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Public Works Agency
Environmental Services

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December 20, 2004

Mr. Barney M. Chan
Hazardous Materials Specialist
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda CA 94502-9335

Dear Mr. Chan:

Subject: Municipal Service Center; 7101 Edgewater Drive, Oakland – 2004 Second Semi-Annual Groundwater Monitoring Report

Please find enclosed a copy of the report on the 2004-second semi-annual groundwater monitoring report prepared by Levine-Fricke, Inc. for the subject site. The groundwater monitoring event was conducted in accordance with the requirements of the County for the site.

If there are any questions, please contact me at (510) 238-7371 or e-mail me at oojukwu@oaklandnet.com.

Sincerely,

Odili N. Ojukwu, P.E.
Environmental Program Specialist

Copy:
Mark Gomez, City of Oakland, PWA/ESD (wo/enclosure)

Groundwater Monitoring Report
Fall Semiannual 2004 Sampling Event
Municipal Service Center
7101 Edgewater Drive
Oakland, California

December 7, 2004
001-09225-11

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

LFR
LEVINE • FRICKE

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December 7, 2004

001-09225-11

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

Subject: Groundwater Monitoring Report, Fall Semiannual 2004 Sampling Event, Municipal Service Center, 7101 Edgewater Drive, Oakland, California

Dear Mr. Ojukwu:

LFR Levine·Fricke (LFR) is pleased to present this semiannual groundwater monitoring report summarizing data collected during the fall 2004 semiannual groundwater monitoring event at the Municipal Service Center, located at 7101 Edgewater Drive in Oakland, California ("the Site"). These activities were performed in accordance with previous sampling events conducted at the Site.

If you have any questions regarding this report, please contact the undersigned.

Sincerely,

Larry Lapuyade
Senior Project Geologist

Charles H. Pardini, R.G.
Principal Geologist
Assistant Operations Manager

Attachment

CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

This report presents the results of the fall 2004 semiannual groundwater monitoring event conducted from October 27 through October 29, 2004 at the Municipal Service Center (MSC), located at 7101 Edgewater Drive in Oakland, California ("the Site"; Figure 1). LFR Levine·Fricke (LFR) conducted monitoring activities at the Site in accordance with Assignment No. GO3-LFR-20. Described below are the monitoring activities, analytical results, distribution of contaminants in groundwater, conclusions, recommendations, and anticipated annual spring 2005 monitoring activities tentatively scheduled for April/May 2005.

2.0 SITE BACKGROUND AND CORRECTIVE ACTION MEASURES

Eighteen 4-inch-diameter and four 2-inch-diameter test/observation wells were installed on site to depths ranging from 13 feet below ground surface (bgs) to 17 feet bgs, in December 2001 and January 2002, according to Uribe & Associates Test/Observation Well Installation Report U & A Project 291-03, prepared in April 2002 (Uribe 2002). Seven wells (RW-A1, RW-A2, OB-A1, RW-B1, RW-B2, RW-B3, and RW-B4) were installed in the vicinity of Plumes A and B. Fifteen 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. Every well, except OB-A1, was surveyed subsequent to the installation event.

According to a 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 unit with a 10-HP 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 oil/water separation 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 biweekly into wells OB-A1, RW-A1, RW-A2, TBW-3, and TBW-4 (Plume A); MW-16 and MW-17 (Plume B); and MW-5 in the active tank area, to promote in-situ bioremediation.

3.0 FALL 2004 SEMIANNUAL MONITORING ACTIVITIES

3.1 Field Activities

The field activities of depth to water/product measurement and well sampling were conducted in accordance with the City of Oakland MSC Schedule and Protocol Table presented in Appendix A.

On October 27, 2004, LFR personnel measured depth to water and depth to separate phase hydrocarbons (SPH) using an electric oil/water interface probe in the following wells: MW-1 through MW-7, MW-10 through MW-17, TBW-1 through TBW-6, RW-A1, RW-A2, OB-A1, RW-B1 through RW-B4, RW-C1 through RW-C7, OB-C1, RW-D1 through RW-D5, OB-D1, OB-D2, and RW-1. The oil/water interface probe was decontaminated with hexanol and rinsed with distilled water before use in each well. Current and historical product thickness measurements, depth-to-groundwater measurements, and groundwater elevations calculated from groundwater measurements are presented in Table 1.

On October 8, 2004, LFR met with a representative from OTG EnviroEngineering to assess well locations. At that time, wells MW-8 and MW-9 could not be located. LFR subsequently used a metal detector to search for the two wells before conducting sampling activities. It is assumed that either the metal well boxes have been destroyed or the wells have been buried deeper than 1 foot bgs.

On October 28 and 29, 2004, LFR personnel collected groundwater samples from wells MW-1, MW-5, MW-10, MW-12, MW-13, MW-14, MW-15, MW-16, and MW-17. MW-6 was not sampled due to the presence of SPH, and wells MW-8 and MW-9 could not be located. Using a clean disposable Teflon bailer for each well, a minimum of three well-casing volumes of water were purged from each of the nine on-site wells prior to the collection of groundwater samples. The wells were allowed to recover to at least 80 percent of their original static groundwater levels before sampling. Dissolved oxygen, temperature, pH, and conductivity 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.

Subsequent to purging, samples were collected using the disposable polyvinyl chloride, bottom-discharging bailer used to purge the well. The samples were transferred from the bailer to the appropriate sample containers, labeled, and placed in a "wet chilled" cooler containing ice under chain-of-custody protocol. The samples were secured in the cooler and transferred to Curtis & Tompkins, Ltd., Analytical Laboratories (C&T), located in Berkeley, California. Purged and decontamination water generated during sampling activities were transferred into an on-site Baker Tank that was part of the on-site extraction and treatment system maintained by the City of Oakland.

3.2 Sample Analyses

The groundwater samples were analyzed by C&T, a California Department of Health Services–certified environmental laboratory, for the following parameters:

- Total petroleum hydrocarbons (TPH) as gasoline (TPH-g), kerosene (TPH-k), diesel (TPH-d), and motor oil (TPH-mo) using U.S. Environmental Protection Agency (U.S. EPA) Method 8015B, using a silica gel cleanup.
- 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 measurements were collected on October 27, 2004, using a Solinst oil/water interface meter (Table 1). Prior to groundwater measurement, the well caps were removed from all the wells to relieve atmospheric pressure and promote equilibrium in the groundwater column within each well. Groundwater levels were allowed to equalize prior to groundwater measurement. Groundwater elevations were determined using well survey data from the Second Quarter 2003 Monitoring Report, City of Oakland Municipal Service Center (Uribe 2003). Groundwater elevations ranged from 6.60 feet mean sea level (msl) at TBW-5 to 1.54 msl at MW-17 (Figure 2). A lower groundwater elevation was measured at adjacent monitoring well MW-16 (0.25 msl); however, this elevation is considered anomalous and was not used for contouring. MW-16 and MW-17 are located adjacent to the bay, with MW-17 located farther downgradient. Groundwater flow direction, measured between wells TBW-5 and MW-13, is toward the west in the northern section of the Site at 0.03 foot/foot (ft/ft), and toward the southwest (measured between wells MW-6 and MW-17) at 0.017 ft/ft in the southern portion of the Site. A groundwater high was observed in the vicinity of TBW-3,which is potentially created by the higher permeability of the backfill in the area. The variation in the groundwater gradient may be due to differences in lithologic characteristics in the subsurface, 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 Monitoring Report for the Site.

4.2 Occurrence of Separate-Phase Hydrocarbons

SPH was observed in the following on-site wells: MW-6, RW-C2, RW-C5, RW-D1, RW-D2, RW-D3, RW-D4, and RW-D5. SPH thickness was measured in on-site monitoring wells RW-C8 (0.15 foot) and OB-C1 (1.08 feet). Sheen was noted in wells TBW-3 and TBW-4, and a strong odor was noted in well OB-A1. These results are presented in Table 1. The observation of SPH in these wells was similar to previous

sampling events. SPH was previously noted in wells TBW-5, RW-B3, and RW-C4 during the April 2004 sampling event, but was not present in these wells during the October 2004 sampling event.

4.3 Contaminant Distribution in Groundwater

The analytical data from this groundwater monitoring event are provided 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 Tables 2, 3, 4, and 5, respectively.

For quality assurance/quality control (QA/QC), LFR collected a duplicate sample from well MW-14 and analyzed it for TPH-g, TPH-k, TPH-d, TPH-mo, BTEX, and MTBE. Analytical results in this duplicate sample were very close to the analytical results for sample MW-14.

4.3.1 Benzene

Benzene concentrations detected above laboratory analytical detection limits (LADL) were reported in groundwater samples collected from 5 of the 10 monitoring wells sampled. The maximum benzene concentration reported from groundwater samples collected this monitoring event was 18 micrograms per liter (µg/l) in wells MW-5 and MW-16. Historically, concentrations of benzene in well MW-5 have been as high as 2,100 µg/l. Free product has historically been detected in well MW-16.

In its July 2004 monitoring report (Ninyo & Moore 2004), Ninyo & Moore cited the following regulatory standards for benzene: acceptable risk threshold for the San Francisco Airport Ecological Protection Zone (SFAEPZ) Tier I Standard was 71 µg/l; the City of Oakland Tier I Carcinogenic Risk-Based Standard Level (RBSL) was also 71 µg/l. However, LFR has not included City of Oakland RBSLs in this report because they are from 1999 and are considered out of date; the San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs) for Surface Water Bodies in a Marine Environment for benzene is 71 µg/l (RWQCB 2003; Table F-2b). Benzene concentrations at the Site for this sampling event are well below these levels and do not pose an inhalation risk to human health.

Benzene was also reported in groundwater samples collected from wells MW-1 (6.4 µg/l), MW-7 (1.6 µg/l), and MW-14 (1.9 µg/l). These concentrations are generally consistent with historical concentrations for these wells and are below the above-referenced standards.

4.3.2 Toluene

Toluene was reported at very low concentrations in 3 of the 10 wells sampled: wells MW-1 (0.6 µg/l), MW-5 (2.1 µg/l), and MW-16 (1.7 µg/l). Concentrations are well below regulatory action levels for toluene of 40 µg/l (RWQCB ESLs).

4.3.3 Ethylbenzene

Ethylbenzene concentrations were reported in groundwater samples collected from 2 of the 10 wells sampled. Concentrations of ethylbenzene were 280 µg/l in well MW-5 and 29 µg/l in well MW-16. These concentrations are similar to historical concentrations of ethylbenzene in these wells and are below the SFAEPZ Tier I Standard (29,000 µg/l), but exceeded the RWQCB ESLs for Surface Water Bodies in a Marine Environment of 30 µg/l (RWQCB 2003).

