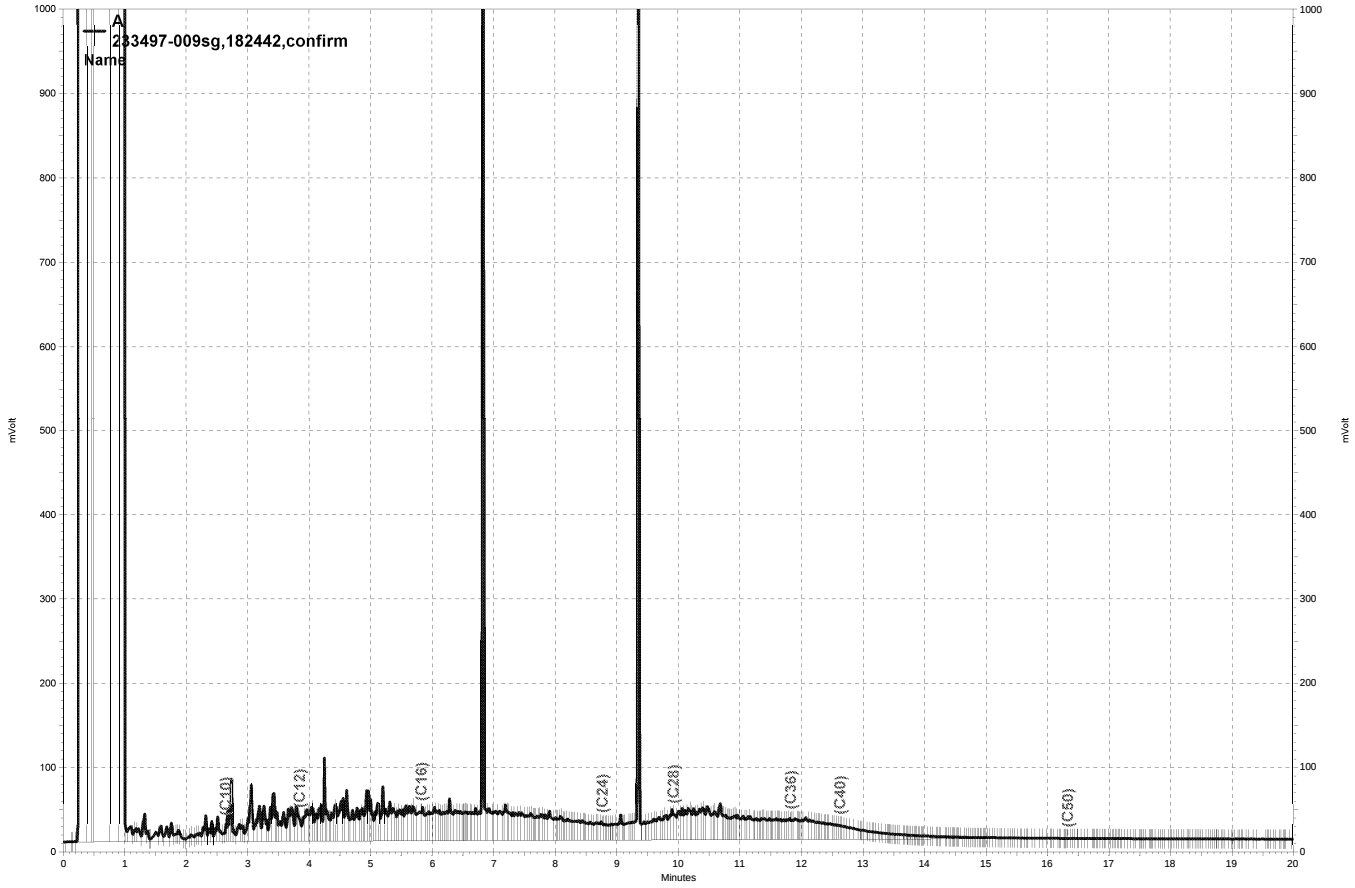

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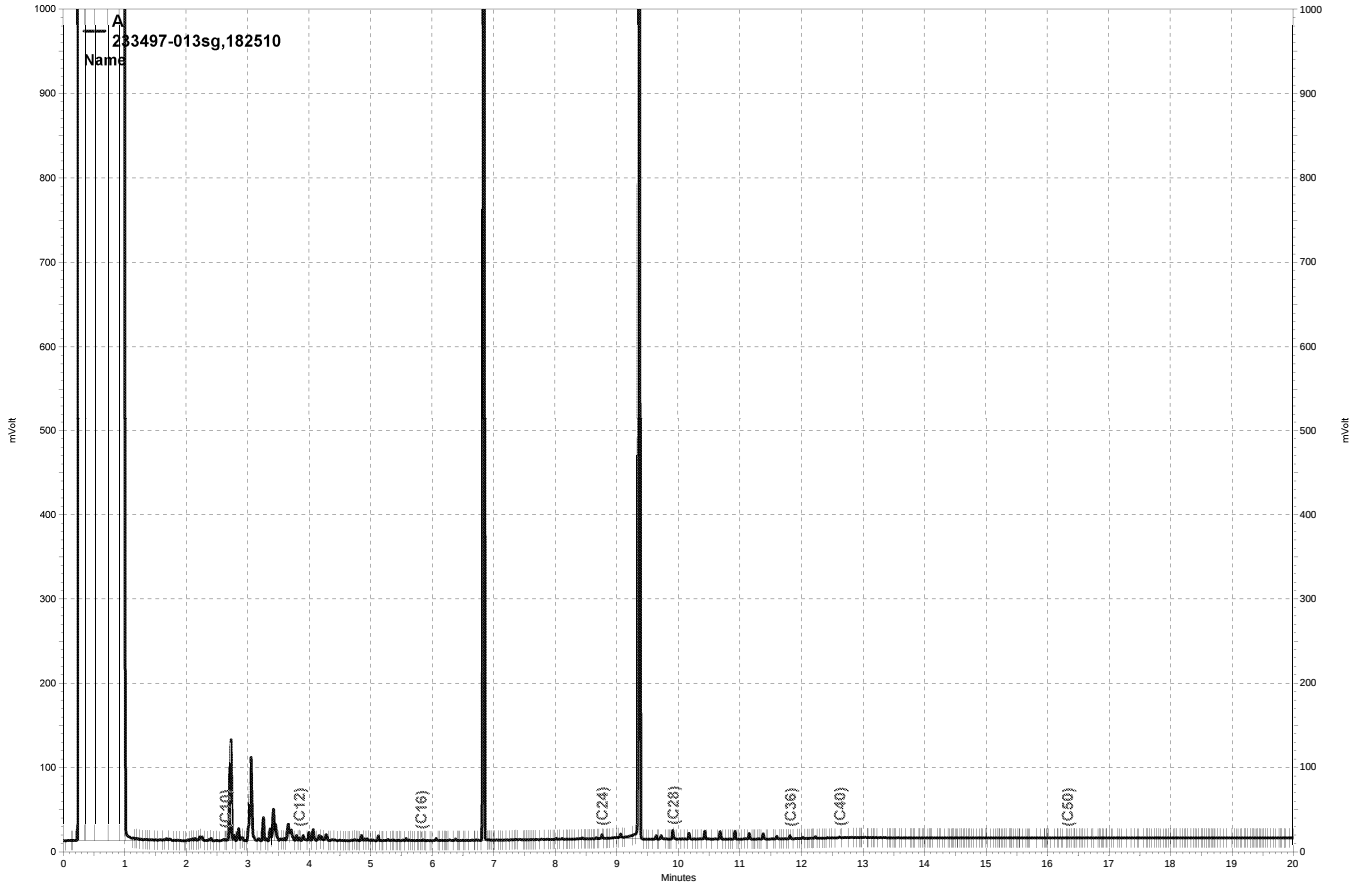

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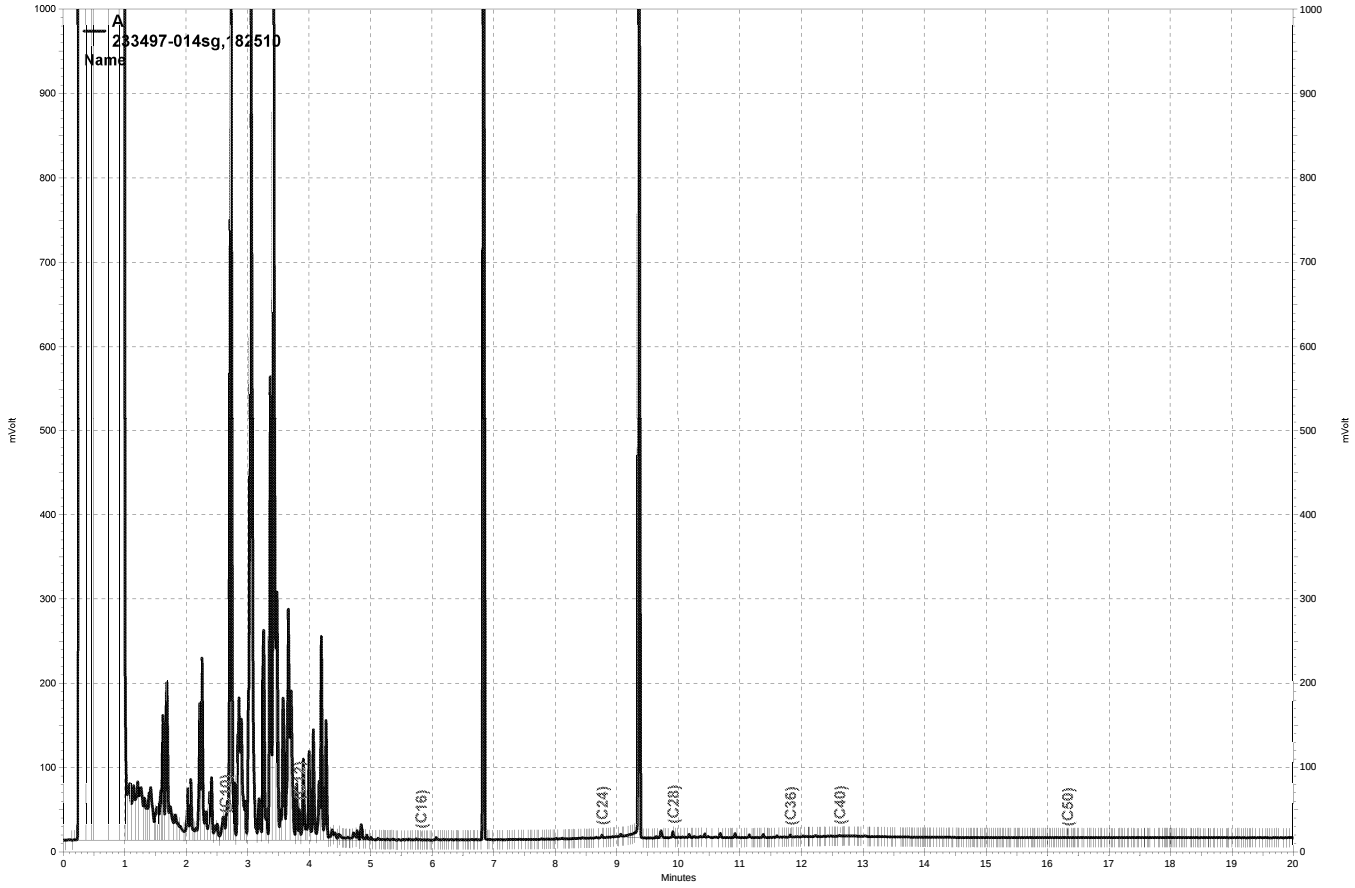

