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CITY OF OAKLAND

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

Public Works Agency
Environmental Services

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

3978

May 24, 2001

Mr. Barney Chan
Alameda County Environmental Health Services
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Subject: **First Quarter 2001 Monitoring Report -**
City of Oakland Municipal Service Center
7101 Edgewater Drive Oakland, California

Dear Mr. Chan:

Enclosed are copies of the *First Quarter 2001 Monitoring Report* prepared by our consultant, Cambria Environmental Technology Inc. for the City of Oakland Municipal Service Center at 7101 Edgewater Drive.

Please call me at 238-6259, if you have any questions or require additional information.

Sincerely,

Joseph A. Cotton
Environmental Program Specialist

cc: Diane Heinz, Port of Oakland

CAMBRIA

May 18, 2001

Mr. Joseph Cotton
City of Oakland, Public Works Agency
Environmental Services Division
250 Frank H. Ogawa Plaza, Ste. 5301
Oakland, California 94612-2034

Re: **First Quarter 2001 Monitoring Report**
City of Oakland, Municipal Services Center
7101 Edgewater Drive
Oakland, California
Cambria Project #153-1653-006

Dear Mr. Cotton:

As required by the Alameda County Health Care Services Agency (ACHCSA), Cambria Environmental Technology, Inc. (Cambria) has prepared this first quarter 2001 groundwater monitoring report for the above-referenced site. Presented in the report are the first quarter 2001 activities and the anticipated second quarter 2001 activities.

Cambria understands that the City of Oakland will forward a copy of this report to the ACHCSA. If you have any questions or comments regarding this report, please call me at (510) 420-3303.

Sincerely,
Cambria Environmental Technology, Inc.

Bob Clark-Riddell, P.E.
Principal Engineer

Attachments: First Quarter 2001 Monitoring Report

Oakland, CA
San Ramon, CA
Sonoma, CA
Portland, OR

Cambria Environmental Technology, Inc.

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CAMBRIA

FIRST QUARTER 2001 MONITORING REPORT

City of Oakland, Municipal Services Center
7101 Edgewater Drive
Oakland, California
Cambria Project #153-1653-006

May 18, 2001

Prepared for:

City of Oakland, Public Works Agency
Environmental Services Division
250 Frank H. Ogawa Plaza, Ste. 5301
Oakland, California 94612-2034

Prepared by:

Cambria Environmental Technology, Inc.
1144 65th Street, Suite B
Oakland, California 94608

Thomas Howard
Project Geologist

Bob Clark-Riddell, P.E.
Principal Engineer

CAMBRIA

FIRST QUARTER 2001 MONITORING REPORT

City of Oakland, Municipal Services Center
7101 Edgewater Drive
Oakland, California
Cambria Project #153-1653-006

May 18, 2001

INTRODUCTION

As required by the Alameda County Health Care Services Agency (ACHCSA), Cambria Environmental Technology, Inc. (Cambria) has prepared this first quarter 2001 groundwater monitoring report for the above-referenced site. Described below are the first quarter 2001 activities, monitoring results, contaminant distribution in groundwater, corrective action activities, conclusions, recommendations, and the anticipated second quarter 2001 activities.

FIRST QUARTER 2001 ACTIVITIES

Monitoring Activities

Field Activities: On February 26, 2001, Cambria gauged and inspected for separate-phase hydrocarbons (SPH) in site monitoring and tank pit backfill wells in accordance with the ACHCSA-approved monitoring protocol presented below in Table A. Monitoring well locations are shown on Figure 1. Also on February 26 and 27, 2001, Cambria collected groundwater samples from site wells scheduled for sampling, provided no significant SPH were present in the wells. As requested by the ACHCSA, well MW-6 was sampled despite the presence of 0.40 feet of SPH. Field data sheets are presented as Appendix A.

Sample Analyses: Select groundwater samples were analyzed for: total petroleum hydrocarbons (TPH), as gasoline (TPHg), TPH as diesel (TPHd), TPH as kerosene (TPHk), TPH as motor oil (TPHmo); benzene, toluene, ethylbenzene and xylenes (BTEX); methyl tertiary butyl ether (MTBE); volatile organic compounds (VOCs); semi-volatile organic compounds (SVOCs); and LUFT metals (metals) by Caltest Analytical Laboratory of Napa, California, a California state-certified laboratory. Prior to [redacted] filters. According to Caltest Laboratories, use of 0.45 micron filters is in accordance with industry standards for *dissolved* analytes. [redacted] The specific analytes for each well sample are presented in Table A (below). Analytic results are summarized in Tables 1, 2, 3 and 4 (attached). The laboratory analytical reports and correspondence are included as Appendix B.

Table A – Well Sampling Protocol (First Quarter 2001)
City of Oakland Municipal Service Center

Well**	Quarter				Gauge Every Qtr	DO (field meter)	TPHg/ BTEX/ MTBE* (8015/ 8020)	TPH d/k/mo (8015) w/silica gel + filtration**	VOC (8260)	SVOC (8270)	LUFT metals	Comments
	1	2	3	4								
MW-1	X		X		X	X	X	X				
MW-2	X		X		X	X	X	X				
MW-5	X		X		X	X	X	X	X			
MW-6	X		X		X	X	X	X	X	X	X	Sample with SPH****
MW-7	X		X		X	X	X	X				
MW-8	X	X	X	X	X	X	X	X				
MW-9	X	X	X	X	X	X	X	X				
MW-10	X	X	X	X	X	X	X	X				
MW-11	X	X	X	X	X	X	X	X				
MW-12	X	X	X	X	X	X	X	X				
MW-13	X	X	X	X	X	X	X	X				
MW-14	X	X	X	X	X	X	X	X				
MW-15	X	X	X	X	X	X	X	X				
MW-16	X	X	X	X	X	X	X	X				SPH present
MW-17	X	X	X	X	X	X	X	X				
MW-18	Gauge 3rd quarter only											
TBW-1	X		X		X	X	X	X				SPH present
TBW-3	X		X		X	X	X	X				
TBW-4	X		X		X	X	X	X				
TBW-5	X		X		X	X	X	X				SPH present
TBW-6	X		X		X	X	X	X				
Trip Blank	X	X	X	X	NA	NA	X	X				

DO = Dissolved oxygen
* = Any positive results for MTBE will be confirmed by re-analysis using EPA Method 8260, except in MW-5.
** = Prior to extraction, lab will filter sample with 0.45 micron glass-membrane filter and then treat extract with silica gel in a flask and ultrasonic bath agitation, and then sample/dilute the extract for analysis (required by ACHCSA). The lab shall run a spiked method blank through the same procedure and evaluate and explain any atypical deviation.
*** = Wells MW-3 and MW-4 were destroyed during the first quarter 1999.
**** = For MW-6 bail product first and use custom oil/water separator to facilitate sample collection

MONITORING RESULTS

Shallow Groundwater Topography

On February 26, 2001, Cambria gauged site monitoring wells and tank backfill wells in accordance with the protocol shown on Table A. Cursory examination of the shallow groundwater elevation map suggests groundwater flow towards San Leandro Bay and Damon Slough (Figure 1). Apparent groundwater flow directions are generally consistent with historical measurements. Depth-to-water and groundwater elevation data are presented in Table 1.

Occurrence of Separate-Phase Hydrocarbons

[redacted] (0.40 ft) and in backfill wells TBW-1 (0.51 ft) and TBW-5 (0.36 ft). The observed thickness increase in some site wells may be due to fluctuation of the water table or due to recovery efforts in the SPH-bearing wells. SPH thickness measurements are not necessarily representative of true thicknesses in the formation, and are typically several to many times thicker that those actually occurring in the deposits or formations screened by the wells[1]. The extent of SPH is defined in the downgradient direction for each of these areas by other site wells. SPH removal activities are described below in the corrective action section

Contaminant Distribution in Groundwater

Benzene in Groundwater: The maximum benzene concentration detected was 270 µg/l in well MW-6, which contained SPH. The maximum benzene concentration detected in an offsite perimeter well was 33 µg/l in well MW-9. This analytic result for benzene is below the acceptable risk thresholds for both the San Francisco Airport Ecological Protection Zone Tier I Standards[2] and the City of Oakland Risk-Based Tier I[3] for inhalation of indoor air vapors of 71 and 110 µg/l, respectively. This analytic result for benzene is also below the acceptable risk threshold of 46 µg/l for ecological

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[1] Wagner, R.B., Hampton, D.R., and Howell, J.A., *A New Tool to Determine The Actual Thickness of Free Product in a Shallow Aquifer*, Proceedings of the Conference on Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection and Restoration, 1989. Published by the National Water Well Association.

[2] Regional Water Quality Control Board, San Francisco Bay Region (RWQCB-SFBR) *Order No. 99-045* for a similar situation at the San Francisco International Airport. Staff comments dated July 16, 1998, signed by Mr. Steven Morse, Chief of the Toxics Cleanup Division, addressed to the SFIA Consolidated Tenant Group.

[3] Spence, L., and Gomez, M. *Oakland Risk-Based Corrective Action: Technical Background Document.* Urban Land Redevelopment Program Technical Advisory Committee. May 17, 1999.

toxicity established by the USEPA according to the San Francisco Bay Regional Water Quality Control Board (RWQCB-SFBR)[4].

MTBE in Groundwater: MTBE was detected at 830 µg/l in the groundwater sample collected from well MW-5 only, and historically has not been detected in any wells.

TPHg in Groundwater: The maximum TPHg concentration detected was 6,300 µg/l in well MW-5. Aside from MW-6 (which contained SPH and 6,100 µg/l TPHg), all other concentrations are below the San Francisco Airport Ecological Protection Zone Tier I Standard acceptable threshold of 3,700 µg/l.[5] TPHg concentrations appear to be defined in the downgradient and crossgradient directions to within acceptable ecological risk thresholds.

TPHd in Groundwater: The maximum dissolved TPHd concentration detected in offsite perimeter wells was 320 µg/l in well MW-12. As described in prior quarterly monitoring reports based on laboratory interpretation of chromatograms, TPHd concentrations reported in offsite wells are most likely the lighter end of mobile TPHmo present in the groundwater. Analytical results were below the San Francisco Airport Ecological Protection Zone Tier I Standard of 640 µg/l.[6]

TPHmo Oil in Groundwater: No dissolved TPHmo was detected in any of the wells, even well MW-6 which contained SPH. Currently, there is no standard established for TPHmo in the San Francisco Airport Ecological Protection Zone.

Volatile Organic Compounds in Groundwater: VOC analyses were performed on samples from wells MW-5 and MW-6 (Table 2). BTEX, MTBE, naphthalene, and other VOCs were detected in both wells.

Semi-Volatile Organic Compounds in Groundwater: SVOC analyses performed on a sample from well MW-6 (which contained SPH) detected 19 µg/l naphthalene (Table 3). No other SVOCs were detected.

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[4] RWQCB-San Francisco Bay Region, *Application of Risk-Based Screening Levels and Decision Making to Sites With Impacted Soil and Groundwater*. Interim Final. August 2000.

[5] Regional Water Quality Control Board, San Francisco Bay Region (RWQCB-SFBR) *Order No. 99-045* for a similar situation at the San Francisco International Airport. Staff comments dated July 16, 1998, signed by Mr. Steven Morse, Chief of the Toxics Cleanup Division, addressed to the SFIA Consolidated Tenant Group.

[6] Ibid.

LUFT Metals in Groundwater: LUFT metals analyses (performed on un-filtered samples from well MW-6) detected the following metals: chromium, lead, nickel and zinc (Table 4). All detected concentrations are below primary and secondary drinking water standards; however, the 0.23 mg/l lead concentration exceeds the action level from 22 CCR section 64672.3.

Laboratory Method Blanks: Method blanks were analyzed by Caltest Analytic Laboratory for Methods 8015M, 8015/8020A, 8260, 8270, and LUFT metals (Appendix B).

Corrective Action Activities

Separate-Phase Hydrocarbon Removal: Se[redacted]. Due to malfunctioning of the skimmer filter, Cambria conducted manual bailing of SPH in TBW-5. Hydrocarbon-absorbing "socks" were used in wells MW-6, MW-16, TBW-1, TBW-2 and TBW-5. The hydrocarbon-absorbing "socks" were monitored on three separate events and were replaced if saturated.

As shown on Table B (below), Camb[redacted]t. Since water is also removed during SPH bailing and sock removal, Cambria estimates that approximately 50% of the bailed volume and 50% of the sock saturation weight is actually SPH (unless otherwise calculated in field). To determine the sock saturation weight, Cambria weighs each removed sock and subtracts the dry weight from the total weight of the used sock. One gallon of separate-phase hydrocarbons is estimated to weigh 6.6 pounds. This cumulative volume does not include additional SPH removal achieved by "socks" prior to the third quarter 2000.

Table B – SPH Removal Summary

Hydrocarbon Removal Method	Removal This Quarter (pounds)	Cumulative Removal (pounds)
Active Skimming (TBW-5)	0	415.8
Bailing/Socks (TBW-5)	36.2	132.4
Bailing/Socks (TBW-1)	6.9	12.9
Bailing/Socks (TBW-2)	7.1	9.6
Bailing/Socks (MW-6)	0	0.1
Bailing/Socks (MW-16)	2	3
Total SPH Removal	52.2 Pounds	573.8 Pounds

Due to low SPH recovery rates and intermittent skimmer operation, Cambria submitted samples of separate-phase hydrocarbons to two equipment vendors for selection of the most appropriate skimming equipment. The skimmer has tended to operate for a short period of time after filter replacement, only to become clogged due to formation of a shellac-like coating on the skimmer assembly. Both vendors recommended use of their skimmers designed for heavier, higher viscosity SPH. Upon installation of the new density skimmer, the skimmer pump malfunctioned. Cambria performed troubleshooting on the pump, and traced the failure to the sealed bladder pump. The pump was sent to the manufacturer for repair, and re-installed on May 8. Proper system operation was verified on May 11.

Other First Quarter 2001 Activities

Additional Site Assessment: Significant investigation performed recently was presented in the January 2001 Site History and Characterization Report prepared by Baseline Environmental Consultants (Baseline). The report describes efforts by Baseline and Subsurface Consultants to further delineate the extent of hydrocarbons near site hot spots and along a main storm sewer line, and to better understand the nature and chemical composition of SPH detected in onsite and offsite wells.

CONCLUSIONS AND RECOMMENDATIONS

Cambria offers the following conclusions and recommendations regarding site activities and this quarter's analytic results.

- Separate-phase hydrocarbon (SPH) recovery efforts are removing separate-phase hydrocarbons from the site subsurface, primarily in well TBW-5. Recovery efforts may be enhanced by the new density skimmer and repaired pump installed in well TBW-5 on May 8. Cambria recommends continued monitoring of SPH plume stability.

- Additional site assessment described in the January 2001 Baseline report suggests that the downgradient extent of dissolved and separate-phase hydrocarbons has been adequately defined. The report contains recommendations for groundwater monitoring, risk screening, and further evaluation of subsurface conduits as potential migration conduits.

- With the exception of onsite wells MW-5 and MW-6, TPHg concentrations are below the San Francisco Airport Ecological Protection Zone Tier I Standard acceptable threshold

of 3,700 µg/l.[7] TPHg concentrations detected in perimeter offsite wells appear to be the result of local fill quality rather than offsite migration of dissolved petroleum hydrocarbons. Many wells with TPHg detections did not contain detectable BTEX compounds, which are commonly detected in conjunction with gasoline releases. The City may request that *duplicate* samples be subjected to filtration and silica gel cleanup (as performed for the heavier-range petroleum hydrocarbon analyses), if the local regulatory agencies are concerned about the TPHg concentrations detected in offsite wells. I would also request QC on spiked blanks.

- Dissolved TPHd concentrations in offsite perimeter wells were below the San Francisco Airport Ecological Protection Zone Tier I Standard of 640µg/l. The detection of higher TPHd concentrations (during previous monitoring events) prior to silica gel cleanup and filtration suggests that diesel-range hydrocarbons may be adsorbed to soil, and are not dissolved in groundwater at elevated concentrations. Note that the laboratory has historically interpreted the offsite hydrocarbons reported as diesel to most likely be the lighter end of motor oil.