4.3.4 Total Xylenes

Total xylenes were reported in groundwater samples collected from 4 of the 10 monitoring wells sampled. The maximum concentration of total xylenes was 16.1 µg/l in a groundwater sample collected from well MW-5. This maximum concentration slightly exceeds the RWQCB ESLs for Surface Water Bodies in a Marine Environment for total xylenes (13 µg/l).

Total xylenes were also reported in samples collected from wells MW-1 (1.4 µg/l), MW-15 (2.2 µg/l), and MW-16 (1.7 µg/l). These concentrations are consistent with historical concentrations for these wells and are below RWQCB ESLs.

4.3.5 MTBE

MTBE concentrations above LADL were reported in groundwater samples collected from 1 of the 10 monitoring wells sampled. MTBE was detected at 94 µg/l in a sample from well MW-5. This concentration is below historical concentrations previously detected in this well. This concentration is below the RWQCB ESLs for Surface Water Bodies in a Marine Environment for MTBE (180 µg/l). MTBE has historically been at or below LADL in the wells sampled during this sampling event.

4.3.6 TPH-g

TPH-g was reported in groundwater samples collected from 5 of the 10 wells sampled. The maximum TPH-g concentration reported for this groundwater monitoring event was 3,000 µg/l in the groundwater sample collected from well MW-5. This concentration is within recent historical concentrations for this well. It is below the SFAEPZ Tier I Standard Acceptable Threshold of 3,700 µg/l for TPH-g (Ninyo & Moore 2004), and below the RWQCB ESLs for Surface Water Bodies in a Marine Environment for TPH-g, which is also 3,700 µg/l.

TPH-g was also detected in wells MW-1 (340 µg/l), MW-12 (170 µg/l), MW-14 (53 µg/l) and MW-16 (1,100 µg/l). Well MW-16 has only been sampled one other time due to the presence of free product. Concentrations of TPH-g from wells MW-1 and MW-12 appeared to be due to heavier hydrocarbons based upon laboratory analytical caveats and are most likely due to TPH-k. Concentrations of TPH-g are consistent with historic concentrations for these wells and are below the SFAEPZ Tier I Standard Acceptable Threshold for TPH-g and the RWQCB ESLs for Surface Water Bodies in a Marine Environment for TPH-g.

4.3.7 TPH-d

TPH-d was reported in groundwater samples collected from 4 of the 10 monitoring wells sampled. The maximum concentration of TPH-d was 840 µg/l in a groundwater sample collected from well MW-5. This concentration exceeds both the SFAEPZ Tier I Standard Acceptable Threshold for TPH-d (middle distillates) of 640 µg/l g and the RWQCB ESLs for Surface Water Bodies in a Marine Environment for TPH-d (middle distillates) of 640 µg/l.

TPH-d was also detected in wells MW-1 (230 µg/l), MW-12 (240 µg/l), and MW-16 (450 µg/l). Laboratory analytical notes indicate that all four concentrations are most likely due to lighter hydrocarbons (i.e., TPH-k) and are not TPH-d.

4.3.8 TPH-mo

TPH-mo was reported in groundwater samples collected from 1 of the 10 wells sampled. TPH-mo was detected at 460 µg/l in a sample from well MW-12.This concentration is below both the SFAEPZ Tier I Standard Acceptable Threshold for TPH-mo of 640 µg/l (middle distillates; Uribe 2003) and the RWQCB ESLs for Surface Water Bodies in a Marine Environment for residual fuels, which is also 640 µg/l (middle distillates). This concentration is consistent with historical concentrations of TPH-mo in this well.

4.3.9 TPH-k

TPH-k was detected in 4 of the 10 wells sampled. Concentrations ranged from 180 µg/l to 940 µg/l. The concentration of TPH-k in well MW-5 was 940 µg/l, which was above both the SFAEPZ Tier I Standard Acceptable Threshold for TPH-k (middle distillates) of 640 µg/l and the RWQCB ESLs for Surface Water Bodies in a Marine Environment for TPH-k of 640 µg/l. The remaining concentrations of TPH-k were 240 µg/l in well MW-1, 180 µg/l in well MW-12, and 480 µg/l in well MW-16. These concentrations are consistent with historical TPH-k concentrations in these wells.

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

Extraction and analyses performed on the collected samples were reviewed by LFR personnel and were found to be within the appropriate holding times.

5.2 Blanks

One trip blank (TB-2) was prepared by C&T, transported along with groundwater samples, and analyzed for TPH-g using EPA Method 8015B. Additionally, laboratory method blank results were reviewed for detection of target analytes. No target analytes were detected in TB-2 or in method blanks, indicating that transportation and laboratory procedures were not a source of contamination.

5.3 Laboratory Control Samples

Laboratory Control Samples and MS, MSD and BS, BSD were conducted by C&T for TPH-g, TPH-d, TPH-k, TPH-mo, and BTEX. All samples were within the percentage recovery range required by the laboratory.

5.4 Surrogates

All surrogates, including hexacosane, bromofluorobenzene, and trifluorotoluene for TPH-g, TPH-d, TPH-k, and TPH-mo, and bromofluorobenzene, 1,2-Dichloroehtane-d4, and toluene-d8 for BTEX were used for laboratory QA/QC analysis. All surrogates were within the laboratory recovery limits.

5.5 False-Positive Petroleum Hydrocarbon Identification

Qualifiers were reported in the laboratory analytical reports as noted in previous sections.

6.0 CONCLUSIONS AND RECOMMENDATIONS

- Groundwater elevations ranged from 1.54 feet msl at well MW-17 to 6.60 feet msl at well TBW-3. The direction of shallow groundwater flow is toward the west in the northern section of the site at a 0.03 ft/ft gradient and toward the southwest at 0.017 ft/ft in the southern portion of the Site. A shallow groundwater high was observed in the vicinity of well TBW-3. This groundwater high is probably the result of higher subsurface permeability in areas of excavation backfill.
- SPH was observed in 10 wells. The maximum product thickness measured was 1.08 feet in well OB-C1.
- Benzene was detected above laboratory analytical detection limits in 5 of 10 wells sampled. The maximum concentration of benzene detected in shallow groundwater was 18 µg/l in wells MW-5 and MW-16. This concentration is well below both the SFAEPZ threshold and RWQCB ESLs for Surface Water Bodies in a Marine Environment of 71 µg/l.
- MTBE was detected above laboratory analytical detection limits in 1 of 10 wells sampled. The maximum concentration of MTBE detected in shallow groundwater was 94 µg/l in well MW-5. This concentration is below the RWQCB ESL for Surface Water Bodies in a Marine Environment for MTBE of 180 µg/l.
- TPH-g was detected in 5 of 10 wells sampled. The maximum concentration of TPH-g detected in shallow groundwater was 3,000 µg/l in well MW-5. This concentration is below both the SFAEPZ acceptable threshold and RWQCB ESL for middle petroleum distillates of 3,700 µg/l. Two of the detections of TPH-g were likely TPH-k and not TPH-g, according to the analytical laboratory.
- TPH-k was detected in 4 of 10 wells sampled. The maximum concentration of TPH-k was 940 µg/l in shallow groundwater in well MW-5. This concentration is above both the SFAEPZ acceptable threshold and RWQCB ESL for middle petroleum distillates of 640 µg/l. Other detected TPH-k concentrations were below 640 µg/l.
- TPH-mo was detected in 1 of 10 wells sampled at a concentration of 460 µg/l in well MW-12. This concentration is below both the SFAEZP acceptable threshold and RWQCB ESL for middle petroleum distillates of 640 µg/l.
- TPH-d was detected in 4 of 10 wells sampled. The maximum concentration of TPH-d was 840 µg/l in well MW-5. This concentration exceeds both the SFAEZP acceptable threshold and the RWQCB ESL for middle petroleum distillates of 640 µg/l. Other detected concentrations of TPH-d were below 640 µg/l. Based on discussions with the analytical laboratory, the analytical results indicated that all four detections of TPH-d were likely due to lighter hydrocarbons as TPH-k.
- Petroleum hydrocarbon concentrations appear to be decreasing, probably due to biodegradation.

Based on the results of the fall 2004 groundwater monitoring event, LFR has the following recommendations:

- Groundwater monitoring should continue on site due to the elevated concentrations of TPH-g, TPH-k, BTEX, and MTBE reported during this monitoring event.
- Groundwater monitoring wells not located during this sampling event (MW-8 and MW-9) should be located for future groundwater monitoring events.
- Conduct a conduit study to evaluate potential contaminant flow pathways for SPH and dissolved-phase hydrocarbons toward the San Leandro Bay. If the results of the conduit study indicate a preferential pathway to the bay, collect sediment samples at the bay shoreline to assess potential contamination migrating from the Site toward the shoreline.
- Following the conduit study and sediment sampling, evaluate the need for an ecological risk assessment (EA). The EA would consist of biological characterization, chemical characterization, and an exposure pathways assessment. The objectives of the EA would be to identify potential species of concern and significant habitats that may exist at the Site or in areas affected by the Site, and any actual or potentially complete exposure pathways.
- Continue in-situ remediation using hydrogen peroxide.

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 LFR 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. LFR 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

Regional Water Quality Control Board (RWQCB). 2003. Screening for Environmental Concerned Sites with Contaminated Soil and Groundwater (Interim Final). July.

Uribe & Associates (Uribe). 2003. Final Report, Second Quarter 2003 Monitoring Report, City of Oakland Municipal Service Center. May.

———. 2002. Test/Observation Well Installation Report U & A Project 291-03. April 2.

Ninyo & Moore. 2004. Groundwater Monitoring Report Spring Semi-Annual, Municipal Service Center, 7101 Edgewater Drive, Oakland, California, Assignment No. G03-N&M-10. July 14.

