Oakland
All-America City
1993

CITY OF OAKLAND

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

Public Works Agency
Environmental Services

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

April 20, 2001

* 3978

APR 25 2001

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

Subject: **Fourth Quarter 2000 Monitoring Report and City of Oakland Municipal Service Center 7101 Edgewater Drive Oakland, California**

Dear Mr. Chan:

Enclosed are copies of the *Fourth Quarter 2000 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

March 30, 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: **Fourth Quarter 2000 Monitoring Report**
City of Oakland, Municipal Services Center
7101 Edgewater Drive
Oakland, California
Cambria Project #153-1653-002

Dear Mr. Cotton:

As required by the Alameda County Health Care Services Agency (ACHCSA), Cambria Environmental Technology, Inc. (Cambria) has prepared this fourth quarter 2000 groundwater monitoring report for the above-referenced site. Presented in the report are the fourth quarter 2000 activities and the anticipated first 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

Bob Clark-Riddell, P.E.
Principal Engineer

Attachments: Fourth Quarter 2000 Monitoring Report

Oakland, CA
Sonoma, CA
Portland, OR
Seattle, WA

Cambria Environmental Technology, Inc.

1144 65th Street
Suite B
Oakland, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

CAMBRIA

FOURTH QUARTER 2000 MONITORING REPORT

City of Oakland, Municipal Services Center
7101 Edgewater Drive
Oakland, California
Cambria Project #153-1653-002

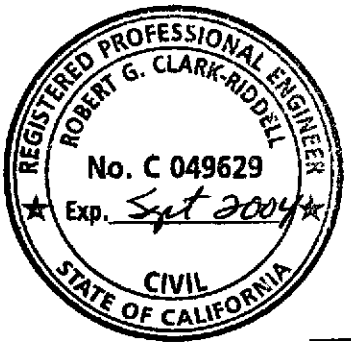
March 30, 2001

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



Ian Young
Staff Geologist

Bob Clark-Riddell, P.E.
Principal Engineer

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

Cambria Environmental Technology, Inc.

1144 65th Street
Suite B
Oakland, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

CAMBRIA

FOURTH QUARTER 2000 MONITORING REPORT

City of Oakland, Municipal Services Center
7101 Edgewater Drive
Oakland, California
Cambria Project #153-1653-002

March 30, 2001

INTRODUCTION

As required by the Alameda County Health Care Services Agency (ACHCSA), Cambria Environmental Technology, Inc. (Cambria) has prepared this fourth quarter 2000 groundwater monitoring report for the above-referenced site. Described below are the fourth quarter 2000 activities, monitoring results, contaminant distribution in groundwater, corrective action activities, conclusions, recommendations, and the anticipated first quarter 2001 activities.

FOURTH QUARTER 2000 ACTIVITIES

Monitoring Activities

Field Activities: On November 28, 2000, Cambria gauged and inspected for separate-phase hydrocarbons (SPH) in site monitoring and 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 November 28, Cambria collected groundwater samples from site wells scheduled for sampling, provided no SPH were present in the wells. 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), and semi-volatile organic compounds (SVOCs) by Caltest Analytical Laboratory of Napa, California, a California state-certified laboratory. Silica gel cleanup was used for all TPHd, TPHmo, and TPHk analyses, and select samples were filtered prior to analysis using 0.45 micron glass-membrane filter. – DO NOT DO THIS. The specific analytes for each well sample are presented in Table A (below). Analytic results are summarized on Table 1 (attached). The laboratory analytical report is included as Appendix B.

Table A – Well Sampling Protocol (Fourth Quarter 2000)
City of Oakland Municipal Service Center

Well***	Quarter				Gauge Every Qtr	DO (field meter)	TPHg/ BTEX/MTBE* (8015/ 8020)	TPHd (8015)	TPH d/k/mo (8015) w/silica gel	TPH d/k/mo (8015) w/silica gel + filtration**	SVOC (8270)	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			
MW-6	X		X		X	X	X	X				SPH present
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	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	X		
MW-13	X	X	X	X	X	X	X		X	X	X	
MW-14	X	X	X	X	X	X	X		X	X		
MW-15	X	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	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					

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

Monitoring Results

Groundwater Flow Direction: On November 28, 2000, Cambria gauged site monitoring wells and tank backfill wells in accordance with the protocol shown on Table A. The measurements indicate a northwestern groundwater gradient toward Damon Slough in the northern portion of the site, and indicate a southwestern groundwater gradient of 0.012 ft/ft toward San Leandro Bay in the southern portion of the site (Figure 1). The flow directions are generally consistent with historical measurements. Groundwater elevation data are presented in Table 1. Depth-to-water and groundwater elevation data are presented in Table 1.

Contaminant Distribution in Groundwater

Separate-Phase Hydrocarbons: Separate-phase hydrocarbons ([redacted]) were de[redacted]g wells [redacted] (0.04 ft) and MW-10 [redacted], and in [redacted] (Well TBW-3 was inaccessible this quarter.) 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.

Benzene in Groundwater: The maximum benzene concentration detected was 7.4 µg/l in offsite perimeter well MW-14. This analytic result for benzene is below the acceptable risk thresholds for both the San Francisco Airport Ecological Protection Zone Tier I Standards[1] and the City of Oakland Risk-Based Tier I[2] 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 toxicity established by the USEPA according to the San Francisco Bay Regional Water Quality Control Board (RWQCB-SFBR)[3].

MTBE in Groundwater: No MTBE was detected in any of the groundwater samples collected for this quarter's monitoring.

---

[1] 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.

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

[3] 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.

Gasoline in Groundwater: The maximum TPHg concentration detected was 290 µg/l in offsite well MW-12; however, none of the samples analyzed for TPHg were subjected to silica gel cleanup or glass-membrane filtration. The maximum TPHg concentration detected onsite was 180 µg/l in well MW-11. All concentrations are below the San Francisco Airport Ecological Protection Zone Tier I Standard acceptable threshold of 3,700 µg/l.[4] TPHg concentrations appear to be defined in the downgradient and crossgradient directions to within acceptable ecological risk thresholds.