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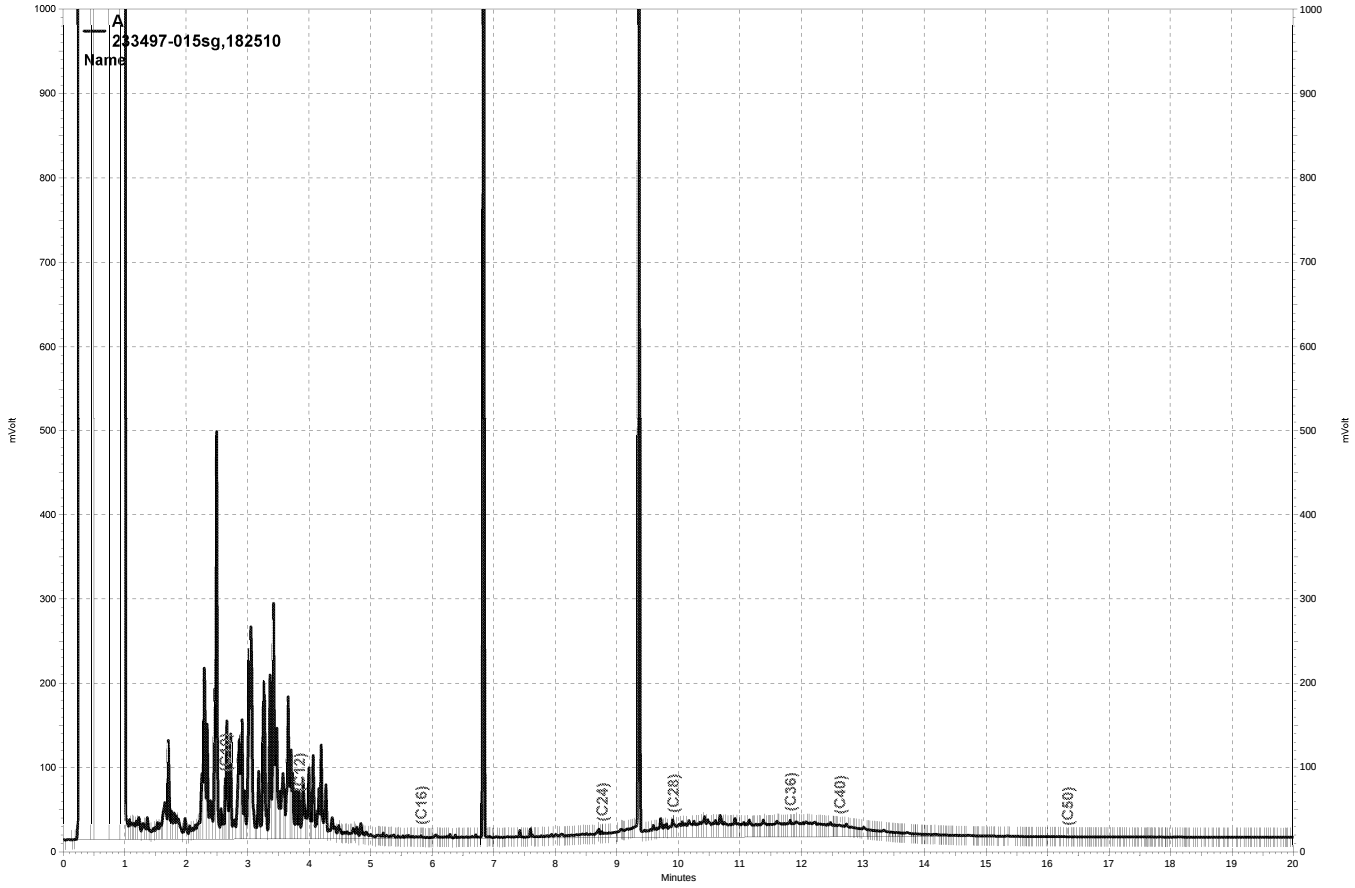

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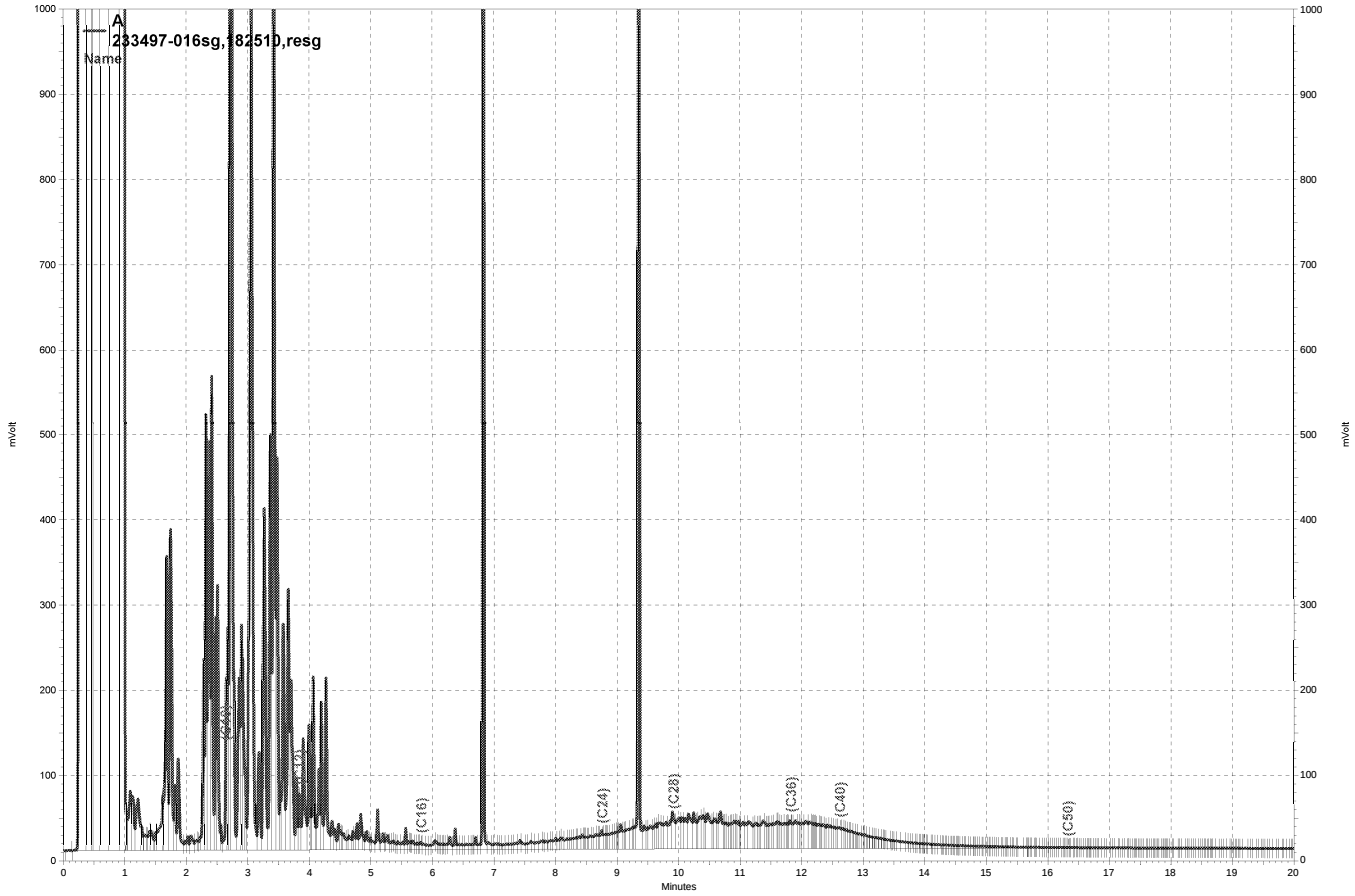