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

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in 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														
10/4/089	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	---	---	---	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	---	---	---	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	<B200	<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
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

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

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
11/11/98	10.47	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	B200	<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
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	---	---	---	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	---	---	---	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	---

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

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in 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)
4/19/95	11.15	---	---	8240		880	4,700	---	14,000	490	51	610	1,200	---
7/27/95	11.15	6.29	4.86	8240		590	5,000	---	22,000	1,300	54	1,500	2,400	---
11/20/95	11.15	6.98	4.17	8020		<50	<50	<50	8,900	430	31	610	880	---
2/21/96	11.15	5.97	5.18	8020		480	<50	<50	1,000	540	65	700	970	---
5/13/96	11.15	6.25	4.90	8020		<50	<50	<50	5,900	430	26	580	760	---
5/13/96	---	---	---	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	---	---	---	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	---	---	---	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	B500	<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
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	---	---	---	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	---	---	---	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	---	---	---	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	---	---	---	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	---

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

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in 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)
8/19/98	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: N M	---	---	---	---	---	---	---	---	---
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	---	---	---	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	B200	<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	---	---	---	---	---	---	---	---	---
MW-7														
12/13/91	11.51	---	---	8020		<50	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
12/13/91	11.51	---	---	8240		---	---	---	---	<5	<5	<5	<5	---
4/27/93	11.51	---	---	8240		<1,000	---	---	<1,000	<1.0	<1.0	<1.0	<1.0	---
4/19/95	11.51	---	---	8240		<50	<1,000	---	<50	<2.0	<2.0	<2.0	<2.0	---
7/27/95	11.51	6.87	4.64	8240		<50	<1,000	---	<50	<2.0	<2.0	<2.0	<2.0	---
11/20/95	11.51	8.48	3.03	8020		<50	---	---	<50	<0.5	<0.5	<0.5	1.5	---
2/21/96	11.51	6.29	5.22	8020		<50	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
5/13/96	11.51	6.95	4.56	8020		<50	---	---	---	<0.5	<0.5	<0.5	<0.5	---
8/27/96	11.51	6.80	4.71	8020		---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
8/19/98	11.51	6.88	4.63	---		---	---	---	---	---	---	---	---	---
11/11/98	11.51	7.40	4.11	---		---	---	---	---	---	---	---	---	---
2/23/99	11.51	5.57	5.94	8020		<50	<200	<50	80	<0.5	<0.5	<0.5	1	<5.0
5/27/99	11.51	6.56	4.95	---		---	---	---	---	---	---	---	---	---
8/24/99	11.51	6.29	5.22	8020	SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	5
11/22/99	11.51	6.80	4.71	---		---	---	---	---	---	---	---	---	---
1/18/00	11.51	7.31	4.20	---		---	---	---	---	---	---	---	---	---
1/19/00	11.51	---	---	8020	SGC	<50	<200	<50	54	1.5	1.5	2.4	3.8	<5.0
5/11/00	11.51	6.41	5.10	---		---	---	---	---	---	---	---	---	---
8/24/00	11.51	7.11	4.40	8020		<50	<250	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	11.51	7.30	4.21	---		---	---	---	---	---	---	---	---	---
2/27/01	11.51	5.75	5.76	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5

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Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
5/17/01	11.51	6.65	4.86	---		---	---	---	---	---	---	---	---	---
8/16/01	11.51	5.97	5.54		Filtered+SGC	<50	B600	<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
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	---	---	---	8020	SGC	85	<250	<50	<50					
11/28/00	12.22	9.40	2.83	8020	SGC	<50	910	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
2/27/01	12.22	9.50	2.72	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/17/01	12.22	9.71	2.51	---		---	---	---	---	---	---	---	---	---
5/18/01	---	---	---	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	---	---	---	---		---	---	---	---	---	---	---	---	---
10/27/04	---	NM	---	---		---	---	---	---	---	---	---	---	---
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

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

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in 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)
8/24/99	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	---	---	---	8020	SGC	580	2,200	170	180	23	2.4	<0.5	2.7	<5.0
11/28/00	10.77	8.45	2.32	8020	SGC	200	1,600	<50	130	1.9	<0.5	<0.5	<0.5	<5.0
11/28/00	10.77	8.45	2.32	---	Filtered+SGC	<50	<200	<50	---	---	---	---	---	---
2/26/01	10.77	6.40	4.37	8020	Filtered+SGC	120	<200	<50	142	33	1.8	<0.5	<0.5	<5.0
5/17/01	10.77	9.88	0.89	---		---	---	---	---	---	---	---	---	---
5/18/01	---	---	---	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	---	---	---	---		---	---	---	---	---	---	---	---	---
10/27/04	---	NM	---	---		---	---	---	---	---	---	---	---	---
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	---	---	---	8020	SGC	120 a,b	1,200	<50	100	<0.5	<0.5	0.8	<0.5	<5.0
5/11/00	10.59	7.00	3.59	8020	SGC	110 a	990	<50	145	1.62	0.5	0.5	0.9	<5.0
8/24/00	10.59	7.31	3.28	---		---	---	---	---	---	---	---	---	---
8/25/00	---	---	---	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	---	---	---	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

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Municipal Service Center
7101 Edgewater Drive, Oakland, California

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
4/28/04	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
MW-11														
1/18/00	11.60	7.08	4.52	---		---	---	---	---	---	---	---	---	---
1/19/00	---	---	---	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	B500	<100	110	4.8	<0.5	1.4	<0.5	<5
12/15/01	11.60	6.26	5.34	8021	SGC	200	300	<50	170	1.7	0.6	2.4	1.8	<2
4/5/02	11.60	5.47	6.13	8021	SGC	160	<200	---	330	8.9	2.0	6.9	8.7	<5
6/21/02	11.60	6.17	5.43	8021	SGC	<50	<300	<50	280	16	1.8	8.7	9.6	3.6
9/12/02	11.60	6.60	5.00	8021	SGC	<50	<300	<50	93	<0.5	<0.5	1.1	<0.5	2.1
4/24/03	11.60	5.71	5.89	8021B	SGC	<50	<300	<50	320	21	2.1	12	6.13	8.9
4/28/04	11.60	5.92	5.68	8260B	SGC	<100	<400	<100	360	18	<1.0	6.5	4.5	4
10/27/04	11.60	6.59	5.01	8260B	SGC	---	---	---	---	---	---	---	---	---
MW-12														
1/18/00	10.43	8.11	2.32	---		---	---	---	---	---	---	---	---	---
1/19/00	---	---	---	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	---	---	---	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	B300	<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

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Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in 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-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	---	---	---	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	---	---	---	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	B300	<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	11.31	10.22	1.09	8260B	SGC	<100	799	<100	<100	<0.5	<1.0	<1.0	<1.0	<1.0
10/28/04	11.31	9.50	1.81	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
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	---	---	---	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	---	---	---	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	---	---	---	8260B	dup	<50	<300	<50	53	1.9	<0.5	<0.5	<0.5	<0.5
MW-15														
1/18/00	12.36	10.56	1.80	8020	SGC	12,000 a	89,000	<50	110	3.8	2.1	1	4.6	<5.0
5/11/00	12.36	10.03	2.33	8020	SGC	120 a	590	<50	90	0.9	0.9	<0.5	3.3	<5.0
8/24/00	12.36	10.22	2.14	---		---	---	---	---	---	---	---	---	---
8/25/00	---	---	---	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	---	---	---	---	---	---

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

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in 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	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	---	---	---	8020	Filtered+SGC	210	<230	<57	66	1.5	<0.5	<0.5	2.1	<5.0
8/16/01	12.36	10.20	2.16		Filtered+SGC	<50	B500	<100	<50	<0.5	<0.5	<0.5	2.4	<5
12/16/01	12.36	9.80	2.56	8021	SGC	3,800	15,000	<250	<50	<0.5	<0.5	<0.5	2	<5
4/5/02	12.36	9.58	2.78	8021	SGC	1,000	1,400	---	<50	<0.5	<0.5	<0.5	2.3	<5
6/20/02	12.36	10.24	2.12	8021	SGC	670 a,c	2,700 h	95 c,i	<50	0.83	<0.5	<0.5	2.20	<2
9/18/02	12.36	9.89	2.47	8021	SGC	70 a,c	<300	<50	<50	<0.5	<0.5	1.5	1.71	<2
4/22/03	12.36	9.55	2.81	8021B	SGC	<50	<300	<50	<50	1 C	<.50	1.4	1.9	<2
4/28/04	12.36	9.68	2.68	8260B	SGC	<250	567	<100	<100	<0.5	<1.0	<1.0	<1.0	2.8
10/28/04	12.36	9.58	2.78	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	2.2	<0.5
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: N M	---	---	---	---	---	---	---	---	---
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: N M	---	---	---	---	---	---	---	---	---
8/16/01	13.57	11.94G	---	---	SPH: N M	---	---	---	---	---	---	---	---	---
12/15/01	13.57	N M	---	---	SPH: N M	---	---	---	---	---	---	---	---	---
4/3/02	13.57	12.88	0.69	---		---	---	---	---	---	---	---	---	---
6/21/02	12.22	N M	---	---	SPH: N M	---	---	---	---	---	---	---	---	---
4/22/03					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
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	---	---	---	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	---	---	---	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	B400	<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

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7101 Edgewater Drive, Oakland, California

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in 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)
4/23/03	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	8260B	SGC	<50	<300	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
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									
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: N M	---	---	---	---	---	---	---	---	---
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	B700	<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	---	---		---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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: N M	---	---	---	---	---	---	---	---	---
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	---	---	---	---		---	---	---	---	---	---	---	---	---

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Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in 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	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	B400	<100	180	<0.5	<0.5	<0.5	<0.5	<1
12/15/01	---	2.52	---	---	SPH: 0.02 ft.	---	---	---	---	---	---	---	---	---
4/3/02	---	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	---	---	---	---	---	---	---	---	---
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	B700	<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	---	---	---	---	---	---	---	---	---
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	B400	<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	Well has active remediation unit/recovery													
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	---	---	---	---	---	---	---	---	---
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	---		---	---	---	---	---	---	---	---	---

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Municipal Service Center
7101 Edgewater Drive, Oakland, California

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
1/19/00	---	---	---	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	---	---	---	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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
OB-A1														
4/22/03		2.24			SPH: .01 ft.	---	---	---	---	---	---	---	---	---
4/28/04		3.01		---	SPH: None	---	---	---	---	---	---	---	---	---
10/27/04		5.11		---	SPH: None (strong odor)	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---

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7101 Edgewater Drive, Oakland, California

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in 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-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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	NM	---	---	---	---	---	---	---	---	---	---	---	---
RW-C7														
4/22/03		6.51			visible Product	---	---	---	---	---	---	---	---	---
4/28/04	10.12	6.60	3.52		SPH: 0.02 ft.	---	---	---	---	---	---	---	---	---
10/27/04	10.12	NM	---	---	---	---	---	---	---	---	---	---	---	---

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

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in 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-C8														
10/27/04		6.85			SPH: 0.15 ft.	---	---	---	---	---	---	---	---	---
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.	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---

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

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)	BTEX Method	Notes	TPH-d (µg/l)	TPH-mo (µg/l)	TPH-k (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
RW-1														
4/22/03		6.43				---	---	---	---	---	---	---	---	---
4/28/04		5.73		---		---	---	---	---	---	---	---	---	---
10/27/04		6.34		---	SPH: None	---	---	---	---	---	---	---	---	---
Field Blank														
10/28/04				8260B		---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<0.5
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	---	---	---	---	---

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

Concentrations expressed in micrograms per liter (µg/l)

Well ID/ Date	TOC Elevation (in feet)	Depth to Groundwater (in feet)	Groundwater Elevation (in 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)

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

a = The analytical laboratory reviewed the data and noted that petroleum hydrocarbons quantified in the diesel range actually resemble heavier fuels at the front end of the motor oil pattern
b= The analytical laboratory reviewed the data and noted that petroleum hydrocarbons quantified in the diesel range actually resemble lighter fuels; the response looks like lower carbon chain compounds close to the gasoline range
c= The analytical laboratory reviewed the data and noted that the sample exhibits a fuel pattern which does not resemble the standard
e= Results are estimated due to concentrations exceeding the calibration range
f= Filtration with 0.45 micron glass membrane filter and silica gel treatment
g= Depth to product, depth to water could not be determined
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.
J= Value qualified as "estimated"
L= Lighter hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
B= Results flagged with "B" indicate motor oil was detected in the method blank
Z= Sample exhibits unknown single peak or peaks
H= Heavier hydrocarbons contributed to the quantitation.