- No dissolved TPHmo was detected in site groundwater, even in groundwater from well MW-6, which contained SPH. The detection of higher TPHmo concentrations prior to silica gel cleanup and filtration (based on previous monitoring results) suggests that heavier-range hydrocarbons may be adsorbed to soil and colloids, and that TPHmo is not dissolved in groundwater at elevated concentrations. The fairly wide distribution of TPHmo concentrations prior to filtration (based on previous monitoring results) also suggests that the TPHmo detections are a result of soil quality rather than migration of dissolved TPHmo from an onsite release.

- In the absence of cleanup standards for TPHmo in local regulatory guidance documents,[8,9] concentrations of specific SVOCs (that could comprise TPHmo) often influence

[7] Regional Water Quality Control Board, San Francisco Bay Region (RWQCB-SFBR) *Order No. 99-045* for a similar situation at the San Francisco International Airport. Staff comments dated July 16, 1998, signed by Mr. Steven Morse, Chief of the Toxics Cleanup Division, addressed to the SFIA Consolidated Tenant Group.

[8] Regional Water Quality Control Board, San Francisco Bay Region (RWQCB-SFBR) *Order No. 99-045* for a similar situation at the San Francisco International Airport. Staff comments dated July 16, 1998, signed by Mr. Steven Morse, Chief of the Toxics Cleanup Division, addressed to the SFIA Consolidated Tenant Group.

[9] RWQCB-San Francisco Bay Region, *Application of Risk-Based Screening Levels and Decision Making to Sites With Impacted Soil and Groundwater.* Interim Final. August 2000.

regulatory concern regarding TPHmo detected in groundwater. Historic SVOC analytic results indicate that the only SVOC present in *offsite* groundwater is pyrene at 10 µg/l in well MW-13 (SVOC analysis was performed on samples from offsite perimeter wells MW-9, MW-13 and MW-17, where the potential presence of dissolved TPHmo is under evaluation). The January 2001 Baseline report mentions that SVOCs were detected in site soil near the vicinity of UST 6 (near TBW-3 and MW-6). Naphthalene was detected this quarter at 19 µg/l in well MW-6, which was sampled upon regulatory request despite the presence of SPH. The lack of SVOC detection in downgradient well MW-17 suggests that SVOCs and TPHmo are *not* migrating offsite and impacting San Leandro Bay. The lack of significant SVOC detection may also suggest that the TPHmo detections are not from SVOCs from motor oil. The SVOC detection of 10 µg/l pyrene is below the regulatory guidance concentration of 30 µg/l for ecological toxicity established by the USEPA according to the RWQCB-SFBR[10]. Consistent with the recommendation of Dr. Brewer of the RWQCB-SFBR, Cambria recommends use of glass-membrane filtration during any future analysis for dissolved SVOCs.

- Historical analytic results indicated that hydrocarbon attenuation is occurring at the site, with evidence that both aerobic and anaerobic biodegradation are taking place. Hydrocarbon attenuation was described in prior monitoring reports.

- In conjunction with the feasibility study being conducted by URS-Greiner, the City of Oakland may also wish to perform a site-specific ecological risk assessment or conduct feasibility testing at the site.

ANTICIPATED SECOND QUARTER 2001 ACTIVITIES

Monitoring Activities

Cambria will gauge, measure any detected SPH, and collect groundwater samples from site wells in accordance with the protocol presented in Appendix C. All TPHd/k/mo analyses will be subject to silica gel cleanup (in flask ultrasonic bath agitation) and 0.45 micron glass-membrane filtration prior to analysis. Additional protocol information is detailed in Appendix C. Well MW-5 will be sampled

[10] RWQCB-San Francisco Bay Region, *Application of Risk-Based Screening Levels and Decision Making to Sites With Impacted Soil and Groundwater*. Interim Final. August 2000. In a telephone conversation with the author, Dr. Brewer stated that the guidance concentration for pyrene in saltwater should be 30 ug/l, which is 1/10 of the acute LOEL of 300 ug/l.

on a quarterly basis and analyzed for TPHg, BTEX, and MTBE. Following field activities, Cambria will tabulate the analytic data, contour groundwater elevations, and prepare a quarterly monitoring report.

Corrective Action

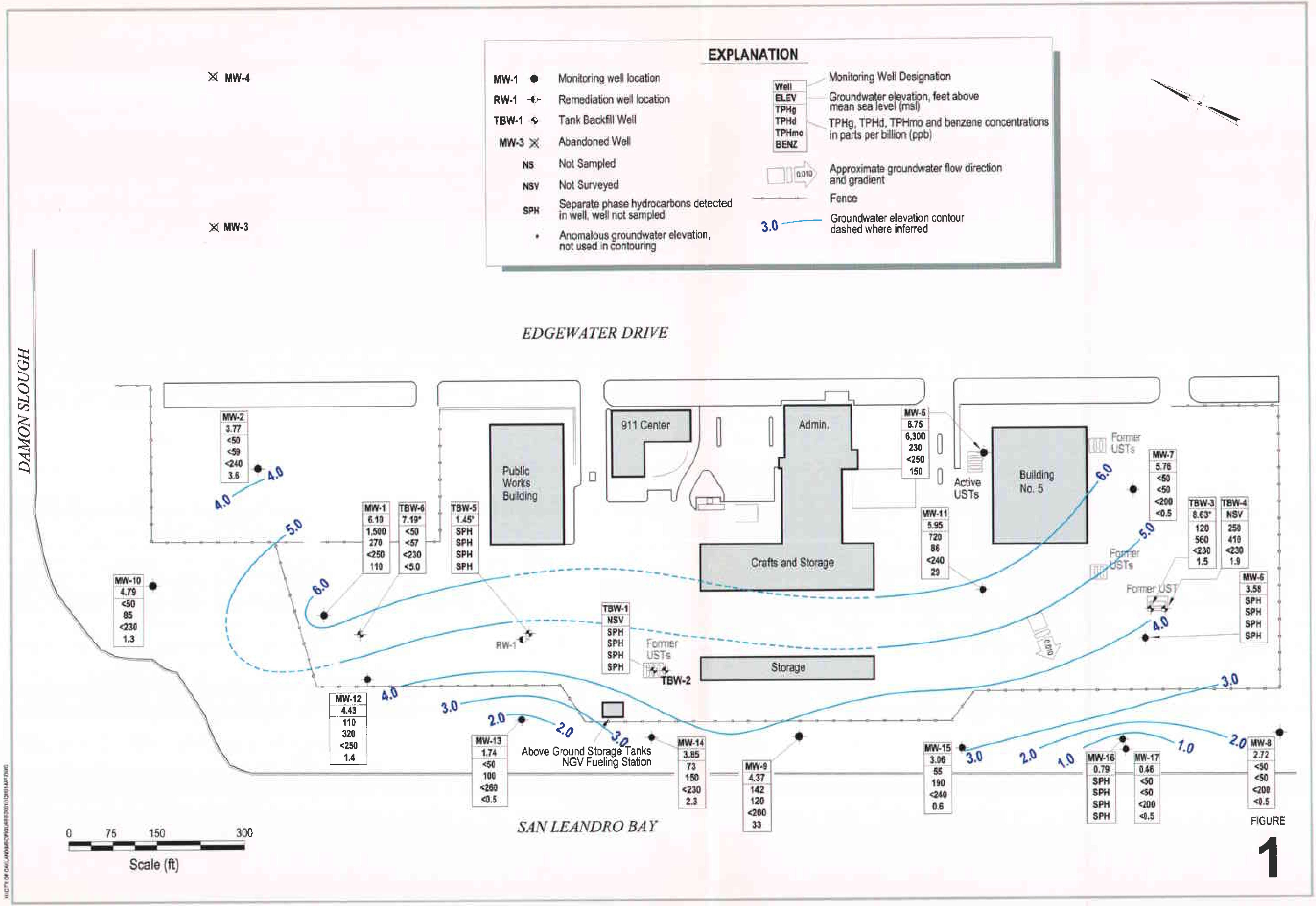
Cambria will continue SPH removal using manual bailing and active skimming in well TBW-5. Hydrocarbon-absorbing "socks" in wells MW-6, MW-16, TBW-1, and TBW-2 will be inspected quarterly and replaced if saturated. Cambria will perform operation and maintenance of the skimmer pump with the new 'density skimmer' filter. The system was repaired and resumed continuous operation on May 8, 2001.

URS-Greiner is currently preparing a feasibility study to evaluate remedial options for the site.

ATTACHMENTS

Figure 1 - Groundwater Elevation Contours and Hydrocarbon Concentration Map
Table 1 – Groundwater Elevation Data and Analytical Results - Hydrocarbons
Table 2 – Groundwater Analytical Results - VOCs
Table 3 – Groundwater Analytical Results - SVOCs
Table 4 – Groundwater Analytical Results – LUFT Metals
Appendix A - Field Data Sheets
Appendix B - Laboratory Analytical Reports/Correspondence
Appendix C – Well Sampling Protocol for 2nd Quarter 2001

H:\City of Oakland\Municipal Service Center\QM\CoO-1Q01.DOC



EXPLANATION
MW-1 Monitoring well location
RW-1 Remediation well location
TBW-1 Tank Backfill Well
MW-3 Abandoned Well
NS Not Sampled
NSV Not Surveyed
SPH Separate phase hydrocarbons detected in well, well not sampled
* Anomalous groundwater elevation, not used in contouring
Well
ELEV
TPHg
TPHd
TPHmo
BENZ
Monitoring Well Designation
Groundwater elevation, feet above mean sea level (msl)
TPHg, TPHd, TPHmo and benzene concentrations in parts per billion (ppb)
0.010
Approximate groundwater flow direction and gradient
Fence
3.0
Groundwater elevation contour dashed where inferred
MW-4
MW-3
EDGEWATER DRIVE
DAMON SLOUGH
SAN LEANDRO BAY
Public Works Building
911 Center
Admin.
Crafts and Storage
Building No. 5
Storage
Active USTs
Former USTs
Former UST
Above Ground Storage Tanks NGV Fueling Station
RW-1
TBW-2
MW-2 3.77 <50 <59 <240 3.6
MW-1 6.10 1,500 270 <250 110
TBW-6 7.19* <50 <57 <230 <5.0
TBW-5 1.45* SPH SPH SPH SPH
MW-10 4.79 <50 85 <230 1.3
TBW-1 NSV SPH SPH SPH SPH
MW-5 6.75 6,300 230 <250 150
MW-11 5.95 720 86 <240 29
MW-7 5.76 <50 <50 <200 <0.5
TBW-3 8.63* 120 560 <230 1.5
TBW-4 NSV 250 410 <230 1.9
MW-6 3.58 SPH SPH SPH SPH
MW-12 4.43 110 320 <250 1.4
MW-13 1.74 <50 100 <260 <0.5
MW-14 3.85 73 150 <230 2.3
MW-9 4.37 142 120 <200 33
MW-15 3.06 55 190 <240 0.6
MW-16 0.79 SPH SPH SPH SPH
MW-17 0.46 <50 <50 <200 <0.5
MW-8 2.72 <50 <50 <200 <0.5
4.0
5.0
6.0
3.0
2.0
1.0
0 75 150 300
Scale (ft)

FIGURE 1

Groundwater Elevation Contour Map and Hydrocarbon Concentrations

February 26, 2001

CAMBRIA

Municipal Service Center

7101 Edgewater Drive
Oakland, California

CAMBRIA

Table 1. Groundwater Elevation Data and Analytical Results - Hydrocarbons - City of Oakland Municipal Services Center, Oakland, CA

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
MW-1														
10/4/89	10.20	---	---	8020		---	---	---	540	65	26	14	22	---
10/4/89	10.20	---	---	8240		---	---	---	---	120	46	43	78	---
4/27/93	10.20	---	---	8020		---	---	---	<1,000	<1.0	<1.0	<1.0	<1.0	---
4/19/95	10.20	---	---	8020		---	---	---	3,200	880	15	23	21	---
7/27/95	10.20	4.62	5.58	8020		---	---	---	980	130	3.6	1.4	5.6	---
11/20/95	10.20	6.08	4.12	8020		---	---	---	400	99	2.8	1.1	4.6	---
2/21/96	10.20	4.62	5.58	8020		---	---	---	1,700	340	8.4	5.3	16	---
5/13/96	10.20	4.33	5.87	8020		---	---	---	7,300	2,000	30	42	38	---
8/27/96	10.20	5.25	4.95	8020		---	---	---	380	61	2.4	<0.5	4.2	---
2/23/98	10.20	1.75	8.45	8020		<50	<500	<50	820	160	4.9	3	9.7	---
8/19/98	10.20	4.78	5.42	8020	SGC	1,200	---	---	780	69	4.1	0.84	8.5	<5.0
11/11/98	10.20	5.64	4.56	---		---	---	---	---	---	---	---	---	---
2/23/99	10.20	3.41	6.79	8020	SGC	1,200	1,600	<50	1,100	190	5	3	12	<5.0
5/27/99	10.20	3.96	6.24	---		---	---	---	---	---	---	---	---	---
8/24/99	10.20	4.92	5.28	8020	SGC	640	1,900	<50	370	37	0.9	<0.5	1.9	<5.0
11/22/99	10.20	5.46	4.74	---		---	---	---	---	---	---	---	---	---
1/18/00	10.05	5.41	4.64	---		---	---	---	---	---	---	---	---	---
1/19/00	---	---	---	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	SGC+Filtered	270	<250	<61	1,500	110	6.3	<1.5	9.9	<15
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	---

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Table 1. Groundwater Elevation Data and Analytical Results - Hydrocarbons - City of Oakland Municipal Services Center, Oakland, CA

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						← µg/l →								
11/20/95	10.47	7.49	2.98	8020		---	---	---	<50	2.2	<0.5	<0.5	<0.5	---
2/21/96	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
MW-2														
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	SGC+Filtered	<59	<240	<59	<50	3.6	<0.5	<0.5	<0.5	<5
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	---	---	---	---	---	---	---	---	---

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Table 1. Groundwater Elevation Data and Analytical Results - Hydrocarbons - City of Oakland Municipal Services Center, Oakland, CA

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
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	---
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	---		---	---	---	---	---	---	---	---	---

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Table 1. Groundwater Elevation Data and Analytical Results - Hydrocarbons - City of Oakland Municipal Services Center, Oakland, CA

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
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	(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	(1,400)
11/28/00	11.15	6.47	4.68	---		---	---	---	---	---	---	---	---	---
2/27/01	11.15	4.40	6.75	8020	SGC+Filtered	230	<250	<61	6,300	150	7	350	55	830
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	SGC+Filtered	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	---
8/19/98	10.98	---	---	---	SPH: 0.125 ft	---	---	---	---	---	---	---	---	---
11/11/98	10.98	7.09	3.93	---	SPH: 0.05 ft	---	---	---	---	---	---	---	---	---
2/23/99	10.98	7.31	3.67	---	SPH: NM	---	---	---	---	---	---	---	---	---
5/27/99	10.98	6.91	4.25	---	SPH: 0.20 ft	---	---	---	---	---	---	---	---	---
8/24/99	10.98	7.46	3.72	---	SPH: 0.03 ft	---	---	---	---	---	---	---	---	---
11/22/99	10.98	7.96	3.15	---	SPH: 0.16 ft	---	---	---	---	---	---	---	---	---
1/18/00	10.98	8.08	3.05	---	SPH: 0.19 ft	---	---	---	---	---	---	---	---	---
5/11/00	10.98	7.52	4.47	---	SPH: 0.01 ft	---	---	---	---	---	---	---	---	---
8/24/00	10.98	7.50	3.53	---	SPH: 0.06 ft	---	---	---	---	---	---	---	---	---
11/28/00	10.98	6.39	4.62	---	SPH: 0.04 ft	---	---	---	---	---	---	---	---	---
2/26/01	10.98	7.80	3.50	8020	SPH: 0.40 ft, F	820	<240	<60	6,100	181	<5	14.2	<5	<50
2/26/01	---	---	---	8260B		---	---	---	---	270	3	9	3	(19)