Diesel in Groundwater: No TPHd was detected in filtered samples from offsite perimeter wells, except for 73 µg/l in MW-15 and 280 µg/l in MW-13. The TPHd concentration in well MW-13 before glass-membrane filtration was 2,400 µg/l. TPHd was also detected in other wells prior to glass-membrane filtration. As described in prior quarterly monitoring reports based on laboratory interpretation of chromatograms, diesel concentrations reported in offsite wells are most likely the lighter end of motor oil present in the wells. A[redacted] below the San Fran[redacted][5]

Motor Oil in Groundwater: No TPHmo was detected in filtered samples from offsite perimeter wells, except for 200 µg/l in MW-12 and 1,100 µg/l in MW-13. There is no standard established for TPHmo in the San Francisco Airport Ecological Protection Zone.

Semi-Volatile Organic Compounds in Groundwater: Of the SVOC analyses performed on samples from offsite perimeter wells MW-9, MW-13 and MW-17, the only SVOC detected was 10 µg/l pyrene in well MW-13.

Laboratory Method Blanks: Method blanks were analyzed by Caltest Analytic Laboratory for Methods 8015M, 8015/8020A, and 8270 (Appendix B). Silica gel cleanup was performed on the method blank analyzed for semi-volatile petroleum hydrocarbons (TPH as diesel, motor oil and kerosene).

---

[4] 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.

[5] Ibid.

Corrective Action Activities

Separate-Phase Hydrocarbon Removal: Free product has been actively skimmed from well TBW-5 using a mobile free-product skimmer. 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, and TBW-2. The hydrocarbon-absorbing "socks" were monitored approximately every two weeks and were replaced if saturated.

As shown on Table B (below), Cambria estimates that approximately 79.4 pounds of SPH were removed from the site between the third and fourth quarter 2000 sampling events. Since water is also removed during SPH bailing and sock removal, C[redacted]. 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 free product 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
[redacted]		96.2
Bailing/Socks (TBW-1)	6	6
Bailing/Socks (TBW-2)	2.5	2.5
Bailing/Socks (MW-6)	0.1	0.1
Bailing/Socks (MW-16)	1	1
Total SPH Removal	79.4 Pounds	521.6 Pounds

prior doc.

Due to low SPH recovery rates and intermittent skimmer operation, Cambria submitted free product samples to two equipment vendors for selection of the most appropriate skimming technique. 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 free product.

Other Fourth Quarter 2000 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 free product from the site subsurface, primarily in well TBW-5. Recovery efforts may be enhanced by the new density skimmer to be installed in TBW-5. Cambria recommends monitoring free product 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.

- TPHg concentrations are below the San Francisco Airport Ecological Protection Zone Tier I Standard acceptable threshold of 3,700 µg/l.[6] TPHg concentrations detected in perimeter offsite wells appear to be the result of local fill quality rather than offsite migration of dissolved petroleum hydrocarbons. None of the samples analyzed for TPHg were subjected to silica gel cleanup or glass-membrane filtration. Many wells with TPHg detections did not contain detectable BTEX compounds, which are commonly detected in conjunction with gasoline releases. [redacted] about [redacted] detected in site wells, [redacted]

[6] 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.

[redacted] for [redacted] petroleum hydrocarbon analyses.

- TPHd concentrations after silica gel cleanup and glass-membrane filtration were below the San Francisco Airport Ecological Protection Zone Tier I Standard of 640 µg/l. The detection of higher TPHd concentrations 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.

- The extent of TPHmo dissolved in site groundwater is significantly smaller than suggested by prior monitoring results. While unfiltered samples suggested a dissolved TPHmo concentration of 36,000 µg/l in offsite wells MW-13 and MW-15, sample filtration using a glass-membrane filter indicated that the dissolved TPHmo concentrations in these wells were 1,100 µg/l and <200 µg/l, respectively. The detection of higher TPHmo concentrations prior to silica gel cleanup and filtration suggests that heavier-range hydrocarbons may be adsorbed to soil, and are not dissolved in groundwater at elevated concentrations. The fairly wide distribution of TPHmo concentrations prior to filtration 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,[7,8] concentrations of specific SVOCs (that could comprise TPHmo) often influence regulatory concern regarding TPHmo detected in groundwater. SVOC analytic results indicate that the only SVOC present in offsite groundwater is pyrene at 10 µg/l (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). The lack of SVOC detection in downgradient well MW-17 suggests that SVOCs and TPHmo are *not* migrating offsite

[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] 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.

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[9]. Consistent with the recommendation of Dr. Brewer of the RWQCB-SFBR, Cambria recommends using glass-membrane filtration during any future SVOC analysis.

- 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.

- The City of Oakland may wish to perform a site-specific ecological risk assessment for this site. The City may also conduct feasibility testing or feasibility studies for evaluation of remedial alternatives for the site.

ANTICIPATED FIRST 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. The sampling protocol is similar to the 4th quarter schedule, with the addition of analyses requested by the ACHCSA. Samples from well MW-5 will be analyzed for VOCs. Samples from well MW-6, despite the presence of SPH, will be analyzed for VOCs, SVOCs and Luft metals. To simplify the sampling protocol, wells MW-2 and MW-6 will be analyzed for TPHd/k/mo like other wells instead of TPHd only. All TPHd/k/mo analyses will be subject to silica gel cleanup and 0.45 micron glass-membrane filtration prior to analysis. Additional protocol information is detailed in Appendix C. Following field activities, Cambria will tabulate the analytic data, contour groundwater elevations, and prepare a quarterly monitoring report.

[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. 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.

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 order a 'density skimmer' filter for the active skimmer that is better suited to skim the free product detected in well TBW-5. Upon receipt, Cambria will replace the existing skimmer filter with the density skimmer.