Table 2
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:

E = estimated concentration
µg/l = micrograms per liter
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 3
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 prior to analysis.

Table 4
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:

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

--- = not measured/analyzed

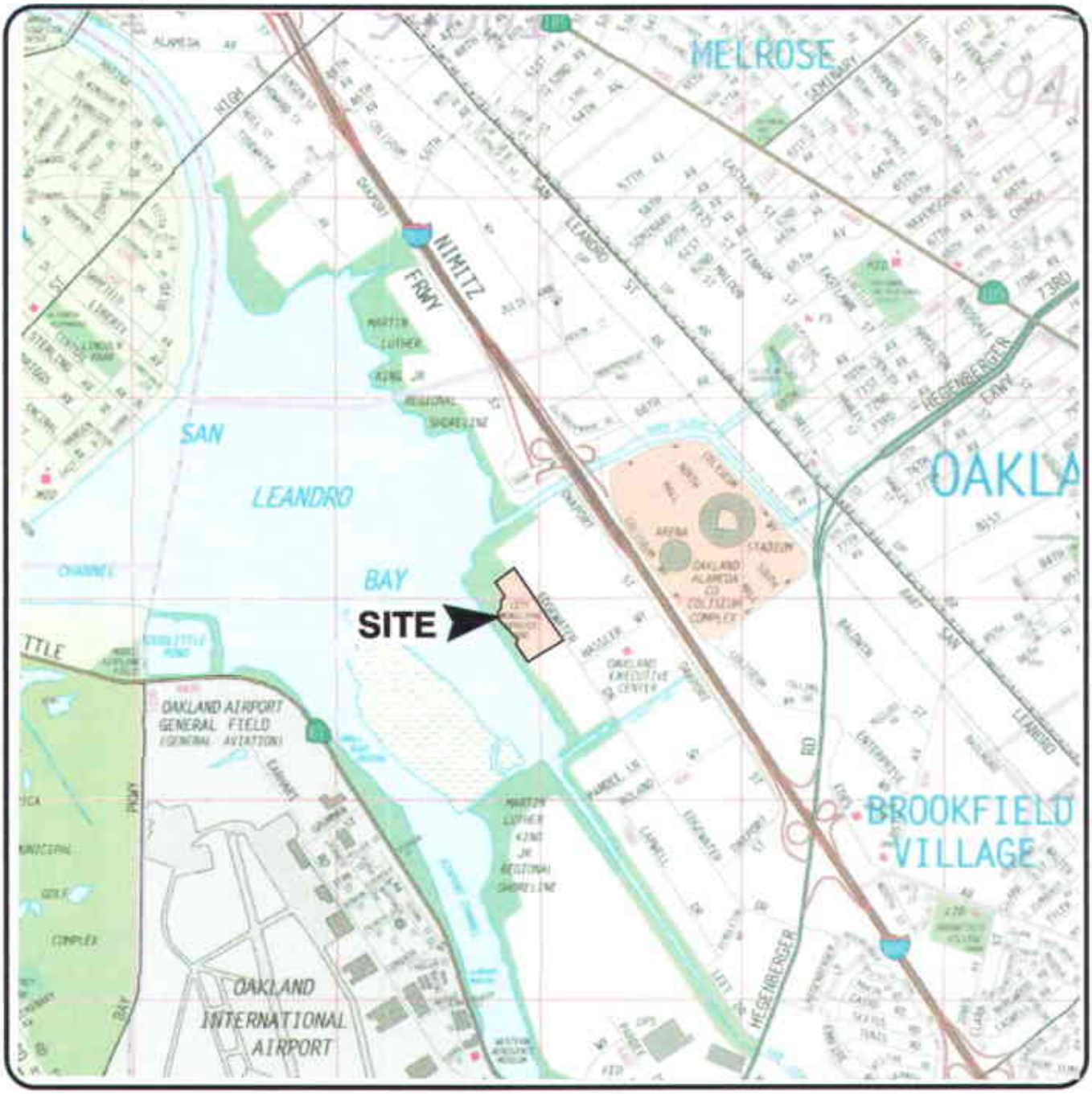
a = analyzed for organic lead

Table 5
Summary of Groundwater Analytical Data, Additional Metals
Municipal Service Center, 7101 Edgewater Drive, Oakland, California

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 prior to analysis, unless noted otherwise.
mg/l = milligrams per liter



REFERENCE: 2002 THOMAS GUIDE FOR ALAMEDA AND CONTRA COSTA COUNTIES, STREET GUIDE AND DIRECTORY.

NORTH

0 2400 4800

APPROXIMATE SCALE IN FEET

400834--A1.DWG

Ninyo & Moore

SITE LOCATION MAP

MUNICIPAL SERVICE CENTER
7101 EDGEWATER DRIVE
OAKLAND, CALIFORNIA

PROJECT NO.	DATE	FIGURE
400834010	7/2004	1

LEGEND

MW-1	◆	MONITORING WELL LOCATION
RW-2	◈	REMEDIATION WELL LOCATION
TBW-1	◈	TANK BACKFILL WELL
MW-3	⊠	ABANDONED WELL
NM		NOT MEASURED
NS		NOT SAMPLED
NSV		NOT SURVEYED
★		ANOMALOUS GROUNDWATER ELEVATION, NOT USED IN CONTOURING

WELL	MONITORING WELL DESIGNATION
ELEV	GROUNDWATER ELEVATION, FEET ABOVE MEAN SEA LEVEL (msl)
TPHg TPHd TPHmo BENZ	SPRING SEMI-ANNUAL TPHg, TPHd, TPHmo AND BENZENE CONCENTRATIONS IN MICROGRAMS PER LITER

APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT

FENCE

6.0 GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED

⊠ MW-4

⊠ MW-3

0.025 ft/ft

0.02 ft/ft

EDGEWATER DRIVE

MW-6: 5.45 | 4,780 | <650 | <400 | 34

MW-2: 4.49 | <100 | <100 | <400 | <0.5

MW-2: 4.49 | <100 | <100 | 400 | <4.3

MW-1: 6.10 | 154 | <100 | <400 | 20

MW-12: 3.83 | <100 | <550 | 1,020 | <0.5

MW-10: 3.89 | 114 | <100 | <400 | 14

MW-7: 4.90 | <100 | <100 | <400 | 1.6

MW-13: 1.09 | <100 | <100 | 799 | <0.5

MW-14: 3.24 | 241 | <230 | <400 | 1.4

MW-9: NM

MW-15: 2.66 | <100 | <250 | 567 | <0.5

MW-16 *: -0.26 | 2000 | <230 | 1030 | 150

MW-17: 0.96 | <100 | <100 | <400 | <0.5

MW-8: NM

MW-12: 5.68 | 360 | <100 | <400 | 18

TBW-3: 7.86 | NS

TBW-4: NSV | NS

MW-6: 5.89 | SPH

TBW-1: NSV | NS

TBW-2: NSV | NS

TBW-5: 3.96 | NS

TBW-6: 6.28 | NS

RW-1

PUBLIC WORKS BUILDING

911 CENTER

ADMIN

CRAFTS & STORAGE

STORAGE

BUILDING No. 5

FORMER USTs

ACTIVE USTs

ABOVE GROUND STORAGE TANKS NGV FUELING STATION

PLUME A

PLUME B

PLUME C

PLUME D

0 150 300

APPROXIMATE SCALE IN FEET

REFERENCE: URIBE & ASSOCIATES, APRIL 2003, 2nd QUARTER 2003 MONITORING REPORT.

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

400834-B2.DWG

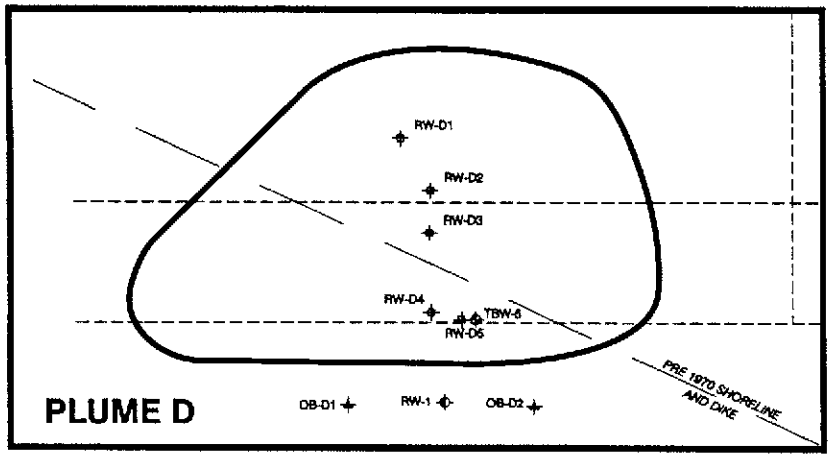
Ninyo & Moore

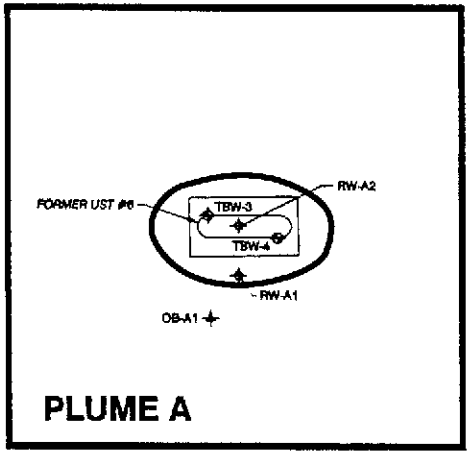
SITE PLAN

MUNICIPAL SERVICE CENTER
7101 EDGEWATER DRIVE
OAKLAND, CALIFORNIA

PROJECT NO.	DATE	FIGURE
400834010	7/2004	2

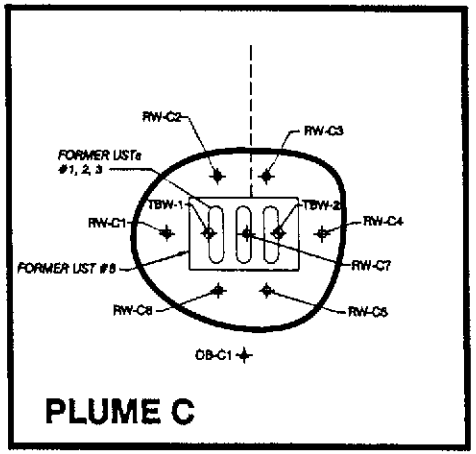
DESIGN\09225\11\000\09225 Plume Detail.CDR