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Table 1. Groundwater Elevation Data and Analytical Results - Hydrocarbons - City of Oakland Municipal Services Center, Oakland, CA

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
MW-7														
12/13/91	11.51	---	---	8020		<50	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
12/13/91	11.51	---	---	8240		---	---	---	---	<5	<5	<5	<5	---
4/27/93	11.51	---	---	8240		<1,000	---	---	<1,000	<1.0	<1.0	<1.0	<1.0	---
4/19/95	11.51	---	---	8240		<50	<1,000	---	<50	<2.0	<2.0	<2.0	<2.0	---
7/27/95	11.51	6.87	4.64	8240		<50	<1,000	---	<50	<2.0	<2.0	<2.0	<2.0	---
11/20/95	11.51	8.48	3.03	8020		<50	---	---	<50	<0.5	<0.5	<0.5	1.5	---
2/21/96	11.51	6.29	5.22	8020		<50	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
5/13/96	11.51	6.95	4.56	8020		<50	---	---	---	<0.5	<0.5	<0.5	<0.5	---
8/27/96	11.51	6.80	4.71	8020		---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
8/19/98	11.51	6.88	4.63	---		---	---	---	---	---	---	---	---	---
11/11/98	11.51	7.40	4.11	---		---	---	---	---	---	---	---	---	---
2/23/99	11.51	5.57	5.94	8020		<50	<200	<50	80	<0.5	<0.5	<0.5	1	<5.0
5/27/99	11.51	6.56	4.95	---		---	---	---	---	---	---	---	---	---
8/24/99	11.51	6.29	5.22	8020	SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	5
11/22/99	11.51	6.80	4.71	---		---	---	---	---	---	---	---	---	---
1/18/00	11.51	7.31	4.20	---		---	---	---	---	---	---	---	---	---
1/19/00	11.51	---	---	8020	SGC	<50	<200	<50	54	1.5	1.5	2.4	3.8	<5.0
5/11/00	11.51	6.41	5.10	---		---	---	---	---	---	---	---	---	---
8/24/00	11.51	7.11	4.40	8020		<50	<250	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	11.51	7.30	4.21	---		---	---	---	---	---	---	---	---	---
2/27/01	11.51	5.75	5.76	8020	SGC+Filtered	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5
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

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Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						← µg/l →								
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	SGC+Filtered	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5
MW-9														
11/20/96	10.77	---	---	8020		1,900	---	---	240	21	0.81	1.8	2.2	---
11/20/97	10.77	7.91	2.86	8020		---	---	---	300	20	<0.5	<0.5	1.8	<1.0
2/24/98	10.77	6.11	4.66	8020		<50	<500	<50	2,200	540	5.6	1.6	4.9	---
6/8/98	10.77	7.14	3.63	8020		1,800	890	<50	840	450	6.1	3.3	5.3	---
8/19/98	10.77	7.88	2.89	8020	SGC	190	<250	160	740	370	8.6	0.99	7.3	<5.0
11/11/98	10.77	8.23	2.54	8020	SGC	<50	230	<50	700	130	4.3	<0.5	3.9	<5.0
2/23/99	10.77	6.65	4.12	8020		1,100	3,700	<50	1,100	620	9.7	1.5	7.7	<5.0
5/27/99	10.77	7.70	3.07	8020	SGC	70	300	<50	950	470	11	1.5	9.2	<5.0
8/24/99	10.77	8.12	2.65	8020	SGC	890	1,700	<50	290	45	2.8	<0.5	3	<5.0
11/22/99	10.77	8.33	2.44	8020	SGC	1,000	6,000	<50	170	12	1.8	<0.5	2	<5.0
1/18/00	10.77	8.63	2.14	8020	SGC	200 A	2,300	<50	160	5.7	1.9	0.6	4.2	<5.0
5/11/00	10.77	7.70	3.07	8020	SGC	180 A	980	<100	1,050	280	7.0	<2.5	5.9	<25
8/24/00	10.77	8.31	2.46	---		---	---	---	---	---	---	---	---	---
8/25/00	---	---	---	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	---	SGC+Filtered	<50	<200	<50	---	---	---	---	---	---
2/26/01	10.77	6.40	4.37	8020	SGC+Filtered	120	<200	<50	142	33	1.8	<0.5	<0.5	<5
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	---

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Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
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	SGC+Filtered	85	<230	<57	<50	1.3	<0.5	<0.5	<0.5	<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	SGC+Filtered	86	<240	<60	720	29	5.2	38	36	<5
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	---	SGC+Filtered	50	<200	<50	---	---	---	---	---	---
2/27/01	10.43	6.00	4.43	8020	SGC+Filtered	320	<250	66	110	1.4	<0.5	<0.5	<0.5	<5

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Table 1. Groundwater Elevation Data and Analytical Results - Hydrocarbons - City of Oakland Municipal Services Center, Oakland, CA

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	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	---	SGC+Filtered	280	1,100	<50	---	---	---	---	---	---
2/26/01	11.34	9.60	1.74	8020	SGC+Filtered	100	<260	<64	<50	<0.5	<0.5	<0.5	<0.5	<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	---	SGC+Filtered	<50	<200	<50	---	---	---	---	---	---
2/26/01	10.05	6.20	3.85	8020	SGC+Filtered	150	<230	<58	73	2.3	<0.5	<0.5	<0.5	<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	---	SGC+Filtered	73	<200	<50	---	---	---	---	---	---
2/26/01	12.36	9.30	3.06	8020	SGC+Filtered	190	<240	<60	55	0.6	<0.5	<0.5	0.5	<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: NM	---	---	---	---	---	---	---	---	---
11/28/00	13.57	13.05	0.86	---	SPH: 0.42 ft	---	---	---	---	---	---	---	---	---
2/26/01	13.57	13.10	0.79	---	SPH: 0.40 ft	---	---	---	---	---	---	---	---	---

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Table 1. Groundwater Elevation Data and Analytical Results - Hydrocarbons - City of Oakland Municipal Services Center, Oakland, CA

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
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	---	SGC+Filtered	<50	<200	<50	---	---	---	---	---	---
2/26/01	9.86	9.40	0.46	8020	SGC+Filtered	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5
TBW-1														
2/23/99	---	6.25	---	---	SPH: 0.10 ft	---	---	---	---	---	---	---	---	---
5/27/99	---	5.29	---	---	SPH: 0.01 ft	---	---	---	---	---	---	---	---	---
8/24/99	---	6.99	---	---	SPH: 0.18 ft	---	---	---	---	---	---	---	---	---
11/22/99	---	---	---	---	Inaccessible	---	---	---	---	---	---	---	---	---
1/18/00	---	---	---	---	Inaccessible	---	---	---	---	---	---	---	---	---
5/11/00	---	6.90	---	---	SPH: 0.10 ft	---	---	---	---	---	---	---	---	---
8/24/00	---	7.12	---	---	SPH: NM	---	---	---	---	---	---	---	---	---
11/28/00	---	7.75	---	---	SPH: 0.36 ft	---	---	---	---	---	---	---	---	---
2/27/01	---	9.06	---	---	SPH: 0.51	---	---	---	---	---	---	---	---	---
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
2/23/99	---	1.25	---	8020		3,800	3,000	<50	110	1.6	<0.5	<0.5	<0.5	<5.0
5/27/99	---	---	---	---	DTW: NM	---	---	---	---	---	---	---	---	---
8/24/99	---	3.25	---	---	SPH globules	---	---	---	---	---	---	---	---	---
11/22/99	---	3.68	---	---		---	---	---	---	---	---	---	---	---
1/18/00	9.92	3.73	6.19	---	SPH globules	---	---	---	---	---	---	---	---	---
5/11/00	9.92	2.07	7.85	---		---	---	---	---	---	---	---	---	---
8/24/00	9.92	2.82	7.10	---	SPH: sheen	44,000	13,000	34,000	570	4.7	<0.5	<0.5	<0.5	<5.0
11/28/00	---	---	---	---		---	---	---	---	---	---	---	---	---
2/27/01	9.92	1.29	8.63	8020	SGC+Filtered	560	<230	<57	120	1.5	<0.5	<0.5	<0.5	<5

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Table 1. Groundwater Elevation Data and Analytical Results - Hydrocarbons - City of Oakland Municipal Services Center, Oakland, CA

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
TBW-4														
2/27/01	---	1.35	---	8020	SGC+Filtered	410	<230	<57	250	1.9	<0.5	<0.5	<0.5	<5
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	---	---	---	---	---	---	---	---	---
TBW-6														
2/23/99	---	2.09	---	8020		160	600	<50	60	<0.5	<0.5	<0.5	<0.5	<5.0
5/27/99	---	3.31	---	---		---	---	---	---	---	---	---	---	---
8/24/99	---	7.29	---	8020	SGC	180	400	<50	130	<0.5	<0.5	<0.5	<0.5	<5.0
11/22/99	---	4.37	---	---		---	---	---	---	---	---	---	---	---
1/18/00	9.49	3.83	5.66	---		---	---	---	---	---	---	---	---	---
1/19/00	---	---	---	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	SGC+Filtered	<57	<230	<57	<50	<0.5	<0.5	<0.5	<0.5	<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	SGC+Filtered	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5.0

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Table 1. Groundwater Elevation Data and Analytical Results - Hydrocarbons - City of Oakland Municipal Services Center, Oakland, CA

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								

Notes

All concentrations in micrograms per liter (µg/l)

--- = not measured/analyzed

TOC = Top of casing

DTW = Depth to water

Filtered = 0.45 micron glass membrane filter

GW = Groundwater

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

BTEX = Benzene, toluene, ethylbenzene, and xylenes - analyzed by EPA Method 8020 or 8240/8260

TPHd = Total petroleum hydrocarbons quantitated as diesel - analyzed by Modified EPA Method 8015

TPHmo = Total petroleum hydrocarbons quantitated as motor oil - analyzed by Modified EPA Method 8015

TPHk = Total petroleum hydrocarbons quantitated as kerosene - analyzed by Modified EPA Method 8015

TPHg = Total petroleum hydrocarbons quantitated as gasoline - analyzed by Modified EPA Method 8015

MTBE = methyl tert-butyl ether - analyzed by EPA Method 8020 or 8260. Confirmation 8260 results shown in parentheses

DUP = Duplicate sample

SPH = Separate-phase hydrocarbons; measured thickness

SGC = Silica gel cleanup based on Method 3630B prior to TPHd, TPHk, or TPHmo analysis, following CRWQCB February 16, 1999 memorandum

NM = Not measured

TBW = Tank backfill well

A = The analytical laboratory reviewed the data and noted that petroleum hydrocarbons quantified in the diesel range are actually the front end of the motor oil pattern

B = The analytical laboratory reviewed the data and noted that the quantitation in the diesel range show no diesel pattern; the response looks like lower carbon chain compounds close to the gasoline range

C = The analytical laboratory reviewed the data and noted that there is no pattern related to diesel range; the peaks are small and random

E = Results are estimated due to concentrations exceeding the calibration ranged

F = Silica gel filtration and filtration with 0.45 micron glass membrane filter

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Table 2. Groundwater Analytical Results - VOCs by EPA Method 8260 - City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	Benzene	n-Butyl-benzene	sec-Butyl-benzene	Chloro-ethane	1,2-DCA	1,2-DCP	Ethyl-benzene	Isopropyl-benzene	p-Isopropyl-toluene	MTBE	Napthalene	n-Propyl-benzene	Toluene	1,2,4-TMB	1,3,5-TMB	Xylenes
	← µg/l →															
MW-5																
2/27/01	180	9	4	3	7	3	260	23	6	1,100	43	68	7	1	11	53
MW-6																
2/27/01	270	11	3	<1	7	<1	9	6	1	19	62	21	3	1	<1	3

Notes

All concentrations in micrograms per liter (mg/l)

µg/l = micrograms per liter

VOCs = Volatile organic compounds by EPA Method 8260. Sample not subject to SCG or filtration prior to analysis.

1,2-DCA = 1,2-dichloroenthane

1,2-DCP = 1,2-dichloropropane

MTBE = methyl tertiary-butyl ether

1,2,4-TMB = 1,2,4-trimethylbenzene

1,3,5-TMB = 1,3,5-trimethylbenzene

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Table 3. Groundwater Analytical Results - SVOCs by EPA Method 8270
City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	Naphthalene	Pyrene	Other SVOCs
	<---------- µg/L ---------->		
MW-6			
2/27/01	19	ND	ND
MW-9			
11/28/00	ND	ND	ND
MW-13			
11/28/00	ND	10	ND
MW-17			
11/28/00	ND	ND	ND

Notes
All concentrations in micrograms per liter (µg/l)
SVOCs = Semi-volatile organic compounds by EPA Method 8270.
Samples not subject to silica gel cleanup or filtration prior to analysis.

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Table 4. Groundwater Analytical Results - LUFT Metals - City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	Cadmium	Chromium	Lead	Nickel	Zinc	Notes
	<----------	----------	mg/l ----------	----------	---------->	
MW-2						
8/19/98	---	---	<100	---	---	a
MW-6						
2/28/01	<0.001	0.035	0.23	0.046	0.19	non-filtered

Abbreviations and Notes:

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

mg/l = milligrams per liter

--- = not measured/analyzed

a = Analyzed for organic lead

Attachment A

Field Data Sheets

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WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
TBW-1	7:28	5.40	5.91	0.51		Removed & replaced sock ≈ 1 L SPH DO not taken
TBW-3	7:13		1.29			
TBW-4	7:12		1.35			
TBW-5	7:33	8.70	9.06	0.36		Removed & replaced sock ≈ 2 liters SPH DO not taken
TBW-6	7:23		2.30			

Project Name: City of Oakland

Project Number: 153-1653

Measured By: Julie Bond / Sanjiv Gill

Date: 02-26-01

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WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
MW-1	7:25		3.95			
MW-2	7:05		6.70			
MW-5	7:10		4.40			
MW-6	7:15		7.80			
MW-7	7:05		5.75			
MW-8	7:33		9.50			
MW-9	7:27		6.40			
MW-10	7:15		5.80			
MW-11	7:07		5.65			
MW-12	7:20		6.00			
MW-13	7:20		9.60			
MW-14	7:24		6.20			
MW-15	7:30		9.30			
MW-16	7:35	12.70	13.10	.40		Removed & replaced Sock ~80ml SPH DO not taken
MW-17	7:31		9.40			

Project Name: City of Oakland

Project Number: 153-1653

Measured By: Julie Bond / Sanjiv Gill

Date: 02-26-01

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WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-1
Project Number: **153-1653**	Date: 2-26-01	Well Yield:
Site Address: **101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 3.95	Total Well Depth: 15.60	Water Column Height: 11.65
Volume/ft: 0.16	1 Casing Volume: 1.86	3 Casing Volumes: 5.59
Purging Device: ~~stub pump~~ disposable bailer	Did Well Dewater?: NO	Total Gallons Purged: 5.5
Start Purge Time: 7:16	Stop Purge Time: 7:31	Total Time: ~ 15 mins

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
7:21	1.5	16.3	7.20	3999	
7:26	3	16.6	7.14	3999	
7:32	5.5	16.7	7.05	3999	

Post-purge DO= 0.44 ug/L

Post-purge ORP=_____mV

Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-1	2-27-01	7:37	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up +**

O&G Fluorinated Glass Fiber

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WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-2
Project Number: **153-**1653	Date: 2-26-01	Well Yield:
Site Address: **1301 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 6.70	Total Well Depth: 15.50	Water Column Height: 8.80
Volume/ft: 0.16	1 Casing Volume: 1.40	3 Casing Volumes: 4.22
Purging Device: ~~Sub-pump~~ disposable bailer	Did Well Dewater?: NO	Total Gallons Purged: 4
Start Purge Time: 6:45	Stop Purge Time: 6:56	Total Time: 11 min