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 and Analytical Data
Appendix A - Field Data Sheets
Appendix B - Laboratory Analytical Reports
Appendix C – Well Sampling Protocol for 1st Quarter 2001

H:\City of Oakland\Municipal Service Center\QM\CoO-4Q00.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 — Monitoring Well Designation
ELEV — Groundwater elevation, feet above mean sea level (msl)
TPHg, TPHd, TPHmo — TPHg, TPHd, TPHmo and benzene concentrations in parts per billion (ppb)
BENZ
0.02 — Approximate groundwater flow direction and gradient
Fence
3.0 — Groundwater elevation contour dashed where inferred

MW-4

MW-3

EDGEWATER DRIVE

DAMON SLOUGH

Public Works Building

911 Center

Admin.

Crafts and Storage

Building No. 5

Active USTs

Former USTs

Former UST

Storage

Above Ground Storage Tanks
NGV Fueling Station

RW-1

TBW-2

TBW-4

MW-2	MW-10	MW-1	TBW-6	TBW-5	TBW-1	MW-12	MW-13	MW-14	MW-9	MW-5	MW-11	MW-7	TBW-3	MW-6	MW-15	MW-16	MW-17	MW-8
3.12	2.69	4.45	4.75	0.34*	NSV	2.30	0.84	2.65	2.32	4.66	4.69	4.21	NS	4.62	2.06	0.86	0.61	2.83
NS	<50	NS	NS	NS	SPH	290	<50	140	130	NS	180	NS	NS	SPH	80	SPH	<50	<50
NS	220	NS	NS	NS	SPH	50	280	<50	<50	NS	<50	NS	NS	SPH	73	SPH	<50	910
NS	1,500	NS	NS	NS	SPH	<200	1,100	<200	<200	NS	<200	NS	NS	SPH	<200	SPH	<200	<0.5
	<0.5				SPH	<0.5	<0.5	7.4	1.9		4				1.7		<0.5	

3.0 4.0 3.0 2.0 2.0 3.0 4.0 2.0 3.0

0 75 150 300
Scale (ft)

SAN LEANDRO BAY

FIGURE
1

Groundwater Elevation Contour Map and Hydrocarbon Concentrations
November 28, 2000

CAMBRIA

Municipal Service Center
7101 Edgewater Drive
Oakland, California

CAMBRIA

Table 1. Groundwater Analytical Results - City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	B	T	E	X	MTBE	Lead	SVOCs
						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	---		---	---	---	---	---	---	---	---	---	---	---
MW-2																
10/4/89	10.47	---	---	8020		---	---	---	<30	<0.3	<0.3	<0.3	<0.3	---	---	---
10/4/89	10.47	---	---	8240		---	---	---	---	2	<2.0	<2.0	<2.0	---	---	---
4/27/93	10.47	---	---	8020		---	---	---	<1,000	<1.0	<1.0	<1.0	<1.0	---	---	---
4/19/95	10.47	---	---	8020		---	---	---	<50	1.8	<0.5	<0.5	<0.5	---	---	---
7/27/95	10.47	6.22	4.25	8020		---	---	---	<50	2.3	<0.5	<0.5	<0.5	---	---	---
11/20/95	10.47	7.49	2.98	8020		---	---	---	<50	2.2	<0.5	<0.5	<0.5	---	---	---
2/21/96	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	<100	---

CAMBRIA

Table 1. Groundwater Analytical Results - City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	B	T	E	X	MTBE	Lead	SVOCs
						µg/l										
MW-2 (cont.)																
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	---		---	---	---	---	---	---	---	---	---	---	---
MW-3																
10/4/89	---	---	---	8020		---	---	---	<30	<0.3	<0.3	<0.3	<0.3	---	---	---
10/4/89	---	---	---	8240		---	---	---	---	<2.0	<2.0	<2.0	<2.0	---	---	---
2/23/98	---	---	---	---		<50	<500	<50	---	---	---	---	---	---	---	---
11/11/98	---	5.83	---	---		---	---	---	---	---	---	---	---	---	---	---
2/23/99	---	---	---	---	Submerged	---	---	---	---	---	---	---	---	---	---	---
5/27/99	---	1.68	---	---		---	---	---	---	---	---	---	---	---	---	---
8/24/99	---	4.76	---	---		---	---	---	---	---	---	---	---	---	---	---
11/22/99	---	6.46	---	---		---	---	---	---	---	---	---	---	---	---	---
11/22/99	---	---	---	---	Destroyed	---	---	---	---	---	---	---	---	---	---	---
MW-4																
10/4/89	7.89	---	---	8020		---	---	---	<30	<0.3	<0.3	<0.3	<0.3	---	---	---
10/4/89	7.89	---	---	8240		---	---	---	---	<2.0	<2.0	<2.0	<2.0	---	---	---
11/11/98	7.89	6.25	1.64	---		---	---	---	---	---	---	---	---	---	---	---
2/23/99	7.89	3.10	4.79	---		---	---	---	---	---	---	---	---	---	---	---
5/27/99	7.89	4.03	3.86	---		---	---	---	---	---	---	---	---	---	---	---
8/24/99	7.89	5.07	2.82	---		---	---	---	---	---	---	---	---	---	---	---
11/22/99	7.89	6.32	1.57	---		---	---	---	---	---	---	---	---	---	---	---
11/22/99	---	---	---	---	Destroyed	---	---	---	---	---	---	---	---	---	---	---

CAMBRIA

Table 1. Groundwater Analytical Results - City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	B	T	E	X	MTBE	Lead	SVOCs
						µg/l										
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	---		---	---	---	---	---	---	---	---	---	---	---
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	---		---	---	---	---	---	---	---	---	---	---	---
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	---	---	---

Table 1. Groundwater Analytical Results - City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	B	T	E	X	MTBE	Lead	SVOCs
						µg/l										
MW-6 (cont.)																
11/20/95	---	---	---	8020	Dup	---	---	---	3,600	130	11	4.4	200	---	---	---
2/21/96	10.98	7.40	3.58	8020		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	---	---	---	---	---	---	---	---	---	---	---
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	---		---	---	---	---	---	---	---	---	---	---	---