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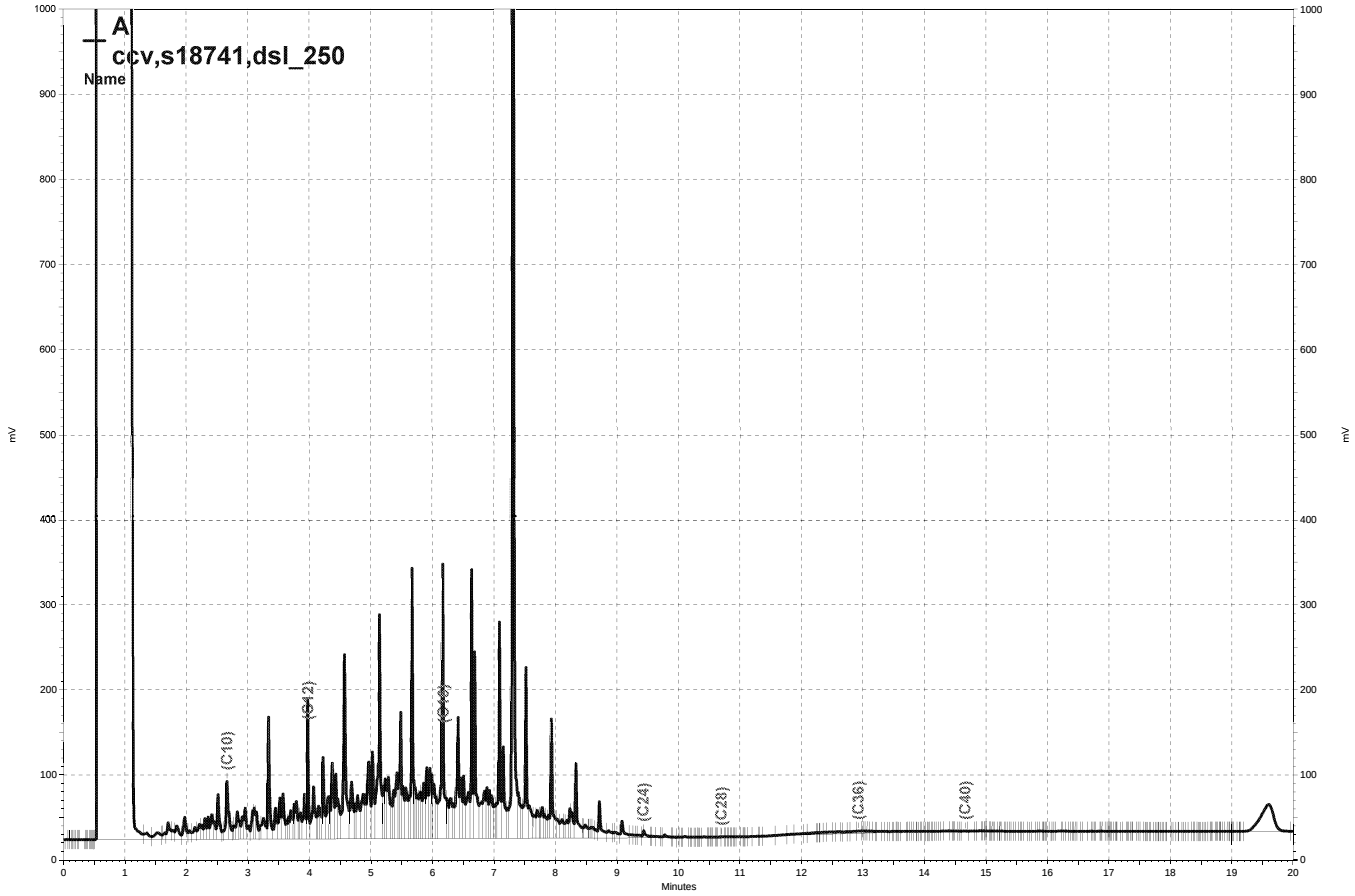

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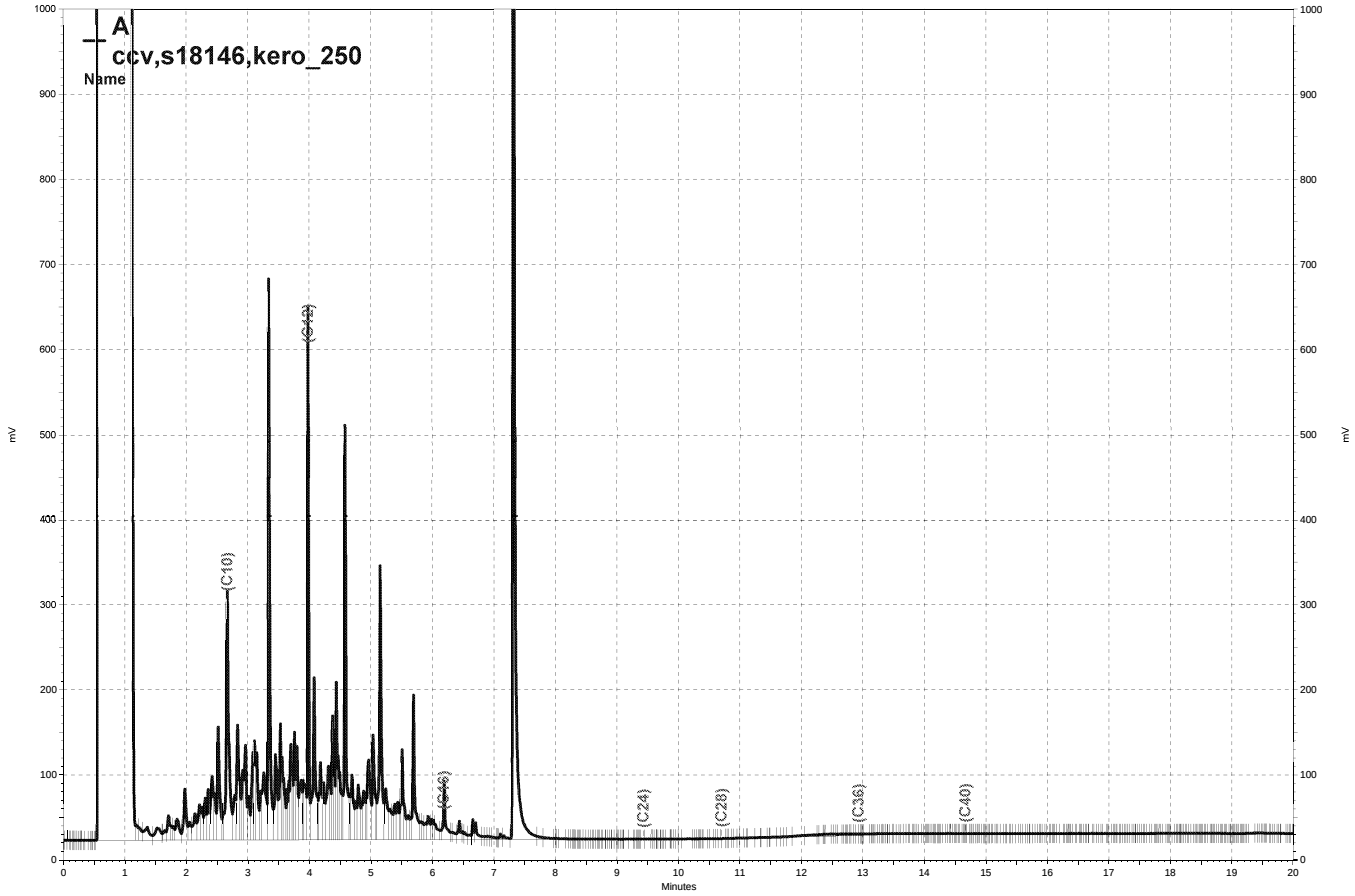

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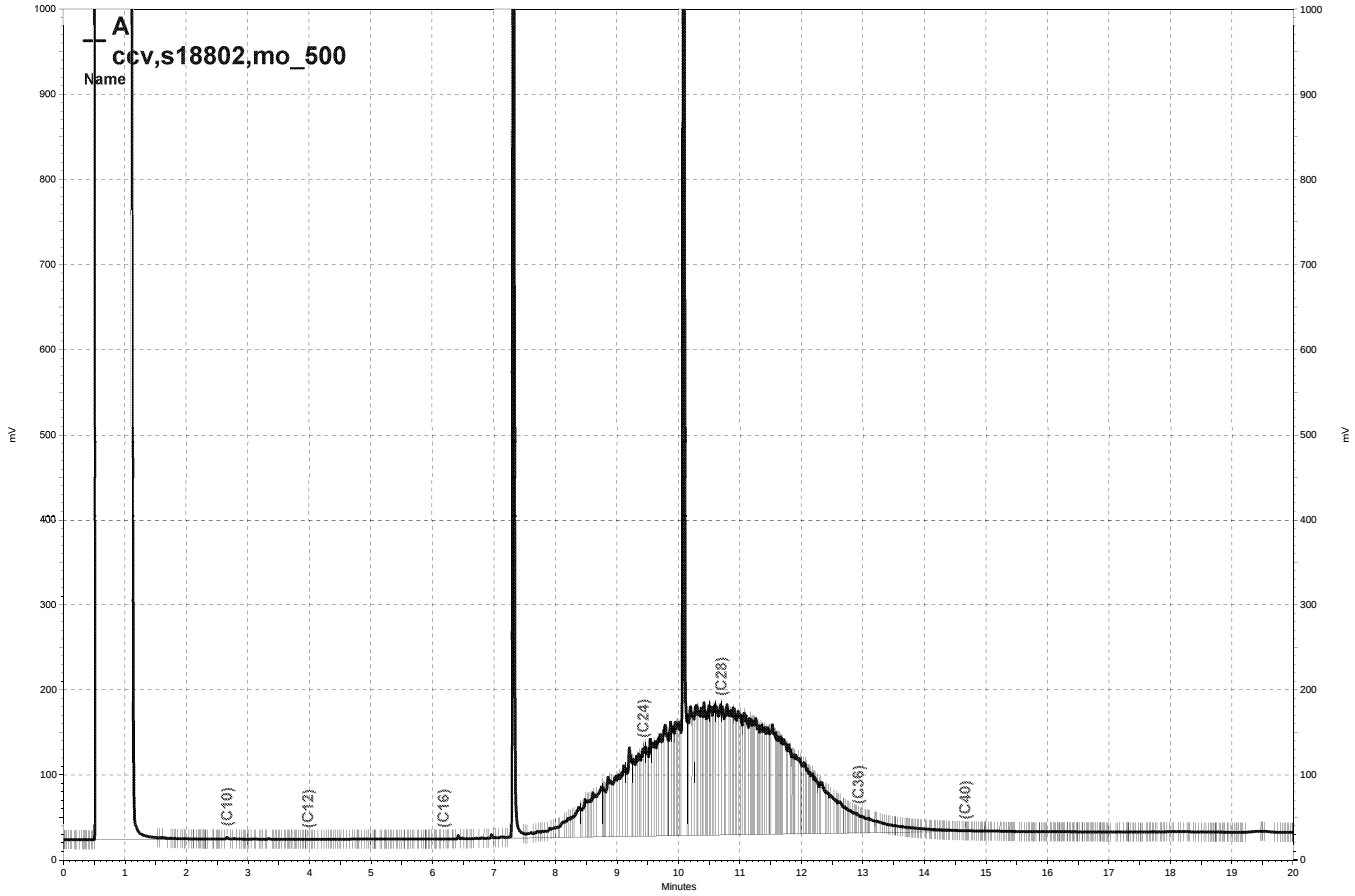