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
6:48	1.5	16.9	7.28	3999	
6:52	2.5	16.2	6.92	3999	
6:57	4	16.5	6.82	3999	

Post-purge DO= 0.32 **ug/L**

Post-purge ORP=_____ **mV**

Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-2	2-27-01	7:02	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-5
Project Number: **153-**1653	Date: 2-26-01	Well Yield:
Site Address: **2101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2 " pvc
		Technician(s): SG
Initial Depth to Water: 4.40	Total Well Depth: 14.22	Water Column Height:. 9.82
Volume/ft: 0.16	1 Casing Volume: 1.57	3 Casing Volumes: 4.71
Purging Device: disposable bailer ~~pump~~	Did Well Dewater?: no	Total Gallons Purged: 5
Start Purge Time: 5:40	Stop Purge Time: 5:48	Total Time: 8 mins

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
5:42	1.5	12.7	6.94	2150	oder
5:46	3	13.2	6.86	2467	
5:49	5	13.3	6.87	2226	

Post-purge DO= ~~0.24~~ **ug/L** ←0.24

Post-purge ORP=_____**mV**

Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-5	2-27-01	5:54	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, ~~confirm MTBE by 8260~~**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-6
Project Number: **153-1653**	Date: 2-26-01	Well Yield:
Site Address: **1301 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 7.80	Total Well Depth: 14.00	Water Column Height: 6.20
Volume/ft: 0.16	1 Casing Volume: 0.99	3 Casing Volumes: 2.97
Purging Device: ~~submersible pump~~ disposable bailer	Did Well Dewater?: NO	Total Gallons Purged: 3
Start Purge Time: 12:30	Stop Purge Time: 12:32	Total Time: 2 mins

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
12:31	1	17.6	7.83	3582	sampled
12:32	2	18.1	7.60	3350	after removing
12:33	3	17.9	7.44	3159	SPH @ 2.73
					Sample taken
					from a paper
					container

Post-purge DO= 0.18 ug/L

Post-purge ORP=_____mV

Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-6	2-28-01	12:55	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-7
Project Number: **153-1653**	Date: 2-26-01	Well Yield:
Site Address: **101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 5.75	Total Well Depth: 14.20	Water Column Height: 8.45
Volume/ft: 0.16	1 Casing Volume: 1.35	3 Casing Volumes: 4.05
Purging Device: disposable bailer ~~sub pump~~	Did Well Dewater?: no	Total Gallons Purged: 4
Start Purge Time: 5:00	Stop Purge Time: 5:12	Total Time: 12 MINS

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
5:03	1.5	12.1	6.86	2846	
5:08	3	13.1	6.87	3053	
5:13	4	13.9	6.87	3427	

Post-purge DO= 0.64 ug/L

Post-purge ORP=_____mV

Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-7	2-27-01	5:18	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-8
Project Number: **153-1153**	Date: 2-26-01	Well Yield:
Site Address: **1301 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SS
Initial Depth to Water: 9.50	Total Well Depth: 15.15	Water Column Height: 5.65
Volume/ft: 0.16	1 Casing Volume: 0.90	3 Casing Volumes: 2.71
Purging Device: ~~submersible pump~~ disposable bailer	Did Well Dewater?: NO	Total Gallons Purged: 3
Start Purge Time: 11:10	Stop Purge Time: 11:14	Total Time: 4 mins

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
11:11	1	17.4	7.89	3999	
11:13	2	17.1	7.84	3999	
11:15	3	16.8	7.90	3995	

Post-purge DO= 1.14 ug/L

Post-purge ORP=_____mV

Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-8	2-26-01	11:20	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-9
Project Number: **153-** 1653	Date: 2-26-01	Well Yield:
Site Address: **1301 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SC
Initial Depth to Water: 6.40	Total Well Depth: 14.00	Water Column Height: 7.60
Volume/ft: 0.16	1 Casing Volume: 1.21	3 Casing Volumes: 3.64
Purging Device: ~~submpump~~ disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 35
Start Purge Time: 9:55	Stop Purge Time: 9:59	Total Time: 4 mins

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
9:57	1.5	17.5	7.51	3999	
9:58	2.5	17.1	7.80	3999	
10:00	3.5	17.2	7.84	3995	

Post-purge DO= 0.80 **ug/L**

Post-purge ORP= _____ **mV**

Ferrous Iron= _____ **ug/L**

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-9	2-26-01	10:05	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-10
Project Number: **153-** 1653	Date: 2-26-01	Well Yield:
Site Address: **1101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2 " pvc
		Technician(s): SG
Initial Depth to Water: 5.80	Total Well Depth: 14.95	Water Column Height: 9.15
Volume/ft: 0.16	1 Casing Volume: 1.46	3 Casing Volumes: 4.39
Purging Device: disposable bailer ~~submp~~	Did Well Dewater?: NO	Total Gallons Purged: 4.5
Start Purge Time: 9:00	Stop Purge Time: 9.06	Total Time: 6 mins

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
9:03	1.5	12.8	7.38	3233	
9:04	3	13.3	7.37	2011	
9:07	4.5	13.2	7.24	1842	

Post-purge DO= 0.85 ug/L

Post-purge ORP= _____ mV

Ferrous Iron= _____ ug/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-10	2-26-01	9:12	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-11
Project Number: **153-** 1053	Date: 2-26-01	Well Yield:
Site Address: **1101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2 " pvc
		Technician(s): SG
Initial Depth to Water: 5.65	Total Well Depth: 19.45	Water Column Height:. 13.80
Volume/ft: 0.16	1 Casing Volume: 2.20	3 Casing Volumes: 6.60
Purging Device: ~~submersible pump~~ disposable bailer	Did Well Dewater?: NO	Total Gallons Purged: 6
Start Purge Time: 6:10	Stop Purge Time: 6:23	Total Time: 13 mins

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
6:14	2	15.5	6.35	3999	
6:18	4	15.2	6.61	3999	
6:24	6	15.2	6.82	3999	

Post-purge DO= 0.62 ug/L

Post-purge ORP=_____mV

Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-11	2-27-01	6:29	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE** VOC	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-12
Project Number: **153**-1453	Date: 2-26-01	Well Yield:
Site Address: **1301 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 6.00	Total Well Depth: 14.75	Water Column Height: 8.75
Volume/ft: 0.16	1 Casing Volume: 1.40	3 Casing Volumes: 4.20
Purging Device: ~~bladder pump~~ disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 4
Start Purge Time: 7:50	Stop Purge Time: 8:05	Total Time: 15 min

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
7:55	1.5	17.1	7.89	3999	
8:00	3	17.5	7.83	3999	
8:06	4	17.3	7.55	3999	

Post-purge DO= 0.39 ug/L

Post-purge ORP=_____mV

Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-12	2-27-01	8:11	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-13
Project Number: **153-1663**	Date: 2-26-01	Well Yield:
Site Address: **7401 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2 " pvc
		Technician(s): SG
Initial Depth to Water: 9.60	Total Well Depth: 20.05	Water Column Height: 10.45
Volume/ft: 0.16	1 Casing Volume: 1.67	3 Casing Volumes: 5.0
Purging Device: ~~sub-pump~~ disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 5
Start Purge Time: 9:17	Stop Purge Time: 9:27	Total Time: 5 mins

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
9:19	1.5	16.9	7.34	3999	
9:21	3	17.5	7.38	3999	
9:23	5	17.3	7.33	3599	

Post-purge DO= 0.78 ug/L

Post-purge ORP=_____mV

Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-13	2-26-01	9:28	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-14
Project Number: **153-1653**	Date: 2-26-01	Well Yield:
Site Address: **1201 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 6.20	Total Well Depth: 14.70	Water Column Height: 8.50
Volume/ft: 0.16	1 Casing Volume: 1.36	3 Casing Volumes: 4.08
Purging Device: ~~sub pump~~ disposable bailer	Did Well Dewater?: NO	Total Gallons Purged: 4
Start Purge Time: 9:35	Stop Purge Time: 9:40	Total Time: 5 mins

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
9:37	1.5	16.6	7.72	3999	
9:39	3	16.8	7.81	3999	
9:41	4	16.8	7.75	3999	

Post-purge DO= 0.81 ug/L

Post-purge ORP=_____mV

Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-14	2-26-01	9:46	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-15
Project Number: **153-1653**	Date: 2-26-01	Well Yield:
Site Address: **201 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 9.30	Total Well Depth: 20.15	Water Column Height: 10.85
Volume/ft: 0.16	1 Casing Volume: 1.73	3 Casing Volumes: 5.20
Purging Device: ~~submpump~~ disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 5
Start Purge Time: 10:15	Stop Purge Time: 10:22	Total Time: 7 mins

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
10:17	1.5	16.3	7.73	3999	
10:19	3	16.7	7.81	3999	
10:23	5	16.9	7.90	3999	

Post-purge DO= 0.55 ug/L

Post-purge ORP=_____mV

Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-15	2-26-01	10:28	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-17
Project Number: **153-**1653	Date: 2-26-01	Well Yield:
Site Address: **201 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2 " pvc
		Technician(s): SG
Initial Depth to Water: 9.40	Total Well Depth: 18.00	Water Column Height:. 8.60
Volume/ft: 0.16	1 Casing Volume: 1.37	3 Casing Volumes: 4.12
Purging Device: ~~submersible pump~~ disposable bailers	Did Well Dewater?: NO	Total Gallons Purged: 4
Start Purge Time: 10:40	Stop Purge Time: 10:47	Total Time: 7 mins

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
10:43	1.5	16.8	7.84	3599	
10:45	3	17.1	7.63	3599	
10:48	4	17.2	7.66	3599	

Post-purge DO= 1.13 **ug/L**

Post-purge ORP= _____ **mV**

Ferrous Iron= _____ **ug/L**

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-17	2-26-01	10:53	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: TBW-3
Project Number: **153-1653**	Date: 2-26-01	Well Yield:
Site Address: **1101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 6" pvc
		Technician(s): SG
Initial Depth to Water: 1.29	Total Well Depth: 10.50	Water Column Height: 9.21
Volume/ft: 1.47	1 Casing Volume: 13.5	3 Casing Volumes: ~~13.5~~
Purging Device: 3" Grundfos submersible	Did Well Dewater?: no	Total Gallons Purged: 15
Start Purge Time: 8:57	Stop Purge Time: 9:19	Total Time: 19 mins

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
9:13	13.5	17.4	7.14	2154	removed SPH bailer & sampled
9:16	14	17.3	7.69	2879	
9:18	15	17.8	7.83	2892	

Post-purge DO= 0.18 ug/L

Post-purge ORP=_____mV

Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
TBW-3	2-27-01	9:23	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: TBW-4
Project Number: **153-1653**	Date: 2-26-01	Well Yield:
Site Address: **201 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 6" pvc
		Technician(s): SG
Initial Depth to Water: 1.35	Total Well Depth: 9.70	Water Column Height: 8.35
Volume/ft: 1.47	1 Casing Volume: 12.27	3 Casing Volumes:
Purging Device: ~~sub-pump~~ 3" NL bailer	Did Well Dewater?: no	Total Gallons Purged: 14
Start Purge Time: 9:40	Stop Purge Time: 9:54	Total Time: 14 mins

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
9:51	12	17.5	7.37	3999	
9:53	13	17.6	7.63	3999	
9:55	14	17.8	7.66	3999	

Post-purge DO= 0.30 ug/L

Post-purge ORP=_____mV

Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
TBW-4	2-27-01	10:00	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: TBW-6
Project Number: **153-1653**	Date: 2-26-01	Well Yield:
Site Address: **1101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 6" pvc
		Technician(s): SG
Initial Depth to Water: 2.30	Total Well Depth: 12.15	Water Column Height: 9.85
Volume/ft: 1.47	1 Casing Volume: 14.4	3 Casing Volumes:
Purging Device: 3" PVC bailer ~~submersible pump~~	Did Well Dewater?: no	Total Gallons Purged: 16
Start Purge Time: 8:20	Stop Purge Time: 8:36	Total Time: 16 min

Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp.	pH	Cond.	Comments
8:30	14	17.4	7.84	3999	
8:~~33~~	15	17.1	7.94	3999	
8:37	16	16.9	7.80	3999	

Post-purge DO= 0.47 ug/L

Post-purge ORP=_____mV

Ferrous Iron=_____ ug/L

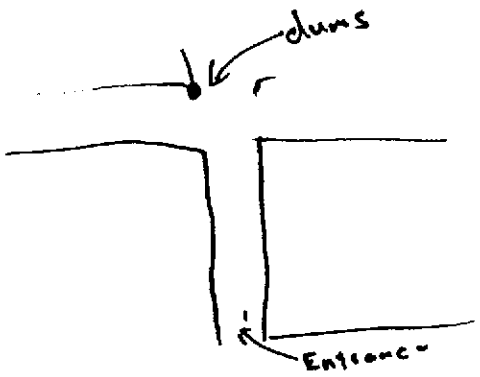
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
TBW-6	2-27-01	8:43	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020 8015, confirm MTBE by 8260**
			2 half-liter plastic	**none**	**nitrate, sulfate, alkalinity**	
			2 ambers	**none**	**TPHd/TPHk/TPHmo**	**NOTE: silica gel clean up**

DRUM INVENTORY RECORD

Project No./Task 153-1653-005 Location City of Oak-MSC
Date 2-28-01 Project Mgr BCP
Client C Technician SG
Day of the Week Wed

Drum No. or ID	Well or Source ID(s)	Sample ID	Type of Material	Amount of Material in Drum	Date Generated	Comments
—	—	—	water	full	2-26-01	
—	—	—	"	"	2-28-01	

Sketch Locations of Drums:



No. Of Drums Generated:
Soil: _____
Water: water
Total No. Of Drums at Site:
4 full drums

Date Removed: _____
Landfill: _____

Drums Removed: _____

Personnel initials _____

Appendix B

Laboratory Analytical Reports/Correspondence

Caltest
ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

May 8, 2001

Mr. Tom Howard
Cambria
1144 65th Street, Suite C
Oakland, CA 94608

Re: City of Oakland (Caltest B030078)

Mr. Howard:

On March 1, 2001, Caltest received your samples for the City of Oakland project 153-1653. Caltest performed a Silica Gel Cleanup procedure per your instruction, prior to analysis, on each of samples submitted for the TPH Diesel analysis. Please feel free to call me at the laboratory, if you have any additional questions concerning the analyses performed.