CAMBRIA

Table 1. Groundwater Analytical Results - City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	B	T	E	X	MTBE	Lead	SVOCs
						µg/l										
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	1500	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	---	---
5/27/99	12.22	9.65	2.57	8020		<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	---	---
8/24/99	12.22	9.62	2.60	8020	SGC	70	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	---	---
11/22/99	12.22	9.64	2.58	8020	SGC	57	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	---	---
1/18/00	12.22	8.31	3.91	8020	SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	---	---
5/11/00	12.22	9.69	2.53	8020	SGC	<50	<200	<50	<50	<0.5	1.3	<0.5	2.1	<5.0	---	---
8/24/00	12.22	9.40	2.82	---		---	---	---	---	---	---	---	---	---	---	---
8/25/00	---	---	---	8020	SGC	85	<250	<50	<50						---	---
11/28/00	12.22	9.40	2.83	8020	SGC	<50	910	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	---	---
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	---	---	---	---	---	---	---	ND

CAMBRIA

Table 1. Groundwater Analytical Results - City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	B	T	E	X	MTBE	Lead	SVOCs
						µg/l										
MW-10																
11/20/96	10.59	---	---	8020		940	---	---	<50	49	0.59	0.54	1.2	---	---	---
11/20/97	10.59	7.70	2.89	8020		---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
2/24/98	10.59	4.39	6.20	8020		<50	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
6/8/98	10.59	6.94	3.65	8020		500	<500	<50	<50	7.3	<0.5	<0.5	<0.5	---	---	---
8/19/98	10.59	6.99	3.60	8020	SGC	240	520	110	<50	<0.5	<0.5	<0.5	<0.5	<5.0	---	---
11/11/98	10.59	7.57	3.02	8020	SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	---	---
2/23/99	10.59	5.51	5.08	8020		170	1,200	<50	<50	1.3	<0.5	<0.5	<0.5	<5.0	---	---
5/27/99	10.59	6.72	3.87	8020	SGC	<50	<200	<50	350	170	1.5	0.5	2.3	<5.0	---	---
8/24/99	10.59	7.27	3.32	8020	SGC	140	300	<50	380	160 E	<0.5	<0.5	2.6	<5.0	---	---
11/22/99	10.59	7.71	2.88	8020	SGC	570	3,400	<50	110	5.1	<0.5	<0.5	0.72	<5.0	---	---
1/18/00	10.59	7.77	2.82	---		---	---	---	---	---	---	---	---	---	---	---
1/19/00	---	---	---	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	---	---
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	---	---
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	---	---	---	---	---	---	---	---

CAMBRIA

Table 1. Groundwater Analytical Results - City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	B	T	E	X	MTBE	Lead	SVOCs
						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	---	---	---	---	---	---	---	10(pyrene)
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	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	ND

CAMBRIA

Table 1. Groundwater Analytical Results - City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	B	T	E	X	MTBE	Lead	SVOCs
						µg/l										
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	---	---	---	---	---	---	---	---	---	---	---
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	---	---
TBW-3																
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	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---	---	---

CAMBRIA

Table 1. Groundwater Analytical Results - City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	B	T	E	X	MTBE	Lead	SVOCs
						µg/l										
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	---		---	---	---	---	---	---	---	---	---	---	---
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	---	---

CAMBRIA

Table 1. Groundwater Analytical Results - City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	B	T	E	X	MTBE	Lead	SVOCs
						µg/l										

Notes

All concentrations in micrograms per liter (µg/l)

--- = not measured/analyzed

TOC = Top of casing

DTW = Depth to water

GW = Groundwater

BTEX = Benzene (B), toluene (T), ethylbenzene (E), and xylenes (X) - analyzed by EPA Method 8020 or 8240/8260

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

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

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

TPHg = Total petroleum hydrocarbons 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

Lead = Organic Lead

SVOCS = Semi-volatile organic compounds by EPA Method 8270. Sample no subject to SGC or filtration prior to analysis.

DUP = Duplicate sample

SPH = Separate-phase hydrocarbons; measured thickness

SGC = Silica gel cleanup prior to TPHd, TPHk, or TPHmo analysis

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

CAMBRIA

1 of 2

WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
MW-1	9:17		5.60			DO = 0.59 mg/L
MW-2	9:25		7.35			DO = 0.65 mg/L
MW-5	9:12		6.47			DO = 0.31 mg/L
MW-6	9:06	6.35	6.39			DO = 0.15 mg/L
MW-7	9:00		7.30			DO 0.69 mg/L
MW-8	9:20		9.40			DO = 0.97 mg/L
MW-9	9:10		8.45			DO = 0.71 mg/L
MW-10	9:00		7.90			DO = 0.73 mg/L
MW-11	9:10		6.91			DO = 0.51 mg/L
MW-12	9:20		8.13			DO = 0.33 mg/L
MW-13	9:05		10.50			DO = 0.71 mg/L
MW-14	9:07		7.40			DO = 0.75 mg/L
MW-15	9:13		10.30			DO = 0.59 mg/L
MW-16	9:25	12.63	13.05			no sample taken SPH
MW-17	9:17		9.25			DO = 0.95 mg/L

Project Name: City of Oakland

Project Number: 153-1653 Task 002

Measured By: [illegible]

Date: 11-28-00

F:\TEMPLATE\FORMS\FIELD\GW-DEPTH.WPD

CAMBRIA

WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
TBW-1	9:28	7.39	7.75			DO= 0.05mg/L
TBW-3	[redacted]	need Claw hammer	to open	inaccesable		[redacted]
TBW-4	9:03		3.15			DO= 0.24mg/L
TBW-5	9:25	9.79	10.25			DO= 0.13mg/L
TBW-6	9:23		4.74			DO= 0.33mg/L

Project Name: City of Oakland

Project Number: 153-1653 Task 002

Measured By: [redacted]