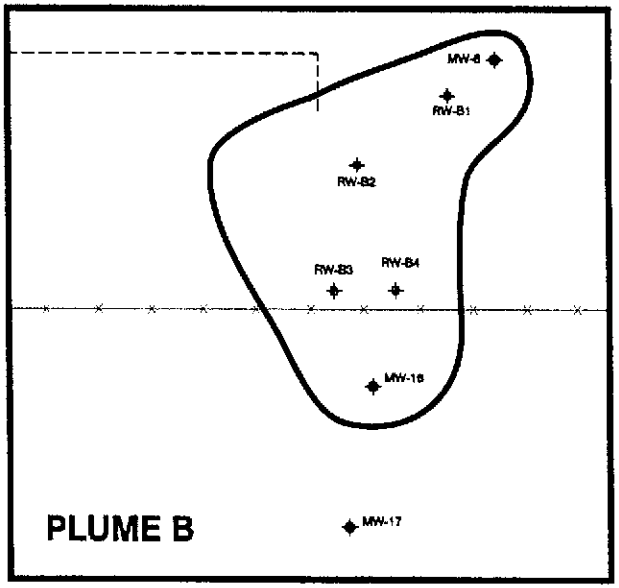


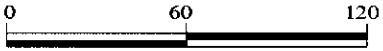


EXPLANATION

- RW-A1 — TEST/OBSERVATION WELL LOCATION
- OB-A1 — OBSERVATION WELL LOCATION
- MW-A1 — MONITORING WELL LOCATION
- RW-1 — REMEDIATION WELL LOCATION
- TBW-1 — TANK BACKFILL WELL
- FENCE
- FORMER UNDERGROUND PIPING
- AREA OF FREE PRODUCT ON GROUNDWATER







APPROXIMATE SCALE IN FEET

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

Detail Plume Map

Municipal Service Center, 7101 Edgewater Drive, Oakland, California

LFR LEVINE•FRICKE

Figure 3

APPENDIX A

City of Oakland MSC Schedule and Protocol

APPENDIX B

Groundwater Sampling Field Data Sheets

APPENDIX B

GROUNDWATER SAMPLING FIELD DATA SHEETS

WATER-QUALITY SAMPLING LOG

LFR LEVINE-FRICKE

Project No. 001-09225-13 Date 10/29/04 Page ___ of ___

Project Name Oakland Edgewater Sampling Location MW-1

Sampler's Name EK Sample No. MW-1 ☐ FB

Sampling Plan By LPL Dated 10/04 C.O.C. No. ___ ☐ DUP ___

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

Purge Water Storage Container Type ___ Storage Location ___

Date Purge Water Disposed 10/29/04 Where Disposed On-Site Ex System.

Analyses Requested	No. and Type of Bottles Used
TPH_g (8015M), BTEX/ MTBE (8260B), TPH_d, TPH_{mo}, TPH_k (8015)	6 VOA's w/ HCl, 1 L amber

Lab Name Curtis & Tompkins

Delivery By ☐ Courier ___ ☒ Hand ___

Well No. MW-1 Depth of Water 5.84

Well Diameter: 2" Well Depth 15.80

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 9.96

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.59

15.80
- 5.84
9.96
X 0.16
1.59

80% DTW 7.83

DO mg/L

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	~~Totalizer Reading~~	Temperature (C°)	pH (SU)	Cond (µmhos)	Turb (NTU)	Remarks
0845		5.84	—	—	—	—	—	—	start purge
0850			1.75	3.27/37.5	20.36	6.51	12246	turb	tint black
0855			3.50	3.06/55.7	20.38	6.53	16727	turb	tint black
0900			5.25	2.96/28.6	18.84	6.52	16660	turb	tint black
0905			7.00	1.97/22.6	19.71	6.50	15543	turb	tint black
0910			—						well went dry.
1245		7.25							sample
									*sample effervesced
									in HCl VoA's.

Continue remarks on reverse, if needed.

WATER-QUALITY SAMPLING LOG

LFR LEVINE FRICKE

Project No. 001-09225-13 Date 10/29/04 Page ___ of ___

Project Name Oakland Edgewater Sampling Location MW-5

Sampler's Name EK Sample No. MW-5 ☒ FB

Sampling Plan By LPL Dated 10/04 C.O.C. No. ___ ☐ DUP ___

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

Purge Water Storage Container Type ___ Storage Location ___

Date Purge Water Disposed 10/29/04 Where Disposed On-Site Ex System

Analyses Requested	No. and Type of Bottles Used
TPH_g (8015M), BTEX/ MTBE (8260B), TPH_d, $TPHmo$, TPH_k (8015)	6 VOA's w/ HCl, 1 Lamber

Lab Name Curtis & Tompkins

Delivery By ☐ Courier ___ ☒ Hand ___

Well No. MW-5 Depth of Water 5.85

Well Diameter: 2" Well Depth 14.41

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.56

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.37

14.41
− 5.85
8.56
× 0.16
1.37

80% DTW ___

MS/MSD

Time	~~Inlet~~ Depth	Depth to Water	Volume Purged (gal)	~~Totalizer~~ Reading	Temperature (C°)	pH (SU)	Cond (µmhos)	Turb (NTU)	Remarks
1120		5.85	–	–	–	–	–	–	start purge
1130			1.5	1.48	16.8	20.50	6.78	1868	turb cloudy gray
1140			3.0	1.37	15.7	20.63	6.64	2247	turb cloudy gray
1150			4.5	1.75	19.9	21.09	6.58	2141	turb cloudy gray
1200			6.0	1.78	20.2	21.15	6.55	2145	turb cloudy gray.
1210									
1220									sample
1125									MW-5-FB

Continue remarks on reverse, if needed.

WATER-QUALITY SAMPLING LOG

LFR Levine-Fricke

Project No. 001-09225-13 Date 10/28/04 Page ___ of ___

Project Name Oakland Edgewater Sampling Location MW-10

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

Sampling Plan By LPL Dated 10/04 C.O.C. No. ___ ☐ DUP ___

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

Purge Water Storage Container Type 55 gal drum Storage Location ___

Date Purge Water Disposed 10/28/04 Where Disposed On-Site Ex System.

Analyses Requested	No. and Type of Bottles Used
TPH_g (8015M), BTEX/ MTBE (8260B), TPH_d, TPH_{mo}, TPH_k (8015)	6 VOA's w/ HCl, 1 L amber

Lab Name Curtis & Tompkins

Delivery By ☐ Courier ___ ☒ Hand ___

Well No. MW-10 Depth of Water 6.69

Well Diameter: 2" Well Depth 14.85

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 8.16

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.31

14.85
- 6.69
8.16
x 0.16
1.31

80% DTW ___

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	~~Totalizer Reading~~ / DO mg/L	Temperature (C°)	pH (SU)	Cond (µmhos)	Turb (NTU)	Remarks
1650		6.69	—	—	—	—	—	—	start purge
1655			1.5	1.33/14.8	20.36	7.13	2527	turb	gray
1700			3.0	1.30/14.5	20.59	7.19	3132	turb	gray
1705			4.5	1.28/14.4	20.95	7.19	3719	turb	light gray
1710			6.0	1.44/16.3	21.06	7.18	3181	turb	light gray
1715			7.5	1.24/13.8	20.46	7.12	3186	turb	light gray.
1720									sample.

Continue remarks on reverse, if needed.

WATER-QUALITY SAMPLING LOG

Project No. 001-09225-13 Date 10/29/04 Page ___ of ___

Project Name Oakland Edgewater Sampling Location MW-12

Sampler's Name EK Sample No. MW-12 ☐ FB

Sampling Plan By LPL Dated 10/04 C.O.C. No. ___ ☐ DUP ___

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

Purge Water Storage Container Type ___ Storage Location ___

Date Purge Water Disposed 10/29/04 Where Disposed On-Site Ex System

Analyses Requested	No. and Type of Bottles Used
TPH_g (8015M), BTEX/ MTBE (8260B), TPH_d, TPH_{mo}, TPH_k (8015)	6 VOA's w/ HCl; 1 L amber

Lab Name Curtis & Tompkins

Delivery By ☐ Courier ___ ☒ Hand ___

Well No. MW-12 Depth of Water 8.10

Well Diameter: 2" Well Depth 14.50

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 6.40

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.02 mg PO 4/

14.50
- 8.10
6.40
x 0.16
1.02

80% DTW ___

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	~~Totalizer Reading~~	Temperature (C°)	pH (SU)	Cond (µmhos)	Turb (NTU)	Remarks
0915		8.10	—	—	—	—	—	—	start purge
0920			1.0	1.77 | 19.7	20.15	7.03	6036	turb	gray
0925			2.0	1.49 | 16.8	20.35	7.09	5849	turb	dark gray
0930			3.0	1.27 | 14.2	20.01	7.12	5809	turb	dark gray
0935			4.0	1.19 | 13.2	19.89	7.14	5797	turb	dark gray.
0940		8.23							sample
									* sheen in bucket

Continue remarks on reverse, if needed.

LFR Levine-Fricke — WATER-QUALITY SAMPLING LOG

Project No. 001-09225-13 Date 10/28/04 Page ___ of ___

Project Name Oakland Edgewater Sampling Location MW-13

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

Sampling Plan By LPL Dated 10/04 C.O.C. No. ___ ☐ DUP ___

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

Purge Water Storage Container Type 55 gal drum Storage Location ___

Date Purge Water Disposed 10/28/04 Where Disposed On-Site Ex System.