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Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Received:	12/23/11
Units:	ug/L		

Field ID:	MW-13	Batch#:	182453
Type:	SAMPLE	Sampled:	12/21/11
Lab ID:	233497-001	Analyzed:	12/28/11
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	80-127
1,2-Dichloroethane-d4	112	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	107	80-120

Field ID:	MW-14	Batch#:	182453
Type:	SAMPLE	Sampled:	12/21/11
Lab ID:	233497-002	Analyzed:	12/28/11
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	111	80-127
1,2-Dichloroethane-d4	124	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Received:	12/23/11
Units:	ug/L		

Field ID:	MW-17	Batch#:	182453
Type:	SAMPLE	Sampled:	12/21/11
Lab ID:	233497-003	Analyzed:	12/28/11
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	114	80-127
1,2-Dichloroethane-d4	124	73-145
Toluene-d8	106	80-120
Bromofluorobenzene	110	80-120

Field ID:	RW-B1	Batch#:	182486
Type:	SAMPLE	Sampled:	12/22/11
Lab ID:	233497-004	Analyzed:	12/29/11
Diln Fac:	6.250		

Analyte	Result	RL
Gasoline C7-C12	ND	310
MTBE	ND	3.1
Benzene	530	3.1
Toluene	35	3.1
Ethylbenzene	7.9	3.1
m,p-Xylenes	8.9	3.1
o-Xylene	9.6	3.1

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-127
1,2-Dichloroethane-d4	113	73-145
Toluene-d8	104	80-120
Bromofluorobenzene	109	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Received:	12/23/11
Units:	ug/L		

Field ID: RW-B4 Lab ID: 233497-005
Type: SAMPLE Sampled: 12/22/11

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	5,400	500	10.00	182486	12/29/11
MTBE	ND	5.0	10.00	182486	12/29/11
Benzene	1,100	7.1	14.29	182522	12/30/11
Toluene	29	5.0	10.00	182486	12/29/11
Ethylbenzene	64	5.0	10.00	182486	12/29/11
m,p-Xylenes	150	5.0	10.00	182486	12/29/11
o-Xylene	26	5.0	10.00	182486	12/29/11

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	107	80-127	10.00	182486	12/29/11
1,2-Dichloroethane-d4	114	73-145	10.00	182486	12/29/11
Toluene-d8	103	80-120	10.00	182486	12/29/11
Bromofluorobenzene	104	80-120	10.00	182486	12/29/11

Field ID: RW-A2 Batch#: 182453
Type: SAMPLE Sampled: 12/22/11
Lab ID: 233497-006 Analyzed: 12/28/11
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	108	80-127
1,2-Dichloroethane-d4	128	73-145
Toluene-d8	102	80-120
Bromofluorobenzene	114	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Received:	12/23/11
Units:	ug/L		

Field ID:	RW-C7	Batch#:	182453
Type:	SAMPLE	Sampled:	12/22/11
Lab ID:	233497-007	Analyzed:	12/28/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	380	50
MTBE	ND	0.50
Benzene	8.3	0.50
Toluene	ND	0.50
Ethylbenzene	0.98	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-127
1,2-Dichloroethane-d4	125	73-145
Toluene-d8	103	80-120
Bromofluorobenzene	112	80-120

Field ID:	RW-C6	Batch#:	182453
Type:	SAMPLE	Sampled:	12/22/11
Lab ID:	233497-008	Analyzed:	12/28/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	810	50
MTBE	0.51	0.50
Benzene	74	0.50
Toluene	6.2	0.50
Ethylbenzene	7.9	0.50
m,p-Xylenes	43	0.50
o-Xylene	36	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-127
1,2-Dichloroethane-d4	114	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Received:	12/23/11
Units:	ug/L		

Field ID: RW-D5 Lab ID: 233497-009
Type: SAMPLE Sampled: 12/22/11

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	400	50	1.000	182453	12/28/11
MTBE	ND	0.50	1.000	182453	12/28/11
Benzene	150	1.0	2.000	182486	12/29/11
Toluene	2.5	0.50	1.000	182453	12/28/11
Ethylbenzene	4.4	0.50	1.000	182453	12/28/11
m,p-Xylenes	9.4	0.50	1.000	182453	12/28/11
o-Xylene	2.9	0.50	1.000	182453	12/28/11

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	100	80-127	1.000	182453	12/28/11
1,2-Dichloroethane-d4	103	73-145	1.000	182453	12/28/11
Toluene-d8	104	80-120	1.000	182453	12/28/11
Bromofluorobenzene	102	80-120	1.000	182453	12/28/11

Field ID: RW-1-FB Batch#: 182453
Type: SAMPLE Sampled: 12/22/11
Lab ID: 233497-010 Analyzed: 12/28/11
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	80-127
1,2-Dichloroethane-d4	105	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	96	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Received:	12/23/11
Units:	ug/L		

Field ID:	RW-1	Batch#:	182453
Type:	SAMPLE	Sampled:	12/22/11
Lab ID:	233497-011	Analyzed:	12/28/11
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	101	80-127
1,2-Dichloroethane-d4	101	73-145
Toluene-d8	101	80-120
Bromofluorobenzene	98	80-120

Field ID:	MW-10	Batch#:	182453
Type:	SAMPLE	Sampled:	12/22/11
Lab ID:	233497-012	Analyzed:	12/28/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
MTBE	ND	0.50
Benzene	2.6	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	80-127
1,2-Dichloroethane-d4	109	73-145
Toluene-d8	102	80-120
Bromofluorobenzene	99	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Received:	12/23/11
Units:	ug/L		

Field ID:	MW-1	Batch#:	182453
Type:	SAMPLE	Sampled:	12/22/11
Lab ID:	233497-013	Analyzed:	12/28/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	230	50
MTBE	ND	0.50
Benzene	0.53	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	0.69	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-127
1,2-Dichloroethane-d4	112	73-145
Toluene-d8	106	80-120
Bromofluorobenzene	105	80-120

Field ID:	MW-5	Batch#:	182522
Type:	SAMPLE	Sampled:	12/22/11
Lab ID:	233497-014	Analyzed:	12/30/11
Diln Fac:	1.429		

Analyte	Result	RL
Gasoline C7-C12	2,800	71
MTBE	9.9	0.71
Benzene	1.5	0.71
Toluene	0.75	0.71
Ethylbenzene	65	0.71
m,p-Xylenes	4.9	0.71
o-Xylene	0.84	0.71

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-127
1,2-Dichloroethane-d4	117	73-145
Toluene-d8	96	80-120
Bromofluorobenzene	109	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Received:	12/23/11
Units:	ug/L		

Field ID:	RW-D9	Batch#:	182486
Type:	SAMPLE	Sampled:	12/22/11
Lab ID:	233497-015	Analyzed:	12/29/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	1,300	50
MTBE	ND	0.50
Benzene	25	0.50
Toluene	1.5	0.50
Ethylbenzene	4.1	0.50
m,p-Xylenes	30	0.50
o-Xylene	4.0	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-127
1,2-Dichloroethane-d4	117	73-145
Toluene-d8	108	80-120
Bromofluorobenzene	112	80-120

Field ID:	RW-B4-D	Lab ID:	233497-016
Type:	SAMPLE	Sampled:	12/22/11

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	5,600	500	10.00	182486	12/29/11
MTBE	ND	5.0	10.00	182486	12/29/11
Benzene	1,100	7.1	14.29	182522	12/30/11
Toluene	30	5.0	10.00	182486	12/29/11
Ethylbenzene	63	5.0	10.00	182486	12/29/11
m,p-Xylenes	170	5.0	10.00	182486	12/29/11
o-Xylene	28	5.0	10.00	182486	12/29/11

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	108	80-127	10.00	182486	12/29/11
1,2-Dichloroethane-d4	105	73-145	10.00	182486	12/29/11
Toluene-d8	103	80-120	10.00	182486	12/29/11
Bromofluorobenzene	103	80-120	10.00	182486	12/29/11

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Received:	12/23/11
Units:	ug/L		

Type:	BLANK	Batch#:	182453
Lab ID:	QC623476	Analyzed:	12/28/11
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	80-127
1,2-Dichloroethane-d4	114	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	104	80-120

Type:	BLANK	Batch#:	182486
Lab ID:	QC623586	Analyzed:	12/29/11
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	104	80-127
1,2-Dichloroethane-d4	113	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	108	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Received:	12/23/11
Units:	ug/L		

Type:	BLANK	Batch#:	182522
Lab ID:	QC623725	Analyzed:	12/30/11
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	105	80-127
1,2-Dichloroethane-d4	117	73-145
Toluene-d8	107	80-120
Bromofluorobenzene	110	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	182453
Units:	ug/L	Analyzed:	12/28/11
Diln Fac:	1.000		

Type: BS Lab ID: QC623474

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	20.98	84	59-123
Benzene	25.00	22.93	92	80-122
Toluene	25.00	22.31	89	80-120
Ethylbenzene	25.00	24.19	97	80-120
m,p-Xylenes	50.00	48.07	96	80-120
o-Xylene	25.00	23.83	95	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	114	80-127
1,2-Dichloroethane-d4	122	73-145
Toluene-d8	104	80-120
Bromofluorobenzene	102	80-120