Date: 11-28-00

F:\TEMPLATE\FORMS\FIELD\GW-DEPTH.WPD

CAMBRIA

WELL SAMPLING FORM

Project Name: City of Oakland	Cambria Mgr: BCR	Well ID: MW-8
Project Number: 153-1653	Date: 11-28-00	Well Yield:
Site Address: 7101 Edgewater Dr Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 2"
		Technician(s): SG
Initial Depth to Water: 9.40	Total Well Depth: 15.15	Water Column Height: 5.75
Volume/ft: 0.16	1 Casing Volume: 0.92	4 Casing Volumes: 2.76
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 3
Start Purge Time: 13:25	Stop Purge Time: 13:28	Total Time: 3mins

1 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
13:26	1	16.9	7.79	3999	
13:27	2	16.7	7.52	3999	
13:29	3	16.4	7.47	3991	
					DO = 0.97 mg/l

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-8	11-28-00	13:34	4 VOA	HCl	TPHs BTEX MTBE	8015/8020
			2 Liter		TPHd/mo/K	8015

CAMBRIA

WELL SAMPLING FORM

Project Name: City of Oakland	Cambria Mgr: BCR	Well ID: MW-9
Project Number: 153-1653	Date: 11-28-00	Well Yield:
Site Address: 7101 Edgewater Dr Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 2"
		Technician(s): SG
Initial Depth to Water: 8.45	Total Well Depth: 14.00	Water Column Height: 5.55
Volume/ft: 0.16	1 Casing Volume: 0.88	4 Casing Volumes: 2.64
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 2.5
Start Purge Time: 11:50	Stop Purge Time: 11:53	Total Time: 3 mins

1 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
11:51	1	16.3	7.13	3999	HCl Reacted with H_2O
11:52	1.5	17.4	7.19	3999	
11:54	2.5	17.9	7.24	3999	
					DO = 0.71 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-9	11-28-00	11:59	4 VOA	HCl	TPHg BTEX MTBE	8015/8020
			6 Liters		TPH d/mo IK	8015
					SVOC	8270

CAMBRIA

WELL SAMPLING FORM

Project Name: City of Oakland	Cambria Mgr: BCR	Well ID: MW-10
Project Number: 153-1653	Date: 11-28-00	Well Yield:
Site Address: 7101 Edgewater Dr Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 2"
		Technician(s): SS
Initial Depth to Water: 7.90	Total Well Depth: 14.95	Water Column Height: 7.05
Volume/ft: 0.16	1 Casing Volume: 1.12	4 Casing Volumes: 3.38
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 3
Start Purge Time: 10:30	Stop Purge Time: 10:33	Total Time: 3 mins

1 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
10:31	1	18.3	6.79	3237	
10:32	2	17.9	7.02	2914	
10:34	3	17.6	7.17	2966	
					DO = 0.73 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-10	11-28-00	10:39	4 Vac	HCl	TPHs BTEX MTBE	8015/8020
			2 Liter		TPHd TPHmo TPHk	8015

CAMBRIA

WELL SAMPLING FORM

Project Name: City of Oakland	Cambria Mgr: BCR	Well ID: MW-11
Project Number: 153-1853	Date: 11-28-00	Well Yield:
Site Address: 7102 Edgewater Dr Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 2"
		Technician(s): SG
Initial Depth to Water: 6.91	Total Well Depth: 19.03	Water Column Height: 12.12
Volume/ft: 0.16	1 Casing Volume: 1.93	4 Casing Volumes: 5.81
Purging Device: disposable bailer	Did Well Dewater?: NO	Total Gallons Purged: 6
Start Purge Time: 15:10	Stop Purge Time: 15:16	Total Time: 6 mins

1 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
15:12	2	19.1	6.93	3999	HCl Reacted
15:14	4	18.8	6.71	>999	with H_2O
15:17	6	20.2	6.79	3999	
					DO = 0.51 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-11	11-28-00	15:22	4 VOA	HCl	TPH$_g$ BTEX MTBE	8015/8020
			2 Liters		TPH d/k/mo	8015

P:\TEMPLATE\FORMS\FIELD FORMS\WELL SAMPLING

CAMBRIA

WELL SAMPLING FORM

Project Name: City of Oakland	Cambria Mgr: BCR	Well ID: MW-12
Project Number: 153-1653	Date: 11-28-00	Well Yield:
Site Address: 7101 Edgewater Dr Oakland, CA	Sampling Method: disposable bailer	Well Diameter: 2"
		Technician(s): SG
Initial Depth to Water: 8.13	Total Well Depth: 14.75	Water Column Height: 6.62
Volume/ft: 0.16	1 Casing Volume: 1.05	4 Casing Volumes: 3.15
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 3
Start Purge Time: 14:35	Stop Purge Time: 14:38	Total Time: 3mins

1 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
14:36	1	18.0	7.83	3999	
14:37	2	18.5	7.57	3999	
14:39	3	18.9	7.45	3999	
					DO = 0.39 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-12	11-28-00	14:44	4 VOA	HCl	TPHg BTEX MTBE	8015/8020
			4 Liters		TPHd/k/mo	8015

CAMBRIA

WELL SAMPLING FORM

Project Name: City of Oakland	Cambria Mgr: BCR	Well ID: MW-13
Project Number: 153-1653	Date: 11-28-00	Well Yield:
Site Address: 7101 Edgewater Dr Oakland, CA	Sampling Method: Disposable bailer	Well Diameter: 2"
		Technician(s): SG
Initial Depth to Water: 10.50	Total Well Depth: 20.05	Water Column Height: 9.55
Volume/ft: 0.16	1 Casing Volume: 1.52	4 Casing Volumes: 4.58
Purging Device: disposable bailer	Did Well Dewater?: yes	Total Gallons Purged: 4.5
Start Purge Time: 10:05	Stop Purge Time: 10:08	Total Time: 3 mins

1 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
10:06	1.5	18.0	7.05	3999	
10:07	3	18.3	7.31	3999	
10:09	4.5	18.3	7.39	3999	
					DO = 0.71 mg/L
		Dewatered when taking sample			