Analyses Requested	No. and Type of Bottles Used
TPH_g (8015M), BTEX/ MTBE (8260B), TPH_d, TPH_{mo}, TPH_k (8015)	6 VOA's w/ HCl; 1L amber

Lab Name Curtis & Tompkins

Delivery By ☐ Courier ___ ☒ Hand ___

Well No. MW-13 Depth of Water 9.68

Well Diameter: 2" Well Depth 19.66

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 9.98

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.59

19.66
− 9.68
9.98
× 0.16
1.59

80% DTW ___

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	~~Totalizer Reading~~ DO mg/L	Temperature (C°)	pH (SU)	Cond (µmhos)	Turb (NTU)	Remarks
1558		9.68	—	—	—	—	—	—	start purge
1605			1.75	1.38/15.7	20.05	6.74	9345	turb	brown
1615			3.50	1.04/11.7	19.78	6.72	9489	turb	brown
1625			5.25	1.09/12.1	19.27	6.74	9462	turb	dark brown
1635									sample

Continue remarks on reverse, if needed.

WATER-QUALITY SAMPLING LOG

LFR LEVINE-FRICKE

Project No. 001-09225-13 Date 10/28/04 Page ___ of ___

Project Name Oakland Edgewater Sampling Location MW-14

Sampler's Name EK Sample No. MW-14 ☐ FB

Sampling Plan By LPL Dated 10/04 C.O.C. No. ___ ☒ DUP ___

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

Purge Water Storage Container Type 55 gal drum Storage Location ___

Date Purge Water Disposed 10/28/04 Where Disposed On-Site Ex System.

Analyses Requested	No. and Type of Bottles Used
TPH_g (8015M), BTEX/ MTBE (8260B), TPH_d, TPH_{mo}, TPH_k (8015)	6 VOA's w/ HCl, 1 Lamber

Lab Name Curtis & Tompkins

Delivery By ☐ Courier ___ ☒ Hand ___

Well No. MW-14 Depth of Water 7.11

Well Diameter: 2" Well Depth 14.65

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 7.54

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.21

14.65
- 7.11
7.54
X 0.16
1.21

80% DTW ___

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	~~Totalizer Reading~~ DO mg/L	Temperature (C°)	pH (SU)	Cond (µmhos)	Turb (NTU)	Remarks
1500		7.11	—	—	—	—	—	—	start purge
1505			1.25	0.27/3.4	21.16	7.17	12337	turb	dark brown
1510			2.50	0.89/10.4	21.17	7.18	12339	turb	dark brown
1515			3.75	0.80/9.3	20.81	7.19	12329	turb	dark brown.
1520									sample
1525									duplicate.

Continue remarks on reverse, if needed.

LFR LEVINE·FRICKE

WATER-QUALITY SAMPLING LOG

Project No. 001-09225-13 Date 10/28/04 Page ___ of ___

Project Name Oakland Edgewater Sampling Location MW-15

Sampler's Name EK Sample No. MW-15 ☐ FB

Sampling Plan By LPL Dated 10/04 C.O.C. No. ___ ☐ DUP ___

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

Purge Water Storage Container Type 55 gal drum Storage Location ___

Date Purge Water Disposed 10/28/04 Where Disposed On-Site Ex System

Analyses Requested	No. and Type of Bottles Used
TPHg (8015M), BTEX/ MTBE (8260B), TPHd, TPHmo, TPHk (8015)	6 VOA's w/ HCl, 1 L amber

Lab Name Curtis & Tompkins

Delivery By ☐ Courier ___ ☒ Hand ___

Well No. MW-15 Depth of Water 8.60

Well Diameter: 2" Well Depth 20.13

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 11.53

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.84

20.13
- 8.60
11.53
x 0.16
1.84

80% DTW ___

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	~~Totalizer Reading~~ DO / mg/L	Temperature (C°)	pH (SU)	Cond (µmhos)	Turb (NTU)	Remarks
1400		8.60	—	—	—	—	—	—	start purge
1407			2.0	1.37 / 16.0	20.93	6.95	11721	turb	light gray
1412			4.0	1.58 / 17.6	20.77	6.94	11304	turb	light gray
1417			6.0	1.55 / 17.9	20.62	6.97	11077	turb	light gray.
1425									sample

Continue remarks on reverse, if needed.

WATER-QUALITY SAMPLING LOG

Project No. 001-09225-13 Date 10/28/04 Page ___ of ___

Project Name Oakland Edgewater Sampling Location MW-16

Sampler's Name EK Sample No. MW-16 ☐ FB

Sampling Plan By LPL Dated 10/04 C.O.C. No. _____ ☐ DUP ___

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

Purge Water Storage Container Type 55-gal drum Storage Location _____

Date Purge Water Disposed 10/28/04 Where Disposed On-Site Ex System.

Analyses Requested	No. and Type of Bottles Used
TPHg (8015M), BTEX/ MTBE (8260B), TPHd, TPHmo, TPHk (8015)	6 VOA's w/ HCl, 1 Lamber

Lab Name Curtis & Tompkins

Delivery By ☐ Courier _____ ☒ Hand _____

15.00
− 9.75
5.25
V 0.16
0.84

Well No. MW-16 Depth of Water 9.75

Well Diameter: 2" Well Depth 15.00

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 5.25

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 0.84

80% DTW _____

DO mg/L

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	~~Totalizer Reading~~	Temperature (C°)	pH (SU)	Cond (µmhos)	Turb (NTU)	Remarks
1315		9.75	–	–	–	–	–	–	Start purge
1320			1.0	7.09 | 83.7	20.76	7.02	20501	slightly turb	cloudy
1330			2.0	2.78 | 33.2	20.80	7.02	20628	slightly turb	cloudy
1335			3.0	1.73 | 20.7	20.41	7.06	20717	slightly turb	cloudy
1345									sample
									* odor in well
									* well casing very cruddy w/ product caked on sides

Continue remarks on reverse, if needed.

frm-water-quality sampling log MER; 10/00; FORM FRONT

LFR LEVINE•FRICKE

WATER-QUALITY SAMPLING LOG

Project No. 001-09225-13 Date 10/28/04 Page ___ of ___

Project Name Oakland Edgewater Sampling Location ~~Oakto~~ MW-17

Sampler's Name EK Sample No. MW-17 ☐ FB

Sampling Plan By LPL Dated 10/04 C.O.C. No. 200928 ☐ DUP ___

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

Purge Water Storage Container Type 55 gal drum Storage Location ___

Date Purge Water Disposed 10/28/04 Where Disposed On-Site Ex System

Analyses Requested	No. and Type of Bottles Used
TPHg (8015M), BTEX/MTBE	6 VOA's w/ HCl
(8260B), TPHg, TPHmo, TPHk	1 L Amber

Lab Name C & T

Delivery By ☐ Courier ___ ☒ Hand ___

17.68
− 6.80
10.88
× 0.16
1.74

Well No. MW-17 Depth of Water 6.80

Well Diameter: ___ Well Depth 17.68

☒ 2" (0.16 gal/feet) ☐ 5" (1.02 gal/feet) Water Column Height 10.88

☐ 4" (0.65 gal/feet) ☐ 6" (1.47 gal/feet) Well Volume 1.74

80% DTW ___

100%

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	~~Totalizer Reading~~	Temperature (C°)	pH (SU)	Cond (µmhos)	Turb (NTU)	Remarks
1210		6.80	—	—	—	—	—	—	start purge
1215		—	1.75	3.49/43.5	20.91	6.79	32604	turbid	gray
1225		—	3.50	1.92/24.6	21.59	7.01	33643	turbid	gray
1235		—	5.25	2.19/27.7	20.97	7.05	34461	turbid	gray
1245		—	7.00	2.00/23.2	20.67	7.04	34575	turbid	gray
1255									sample

Continue remarks on reverse, if needed.

APPENDIX C

Laboratory Results and Chain-of-Custody Documentation

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Aromatics by GC/MS

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Field ID:	MW-17	Batch#:	95956
Lab ID:	175626-002	Sampled:	10/28/04
Matrix:	Water	Received:	10/29/04
Units:	ug/L	Analyzed:	10/29/04
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	80-120
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-122

ND= Not Detected
RL= Reporting Limit

5.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Aromatics by GC/MS

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Field ID:	MW-16	Batch#:	95956
Lab ID:	175626-003	Sampled:	10/28/04
Matrix:	Water	Received:	10/29/04
Units:	ug/L	Analyzed:	10/29/04
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	18	0.5
Toluene	1.7	0.5
Ethylbenzene	29	0.5
m,p-Xylenes	1.7	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Aromatics by GC/MS

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Field ID:	MW-15	Batch#:	95956
Lab ID:	175626-004	Sampled:	10/28/04
Matrix:	Water	Received:	10/29/04
Units:	ug/L	Analyzed:	10/29/04
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	1.4	0.5
o-Xylene	0.8	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	102	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-122

ND= Not Detected
RL= Reporting Limit

7.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Aromatics by GC/MS

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Field ID:	MW-14	Batch#:	95956
Lab ID:	175626-005	Sampled:	10/28/04
Matrix:	Water	Received:	10/29/04
Units:	ug/L	Analyzed:	10/29/04
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	0.5	0.5
Benzene	3.5	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	80-120
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-122

ND= Not Detected
RL= Reporting Limit

8.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Aromatics by GC/MS

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Field ID:	MW-14D	Batch#:	95956
Lab ID:	175626-006	Sampled:	10/28/04
Matrix:	Water	Received:	10/29/04
Units:	ug/L	Analyzed:	10/29/04
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	1.9	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	80-120
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Aromatics by GC/MS

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Field ID:	MW-13-FB	Batch#:	95956
Lab ID:	175626-007	Sampled:	10/28/04
Matrix:	Water	Received:	10/29/04
Units:	ug/L	Analyzed:	10/29/04
Dil'n Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	104	80-120
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-122

ND= Not Detected
RL= Reporting Limit

M6.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Aromatics by GC/MS

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Field ID:	MW-13	Batch#:	95956
Lab ID:	175626-008	Sampled:	10/28/04
Matrix:	Water	Received:	10/29/04
Units:	ug/L	Analyzed:	10/29/04
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	109	80-120
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-122

ND= Not Detected
RL= Reporting Limit

11.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Aromatics by GC/MS

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Field ID:	MW-10	Batch#:	95956
Lab ID:	175626-009	Sampled:	10/28/04
Matrix:	Water	Received:	10/29/04
Units:	ug/L	Analyzed:	10/29/04
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	80-120
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-122

ND= Not Detected
RL= Reporting Limit

12.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	95956
Units:	ug/L	Analyzed:	10/29/04
Diln Fac:	1.000		

Type: BS Lab ID: QC270132

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	40.89	82	74-128
Benzene	50.00	46.95	94	79-120
Toluene	50.00	48.55	97	80-120
Ethylbenzene	50.00	51.33	103	80-121
m,p-Xylenes	100.0	101.6	102	80-120
o-Xylene	50.00	49.77	100	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	80-120
Toluene-d8	97	80-120
Bromofluorobenzene	96	80-122

Type: BSD Lab ID: QC270133

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	47.79	96	74-128	16	20
Benzene	50.00	45.49	91	79-120	3	20
Toluene	50.00	47.42	95	80-120	2	20
Ethylbenzene	50.00	49.71	99	80-121	3	20
m,p-Xylenes	100.0	96.40	96	80-120	5	20
o-Xylene	50.00	48.44	97	80-120	3	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	80-120
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-122

RPD= Relative Percent Difference

14.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC270134	Batch#:	95956
Matrix:	Water	Analyzed:	10/29/04
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	100	80-122

ND= Not Detected
RL= Reporting Limit

13.0

Curtis & Tompkins, Ltd.