Sincerely,
Caltest Analytical Laboratory

Todd M Albertson
Project Manager

1885 North Kelly Road • Napa, California 94558
(707) 258-4000 • Fax: (707) 226-1001 • e-mail: caltest@caltestlab.com

Caltest
ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

LAB ORDER No.: B030078

REPORT of ANALYTICAL RESULTS

Report Date: 30 MAR 2001
Received Date: 01 MAR 2001

Client: Bob Clark Riddel
Cambria
1144 65th Street, Suite C
Oakland, CA 94608

Project: 153-1653\CITY OF OAKLAND

Sampled by: SANJIV GILL

Lab Number	Sample Identification	Matrix	Sampled Date/Time
B030078-1	MW-1	AQUEOUS	27 FEB 01 07:37
B030078-2	MW-2	AQUEOUS	27 FEB 01 07:02
B030078-3	MW-7	AQUEOUS	27 FEB 01 05:18
B030078-4	MW-8	AQUEOUS	27 FEB 01 11:20
B030078-5	MW-9	AQUEOUS	26 FEB 01 10:05
B030078-6	MW-10	AQUEOUS	26 FEB 01 09:12
B030078-7	MW-11	AQUEOUS	27 FEB 01 06:29
B030078-8	MW-12	AQUEOUS	27 FEB 01 08:11
B030078-9	MW-13	AQUEOUS	26 FEB 01 09:28
B030078-10	MW-14	AQUEOUS	26 FEB 01 09:46
B030078-11	MW-15	AQUEOUS	26 FEB 01 10:28
B030078-12	MW-17	AQUEOUS	26 FEB 01 10:53
B030078-13	TBW-3	AQUEOUS	27 FEB 01 09:23
B030078-14	TBW-4	AQUEOUS	27 FEB 01 10:00
B030078-15	TBW-6	AQUEOUS	27 FEB 01 08:43
B030078-16	TB	AQUEOUS	27 FEB 01
B030078-17	MW-5	AQUEOUS	27 FEB 01 05:54
B030078-18	MW-6	AQUEOUS	28 FEB 01 12:55

Todd M. Alberson
Project Manager

Christine Horn
Laboratory Director

1885 North Kelly Road • Napa, California 94558
(707) 258-4000 • Fax: (707) 226-1001 • e-mail: caltest@caltestlab.com

LAB ORDER No.: B030078

INORGANIC ANALYTICAL RESULTS

ANALYTE	RESULT	R.L.	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-18								
SAMPLE ID: MW-6								
SAMPLED: 28 FEB 01 12:55								
Cadmium	ND	0.001	mg/L	1	200.7	03.12.01	A010213ICP	1
Chromium	0.035	0.005	mg/L	1	200.7	03.12.01	A010213ICP	1
Lead	0.23	0.003	mg/L	1	200.7	03.12.01	A010213ICP	1
Nickel	0.046	0.005	mg/L	1	200.7	03.12.01	A010213ICP	1
Zinc	0.19	0.02	mg/L	1	200.7	03.12.01	A010213ICP	1

1) Sample Preparation on 03-08-01 using 200.2

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-1							
SAMPLE ID: MW-1							
SAMPLED: 27 FEB 01 07:37							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.24.01	T010071TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	270.	61.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	250.	ug/L				
Surrogate o-Terphenyl	59.		%				
Kerosene	ND	61.	ug/L				
LAB NUMBER: B030078-1 (continued)							
SAMPLE ID: MW-1							
SAMPLED: 27 FEB 01 07:37							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				3	03.07.01	V010022G9A	5,6,7
TPH-Purgeable, quantitated as gasoline	1500.	150.	ug/L				
Benzene	110.	1.5	ug/L				
Toluene	6.3	1.5	ug/L				
Ethylbenzene	ND	1.5	ug/L				
Xylenes (Total)	9.9	1.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	15.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	96.		%				
Surrogate 4-Bromofluorobenzene [PID]	97.		%				
LAB NUMBER: B030078-2							
SAMPLE ID: MW-2							
SAMPLED: 27 FEB 01 07:02							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.24.01	T010071TPH	1,3,4

1) Sample Preparation on 03-12-01 using EPA 3510
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
3) Due to limited sample volume, Reporting Limits are higher than usual.
4) Sample filtered through a 0.45 um filter prior to anlaysis.
5) Sample Preparation on 03-06-01 using EPA 5030
6) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
7) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-2 (continued)							
SAMPLE ID: MW-2							
SAMPLED: 27 FEB 01 07:02							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.24.01	T010071TPH	
(continued)							
TPH-Extractable, quantitated as diesel	ND	59.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	240.	ug/L				
Surrogate o-Terphenyl	53.		%				
Kerosene	ND	59.	ug/L				
LAB NUMBER: B030078-2 (continued)							
SAMPLE ID: MW-2							
SAMPLED: 27 FEB 01 07:02							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	03.07.01	V010022G9A	1
TPH-Purgeable, quantitated as gasoline	ND	50.	ug/L				
Benzene	3.6	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	104.		%				
Surrogate 4-Bromofluorobenzene [PID]	98.		%				
LAB NUMBER: B030078-3							
SAMPLE ID: MW-7							
SAMPLED: 27 FEB 01 05:18							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.23.01	T010071TPH	2,3
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	62.		%				
Kerosene	ND	50.	ug/L				

1) Sample Preparation on 03-09-01 using EPA 5030
2) Sample Preparation on 03-12-01 using EPA 3510
3) Sample filtered through a 0.45 um filter prior to anlaysis.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-3 (continued)							
SAMPLE ID: MW-7							
SAMPLED: 27 FEB 01 05:18							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED (continued)				1	03.23.01	T010071TPH	
Kerosene							
LAB NUMBER: B030078-3 (continued)							
SAMPLE ID: MW-7							
SAMPLED: 27 FEB 01 05:18							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	03.07.01	V010022G9A	1
TPH-Purgeable, quantitated as gasoline	ND	50.	ug/L				
Benzene	ND	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	106.		%				
Surrogate 4-Bromofluorobenzene [PID]	99.		%				
LAB NUMBER: B030078-4							
SAMPLE ID: MW-8							
SAMPLED: 27 FEB 01 11:20							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.23.01	T010071TPH	2,3
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	58.		%				
Kerosene	ND	50.	ug/L				

1) Sample Preparation on 03-06-01 using EPA 5030
2) Sample Preparation on 03-12-01 using EPA 3510
3) Sample filtered through a 0.45 um filter prior to anlaysis.

ORGANIC ANALYTICAL RESULTS

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-4 (continued)							
SAMPLE ID: MW-8							
SAMPLED: 27 FEB 01 11:20							
METHOD: EPA 8015/8020A				1	03.07.01	V010022G9A	1
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS							
TPH-Purgeable, quantitated as gasoline	ND	50.	ug/L				
Benzene	ND	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	110.		%				
Surrogate 4-Bromofluorobenzene [PID]	105.		%				
LAB NUMBER: B030078-5							
SAMPLE ID: MW-9							
SAMPLED: 26 FEB 01 10:05							
METHOD: EPA 8015M				1	03.24.01	T010071TPH	2,3,4
TPH SEMI-VOL- DISSOLVED							
TPH-Extractable, quantitated as diesel	120.	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	78.		%				
Kerosene	ND	50.	ug/L				
LAB NUMBER: B030078-5 (continued)							
SAMPLE ID: MW-9							
SAMPLED: 26 FEB 01 10:05							
METHOD: EPA 8015/8020A				1	03.07.01	V010022G9A	1,5
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS							
TPH-Purgeable, quantitated as gasoline	142.	50.	ug/L				

1) Sample Preparation on 03-06-01 using EPA 5030
2) Sample Preparation on 03-12-01 using EPA 3510
3) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
4) Sample filtered through a 0.45 um filter prior to anlaysis.
5) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-7 (continued)							
SAMPLE ID: MW-11							
SAMPLED: 27 FEB 01 06:29							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	03.07.01	V010022G9A	
Ethylbenzene	38.	0.5	ug/L				
Xylenes (Total)	36.	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	104.		%				
Surrogate 4-Bromofluorobenzene [PID]	96.		%				
LAB NUMBER: B030078-8							
SAMPLE ID: MW-12							
SAMPLED: 27 FEB 01 08:11							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.23.01	T010071TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	320.	63.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	250.	ug/L				
Surrogate o-Terphenyl	66.		%				
Kerosene	ND	63.	ug/L				
LAB NUMBER: B030078-8 (continued)							
SAMPLE ID: MW-12							
SAMPLED: 27 FEB 01 08:11							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1.0	03.07.01	V010022G9A	5,6
TPH-Purgeable, quantitated as gasoline	110.	50.	ug/L				
Benzene	1.4	0.5	ug/L				
Toluene	ND	0.5	ug/L				

1) Sample Preparation on 03-12-01 using EPA 3510
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
3) Due to limited sample volume, Reporting Limits are higher than usual.
4) Sample filtered through a 0.45 um filter prior to anlaysis.
5) Sample Preparation on 03-06-01 using EPA 5030
6) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-8 (continued)							
SAMPLE ID: MW-12							
SAMPLED: 27 FEB 01 08:11							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1.0	03.07.01	V010022G9A	
(continued)							
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	100.		%				
Surrogate 4-Bromofluorobenzene [PID]	95.		%				
LAB NUMBER: B030078-9							
SAMPLE ID: MW-13							
SAMPLED: 26 FEB 01 09:28							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.24.01	T010071TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	100.	64.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	260.	ug/L				
Surrogate o-Terphenyl	73.		%				
Kerosene	ND	64.	ug/L				
LAB NUMBER: B030078-9 (continued)							
SAMPLE ID: MW-13							
SAMPLED: 26 FEB 01 09:28							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1.0	03.07.01	V010022G9A	5
TPH-Purgeable, quantitated as gasoline	ND	50.	ug/L				
Benzene	ND	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				

1) Sample Preparation on 03-12-01 using EPA 3510
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
3) Due to limited sample volume, Reporting Limits are higher than usual.
4) Sample filtered through a 0.45 um filter prior to anlaysis.
5) Sample Preparation on 03-06-01 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-9 (continued)							
SAMPLE ID: MW-13							
SAMPLED: 26 FEB 01 09:28							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1.0	03.07.01	V010022G9A	
(continued)							
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	103.		%				
Surrogate 4-Bromofluorobenzene [PID]	98.		%				
LAB NUMBER: B030078-10							
SAMPLE ID: MW-14							
SAMPLED: 26 FEB 01 09:46							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.24.01	T010071TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	150.	58.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	230.	ug/L				
Surrogate o-Terphenyl	66.		%				
Kerosene	ND	58.	ug/L				
LAB NUMBER: B030078-10 (continued)							
SAMPLE ID: MW-14							
SAMPLED: 26 FEB 01 09:46							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	03.07.01	V010022G9A	5,6
TPH-Purgeable, quantitated as gasoline	73.	50.	ug/L				
Benzene	2.3	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				

1) Sample Preparation on 03-12-01 using EPA 3510
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
3) Due to limited sample volume, Reporting Limits are higher than usual.
4) Sample filtered through a 0.45 um filter prior to anlaysis.
5) Sample Preparation on 03-06-01 using EPA 5030
6) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-10 (continued)							
SAMPLE ID: MW-14							
SAMPLED: 26 FEB 01 09:46							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	03.07.01	V010022G9A	
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	105.		%				
Surrogate 4-Bromofluorobenzene [PID]	96.		%				
LAB NUMBER: B030078-11							
SAMPLE ID: MW-15							
SAMPLED: 26 FEB 01 10:28							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.24.01	T010071TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	190.	60.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	240.	ug/L				
Surrogate o-Terphenyl	62.		%				
Kerosene	ND	60.	ug/L				
LAB NUMBER: B030078-11 (continued)							
SAMPLE ID: MW-15							
SAMPLED: 26 FEB 01 10:28							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	03.09.01	V010022G9A	5,6
TPH-Purgeable, quantitated as gasoline	55.	50.	ug/L				
Benzene	0.6	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	0.5	0.5	ug/L				

1) Sample Preparation on 03-12-01 using EPA 3510
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
3) Due to limited sample volume, Reporting Limits are higher than usual.
4) Sample filtered through a 0.45 um filter prior to anlaysis.
5) Sample Preparation on 03-09-01 using EPA 5030
6) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-11 (continued)							
SAMPLE ID: MW-15							
SAMPLED: 26 FEB 01 10:28							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	03.09.01	V010022G9A	
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	101.		%				
Surrogate 4-Bromofluorobenzene [PID]	104.		%				
LAB NUMBER: B030078-12							
SAMPLE ID: MW-17							
SAMPLED: 26 FEB 01 10:53							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.24.01	T010071TPH	1,2
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	65.		%				
Kerosene	ND	50.	ug/L				
LAB NUMBER: B030078-12 (continued)							
SAMPLE ID: MW-17							
SAMPLED: 26 FEB 01 10:53							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	03.09.01	V010024G9A	3
TPH-Purgeable, quantitated as gasoline	ND	50.	ug/L				
Benzene	ND	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	102.		%				
Surrogate 4-Bromofluorobenzene [PID]	105.		%				

1) Sample Preparation on 03-12-01 using EPA 3510
2) Sample filtered through a 0.45 um filter prior to anlaysis.
3) Sample Preparation on 03-09-01 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-13							
SAMPLE ID: TBW-3							
SAMPLED: 27 FEB 01 09:23							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.23.01	T010071TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	560.	57.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	230.	ug/L				
Surrogate o-Terphenyl	58.		%				
Kerosene	ND	57.	ug/L				
LAB NUMBER: B030078-13 (continued)							
SAMPLE ID: TBW-3							
SAMPLED: 27 FEB 01 09:23							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1			5,6
TPH-Purgeable, quantitated as gasoline	120.	50.	ug/L		03.06.01	V010022G9A	
Benzene	1.5	0.5	ug/L		03.06.01	V010022G9A	
Toluene	ND	0.5	ug/L		03.06.01	V010022G9A	
Ethylbenzene	ND	0.5	ug/L		03.06.01	V010022G9A	
Xylenes (Total)	ND	0.5	ug/L		03.06.01	V010022G9A	
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L		03.09.01	V010024G9A	
Surrogate 4-Bromofluorobenzene [FID]	104.		%		03.06.01	V010022G9A	
Surrogate 4-Bromofluorobenzene [PID]	98.		%		03.06.01	V010022G9A	
LAB NUMBER: B030078-14							
SAMPLE ID: TBW-4							
SAMPLED: 27 FEB 01 10:00							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.23.01	T010071TPH	1,2,3,4

1) Sample Preparation on 03-12-01 using EPA 3510
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
3) Due to limited sample volume, Reporting Limits are higher than usual.
4) Sample filtered through a 0.45 um filter prior to anlaysis.
5) Sample Preparation on 03-06-01 using EPA 5030
6) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-14 (continued)							
SAMPLE ID: TBW-4							
SAMPLED: 27 FEB 01 10:00							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.23.01	T010071TPH	
(continued)							
TPH-Extractable, quantitated as diesel	410.	57.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	230.	ug/L				
Surrogate o-Terphenyl	57.		%				
Kerosene	ND	57.	ug/L				
LAB NUMBER: B030078-14 (continued)							
SAMPLE ID: TBW-4							
SAMPLED: 27 FEB 01 10:00							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	03.09.01	V010024G9A	1,2
TPH-Purgeable, quantitated as gasoline	250.	50.	ug/L				
Benzene	1.9	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	99.		%				
Surrogate 4-Bromofluorobenzene [PID]	104.		%				
LAB NUMBER: B030078-15							
SAMPLE ID: TBW-6							
SAMPLED: 27 FEB 01 08:43							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.23.01	T010071TPH	3,4,5
TPH-Extractable, quantitated as diesel	ND	57.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	230.	ug/L				

1) Sample Preparation on 03-09-01 using EPA 5030
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.
3) Sample Preparation on 03-12-01 using EPA 3510
4) Due to limited sample volume, Reporting Limits are higher than usual.
5) Sample filtered through a 0.45 um filter prior to anlaysis.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-15 (continued)							
SAMPLE ID: TBW-6							
SAMPLED: 27 FEB 01 08:43							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED (continued)				1	03.23.01	T010071TPH	
Surrogate o-Terphenyl	57.		%				
Kerosene	ND	57.	ug/L				
LAB NUMBER: B030078-15 (continued)							
SAMPLE ID: TBW-6							
SAMPLED: 27 FEB 01 08:43							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	03.09.01	V010024G9A	1
TPH-Purgeable, quantitated as gasoline	ND	50.	ug/L				
Benzene	ND	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	98.		%				
Surrogate 4-Bromofluorobenzene [PID]	101.		%				
LAB NUMBER: B030078-16							
SAMPLE ID: TB							
SAMPLED: 27 FEB 01							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	03.09.01	V010024G9A	1
TPH-Purgeable, quantitated as gasoline	ND	50.	ug/L				
Benzene	ND	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	96.		%				
Surrogate 4-Bromofluorobenzene [PID]	99.		%				