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-13	11-28-00	14:00	VOA 4	~~HCl~~	TPHg BTEX MTBE	8010 8015
			6 Liters		TPH d/k/mo	8015
					SVOC	8270

P:\TEMPLATES\FORMS\FIELD\WELL SAMPLING.DOC

CAMBRIA

WELL SAMPLING FORM

Project Name: City of Oakland	Cambria Mgr: BCR	Well ID: MW-14
Project Number: 153-1653	Date: 11-28-00	Well Yield:
Site Address: 7101 Edgewater Dr Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 2"
		Technician(s): SG
Initial Depth to Water: 7.40	Total Well Depth: 14.70	Water Column Height: 7.30
Volume/ft: 0.16	1 Casing Volume: 1.16	4 Casing Volumes: 3.50
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 3.5
Start Purge Time: 10:30	Stop Purge Time: 10:33	Total Time: 3mins

1 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
10:31	1.5	16.9	7.64	3999	
10:32	2	16.7	7.69	3999	
10:34	3.5	16.9	7.83	3999	
					00:0.75mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-14	11-28-00	10:39	4 VOA	HCl	TPHs BTEX MTBE	8015/8020
			4 Liters		TPH d/mo/k	8015

CAMBRIA

WELL SAMPLING FORM

Project Name: City of Oakland	Cambria Mgr: BCR	Well ID: MW-15
Project Number: 153-1653	Date: 11-28-00	Well Yield:
Site Address: 7101 Edgewater Dr Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 2"
		Technician(s): SG
Initial Depth to Water: 10.30	Total Well Depth: 20.15	Water Column Height: 9.85
Volume/ft: 0.16	1 Casing Volume: 1.57	4 Casing Volumes: 4.72
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 4.5
Start Purge Time: 12:20	Stop Purge Time: 12:23	Total Time: 3mins

1 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
12:21	1.5	18.4	7.17	3999	
12:22	3	17.6	7.17	3999	
12:24	4.5	17.8	7.10	3999	
					DO = 0.59 mg/l

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-15	11-28-00	12:29	4 Voa	HCl	TPHs BTEX MTBE	8015/8020
			4 Liter		TPH d/mo/k	8015

CAMBRIA

WELL SAMPLING FORM

Project Name: City of Oakland	Cambria Mgr: BCR	Well ID: MW-17
Project Number: 153-1653	Date: 11-28-00	Well Yield:
Site Address: 7101 Edgewater Dr Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 2"
		Technician(s): SG
Initial Depth to Water: 9.25	Total Well Depth: 18.00	Water Column Height: 8.75
Volume/ft: 0.16	1 Casing Volume: 1.40	4 Casing Volumes: 4.20
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 4
Start Purge Time: 12:50	Stop Purge Time: 12:53	Total Time: 3 mins

1 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
12:51	1.5	17.1	7.51	3999	
12:52	3	17.7	7.56	3999	
12:54	4	17.5	~~7.~~ 7.64	3999	
					DO = 0.95 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-17	11-28-00	12:59	4 Voa	HCl	TPHg BTEX MTBE	8015/8020
			6 Liters		TPHd/mo/K	8015
					SVOC	8270

CAMBRIA

WELL SAMPLING FORM

Project Name: City of Oakland	Cambria Mgr: BCR	Well ID: TBW-5
Project Number: 153-1653	Date: 11-28-00	Well Yield:
Site Address: 7107 Edgewater Oakland, CA	Sampling Method:	Well Diameter:
		Technician(s): SG
Initial Depth to Water:	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	4 Casing Volumes:
Purging Device:	Did Well Dewater?:	Total Gallons Purged:
Start Purge Time:	Stop Purge Time:	Total Time:

1 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
					SPH very stick and thick
	SPH	Bailed			drys very quickly
					outside of well
		DTW = 10.25			
		DTP = 9.79			
		SPH Thickness = 0.46			
		½ Gallon of SPH + Water Removed			
		⅓ SPH			

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method

Appendix B

Laboratory Analytical Report

Caltest
ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

LAB ORDER No.: A110716

REPORT of ANALYTICAL RESULTS

Report Date: 04 JAN 2001
Received Date: 29 NOV 2000

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

Purchase Order: 153-1653

Project: CITY OF OAKLAND

Sampled by: CLIENT

Lab Number	Sample Identification	Matrix	Sampled Date/Time
A110716-1	MW-8	AQUEOUS	28 NOV 00 13:34
A110716-2	MW-9	AQUEOUS	28 NOV 00 11:59
A110716-3	MW-10	AQUEOUS	28 NOV 00 10:39
A110716-4	MW-11	AQUEOUS	28 NOV 00 15:22
A110716-5	MW-12	AQUEOUS	28 NOV 00 14:44
A110716-6	MW-13	AQUEOUS	28 NOV 00 14:00
A110716-7	MW-14	AQUEOUS	28 NOV 00 11:39
A110716-8	MW-15	AQUEOUS	28 NOV 00 12:29
A110716-9	MW-17	AQUEOUS	28 NOV 00 12:59
A110716-10	TB	AQUEOUS	28 NOV 00

Todd M. Albertson
Project Manager

Christine Horn
Laboratory Director

CALTEST authorizes this report to be reproduced only in its entirety.
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.).
'D.F.' means Dilution Factor and has been used to adjust the listed Reporting Limit (R.L.).
Acceptance Criteria for all Surrogate recoveries are defined in the QC Spike Data Reports.
Caltest collects samples in compliance with CFR 40, EPA Methods, Cal. Title 22, and Standard Methods.