COOLER RECEIPT CHECKLIST

Login#: 175646 Date Received: 10/29/04 Number of Coolers: 1
Client: LFR Project: OAKLAND Edgewater

A. Preliminary Examination Phase
Date Opened: 10/29/04 By (print): Peter P. (sign) [signature]

1. Did cooler come with a shipping slip (airbill, etc.)? ..... YES (NO)
   If YES, enter carrier name and airbill number: _____
2. Were custody seals on outside of cooler? ..... YES (NO)
   How many and where? _____ Seal date: _____ Seal name: _____
3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO N/A
4. Were custody papers dry and intact when received? ..... (YES) NO
5. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO
6. Did you sign the custody papers in the appropriate place? ..... (YES) NO
7. Was project identifiable from custody papers? ..... (YES) NO
   If YES, enter project name at the top of this form.
8. If required, was sufficient ice used? Samples should be 2-6 degrees C. ..... YES NO
   Type of ice: WET Temperature: On ice

B. Login Phase
Date Logged In: 10/29/04 By (print): Peter P. (sign) [signature]

1. Describe type of packing in cooler: Zip Lock bag
2. Did all bottles arrive unbroken? ..... (YES) NO
3. Were labels in good condition and complete (ID, date, time, signature, etc.)? ..... (YES) NO
4. Did bottle labels agree with custody papers? ..... (YES) NO
5. Were appropriate containers used for the tests indicated? ..... (YES) NO
6. Were correct preservatives added to samples? ..... (YES) NO
7. Was sufficient amount of sample sent for tests indicated? ..... (YES) NO
8. Were bubbles absent in VOA samples? If NO, list sample Ids below ..... (YES) NO
9. Was the client contacted concerning this sample delivery? ..... YES NO
   If YES, give details below.
   Who was called? _____ By whom? _____ Date: _____

Additional Comments:

_____
_____
_____
_____
_____
_____

17646

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

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

PROJECT NO.: [illegible]-3 | SECTION NO.: | DATE: 10/29/04 | SAMPLER'S INITIALS: EK | SERIAL NO. № 200929

PROJECT NAME: Oakland Edgewater | SAMPLER (Signature): Erica Kalve

	Sample ID.	Date	Time	Lab Sample No.	No. of Containers	Soil	Water	TPHd (EPA 8015M)	TPHg (EPA 8015M)	BTEX (EPA 8021/602)	VOCs (EPA 8260/624)*	Metals (EPA 6010/7000)**	MTBE (8260)	TPH motor oil	TPH kerosene					Standard	RUSH	HOLD	REMARKS
-1	TB-2	10/29/04	0055		1		X		X	X		X										X	·TPHg using EPA 8015M
-2	MW-2	10/29/04	0940		7		X	X	X	X		X	X	X						X			·BTEX/MTBE using EPA 8260B
-3	MW-5-FB	10/29/04	1125		6		X		X	X		X	→ hold							X			
-4	MW-5	10/29/04	1220		7		X	X	X	X		X	X	X						X			·TPHd, TPHmo and TPHk using silica gel cleanup and EPA 8015M
-5	MW-1	10/29/04	1245		7		X	X	X	X		X	X	X						X			

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

Results to Larry Lapuyade @ (510) 596 9638

SILICA GEL CLEANUP on TPHd / TPHmo / TPHk SAMPLES PRIOR TO ANALYSIS

SAMPLE RECEIPT: ☑ Intact ☑ Cold ☐ On Ice ☐ Ambient | Cooler Temp: | Cooler No.:

Preservative Correct? ☐ Yes ☐ No ☐ N/A

METHOD OF SHIPMENT: Hand Deliver

LAB REPORT NO.:

FAX COC CONFIRMATION TO:

FAX RESULTS TO:

SEND HARDCOPY TO:

SEND EDD TO: EMV.LABEDDS.COM

ANALYTICAL LABORATORY: Curtis & Tompkins

	1	2	3
RELINQUISHED BY (SIGNATURE) (DATE)	Erica Kalve 10/29/04		
(PRINTED NAME) (TIME)	ERICA KALVE 1550		
(COMPANY)	LFR		
RECEIVED BY (SIGNATURE) (DATE)	[signature] 10/29/04		
(PRINTED NAME) (TIME)	Lavanna Curtis 1550		
(COMPANY) / (LABORATORY)	C+T		

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

FORM NO. 2001/COC/SXS

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Volatile Hydrocarbons

Lab #:	175646	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	10/29/04
Units:	ug/L	Received:	10/29/04
Diln Fac:	1.000	Analyzed:	10/29/04
Batch#:	95942		

Field ID: TB-2 Lab ID: 175646-001
Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	86	70-141
Bromofluorobenzene (FID)	91	80-143

Field ID: MW-12 Lab ID: 175646-002
Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	170 H	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	92	70-141
Bromofluorobenzene (FID)	104	80-143

Field ID: MW-5 Lab ID: 175646-004
Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	3,000	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	103	70-141
Bromofluorobenzene (FID)	112	80-143

H= Heavier hydrocarbons contributed to the quantitation
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

2.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Volatile Hydrocarbons

Lab #:	175646	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	10/29/04
Units:	ug/L	Received:	10/29/04
Diln Fac:	1.000	Analyzed:	10/29/04
Batch#:	95942		

Field ID: MW-1 Lab ID: 175646-005
Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	340 H Z	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	97	70-141
Bromofluorobenzene (FID)	97	80-143

Type: BLANK Lab ID: QC270067

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	82	70-141
Bromofluorobenzene (FID)	93	80-143

H= Heavier hydrocarbons contributed to the quantitation
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	175646	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC270069	Batch#:	95942
Matrix:	Water	Analyzed:	10/29/04
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,000	100	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	117	70-141
Bromofluorobenzene (FID)	111	80-143

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	175646	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8015B
Field ID:	MW-13	Batch#:	95942
MSS Lab ID:	175626-008	Sampled:	10/28/04
Matrix:	Water	Received:	10/29/04
Units:	ug/L	Analyzed:	10/30/04
Diln Fac:	1.000		

Type: MS Lab ID: QC270163

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<13.00	2,000	1,925	96	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	93	70-141
Bromofluorobenzene (FID)	90	80-143

Type: MSD Lab ID: QC270164

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,871	94	80-120	3	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	95	70-141
Bromofluorobenzene (FID)	89	80-143

RPD= Relative Percent Difference

APPENDIX C

LABORATORY RESULTS AND CHAIN-OF-CUSTODY DOCUMENTATION

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

75626

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

PROJECT NO.: 001-09225-13 | SECTION NO.: | DATE: 10/28/04 | SAMPLER'S INITIALS: EK | SERIAL NO.: Nº 200928

PROJECT NAME: Oakland Edgewater | SAMPLER (Signature): Erica Kalve

	Sample ID	Date	Time	Lab Sample No.	No. of Containers	Soil	Water	TPHd (EPA 8015M)	TPHg (EPA 8015M)	BTEX (EPA ~~8021/602~~ 8260B)	VOCs (EPA 8260/624)*	Metals (EPA 6010/7000)**	MTBE (8260B)	TPHmo (silica gel)	TPHk (silica gel)						Standard	RUSH	HOLD
-1	TB-1	10/28/04	1100		1		X			X			X										X
-2	MW-17	10/28/04	1255		7		X	X	X	X			X	X	X						X		
-3	MW-16	10/28/04	1345		7		X	X	X	X			X	X	X						X		
-4	MW-15	10/28/04	1425		7		X	X	X	X			X	X	X						X		
-5	MW-14	10/28/04	1520		7		X	X	X	X			X	X	X						X		
-6	MW-14D	10/28/04	1525		7		X	X	X	X			X	X	X						X		
-7	MW-13-FB	10/28/04	1555		6 ~~7~~		X	~~X~~	X	X			X								X		
-8	MW-13	10/28/04	1635		7		X	X	X	X			X	X	X						X		
-9	MW-10	10/28/04	1720		7		X	X	X	X			X	X	X						X		

REMARKS

*VOCs: ☐ 8260 List ☐ 8240 List ☐ 8010 List ☐ 624 List

**Metals: ☐ CAM17 ☐ RCRA ☐ LUFT

• TPHg using EPA 8015M
• BTEX/MTBE using EPA 8260B
• TPHd, TPHmo and TPHk using silica gel cleanup and EPA 8015

Results to Larry Lapuyade (510) 596 9638

SILICA GEL CLEANUP ON TPHd/TPHmo/TPHk SAMPLES PRIOR TO ANALYSIS.