Type: BSD Lab ID: QC623475

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	20.47	82	59-123	2	20
Benzene	25.00	22.47	90	80-122	2	20
Toluene	25.00	23.01	92	80-120	3	20
Ethylbenzene	25.00	25.54	102	80-120	5	20
m,p-Xylenes	50.00	48.18	96	80-120	0	20
o-Xylene	25.00	23.57	94	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-127
1,2-Dichloroethane-d4	118	73-145
Toluene-d8	101	80-120
Bromofluorobenzene	98	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	182453
Units:	ug/L	Analyzed:	12/28/11
Diln Fac:	1.000		

Type: BS Lab ID: QC623501

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,054	105	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-127
1,2-Dichloroethane-d4	120	73-145
Toluene-d8	105	80-120
Bromofluorobenzene	104	80-120

Type: BSD Lab ID: QC623502

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,007	101	80-120	5	20

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-127
1,2-Dichloroethane-d4	120	73-145
Toluene-d8	102	80-120
Bromofluorobenzene	100	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	182486
Units:	ug/L	Analyzed:	12/29/11
Diln Fac:	1.000		

Type: BS Lab ID: QC623584

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	18.66	75	59-123
Benzene	25.00	22.89	92	80-122
Toluene	25.00	24.40	98	80-120
Ethylbenzene	25.00	25.68	103	80-120
m,p-Xylenes	50.00	49.96	100	80-120
o-Xylene	25.00	23.88	96	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	111	80-127
1,2-Dichloroethane-d4	119	73-145
Toluene-d8	110	80-120
Bromofluorobenzene	103	80-120

Type: BSD Lab ID: QC623585

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	20.34	81	59-123	9	20
Benzene	25.00	24.86	99	80-122	8	20
Toluene	25.00	24.78	99	80-120	2	20
Ethylbenzene	25.00	25.36	101	80-120	1	20
m,p-Xylenes	50.00	53.45	107	80-120	7	20
o-Xylene	25.00	26.35	105	80-120	10	20

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-127
1,2-Dichloroethane-d4	120	73-145
Toluene-d8	109	80-120
Bromofluorobenzene	110	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	182486
Units:	ug/L	Analyzed:	12/29/11
Diln Fac:	1.000		

Type: BS Lab ID: QC623587

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,012	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-127
1,2-Dichloroethane-d4	120	73-145
Toluene-d8	106	80-120
Bromofluorobenzene	112	80-120

Type: BSD Lab ID: QC623588

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,025	102	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-127
1,2-Dichloroethane-d4	112	73-145
Toluene-d8	106	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	182522
Units:	ug/L	Analyzed:	12/30/11
Diln Fac:	1.000		

Type: BS Lab ID: QC623723

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	19.02	76	59-123
Benzene	25.00	23.44	94	80-122
Toluene	25.00	21.77	87	80-120
Ethylbenzene	25.00	23.45	94	80-120
m,p-Xylenes	50.00	45.50	91	80-120
o-Xylene	25.00	23.26	93	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-127
1,2-Dichloroethane-d4	121	73-145
Toluene-d8	104	80-120
Bromofluorobenzene	106	80-120

Type: BSD Lab ID: QC623724

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	18.94	76	59-123	0	20
Benzene	25.00	23.61	94	80-122	1	20
Toluene	25.00	22.61	90	80-120	4	20
Ethylbenzene	25.00	24.16	97	80-120	3	20
m,p-Xylenes	50.00	44.05	88	80-120	3	20
o-Xylene	25.00	23.06	92	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	112	80-127
1,2-Dichloroethane-d4	124	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	103	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	233497	Location:	MSC Oakland Edgewater
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0016.00002	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	182522
Units:	ug/L	Analyzed:	12/30/11
Diln Fac:	1.000		

Type: BS Lab ID: QC623744

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	984.1	98	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-127
1,2-Dichloroethane-d4	120	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	103	80-120

Type: BSD Lab ID: QC623745

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,017	102	80-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-127
1,2-Dichloroethane-d4	112	73-145
Toluene-d8	103	80-120
Bromofluorobenzene	112	80-120

RPD= Relative Percent Difference

Data File: \\Gcmsserver\DD\chem\MSVOA08.i\122911.b\HLT19TVH.D

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Instrument: MSVOA08.i

Sample Info: s,233497-005

Operator: VOC

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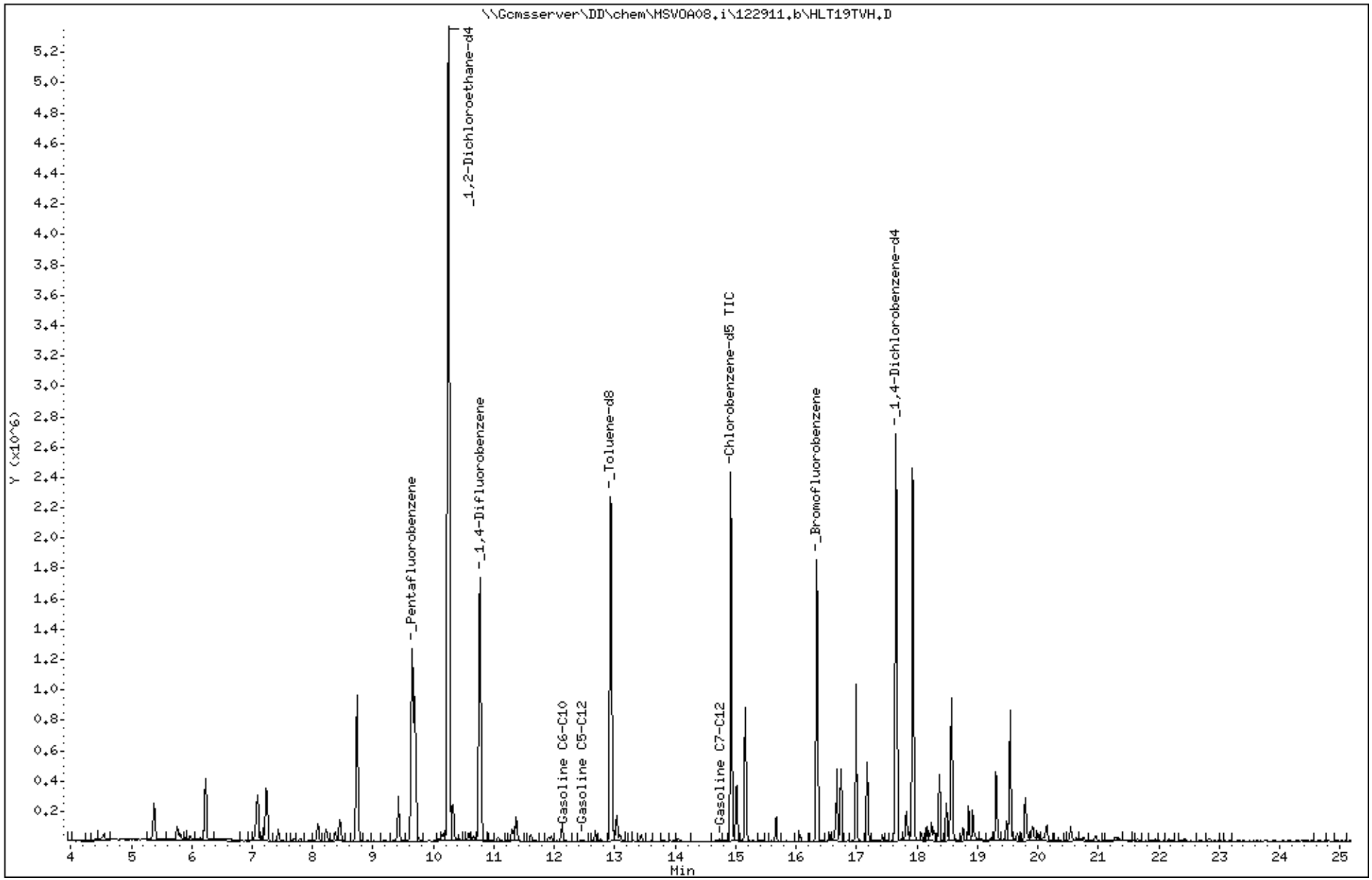
Column diameter: 2.00