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

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A110716-1							
SAMPLE ID: MW-8							
SAMPLED: 28 NOV 00 13:34							
METHOD: EPA 8015M							
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS				1	12.18.00	T000354TPH	1,3
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	910.	200.	ug/L				
Surrogate o-Terphenyl	82.		%				
Kerosene	ND	50.	ug/l				
LAB NUMBER: A110716-1 (continued)							
SAMPLE ID: MW-8							
SAMPLED: 28 NOV 00 13:34							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	12.01.00	V000161G9A	4
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]	113.		%				
Surrogate 4-Bromofluorobenzene [PID]	107.		%				
LAB NUMBER: A110716-2							
SAMPLE ID: MW-9							
SAMPLED: 28 NOV 00 11:59							
METHOD: EPA 8270							
SEMIVOLATILE ORGANIC COMPOUNDS				1	12.14.00	S000096BNA	5
Acenaphthene	ND	5.	ug/L				

1) Sample Preparation on 12-07-00 using EPA 3510
2) This sample was analyzed following Silica Gel Cleanup.
3) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
4) Sample Preparation on 12-01-00 using EPA 5030
5) Sample Preparation on 12-05-00 using EPA 3510

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

LAB NUMBER: A110716-2 (continued)
SAMPLE ID: MW-9
SAMPLED: 28 NOV 00 11:59
METHOD: EPA 8270

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
SEMIVOLATILE ORGANIC COMPOUNDS (continued)				1	12.14.00	S000096BNA	
Acenaphthylene	ND	5.	ug/L				
Aniline	ND	10.	ug/L				
Anthracene	ND	5.	ug/L				
Benzidine	ND	20.	ug/L				
Benzo(a)anthracene	ND	5.	ug/L				
Benzo(b)fluoranthene	ND	5.	ug/L				
Benzo(k)fluoranthene	ND	5.	ug/L				
Benzo(ghi)perylene	ND	5.	ug/L				
Benzo(a)pyrene	ND	5.	ug/L				
Benzylbutylphthalate	ND	5.	ug/L				
4-Bromophenyl phenyl ether	ND	5.	ug/L				
Carbazole	ND	5.	ug/L				
4-Chloroaniline	ND	5.	ug/L				
bis(2-chloroethoxy)methane	ND	5.	ug/L				
bis(2-chloroethyl)ether	ND	5.	ug/L				
bis(2-chloroisopropyl)ether	ND	10.	ug/L				
2-Chloronaphthalene	ND	5.	ug/L				
4-Chlorophenyl phenyl ether	ND	5.	ug/L				
Chrysene	ND	5.	ug/L				
Dibenzo(a,h)anthracene	ND	5.	ug/L				
Dibenzofuran	ND	5.	ug/L				
1,2-Dichlorobenzene	ND	5.	ug/L				
1,3-Dichlorobenzene	ND	5.	ug/L				
1,4-Dichlorobenzene	ND	5.	ug/L				
3,3-Dichlorobenzidine	ND	25.	ug/L				
Diethyl phthalate	ND	5.	ug/L				
Dimethyl phthalate	ND	5.	ug/L				
Di-n-butylphthalate	ND	25.	ug/L				
2,4-Dinitrotoluene	ND	5.	ug/L				
2,6-Dinitrotoluene	ND	5.	ug/L				
Di-n-octylphthalate	ND	5.	ug/L				
1,2-Diphenylhydrazine	ND	5.	ug/L				
bis(2-Ethylhexyl)phthalate	ND	25.	ug/L				
Fluoranthene	ND	5.	ug/L				
Fluorene	ND	5.	ug/L				
Hexachlorobenzene	ND	5.	ug/L				
Hexachlorobutadiene	ND	25.	ug/L				
Hexachlorocyclopentadiene	ND	25.	ug/L				
Hexachloroethane	ND	5.	ug/L				
Indeno(1,2,3-cd)pyrene	ND	5.	ug/L				
Isophorone	ND	25.	ug/L				

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

LAB NUMBER: A110716-2 (continued)
SAMPLE ID: MW-9
SAMPLED: 28 NOV 00 11:59
METHOD: EPA 8270

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
SEMIVOLATILE ORGANIC COMPOUNDS (continued)				1	12.14.00	S000096BNA	
2-Methylnaphthalene	ND	10.	ug/L				
Naphthalene	ND	5.	ug/L				
2-Nitroaniline	ND	5.	ug/L				
3-Nitroaniline	ND	5.	ug/L				
4-Nitroaniline	ND	5.	ug/L				
Nitrobenzene	ND	5.	ug/L				
N-Nitrosodimethylamine	ND	25.	ug/L				
N-Nitrosodiphenylamine	ND	5.	ug/L				
N-Nitrosodi-n-propylamine	ND	5.	ug/L				
Phenanthrene	ND	5.	ug/L				
Pyrene	ND	5.	ug/L				
Pyridine	ND	10.	ug/L				
1,2,4-Trichlorobenzene	ND	10.	ug/L				
Benzoic Acid	ND	20.	ug/L				
Benzyl Alcohol	ND	5.	ug/L				
4-Chloro-3-methylphenol	ND	5.	ug/L				
2-Chlorophenol	ND	5.	ug/L				
2,4-Dichlorophenol	ND	5.	ug/L				
2,4-Dimethylphenol	ND	5.	ug/L				
2,4-Dinitrophenol	ND	10.	ug/L				
2-Methyl-4,6-dinitrophenol	ND	10.	ug/L				
2-Methylphenol (o-Cresol)	ND	10.	ug/L				
3-/4-Methylphenol (m/p-Cresol)	ND	10.	ug/L				
2-Nitrophenol	ND	5.	ug/L				
4-Nitrophenol	ND	10.	ug/L				
Phenol	ND	5.	ug/L				
Pentachlorophenol	ND	5.	ug/L				
2,4,5-Trichlorophenol	ND	5.	ug/L				
2,4,6-Trichlorophenol	ND	5.	ug/L				
Surrogate Nitrobenzene-d5	59.		%				
Surrogate 2-Fluorobiphenyl	46.		%				
Surrogate Terphenyl-d14	58.		%				
Surrogate 2-Fluorophenol	35.		%				
Surrogate Phenol-d6	26.		%				
Surrogate 2,4,6-Tribromophenol	56.		%				