1) Sample Preparation on 03-09-01 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-17							
SAMPLE ID: MW-5							
SAMPLED: 27 FEB 01 05:54							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.24.01	T010071TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	230.	61.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	250.	ug/L				
Surrogate o-Terphenyl	61.		%				
Kerosene	ND	61.	ug/L				
LAB NUMBER: B030078-17 (continued)							
SAMPLE ID: MW-5							
SAMPLED: 27 FEB 01 05:54							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				10	03.09.01	V010024G9A	5,6,7
TPH-Purgeable, quantitated as gasoline	6300.	500.	ug/L				
Benzene	150.	5.	ug/L				
Toluene	7.	5.	ug/L				
Ethylbenzene	350.	5.	ug/L				
Xylenes (Total)	55.	5.	ug/L				
Methyl tert-Butyl Ether (MTBE)	830.	50.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	95.		%				
Surrogate 4-Bromofluorobenzene [PID]	105.		%				

1) Sample Preparation on 03-12-01 using EPA 3510
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
3) Due to limited sample volume, Reporting Limits are higher than usual.
4) Sample filtered through a 0.45 um filter prior to anlaysis.
5) Sample Preparation on 03-13-01 using EPA 5030
6) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
7) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

LAB NUMBER: B030078-17 (continued)
SAMPLE ID: MW-5
SAMPLED: 27 FEB 01 05:54
METHOD: EPA 8260B

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
VOLATILE ORGANIC COMPOUNDS							1
Benzene	180.	20.	ug/L	20	03.08.01	V010036MSB	
Bromobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Bromochloromethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
Bromodichloromethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
Bromoform	ND	1.	ug/L	1	03.06.01	V010034MSB	
Bromomethane (Methyl Bromide)	ND	1.	ug/L	1	03.06.01	V010034MSB	
n-Butylbenzene	9.	1.	ug/L	1	03.06.01	V010034MSB	
sec-Butylbenzene	4.	1.	ug/L	1	03.06.01	V010034MSB	
tert-Butylbenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Carbon Tetrachloride	ND	1.	ug/L	1	03.06.01	V010034MSB	
Chlorobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Chloroethane (Ethyl Chloride)	3.	1.	ug/L	1	03.06.01	V010034MSB	
Chloroform	ND	1.	ug/L	1	03.06.01	V010034MSB	
Chloromethane (Methyl Chloride)	ND	1.	ug/L	1	03.06.01	V010034MSB	
2-Chlorotoluene	ND	1.	ug/L	1	03.06.01	V010034MSB	
4-Chlorotoluene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Dibromochloromethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2-Dibromo-3-chloropropane (DBCP)	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2-Dibromoethane (EDB)	ND	1.	ug/L	1	03.06.01	V010034MSB	
Dibromomethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2-Dichlorobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,3-Dichlorobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,4-Dichlorobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Dichlorodifluoromethane (F-12)	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,1-Dichloroethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2-Dichloroethane (EDC)	7.	1.	ug/L	1	03.06.01	V010034MSB	
1,1-Dichloroethene	ND	1.	ug/L	1	03.06.01	V010034MSB	
cis-1,2-Dichloroethene	ND	1.	ug/L	1	03.06.01	V010034MSB	
trans-1,2-Dichloroethene	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2-Dichloropropane	3.	1.	ug/L	1	03.06.01	V010034MSB	
1,3-Dichloropropane	ND	1.	ug/L	1	03.06.01	V010034MSB	
2,2-Dichloropropane	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,1-Dichloropropene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Dichlorotrifluoroethane (F-123)	ND	1.	ug/L	1	03.06.01	V010034MSB	
Ethylbenzene	260.	1.	ug/L	1	03.06.01	V010034MSB	
Hexachlorobutadiene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Isopropylbenzene	23.	1.	ug/L	1	03.06.01	V010034MSB	
p-Isopropyltoluene	6.	1.	ug/L	1	03.06.01	V010034MSB	
Methylene Chloride	ND	3.	ug/L	1	03.06.01	V010034MSB	
Methyl tert-Butyl Ether (MTBE)	1100.	20.	ug/L	20	03.08.01	V010036MSB	
Naphthalene	43.	1.	ug/L	1	03.06.01	V010034MSB	

1) Sample Preparation on 03-05-01 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-17 (continued)							
SAMPLE ID: MW-5							
SAMPLED: 27 FEB 01 05:54							
METHOD: EPA 8260B							
VOLATILE ORGANIC COMPOUNDS (continued)							
n-Propylbenzene	68.	1.	ug/L	1	03.06.01	V010034MSB	
Styrene	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,1,1,2-Tetrachloroethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,1,2,2-Tetrachloroethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
Tetrachloroethene (PCE)	ND	1.	ug/L	1	03.06.01	V010034MSB	
Toluene	7.	1.	ug/L	1	03.06.01	V010034MSB	
1,2,3-Trichlorobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2,4-Trichlorobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,1,1-Trichloroethane (TCA)	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,1,2-Trichloroethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
Trichloroethene (TCE)	ND	1.	ug/L	1	03.06.01	V010034MSB	
Trichlorofluoromethane (F-11)	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2,3-Trichloropropane	ND	1.	ug/L	1	03.06.01	V010034MSB	
Trichlorotrifluoroethane (F-113)	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2,4-Trimethylbenzene	1.	1.	ug/L	1	03.06.01	V010034MSB	
1,3,5-Trimethylbenzene	11.	1.	ug/L	1	03.06.01	V010034MSB	
Vinyl Chloride	ND	1.	ug/L	1	03.06.01	V010034MSB	
Xylenes (Total)	53.	1.	ug/L	1	03.06.01	V010034MSB	
Surrogate Dibromofluoromethane	76.		%	1	03.06.01	V010034MSB	
Surrogate 1,2-DCA-d4	73.		%	1	03.06.01	V010034MSB	
Surrogate Toluene-d8	80.		%	1	03.06.01	V010034MSB	
Surrogate 4-BFB	86.		%	1	03.06.01	V010034MSB	
LAB NUMBER: B030078-18							
SAMPLE ID: MW-6							
SAMPLED: 28 FEB 01 12:55							
METHOD: EPA 8270							
SEMIVOLATILE ORGANIC COMPOUNDS				1	03.12.01	S010026BNA	1
Acenaphthene	ND	15.	ug/L				
Acenaphthylene	ND	15.	ug/L				
Aniline	ND	10.	ug/L				
Anthracene	ND	10.	ug/L				
Benzidine	ND	20.	ug/L				
Benzo(a)anthracene	ND	10.	ug/L				
Benzo(b)fluoranthene	ND	10.	ug/L				
Benzo(k)fluoranthene	ND	10.	ug/L				
Benzo(ghi)perylene	ND	15.	ug/L				
Benzo(a)pyrene	ND	10.	ug/L				

1) Sample Preparation on 03-05-01 using EPA 3510

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

LAB NUMBER: B030078-18 (continued)
SAMPLE ID: MW-6
SAMPLED: 28 FEB 01 12:55
METHOD: EPA 8270

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
SEMIVOLATILE ORGANIC COMPOUNDS (continued)				1	03.12.01	S010026BNA	
Benzylbutylphthalate	ND	10.	ug/L				
4-Bromophenyl phenyl ether	ND	10.	ug/L				
Carbazole	ND	5.	ug/L				
4-Chloroaniline	ND	20.	ug/L				
bis(2-chloroethoxy)methane	ND	10.	ug/L				
bis(2-chloroethyl)ether	ND	10.	ug/L				
bis(2-chloroisopropyl)ether	ND	10.	ug/L				
2-Chloronaphthalene	ND	15.	ug/L				
4-Chlorophenyl phenyl ether	ND	15.	ug/L				
Chrysene	ND	10.	ug/L				
Dibenzo(a,h)anthracene	ND	10.	ug/L				
Dibenzofuran	ND	15.	ug/L				
1,2-Dichlorobenzene	ND	15.	ug/L				
1,3-Dichlorobenzene	ND	15.	ug/L				
1,4-Dichlorobenzene	ND	10.	ug/L				
3,3-Dichlorobenzidine	ND	20.	ug/L				
Diethyl phthalate	ND	15.	ug/L				
Dimethyl phthalate	ND	15.	ug/L				
Di-n-butylphthalate	ND	15.	ug/L				
2,4-Dinitrotoluene	ND	15.	ug/L				
2,6-Dinitrotoluene	ND	15.	ug/L				
Di-n-octylphthalate	ND	15.	ug/L				
1,2-Diphenylhydrazine	ND	5.	ug/L				
bis(2-Ethylhexyl)phthalate	ND	10.	ug/L				
Fluoranthene	ND	15.	ug/L				
Fluorene	ND	15.	ug/L				
Hexachlorobenzene	ND	10.	ug/L				
Hexachlorobutadiene	ND	10.	ug/L				
Hexachlorocyclopentadiene	ND	15.	ug/L				
Hexachloroethane	ND	10.	ug/L				
Indeno(1,2,3-cd)pyrene	ND	10.	ug/L				
Isophorone	ND	15.	ug/L				
2-Methylnaphthalene	ND	15.	ug/L				
Naphthalene	19.	15.	ug/L				
2-Nitroaniline	ND	50.	ug/L				
3-Nitroaniline	ND	50.	ug/L				
4-Nitroaniline	ND	50.	ug/L				
Nitrobenzene	ND	10.	ug/L				
N-Nitrosodimethylamine	ND	10.	ug/L				
N-Nitrosodiphenylamine	ND	10.	ug/L				
N-Nitrosodi-n-propylamine	ND	10.	ug/L				

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-18 (continued)							
SAMPLE ID: MW-6							
SAMPLED: 28 FEB 01 12:55							
METHOD: EPA 8270							
SEMIVOLATILE ORGANIC COMPOUNDS (continued)				1	03.12.01	S010026BNA	
Phenanthrene	ND	15.	ug/L				
Pyrene	ND	15.	ug/L				
Pyridine	ND	10.	ug/L				
1,2,4-Trichlorobenzene	ND	15.	ug/L				
Benzoic Acid	ND	75.	ug/L				
Benzyl Alcohol	ND	20.	ug/L				
4-Chloro-3-methylphenol	ND	5.	ug/L				
2-Chlorophenol	ND	15.	ug/L				
2,4-Dichlorophenol	ND	15.	ug/L				
2,4-Dimethylphenol	ND	25.	ug/L				
2,4-Dinitrophenol	ND	50.	ug/L				
2-Methyl-4,6-dinitrophenol	ND	50.	ug/L				
2-Methylphenol (o-Cresol)	ND	25.	ug/L				
3-/4-Methylphenol (m/p-Cresol)	ND	15.	ug/L				
2-Nitrophenol	ND	15.	ug/L				
4-Nitrophenol	ND	15.	ug/L				
Phenol	ND	15.	ug/L				
Pentachlorophenol	ND	50.	ug/L				
2,4,5-Trichlorophenol	ND	50.	ug/L				
2,4,6-Trichlorophenol	ND	10.	ug/L				
Surrogate Nitrobenzene-d5	56.		%				
Surrogate 2-Fluorobiphenyl	49.		%				
Surrogate Terphenyl-d14	88.		%				
Surrogate 2-Fluorophenol	38.		%				
Surrogate Phenol-d6	28.		%				
Surrogate 2,4,6-Tribromophenol	59.		%				
LAB NUMBER: B030078-18 (continued)							
SAMPLE ID: MW-6							
SAMPLED: 28 FEB 01 12:55							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.24.01	T010071TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	820.	60.	ug/L				

1) Sample Preparation on 03-12-01 using EPA 3510
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
3) Due to limited sample volume, Reporting Limits are higher than usual.
4) Sample filtered through a 0.45 um filter prior to anlaysis.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B030078-18 (continued)							
SAMPLE ID: MW-6							
SAMPLED: 28 FEB 01 12:55							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	03.24.01	T010071TPH	
(continued)							
TPH-Extractable, quantitated as Motor Oil	ND	240.	ug/L				
Surrogate o-Terphenyl	71.		%				
Kerosene	ND	60.	ug/L				
LAB NUMBER: B030078-18 (continued)							
SAMPLE ID: MW-6							
SAMPLED: 28 FEB 01 12:55							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				10	03.09.01	V010024G9A	1,2,3
TPH-Purgeable, quantitated as gasoline	6100.	500.	ug/L				
Benzene	181.	5.	ug/L				
Toluene	ND	5.	ug/L				
Ethylbenzene	14.2	5.	ug/L				
Xylenes (Total)	ND	5.	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	50.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	116.		%				
Surrogate 4-Bromofluorobenzene [PID]	105.		%				
LAB NUMBER: B030078-18 (continued)							
SAMPLE ID: MW-6							
SAMPLED: 28 FEB 01 12:55							
METHOD: EPA 8260B							
VOLATILE ORGANIC COMPOUNDS							4
Benzene	270.	10.	ug/L	10	03.08.01	V010036MSB	
Bromobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Bromochloromethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
Bromodichloromethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
Bromoform	ND	1.	ug/L	1	03.06.01	V010034MSB	

1) Sample Preparation on 03-09-01 using EPA 5030
2) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
3) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.
4) Sample Preparation on 03-05-01 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

LAB NUMBER: B030078-18 (continued)
SAMPLE ID: MW-6
SAMPLED: 28 FEB 01 12:55
METHOD: EPA 8260B

VOLATILE ORGANIC COMPOUNDS
(continued)

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
Bromomethane (Methyl Bromide)	ND	1.	ug/L	1	03.06.01	V010034MSB	
n-Butylbenzene	11.	1.	ug/L	1	03.06.01	V010034MSB	
sec-Butylbenzene	3.	1.	ug/L	1	03.06.01	V010034MSB	
tert-Butylbenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Carbon Tetrachloride	ND	1.	ug/L	1	03.06.01	V010034MSB	
Chlorobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Chloroethane (Ethyl Chloride)	ND	1.	ug/L	1	03.06.01	V010034MSB	
Chloroform	ND	1.	ug/L	1	03.06.01	V010034MSB	
Chloromethane (Methyl Chloride)	ND	1.	ug/L	1	03.06.01	V010034MSB	
2-Chlorotoluene	ND	1.	ug/L	1	03.06.01	V010034MSB	
4-Chlorotoluene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Dibromochloromethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2-Dibromo-3-chloropropane (DBCP)	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2-Dibromoethane (EDB)	ND	1.	ug/L	1	03.06.01	V010034MSB	
Dibromomethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2-Dichlorobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,3-Dichlorobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,4-Dichlorobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Dichlorodifluoromethane (F-12)	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,1-Dichloroethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2-Dichloroethane (EDC)	7.	1.	ug/L	1	03.06.01	V010034MSB	
1,1-Dichloroethene	ND	1.	ug/L	1	03.06.01	V010034MSB	
cis-1,2-Dichloroethene	ND	1.	ug/L	1	03.06.01	V010034MSB	
trans-1,2-Dichloroethene	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2-Dichloropropane	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,3-Dichloropropane	ND	1.	ug/L	1	03.06.01	V010034MSB	
2,2-Dichloropropane	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,1-Dichloropropene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Dichlorotrifluoroethane (F-123)	ND	1.	ug/L	1	03.06.01	V010034MSB	
Ethylbenzene	9.	1.	ug/L	1	03.06.01	V010034MSB	
Hexachlorobutadiene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Isopropylbenzene	6.	1.	ug/L	1	03.06.01	V010034MSB	
p-Isopropyltoluene	1.	1.	ug/L	1	03.06.01	V010034MSB	
Methylene Chloride	ND	3.	ug/L	1	03.06.01	V010034MSB	
Methyl tert-Butyl Ether (MTBE)	19.	1.	ug/L	1	03.06.01	V010034MSB	
Naphthalene	62.	1.	ug/L	1	03.06.01	V010034MSB	
n-Propylbenzene	21.	1.	ug/L	1	03.06.01	V010034MSB	
Styrene	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,1,1,2-Tetrachloroethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,1,2,2-Tetrachloroethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
Tetrachloroethene (PCE)	ND	1.	ug/L	1	03.06.01	V010034MSB	