SAMPLE RECEIPT: ☑ Intact ☑ Cold ☑ On Ice ☐ Ambient | Cooler Temp: | Cooler No:

Preservative Correct? ☐ Yes ☐ No ☐ N/A

METHOD OF SHIPMENT:

LAB REPORT NO.:

FAX COC CONFIRMATION TO:

FAX RESULTS TO:

SEND HARDCOPY TO:

SEND EDD TO: EMV.LABEDDS.COM

ANALYTICAL LABORATORY: Curtis & Tompkins

RELINQUISHED BY: 1	RELINQUISHED BY: 2	RELINQUISHED BY: 3
Erica Kalve (SIGNATURE) 10/28/04 (DATE)	(SIGNATURE) (DATE)	(SIGNATURE) (DATE)
ERICA KALVE (PRINTED NAME) 2000 (TIME)	(PRINTED NAME) (TIME)	(PRINTED NAME) (TIME)
LFR (COMPANY)	(COMPANY)	(COMPANY)

RECEIVED BY: 1	RECEIVED BY: 2	RECEIVED BY (LABORATORY): 3
Joel Ingram (SIGNATURE) 10/29/04 (DATE)	(SIGNATURE) (DATE)	(SIGNATURE) (DATE)
Joel Ingram (PRINTED NAME) 7:00 AM (TIME)	(PRINTED NAME) (TIME)	(PRINTED NAME) (TIME)
(COMPANY)	(COMPANY)	(LABORATORY)

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

FORM NO: 2001/COC/SXS

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Volatile Hydrocarbons

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	95942
Units:	ug/L	Sampled:	10/28/04
Diln Fac:	1.000	Received:	10/29/04

Field ID: MW-17 Lab ID: 175626-002
Type: SAMPLE Analyzed: 10/29/04

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	88	70-141
Bromofluorobenzene (FID)	93	80-143

Field ID: MW-16 Lab ID: 175626-003
Type: SAMPLE Analyzed: 10/29/04

Analyte	Result	RL
Gasoline C7-C12	1,100	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	117	70-141
Bromofluorobenzene (FID)	102	80-143

Field ID: MW-15 Lab ID: 175626-004
Type: SAMPLE Analyzed: 10/29/04

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	85	70-141
Bromofluorobenzene (FID)	101	80-143

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Volatile Hydrocarbons

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	95942
Units:	ug/L	Sampled:	10/28/04
Diln Fac:	1.000	Received:	10/29/04

Field ID: MW-14 Lab ID: 175626-005
Type: SAMPLE Analyzed: 10/29/04

Analyte	Result	RL
Gasoline C7-C12	56	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	90	70-141
Bromofluorobenzene (FID)	99	80-143

Field ID: MW-14D Lab ID: 175626-006
Type: SAMPLE Analyzed: 10/29/04

Analyte	Result	RL
Gasoline C7-C12	53	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	80	70-141
Bromofluorobenzene (FID)	87	80-143

Field ID: MW-13-FB Lab ID: 175626-007
Type: SAMPLE Analyzed: 10/29/04

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	86	70-141
Bromofluorobenzene (FID)	91	80-143

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Volatile Hydrocarbons

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	95942
Units:	ug/L	Sampled:	10/28/04
Diln Fac:	1.000	Received:	10/29/04

Field ID: MW-13 Lab ID: 175626-008
Type: SAMPLE Analyzed: 10/29/04

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	70-141
Bromofluorobenzene (FID)	94	80-143

Field ID: MW-10 Lab ID: 175626-009
Type: SAMPLE Analyzed: 10/30/04

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	77	70-141
Bromofluorobenzene (FID)	97	80-143

Type: BLANK Analyzed: 10/29/04
Lab ID: QC270067

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	82	70-141
Bromofluorobenzene (FID)	93	80-143

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC270069	Batch#:	95942
Matrix:	Water	Analyzed:	10/29/04
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,000	100	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	117	70-141
Bromofluorobenzene (FID)	111	80-143

3.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8015B
Field ID:	MW-13	Batch#:	95942
MSS Lab ID:	175626-008	Sampled:	10/28/04
Matrix:	Water	Received:	10/29/04
Units:	ug/L	Analyzed:	10/30/04
Diln Fac:	1.000		

Type: MS Lab ID: QC270163

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<13.00	2,000	1,925	96	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	93	70-141
Bromofluorobenzene (FID)	90	80-143

Type: MSD Lab ID: QC270164

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,871	94	80-120	3	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	95	70-141
Bromofluorobenzene (FID)	89	80-143

RPD= Relative Percent Difference

4.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Extractable Hydrocarbons

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09225-13	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	10/28/04
Units:	ug/L	Received:	10/29/04
Diln Fac:	1.000	Prepared:	11/01/04
Batch#:	96014	Analyzed:	11/03/04

Field ID: MW-17 Lab ID: 175626-002
Type: SAMPLE Cleanup Method: EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane	131	53-143

Field ID: MW-16 Lab ID: 175626-003
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	480	50
Diesel C10-C24	450 L Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	111	53-143

Field ID: MW-15 Lab ID: 175626-004
Type: SAMPLE Cleanup Method: EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane	100	53-143

Field ID: MW-14 Lab ID: 175626-005
Type: SAMPLE Cleanup Method: EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane	106	53-143

L= Lighter hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Extractable Hydrocarbons

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09225-13	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	10/28/04
Units:	ug/L	Received:	10/29/04
Diln Fac:	1.000	Prepared:	11/01/04
Batch#:	96014	Analyzed:	11/03/04

Field ID: MW-14D
Type: SAMPLE
Lab ID: 175626-006
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
Hexacosane	110	53-143

Field ID: MW-13
Type: SAMPLE
Lab ID: 175626-008
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
Hexacosane	100	53-143

Field ID: MW-10
Type: SAMPLE
Lab ID: 175626-009
Cleanup Method: EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane	97	53-143

Type: BLANK
Lab ID: QC270364
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
Hexacosane	105	53-143

L= Lighter hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

15.1

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	175626	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09225-13	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	96014
Units:	ug/L	Prepared:	11/01/04
Diln Fac:	1.000	Analyzed:	11/03/04

Type: BS
Lab ID: QC270365
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,282	91	51-131

Surrogate	%REC	Limits
Hexacosane	99	53-143

Type: BSD
Lab ID: QC270366
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,328	93	51-131	2	42

Surrogate	%REC	Limits
Hexacosane	101	53-143

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Extractable Hydrocarbons

Lab #:	175646	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09225-13	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	10/29/04
Units:	ug/L	Received:	10/29/04
Diln Fac:	1.000	Prepared:	11/01/04
Batch#:	96014	Analyzed:	11/03/04

Field ID: MW-12 Lab ID: 175646-002
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	180	50
Diesel C10-C24	240 H L Y	50
Motor Oil C24-C36	460	300

Surrogate	%REC	Limits
Hexacosane	111	53-143

Field ID: MW-5 Lab ID: 175646-004
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	940	50
Diesel C10-C24	840 L Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	110	53-143

Field ID: MW-1 Lab ID: 175646-005
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	240	50
Diesel C10-C24	230 L Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	131	53-143

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC270364

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

Surrogate	%REC	Limits
Hexacosane	105	53-143

H= Heavier hydrocarbons contributed to the quantitation
L= Lighter hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

5.1

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	175646	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09225-13	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	96014
Units:	ug/L	Prepared:	11/01/04
Diln Fac:	1.000	Analyzed:	11/03/04

Type: BS
Lab ID: QC270365
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,282	91	51-131

Surrogate	%REC	Limits
Hexacosane	99	53-143

Type: BSD
Lab ID: QC270366
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,328	93	51-131	2	42

Surrogate	%REC	Limits
Hexacosane	101	53-143

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Aromatics by GC/MS

Lab #:	175646	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Field ID:	MW-12	Batch#:	96037
Lab ID:	175646-002	Sampled:	10/29/04
Matrix:	Water	Received:	10/29/04
Units:	ug/L	Analyzed:	11/02/04
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	88	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-122

ND= Not Detected
RL= Reporting Limit

7.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Aromatics by GC/MS

Lab #:	175646	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Field ID:	MW-5	Batch#:	96084
Lab ID:	175646-004	Sampled:	10/29/04
Matrix:	Water	Received:	10/29/04
Units:	ug/L	Analyzed:	11/03/04
Diln Fac:	4.000		

Analyte	Result	RL
MTBE	94	2.0
Benzene	18	2.0
Toluene	2.1	2.0
Ethylbenzene	280	2.0
m,p-Xylenes	14	2.0
o-Xylene	2.1	2.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	116	80-120
Toluene-d8	102	80-120
Bromofluorobenzene	94	80-122

RL= Reporting Limit

8.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Aromatics by GC/MS

Lab #:	175646	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Field ID:	MW-1	Batch#:	96084
Lab ID:	175646-005	Sampled:	10/29/04
Matrix:	Water	Received:	10/29/04
Units:	ug/L	Analyzed:	11/03/04
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	6.4	0.5
Toluene	0.6	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	1.4	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	117	80-120
Toluene-d8	104	80-120
Bromofluorobenzene	99	80-122

ND= Not Detected
RL= Reporting Limit

9.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	175646	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	96037
Units:	ug/L	Analyzed:	11/02/04
Diln Fac:	1.000		

Type: BS Lab ID: QC270454

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	19.16	77	74-128
Benzene	25.00	23.43	94	79-120
Toluene	25.00	24.22	97	80-120
Ethylbenzene	25.00	23.87	95	80-121
m,p-Xylenes	50.00	50.42	101	80-120
o-Xylene	25.00	24.52	98	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	84	80-120
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-122

Type: BSD Lab ID: QC270455

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	19.60	78	74-128	2	20
Benzene	25.00	22.22	89	79-120	5	20
Toluene	25.00	23.01	92	80-120	5	20
Ethylbenzene	25.00	22.79	91	80-121	5	20
m,p-Xylenes	50.00	48.07	96	80-120	5	20
o-Xylene	25.00	23.82	95	80-120	3	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	84	80-120
Toluene-d8	97	80-120
Bromofluorobenzene	96	80-122

RPD= Relative Percent Difference

12.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	175646	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC270456	Batch#:	96037
Matrix:	Water	Analyzed:	11/02/04
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	84	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-122

ND= Not Detected
RL= Reporting Limit

10.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	175646	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	96084
Units:	ug/L	Analyzed:	11/03/04
Diln Fac:	1.000		

Type: BS Lab ID: QC270639

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	22.66	91	74-128
Benzene	25.00	24.22	97	79-120
Toluene	25.00	25.63	103	80-120
Ethylbenzene	25.00	25.08	100	80-121
m,p-Xylenes	50.00	49.36	99	80-120
o-Xylene	25.00	25.32	101	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	95	80-120
Toluene-d8	103	80-120
Bromofluorobenzene	90	80-122

Type: BSD Lab ID: QC270640

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	23.18	93	74-128	2	20
Benzene	25.00	24.14	97	79-120	0	20
Toluene	25.00	24.76	99	80-120	3	20
Ethylbenzene	25.00	25.26	101	80-121	1	20
m,p-Xylenes	50.00	51.21	102	80-120	4	20
o-Xylene	25.00	25.84	103	80-120	2	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	95	80-120
Toluene-d8	102	80-120
Bromofluorobenzene	94	80-122

RPD= Relative Percent Difference

13.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	175646	Location:	Oakland Edgewater
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09225-13	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC270641	Batch#:	96084
Matrix:	Water	Analyzed:	11/03/04
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	80-120
Toluene-d8	100	80-120
Bromofluorobenzene	102	80-122

ND= Not Detected
RL= Reporting Limit