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Date : 28-DEC-2011 18:06

Client ID: DYNA P&T

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Sample Info: S,233497-007

Operator: VOC

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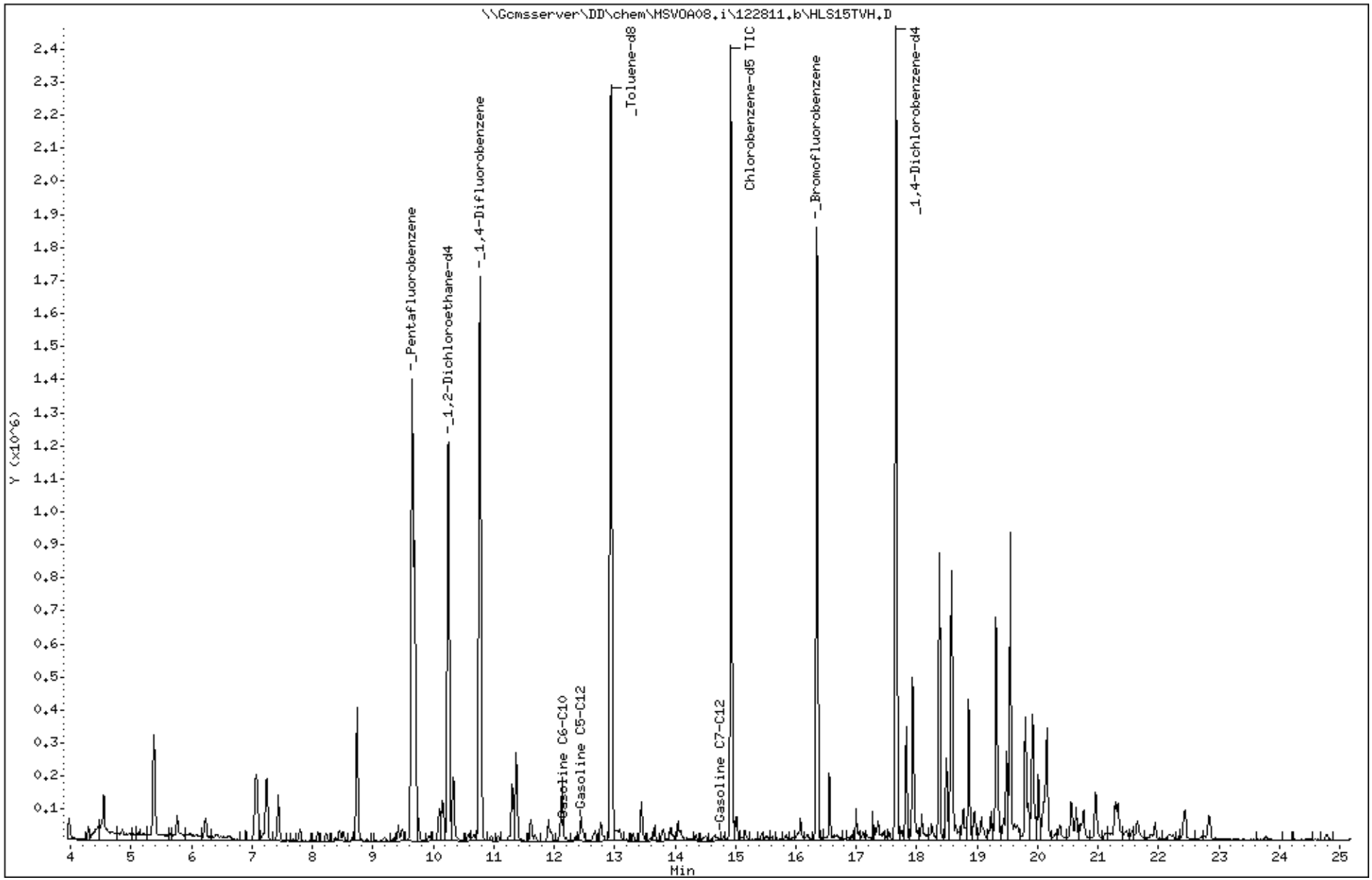
Column diameter: 2.00



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Date : 28-DEC-2011 18:43

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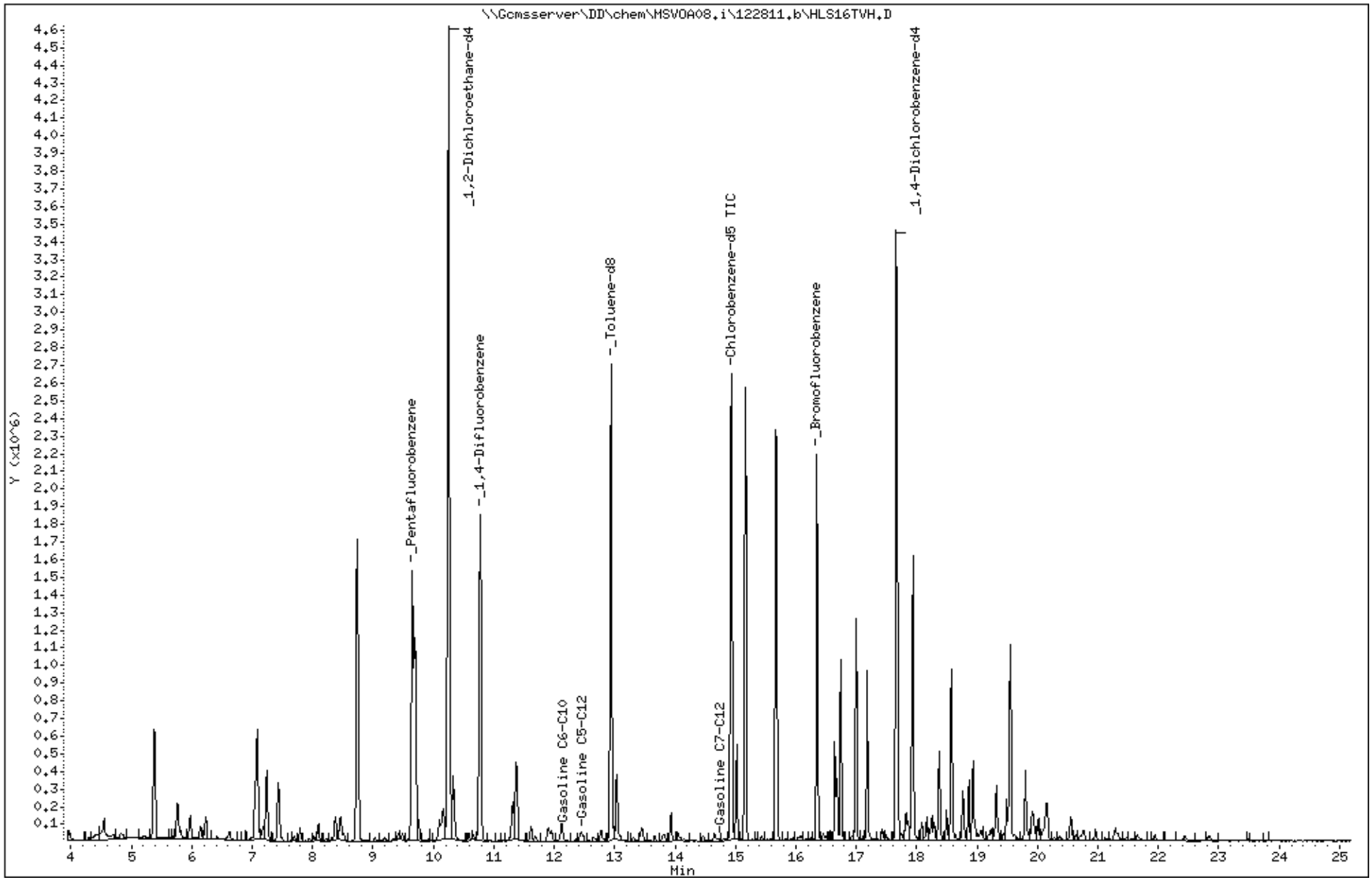
Instrument: MSVOA08.i

Sample Info: S,233497-008

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 28-DEC-2011 19:20

Client ID: DYNA P&T

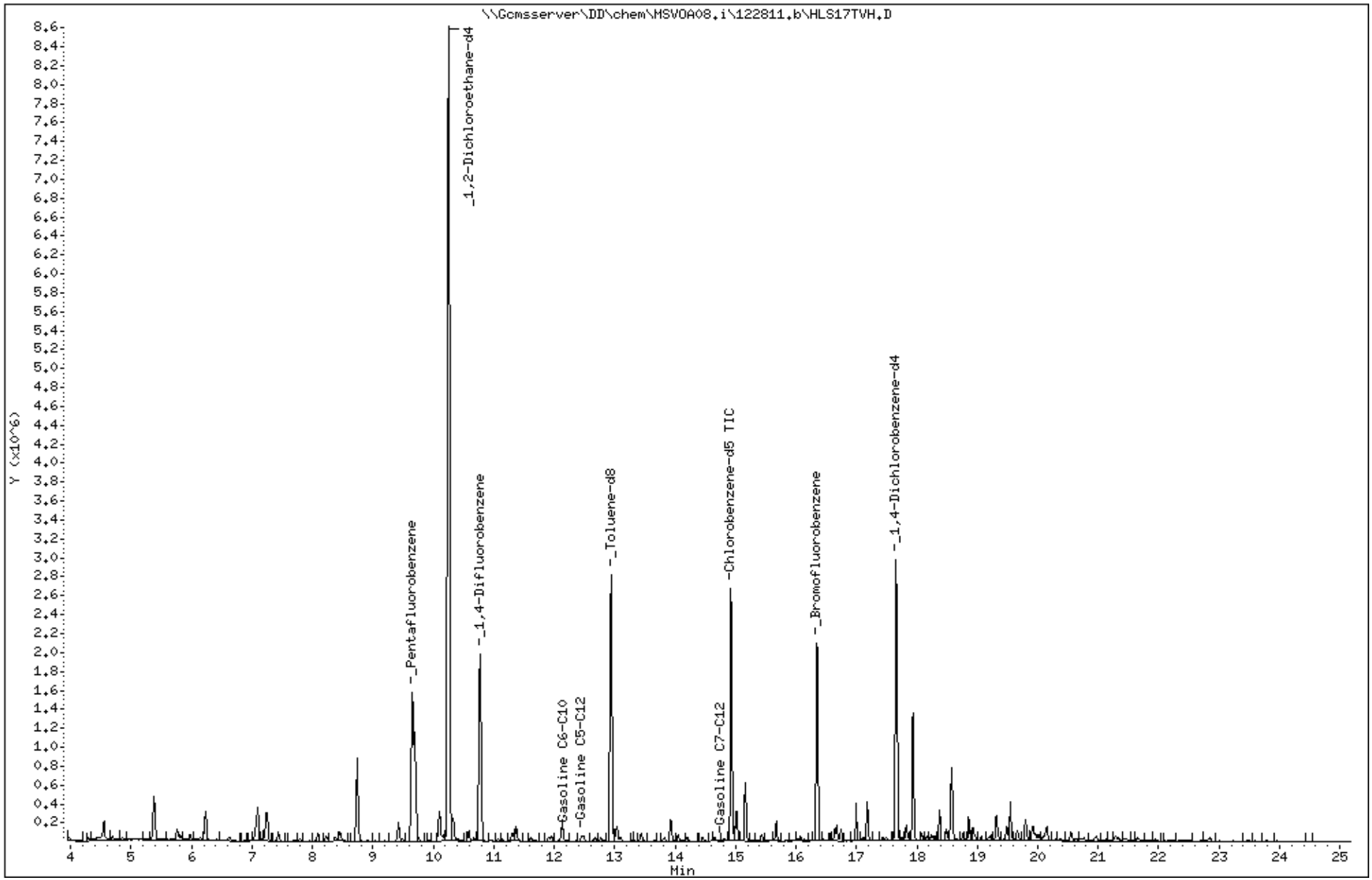
Instrument: MSVOA08.i

Sample Info: S,233497-009

Operator: VOC

Column phase:

Column diameter: 2.00



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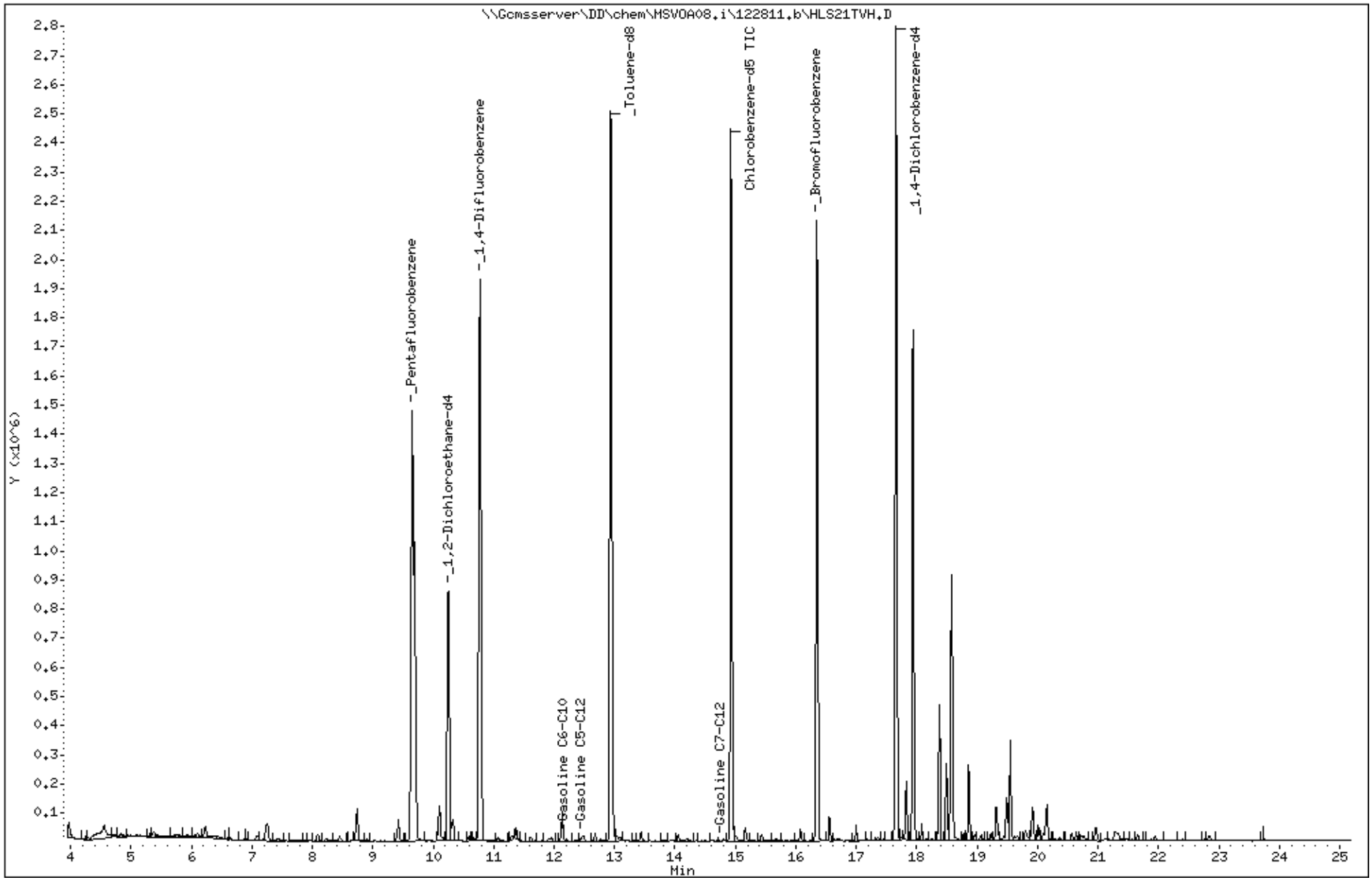
Instrument: MSVOA08.i

Sample Info: S,233497-013

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 30-DEC-2011 16:49

Client ID: DYNA P&T

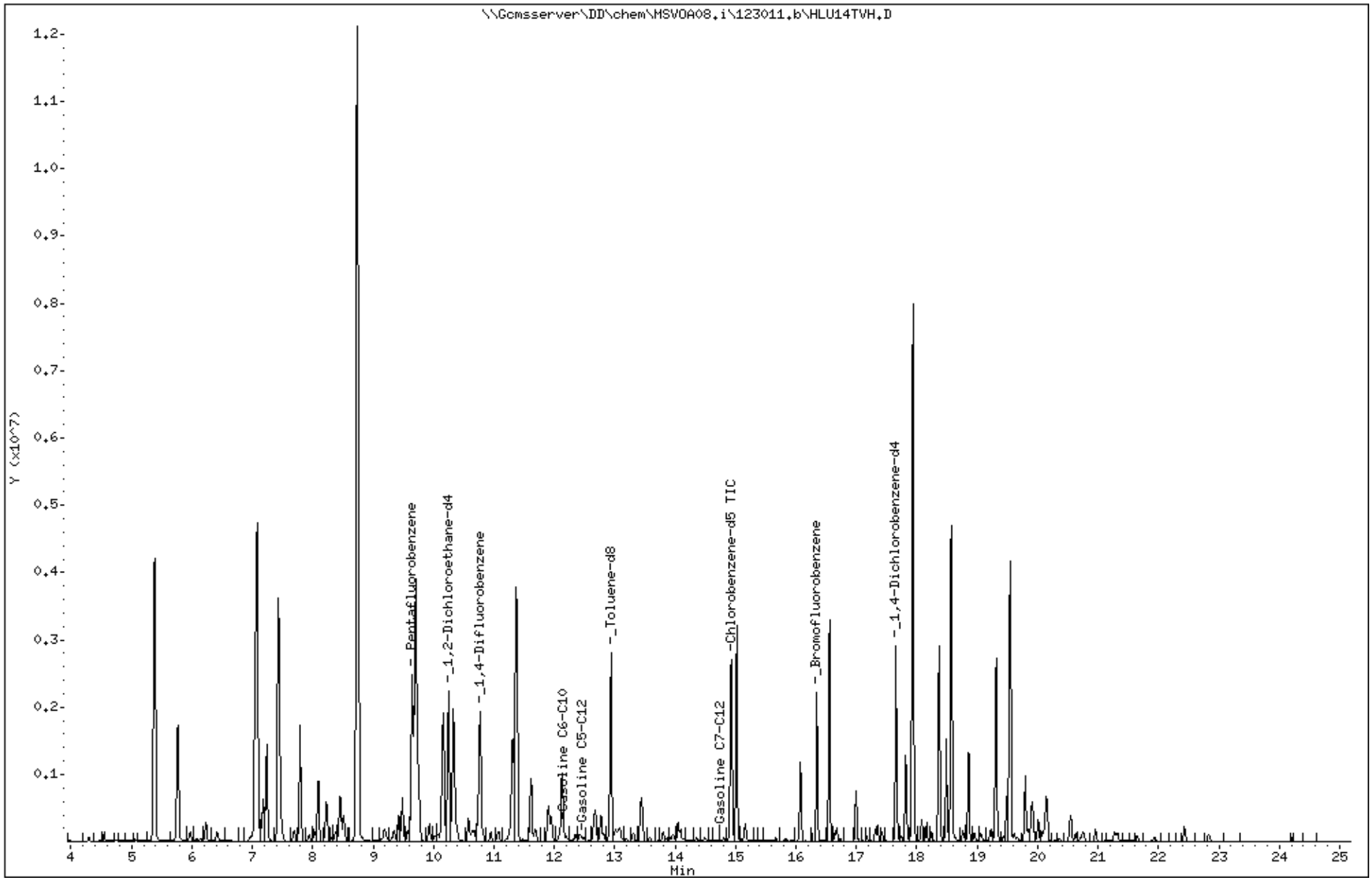
Instrument: MSVOA08.i

Sample Info: s,233497-014

Operator: VOC

Column phase:

Column diameter: 2.00



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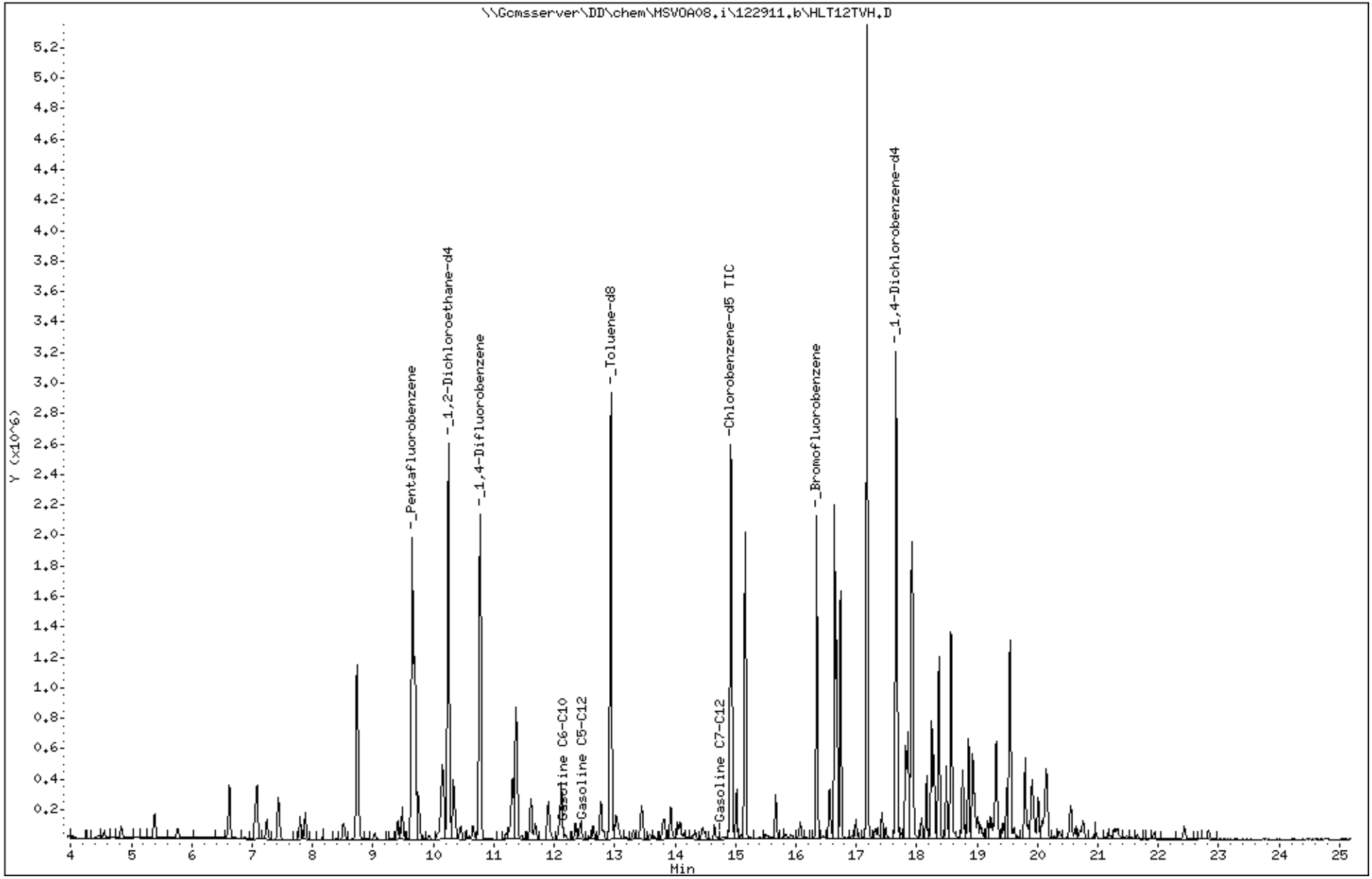
Instrument: MSVOA08.i

Sample Info: s,233497-015

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 29-DEC-2011 23:04

Client ID: DYNA P&T

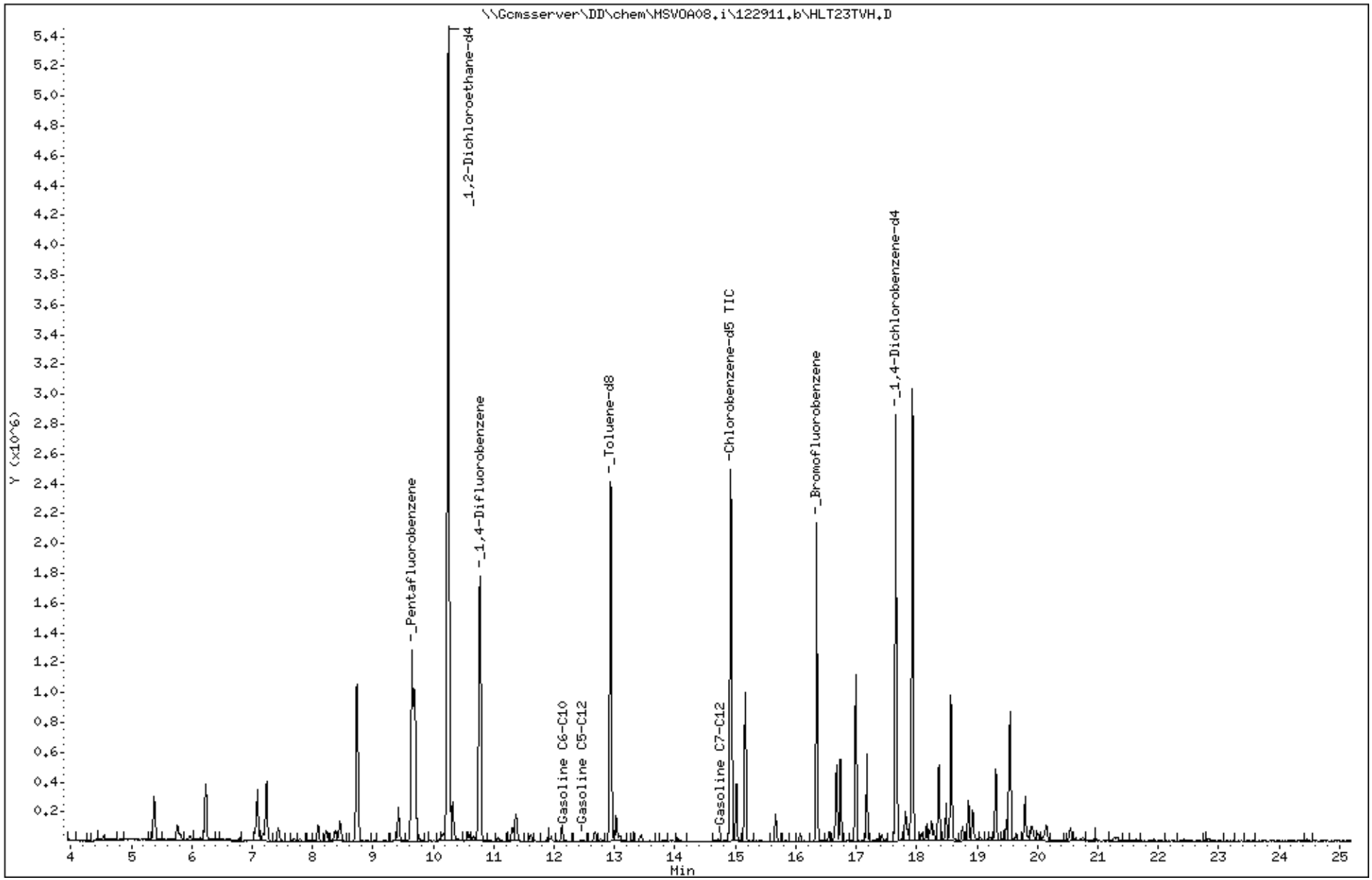
Instrument: MSVOA08.i

Sample Info: s,233497-016

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 28-DEC-2011 12:26

Client ID: DYNA P&T

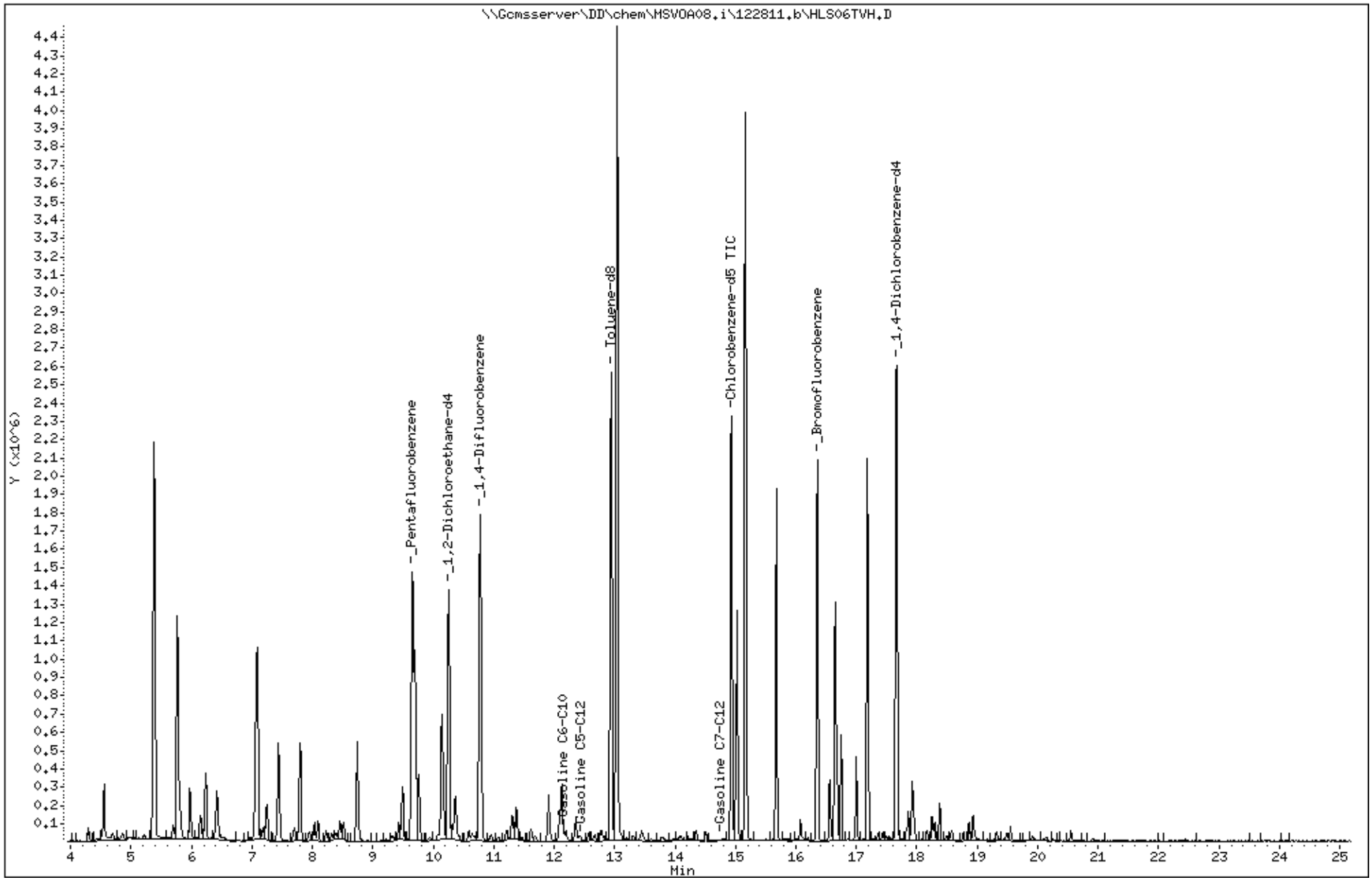
Instrument: MSVOA08.i

Sample Info: CCV/BS,QC623501,182453,S18583,.01/100

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.