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B030078

LAB NUMBER: B030078-18 (continued)
SAMPLE ID: MW-6
SAMPLED: 28 FEB 01 12:55
METHOD: EPA 8260B

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
VOLATILE ORGANIC COMPOUNDS (continued)							
Toluene	3.	1.	ug/L	1	03.06.01	V010034MSB	
1,2,3-Trichlorobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2,4-Trichlorobenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,1,1-Trichloroethane (TCA)	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,1,2-Trichloroethane	ND	1.	ug/L	1	03.06.01	V010034MSB	
Trichloroethene (TCE)	ND	1.	ug/L	1	03.06.01	V010034MSB	
Trichlorofluoromethane (F-11)	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2,3-Trichloropropane	ND	1.	ug/L	1	03.06.01	V010034MSB	
Trichlorotrifluoroethane (F-113)	ND	1.	ug/L	1	03.06.01	V010034MSB	
1,2,4-Trimethylbenzene	1.	1.	ug/L	1	03.06.01	V010034MSB	
1,3,5-Trimethylbenzene	ND	1.	ug/L	1	03.06.01	V010034MSB	
Vinyl Chloride	ND	1.	ug/L	1	03.06.01	V010034MSB	
Xylenes (Total)	3.	1.	ug/L	1	03.06.01	V010034MSB	
Surrogate Dibromofluoromethane	68.		%	1	03.06.01	V010034MSB	
Surrogate 1,2-DCA-d4	70.		%	1	03.06.01	V010034MSB	
Surrogate Toluene-d8	87.		%	1	03.06.01	V010034MSB	
Surrogate 4-BFB	87.		%	1	03.06.01	V010034MSB	

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ENVIRONMENTAL ANALYSES

LAB ORDER No.: B030078

SUPPLEMENTAL QUALITY CONTROL (QC) DATA REPORT

Report Date: 30 MAR 2001
Received Date: 01 MAR 2001

Client: Bob Clark Riddel
Cambria
1144 65th Street, Suite C
Oakland, CA 94608

Project: 153-1653\CITY OF OAKLAND

QC Batch ID	Method	Matrix
A010213ICP	200.7	AQUEOUS
S010026BNA	8270	AQUEOUS
T010071TPH	8015M	AQUEOUS
V010022G9A	8015/8020A	AQUEOUS
V010024G9A	8015/8020A	AQUEOUS
V010034MSB	8260B	AQUEOUS
V010036MSB	8260B	AQUEOUS

Todd M. Albertson
Project Manager

CAHorn
Christine Horn
Laboratory Director

Results are specific to the sample as submitted and only to the parameters reported.
All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.
Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).
Analyte Spike Amounts reported as 'NS' mean not spiked and will not have recoveries reported.
'RPD' means Relative Percent Difference and RPD Acceptance Criteria is stated as a maximum.
'NC' means not calculated for RPD or Spike Recoveries.

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LAB ORDER No.: B030078

METHOD BLANK ANALYTICAL RESULTS

ANALYTE	RESULT	R.L.	UNITS	ANALYZED	NOTES
QC BATCH: A010213ICP					
Cadmium	ND	0.001	mg/L	03.12.01	
Chromium	ND	0.005	mg/L	03.12.01	
Lead	ND	0.003	mg/L	03.12.01	
Nickel	ND	0.005	mg/L	03.12.01	
Zinc	ND	0.02	mg/L	03.12.01	
QC BATCH: S010026BNA					
SEMIVOLATILE ORGANIC COMPOUNDS				03.12.01	
Acenaphthene	ND	15.	ug/L		
Acenaphthylene	ND	15.	ug/L		
Aniline	ND	10.	ug/L		
Anthracene	ND	10.	ug/L		
Benzidine	ND	20.	ug/L		
Benzo(a)anthracene	ND	10.	ug/L		
Benzo(b)fluoranthene	ND	10.	ug/L		
Benzo(k)fluoranthene	ND	10.	ug/L		
Benzo(ghi)perylene	ND	15.	ug/L		
Benzo(a)pyrene	ND	10.	ug/L		
Benzylbutylphthalate	ND	10.	ug/L		
4-Bromophenyl phenyl ether	ND	10.	ug/L		
Carbazole	ND	5.	ug/L		
4-Chloroaniline	ND	20.	ug/L		
bis(2-chloroethoxy)methane	ND	10.	ug/L		
bis(2-chloroethyl)ether	ND	10.	ug/L		
bis(2-chloroisopropyl)ether	ND	10.	ug/L		
2-Chloronaphthalene	ND	15.	ug/L		
4-Chlorophenyl phenyl ether	ND	15.	ug/L		
Chrysene	ND	10.	ug/L		
Dibenzo(a,h)anthracene	ND	10.	ug/L		
Dibenzofuran	ND	15.	ug/L		
1,2-Dichlorobenzene	ND	15.	ug/L		
1,3-Dichlorobenzene	ND	15.	ug/L		
1,4-Dichlorobenzene	ND	10.	ug/L		
3,3-Dichlorobenzidine	ND	20.	ug/L		
Diethyl phthalate	ND	15.	ug/L		
Dimethyl phthalate	ND	15.	ug/L		
Di-n-butylphthalate	ND	15.	ug/L		
2,4-Dinitrotoluene	ND	15.	ug/L		
2,6-Dinitrotoluene	ND	15.	ug/L		
Di-n-octylphthalate	ND	15.	ug/L		
1,2-Diphenylhydrazine	ND	5.	ug/L		
bis(2-Ethylhexyl)phthalate	ND	10.	ug/L		
Fluoranthene	ND	15.	ug/L		
Fluorene	ND	15.	ug/L		

METHOD BLANK ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	ANALYZED	NOTES
C BATCH: S010026BNA (continued)					
SEMIVOLATILE ORGANIC COMPOUNDS				03.12.01	
continued)					
Hexachlorobenzene	ND	10.	ug/L		
Hexachlorobutadiene	ND	10.	ug/L		
Hexachlorocyclopentadiene	ND	15.	ug/L		
Hexachloroethane	ND	10.	ug/L		
Indeno(1,2,3-cd)pyrene	ND	10.	ug/L		
Isophorone	ND	15.	ug/L		
2-Methylnaphthalene	ND	15.	ug/L		
Naphthalene	ND	15.	ug/L		
2-Nitroaniline	ND	50.	ug/L		
3-Nitroaniline	ND	50.	ug/L		
4-Nitroaniline	ND	50.	ug/L		
Nitrobenzene	ND	10.	ug/L		
N-Nitrosodimethylamine	ND	10.	ug/L		
N-Nitrosodiphenylamine	ND	10.	ug/L		
N-Nitrosodi-n-propylamine	ND	10.	ug/L		
Phenanthrene	ND	15.	ug/L		
Pyrene	ND	15.	ug/L		
Pyridine	ND	10.	ug/L		
1,2,4-Trichlorobenzene	ND	15.	ug/L		
Benzoic Acid	ND	75.	ug/L		
Benzyl Alcohol	ND	20.	ug/L		
4-Chloro-3-methylphenol	ND	5.	ug/L		
2-Chlorophenol	ND	15.	ug/L		
2,4-Dichlorophenol	ND	15.	ug/L		
2,4-Dimethylphenol	ND	25.	ug/L		
2,4-Dinitrophenol	ND	50.	ug/L		
2-Methyl-4,6-dinitrophenol	ND	50.	ug/L		
2-Methylphenol (o-Cresol)	ND	25.	ug/L		
3-/4-Methylphenol (m/p-Cresol)	ND	15.	ug/L		
2-Nitrophenol	ND	15.	ug/L		
4-Nitrophenol	ND	15.	ug/L		
Phenol	ND	15.	ug/L		
Pentachlorophenol	ND	50.	ug/L		
2,4,5-Trichlorophenol	ND	50.	ug/L		
2,4,6-Trichlorophenol	ND	10.	ug/L		
Diesel #2	ND	50.	ug/L		
Surrogate Nitrobenzene-d5	76.		%		
Surrogate 2-Fluorobiphenyl	55.		%		
Surrogate Terphenyl-d14	87.		%		
Surrogate 2-Fluorophenol	48.		%		
Surrogate Phenol-d6	36.		%		
Surrogate 2,4,6-Tribromophenol	75.		%		

LAB ORDER No.: B030078

METHOD BLANK ANALYTICAL RESULTS

ANALYTE	RESULT	R.L.	UNITS	ANALYZED	NOTES
QC BATCH: T010071TPH					
TPH SEMI-VOL- DISSOLVED				03.24.01	1
Diesel Fuel	ND	50.	ug/L		
TPH-Extractable, quantitated as diesel	ND	50.	ug/L		
Motor Oil	ND	200.	ug/L		
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L		
Surrogate o-Terphenyl	61.		%		
Kerosene	ND	50.	ug/L		
QC BATCH: V010022G9A					
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				03.06.01	
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L		
TPH-Purgeable, quantitated as gasoline	ND	50.	ug/L		
Benzene	ND	0.5	ug/L		
Toluene	ND	0.5	ug/L		
Ethylbenzene	ND	0.5	ug/L		
Xylenes (Total)	ND	0.5	ug/L		
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L		
Surrogate 4-Bromofluorobenzene [FID]	100.		%		
Surrogate 4-Bromofluorobenzene [PID]	95.		%		
QC BATCH: V010024G9A					
BTEX & TOTAL PURGEABLE PETROLEUM HYDROCARBONS				03.09.01	
TPH-Purgeable, quantitated as gasoline	ND	50.	ug/L		
Benzene	ND	0.5	ug/L		
Ethylbenzene	ND	0.5	ug/L		
Toluene	ND	0.5	ug/L		
Xylenes (Total)	ND	0.5	ug/L		
Surrogate 4-Bromofluorobenzene [PID]	98.		%		
Surrogate 4-Bromofluorobenzene [FID]	97.		%		
QC BATCH: V010034MSB					
VOLATILE ORGANIC COMPOUNDS				03.05.01	
Benzene	ND	1.	ug/L		
Bromobenzene	ND	1.	ug/L		
Bromochloromethane	ND	1.	ug/L		
Bromodichloromethane	ND	1.	ug/L		
Bromoform	ND	1.	ug/L		
Bromomethane (Methyl Bromide)	ND	1.	ug/L		

1) Sample filtered through a 0.45 um filter prior to anlaysis.

METHOD BLANK ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	ANALYZED	NOTES
C BATCH: V010034MSB (continued)					
VOLATILE ORGANIC COMPOUNDS				03.05.01	
(continued)					
n-Butylbenzene	ND	1.	ug/L		
sec-Butylbenzene	ND	1.	ug/L		
tert-Butylbenzene	ND	1.	ug/L		
Carbon Tetrachloride	ND	1.	ug/L		
Chlorobenzene	ND	1.	ug/L		
Chloroethane (Ethyl Chloride)	ND	1.	ug/L		
Chloroform	ND	1.	ug/L		
Chloromethane (Methyl Chloride)	ND	1.	ug/L		
2-Chlorotoluene	ND	1.	ug/L		
4-Chlorotoluene	ND	1.	ug/L		
Dibromochloromethane	ND	1.	ug/L		
1,2-Dibromo-3-chloropropane (DBCP)	ND	1.	ug/L		
1,2-Dibromoethane (EDB)	ND	1.	ug/L		
Dibromomethane	ND	1.	ug/L		
1,2-Dichlorobenzene	ND	1.	ug/L		
1,3-Dichlorobenzene	ND	1.	ug/L		
1,4-Dichlorobenzene	ND	1.	ug/L		
Dichlorodifluoromethane (F-12)	ND	1.	ug/L		
1,1-Dichloroethane	ND	1.	ug/L		
1,2-Dichloroethane (EDC)	ND	1.	ug/L		
1,1-Dichloroethene	ND	1.	ug/L		
cis-1,2-Dichloroethene	ND	1.	ug/L		
trans-1,2-Dichloroethene	ND	1.	ug/L		
1,2-Dichloropropane	ND	1.	ug/L		
1,3-Dichloropropane	ND	1.	ug/L		
2,2-Dichloropropane	ND	1.	ug/L		
1,1-Dichloropropene	ND	1.	ug/L		
Dichlorotrifluoroethane (F-123)	ND	1.	ug/L		
Ethylbenzene	ND	1.	ug/L		
Hexachlorobutadiene	ND	1.	ug/L		
Isopropylbenzene	ND	1.	ug/L		
p-Isopropyltoluene	ND	1.	ug/L		
Methylene Chloride	ND	3.	ug/L		
Methyl tert-Butyl Ether (MTBE)	ND	1.	ug/L		
Naphthalene	ND	1.	ug/L		
n-Propylbenzene	ND	1.	ug/L		
Styrene	ND	1.	ug/L		
1,1,1,2-Tetrachloroethane	ND	1.	ug/L		
1,1,2,2-Tetrachloroethane	ND	1.	ug/L		
Tetrachloroethene (PCE)	ND	1.	ug/L		
Toluene	ND	1.	ug/L		
1,2,3-Trichlorobenzene	ND	1.	ug/L		
1,2,4-Trichlorobenzene	ND	1.	ug/L		
1,1,1-Trichloroethane (TCA)	ND	1.	ug/L		

METHOD BLANK ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	RESULT	R.L.	UNITS	ANALYZED	NOTES
C BATCH: V010034MSB (continued)					
VOLATILE ORGANIC COMPOUNDS				03.05.01	
continued)					
1,1,2-Trichloroethane	ND	1.	ug/L		
Trichloroethene (TCE)	ND	1.	ug/L		
Trichlorofluoromethane (F-11)	ND	1.	ug/L		
1,2,3-Trichloropropane	ND	1.	ug/L		
Trichlorotrifluoroethane (F-113)	ND	1.	ug/L		
1,2,4-Trimethylbenzene	ND	1.	ug/L		
1,3,5-Trimethylbenzene	ND	1.	ug/L		
Vinyl Chloride	ND	1.	ug/L		
Xylenes (Total)	ND	1.	ug/L		
Surrogate Dibromofluoromethane	86.		%		
Surrogate 1,2-DCA-d4	86.		%		
Surrogate Toluene-d8	84.		%		
Surrogate 4-BFB	83.		%		

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LABORATORY CONTROL SAMPLE ANALYTICAL RESULTS

ANALYTE	SPIKE AMOUNT	SPIKE\DUP RESULT	SPK\DUP %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: A010213ICP							
Cadmium	0.0100	0.00949\	95\	80-120\20		03.12.01	
Chromium	0.0400	0.0388\	97\	80-120\20		03.12.01	
Lead	0.100	0.0937\	94\	80-120\20		03.12.01	
Nickel	0.100	0.0921\	92\	80-120\20		03.12.01	
Zinc	0.100	0.101\	101\	80-120\20		03.12.01	
QC BATCH: S010026BNA							
SEMIVOLATILE ORGANIC COMPOUNDS						03.12.01	
Acenaphthene	50.0	26.6\	53\	34-133\36			
1,4-Dichlorobenzene	50.0	12.8\	26\	25-120\33			
2,4-Dinitrotoluene	50.0	47.0\	94\	41-139\22			
N-Nitrosodi-n-propylamine	50.0	32.8\	66\	34-128\21			
Pyrene	50.0	32.0\	64\	20-148\21			
1,2,4-Trichlorobenzene	50.0	14.8\	30\	28-129\67			
4-Chloro-3-methylphenol	100	51.6\	52\	29-141\36			
2-Chlorophenol	100	45.6\	46\	28-117\59			
4-Nitrophenol	100	36.7\	37\	10-161\24			
Phenol	100	29.1\	29\	10-123\56			
Pentachlorophenol	100	81.5\	82\	27-143\19			
Surrogate Nitrobenzene-d5	50.0	32.1\	64\	24-117\			
Surrogate 2-Fluorobiphenyl	50.0	27.4\	55\	32-110\			
Surrogate Terphenyl-d14	50.0	41.4\	83\	10-133\			
Surrogate 2-Fluorophenol	100	40.4\	40\	12-119\			
Surrogate Phenol-d6	100	31.8\	32\	10-121\			
Surrogate 2,4,6-Tribromophenol	100	68.3\	68\	25-125\			
QC BATCH: T010071TPH							
TPH SEMI-VOL: DISSOLVED						[illegible]	
TPH-Extractable, [illegible]	1000	817.\	[illegible]	40-140\			
Surrogate o-Terphenyl	100	82.7\	83\	40-140\			
QC BATCH: V010022G9A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS						03.06.01	
Total Petroleum Hydrocarbons - Gasoline	550.	537.\	98\	50-130\			
Benzene	6.69	6.85\	102\	50-130\			
Toluene	39.0	38.8\	99\	50-130\			
Surrogate 4-Bromofluorobenzene [FID]	20.0	19.6\	98\	50-130\			

1) Sample filtered through a 0.45 um filter prior to anlaysis.

LABORATORY CONTROL SAMPLE ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	SPIKE AMOUNT	SPIKE\DUP RESULT	SPK\DUP %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: V010022G9A (continued)							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)						03.06.01	
Surrogate 4-Bromofluorobenzene [PID]	20.0	18.6\	93\	50-130\			
QC BATCH: V010024G9A							
BTEX & TOTAL PURGEABLE PETROLEUM HYDROCARBONS						03.09.01	
TPH-Purgeable, quantitated as gasoline	550	541.\	98\	60-140\30			
Benzene	6.69	5.82\	87\	60-140\30			
Ethylbenzene	9.20	9.23\	100\	60-140\30			
Toluene	39.1	35.5\	91\	60-140\30			
Xylenes (Total)	47.4	42.8\	90\	60-140\30			
Surrogate 4-Bromofluorobenzene [PID]	20.0	21.2\	106\	52-140\			
Surrogate 4-Bromofluorobenzene [FID]	20.0	19.2\	96\	52-140\			
QC BATCH: V010034MSB							
VOLATILE ORGANIC COMPOUNDS						03.05.01	
Benzene	20.0	20.6\	103\	60-140\			
Chlorobenzene	20.0	19.5\	98\	60-140\			
1,1-Dichloroethene	20.0	21.5\	108\	60-140\			
Toluene	20.0	20.7\	104\	60-140\			
Trichloroethene (TCE)	20.0	21.1\	106\	60-140\			
Surrogate Dibromofluoromethane	20.0	14.5\	72\	60-140\			
Surrogate 1,2-DCA-d4	20.0	14.5\	72\	60-140\			
Surrogate Toluene-d8	20.0	17.9\	90\	60-140\			
Surrogate 4-BFB	20.0	17.1\	86\	50-130\			

MATRIX SPIKE ANALYTICAL RESULTS

LAB ORDER No.: B030078

ANALYTE	ORIGINAL RESULT	SPIKE AMOUNT	SPIKE\DUP RESULT	SPK\DUP %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: A010213ICP QC SAMPLE LAB NUMBER: B020715-4								
Cadmium	0.00115	0.0100	0.0104\0.0106	92\94	80-120\20	1.9	03.12.01	
QC BATCH: A010213ICP (continued) QC SAMPLE LAB NUMBER: B020715-4								
Chromium	0.0145	0.0400	0.0529\0.0477	96\83	80-120\20	10.	03.12.01	
QC BATCH: A010213ICP (continued) QC SAMPLE LAB NUMBER: B020715-4								
Lead	0.00645	0.100	0.0990\0.100	93\94	80-120\20	1.0	03.12.01	
QC BATCH: A010213ICP (continued) QC SAMPLE LAB NUMBER: B020715-4								
Nickel	0.0802	0.100	0.172\0.188	92\108	80-120\20	8.9	03.12.01	
QC BATCH: A010213ICP (continued) QC SAMPLE LAB NUMBER: B020715-4								
Zinc	0.148	0.100	0.242\0.243	94\95	80-120\20	0.4	03.12.01	
QC BATCH: V010022G9A QC SAMPLE LAB NUMBER: B030078-13								
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS							03.06.01	1
Total Petroleum Hydrocarbons - Gasoline	ND	550.	725.\664.	132\121	50-130\25	8.8		
Benzene	ND	6.69	11.\8.0	164\120	50-130\25	32.		
Toluene	ND	39.0	45.\43.4	115\111	50-130\25	3.6		
Surrogate 4-Bromofluorobenzene [FID]	104.%	20.0	19.1\19.1	96\96	50-130\			
Surrogate 4-Bromofluorobenzene [PID]	98.%	20.0	19.5\19.5	98\98	50-130\			
QC BATCH: V010024G9A QC SAMPLE LAB NUMBER: B030141-1								
BTEX & TOTAL PURGEABLE PETROLEUM HYDROCARBONS							03.10.01	
TPH-Purgeable, quantitated as gasoline	ND	550	528.\489.	96\89	60-140\30	7.7		
Benzene	ND	6.69	6.07\5.66	91\85	60-140\30	7.0		
Ethylbenzene	ND	9.20	9.34\8.76	102\95	60-140\30	6.4		
Toluene	ND	39.1	36.5\34.5	93\88	60-140\30	5.6		

1) Matrix spike recovery(ies) and RPD outside control limit. Sample result accepted based on LCS and Method Blank.

LAB ORDER No.: B030078

MATRIX SPIKE ANALYTICAL RESULTS

ANALYTE	ORIGINAL RESULT	SPIKE AMOUNT	SPIKE\DUP RESULT	SPK\DUP %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: V010024G9A (continued)								
QC SAMPLE LAB NUMBER: B030141-1								
BTEX & TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)							03.10.01	
Xylenes (Total)	ND	47.4	42.7\40.2	90\85	60-140\30	6.0		
Surrogate 4-Bromofluorobenzene [PID]	102.%	20.0	21.1\21.0	106\105	52-140\			
Surrogate 4-Bromofluorobenzene [FID]	98.%	20.0	19.8\19.5	99\98	52-140\			
QC BATCH: V010034MSB								
QC SAMPLE LAB NUMBER: B030078-17								
VOLATILE ORGANIC COMPOUNDS							03.06.01	
Benzene	189.	20.0	193.\172.	20\NC	60-140\25	12.		
Chlorobenzene	ND	20.0	18.7\17.4	94\87	60-140\25	7.2		
1,1-Dichloroethene	ND	20.0	18.5\17.4	92\87	60-140\25	6.1		
Toluene	6.66	20.0	27.5\25.3	104\93	60-140\25	8.3		
Trichloroethene (TCE)	ND	20.0	24.1\22.3	120\112	60-140\25	7.8		
Surrogate Dibromofluoromethane	76.%	20.0	15.0\14.8	75\74	60-140\			
Surrogate 1,2-DCA-d4	73.%	20.0	13.9\13.6	70\68	60-140\			
Surrogate Toluene-d8	80.%	20.0	16.4\16.1	82\80	60-140\			
Surrogate 4-BFB	86.%	20.0	18.4\18.7	92\94	50-130\			

Caltest ANALYTICAL LABORATORY

1885 N. KELLY ROAD • NAPA, CA 94558 • (707) 258-4000 • Fax (707) 226-1001 • www.caltestlab.com

SAMPLE CHAIN OF CUSTODY

[redacted]

PROJECT #/ PROJECT NAME: 153-1653 / City of Oakland

P.O. #:

CLIENT: Cambria Env. Tech

REPORT TO: BoB Clark Riddel

ADDRESS: 1144 65th St. CITY: Oakland STATE: Ca ZIP:

BILLING ADDRESS: Same as above

PHONE #: 510-420-0700 FAX PHONE: 510-4209170 SAMPLER (PRINT & SIGN NAME): Sanjiv Gill S. Gill

ANALYSES REQUESTED: TPH-g BTEX MTBE by 8015/8020; TEPH (d/mo) (8015 silica gel cleanup); VOC (8260); SVOC (8270); [illegible]

TURNAROUND TIME: ☒ STANDARD ☐ RUSH

DUE DATE:

CALTEST #	DATE SAMPLED	TIME SAMPLED	MATRIX	CONTAINER AMOUNT/TYPE	PRESERVATIVE	SAMPLE IDENTIFICATION SITE	CLIENT LAB #	COMP. or GRAB	TPH-g BTEX MTBE	TEPH	VOC (8260)	SVOC (8270)	[illegible]	[illegible]	REMARKS
[redacted]	2-27-01	7:37	AQ	3 Amber 4 VOA	HCl	MW-1		Grab	X	X					See page 2
	2-27-01	7:02	AQ	3 Amber 4 VOA	HCl	MW-2		Grab	X	X					
	2-27-01	5:54	AQ	3 Amber 8 VOA	HCl	MW-5		Grab	X	X	X				
	2-27-01	5:18	AQ	3 Amber 4 VOA	HCl	MW-7		Grab	X	X					
	2-27-01	11:20	AQ	3 Amber 4 VOA	HCl	MW-8		Grab	X	X					
	2-26-01	10:05	AQ	3 Amber 4 VOA	HCl	MW-9		Grab	X	X					
	2-26-01	9:12	AQ	3 Amber 4 VOA	HCl	MW-10		Grab	X	X					
	2-27-01	6:29	AQ	3 Amber 4 VOA	HCl	MW-11		Grab	X	X					
	2-27-01	8:11	AQ	3 Amber 4 VOA	HCl	MW-12		Grab	X	X					
	2-26-01	9:28	AQ	3 Amber 4 VOA	HCl	MW-13		Grab	X	X					

By submittal of sample(s), client agrees to abide by the Terms and Conditions set forth on the reverse of this document.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	RELINQUISHED BY	DATE/TIME	RECEIVED BY
[signature]	3/1/01 1330	[signature]			

[redacted] MICRO___ BIO___ AA___ SV___ VOA___ pH? Y/N TEMP:___ SEALED: Y/N INTACT: Y/N

[redacted] H₂SO₄___ NaOH___ HCL___

COMMENTS

MATRIX: AQ = Aqueous Nondrinking Water, Digested Metals; FE = Low R.L.s, Aqueous Nondrinking Water, Digested Metals; DW = Drinking Water; SL = Soil, Sludge, Solid; FP = Free Product

CONTAINER TYPES: AL = Amber Liter; AHL = 500 ml Amber; PT = Pint (Plastic); QT=Quart (Plastic); HG = Half Gallon (Plastic); SJ = Soil Jar; B4 = 4 oz. BACT; BT = Brass Tube; VOA = 40 mL.VOA; OTC = Other Type Container

R___ PH___ M___ [redacted]

REV. 2/99

WHITE - LABORATORY YELLOW - CLIENT COPY TO ACCOMPANY FINAL REPORT PINK - CLIENT COPY AS RECEIPT

Caltest ANALYTICAL LABORATORY

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SAMPLE CHAIN OF CUSTODY

PROJECT # / PROJECT NAME: 153-1653 / City of Oakland

P.O. #:

CLIENT: Cambria Env. Tech

REPORT TO: Bob Clark Riddel

ADDRESS: 1144 65th St CITY: Oakland STATE: Ca ZIP:

BILLING ADDRESS: Same as above

PHONE #: 510-420-0700 FAX PHONE: 510-420-9170 SAMPLER (PRINT & SIGN NAME): Sanjiv Gill S. Gill

ANALYSES REQUESTED: TPHg BTEX MTBE (8015/8020); TEHd/k/mo (8015) with silica gel cleanup; VOC (8260); SVOC (8270); Metals (Cd, Cr, Ni, Pb, Zn)

TURNAROUND TIME: ☒ STANDARD ☐ RUSH

DUE DATE:

CALTEST #	DATE SAMPLED	TIME SAMPLED	MATRIX	CONTAINER AMOUNT/TYPE	PRESERVATIVE	SAMPLE IDENTIFICATION SITE	CLIENT LAB #	COMP. or GRAB	TPHg BTEX MTBE	TEHd/k/mo	VOC (8260)	SVOC (8270)	Metals	REMARKS
[redacted]	2-26-01	9:46	AQ	3 Amber 4 VOA	HCl	MW-14		grab	X	X				Confirm any MTBE hit by 8260, except for MW-
	2-26-01	10:28	AQ	3 Amber 4 VOA	HCl	MW-15		grab	X	X				
	2-26-01	10:53	AQ	3 Amber 4 VOA	HCl	MW-17		grab	X	X				
	2-27-01	9:23	AQ	3 Amber 4 VOA	HCl	TBW-3		grab	X	X				
	2-27-01	10:00	AQ	3 Amber 4 VOA	HCl	TBW-41		grab	X	X				
	2-27-01	8:43	AQ	3 Amber 4 VOA	HCl	TBW-6		grab	X	X	X			
	2-27-01		AQ	2 VOA	HCl	TB		grab	X	X				
	2-27-01	12:55	AQ	4 Amber 2 Poly 8 VOA	HCl	MW-6		grab	X	X	X	X	X	

REMARKS (continued): For TPHd/k/mo filter the sample with 0.7 micron glass fiber filters, then treat the extract with silica gel in a flask and ultrasonic bath agita[te] and then sample/dilute the extract for analysis (required by ACHCSA). The lab shall run a spike method blank through the same procedure and evalu[ate] and explain any atypical di[...]

By submittal of sample(s), client agrees to abide by the Terms and Conditions set forth on the reverse of this document.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	RELINQUISHED BY	DATE/TIME	RECEIVED BY
[signature]	3/1/01 1300	[signature]			

MICRO / BIO / AA / SV / VOA / pH? Y/N / TEMP: / SEALED: Y/N / INTACT: Y/N

COMMENTS:
* Nitrate, Sulfate & Alk not needed per Bob Clark Riddel on 3-2-01 1000
** TPH d/k/mo bottle not supplied

MATRIX: AQ = Aqueous Nondrinking Water, Digested Metals; FE = Low R.L.s, Aqueous Nondrinking Water, Digested Metals; DW = Drinking Water; SL = Soil, Sludge, Solid; FP = Free Product

CONTAINER TYPES: AL = Amber Liter; AHL = 500 ml Amber; PT = Pint (Plastic); QT = Quart (Plastic); HG = Half Gallon (Plastic); SJ = Soil Jar; B4 = 4 oz. BACT; BT = Brass Tube; VOA = 40 mL VOA; OTC = Other Type Container

Appendix C

Well Sampling Protocol for 2nd Quarter 2001

Table A – Well Sampling Protocol (Second Quarter 2001)
City of Oakland Municipal Service Center

Well***	Quarter				Gauge Every Qtr	DO (field meter)	TPHg/ BTEX/ MTBE* (8015/ 8020)	TPH d/k/mo (8015) w/silica gel + filtration**	VOC (8260)	SVOC (8270)	LUFT metals	Comments
	1	2	3	4								
MW-1	X		X		X	X	X	X				
MW-2	X		X		X	X	X	X				
MW-5	X	X	X	X	X	X	X	X				
MW-6	X		X		X	X	X	X				
MW-7	X		X		X	X	X	X				
MW-8	X	X	X	X	X	X	X	X				
MW-9	X	X	X	X	X	X	X	X				
MW-10	X	X	X	X	X	X	X	X				
MW-11	X	X	X	X	X	X	X	X				
MW-12	X	X	X	X	X	X	X	X				
MW-13	X	X	X	X	X	X	X	X				
MW-14	X	X	X	X	X	X	X	X				
MW-15	X	X	X	X	X	X	X	X				
MW-16	X	X	X	X	X	X	X	X				SPH present
MW-17	X	X	X	X	X	X	X	X				
MW-18	Gauge 3rd quarter only											
TBW-1	X		X		X	X	X	X				SPH present
TBW-3	X		X		X	X	X	X				
TBW-4	X		X		X	X	X	X				
TBW-5	X		X		X	X	X	X				SPH present
TBW-6	X		X		X	X	X	X				
Trip Blank	X	X	X	X	NA	NA	X	X				

DO = Dissolved oxygen

* = Any positive results for MTBE will be confirmed by re-analysis using EPA Method 8260, except in MW-5.

** = Prior to extraction, lab will filter sample with 0.45 micron glass membrane filter and then treat extract with silica gel in a flask and ultrasonic bath agitation, and then sample/dilute the extract for analysis (required by ACHCSA). The lab shall run a spiked method blank through the same procedure and evaluate and explain any atypical deviation.

*** = Wells MW-3 and MW-4 were destroyed during the first quarter 1999.