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A110716-2 (continued)							
SAMPLE ID: MW-9							
SAMPLED: 28 NOV 00 11:59							
METHOD: EPA 8015M							
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS				1	12.13.00	T000354TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	200.	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	1600.	200.	ug/L				
Surrogate o-Terphenyl	78.		%				
Kerosene	ND	50.	ug/L				
LAB NUMBER: A110716-2 (continued)							
SAMPLE ID: MW-9							
SAMPLED: 28 NOV 00 11:59							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	12.13.00	T000354TPH	1,2
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	79.		%				
Kerosene	ND	50.	ug/L				
LAB NUMBER: A110716-2 (continued)							
SAMPLE ID: MW-9							
SAMPLED: 28 NOV 00 11:59							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	12.01.00	V000161G9A	6
TPH-Purgeable, quantitated as gasoline	130.	50.	ug/L				
Benzene	1.9	0.5	ug/L				
Toluene	ND	0.5	ug/L				

1) Sample Preparation on 12-07-00 using EPA 3510
2) This sample was analyzed following Silica Gel Cleanup.
3) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
4) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
5) Sample filtered through 0.45 micron prior to extraction.
6) Sample Preparation on 12-01-00 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A110716-2 (continued)							
SAMPLE ID: MW-9							
SAMPLED: 28 NOV 00 11:59							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	12.01.00	V000161G9A	
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]	127.		%				
Surrogate 4-Bromofluorobenzene [PID]	115.		%				
LAB NUMBER: A110716-3							
SAMPLE ID: MW-10							
SAMPLED: 28 NOV 00 10:39							
METHOD: EPA 8015M							
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS				1	12.13.00	T000354TPH	3,4
TPH-Extractable, quantitated as diesel	220.	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	1500.	200.	ug/L				
Surrogate o-Terphenyl	79.		%				
Kerosene	ND	50.	ug/L				
LAB NUMBER: A110716-3 (continued)							
SAMPLE ID: MW-10							
SAMPLED: 28 NOV 00 10:39							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	12.01.00	V000161G9A	
TPH-Purgeable, quantitated as gasoline	ND	50.	ug/L				
Benzene	ND	0.5	ug/L				
Toluene	ND	0.5	ug/L				

1) Sample Preparation on 12-07-00 using EPA 3510
2) This sample was analyzed following Silica Gel Cleanup.
3) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
4) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
5) Sample Preparation on 12-06-00 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A110716-3 (continued)							
SAMPLE ID: MW-10							
SAMPLED: 28 NOV 00 10:39							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	12.01.00	V000161G9A	
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]	118.		%				
Surrogate 4-Bromofluorobenzene [PID]	110.		%				
LAB NUMBER: A110716-4							
SAMPLE ID: MW-11							
SAMPLED: 28 NOV 00 15:22							
METHOD: EPA 8015M							
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS				1	12.13.00	T000354TPH	1,2
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	79.		%				
Kerosene	ND	50.	ug/L				
LAB NUMBER: A110716-4 (continued)							
SAMPLE ID: MW-11							
SAMPLED: 28 NOV 00 15:22							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	12.01.00	V000161G9A	3
TPH-Purgeable, quantitated as gasoline	180.	50.	ug/L				
Benzene	4.0	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	1.9	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	116.		%				

1) Sample Preparation on 12-07-00 using EPA 3510
2) This sample was analyzed following Silica Gel Cleanup.
3) Sample Preparation on 12-01-00 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A110716-4 (continued)							
SAMPLE ID: MW-11							
SAMPLED: 28 NOV 00 15:22							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	12.01.00	V000161G9A	
Surrogate 4-Bromofluorobenzene [PID]	113.		%				
LAB NUMBER: A110716-5							
SAMPLE ID: MW-12							
SAMPLED: 28 NOV 00 14:44							
METHOD: EPA 8015M							
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS				5	12.14.00	T000354TPH	1-6
TPH-Extractable, quantitated as diesel	2100.	500.	ug/L				
TPH-Extractable, quantitated as Motor Oil	14000.	2000.	ug/L				
Surrogate o-Terphenyl	83.		%				
Kerosene	ND	50.	ug/L				
LAB NUMBER: A110716-5 (continued)							
SAMPLE ID: MW-12							
SAMPLED: 28 NOV 00 14:44							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	12.14.00	T000354TPH	1,2,5
TPH-Extractable, quantitated as diesel	50.	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	86.		%				

1) Sample Preparation on 12-07-00 using EPA 3510
2) This sample was analyzed following Silica Gel Cleanup.
3) The final volume of the sample extract was higher than the nominal amount, resulting in (a) higher reporting limit(s).
4) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
5) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
6) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
7) Sample filtered through 0.45 micron prior to extraction.

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A110716-5 (continued)							
SAMPLE ID: MW-12							
SAMPLED: 28 NOV 00 14:44							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	12.14.00	T000354TPH	
(continued)							
Kerosene	ND	50.	ug/L				
LAB NUMBER: A110716-5 (continued)							
SAMPLE ID: MW-12							
SAMPLED: 28 NOV 00 14:44							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	12.01.00	V000161G9A	1
TPH-Purgeable, quantitated as gasoline	290.	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]	121.		%				
Surrogate 4-Bromofluorobenzene [PID]	111.		%				
LAB NUMBER: A110716-6							
SAMPLE ID: MW-13							
SAMPLED: 28 NOV 00 14:00							
METHOD: EPA 8270							
SEMIVOLATILE ORGANIC COMPOUNDS				1	12.14.00	S000096BNA	2.3
Acenaphthene	ND	10.	ug/L				
Acenaphthylene	ND	10.	ug/L				
Aniline	ND	20.	ug/L				
Anthracene	ND	10.	ug/L				
Benzidine	ND	40.	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	10.	ug/L				
Benzo(a)pyrene	ND	10.	ug/L				

1) Sample Preparation on 12-01-00 using EPA 5030
2) Sample Preparation on 12-05-00 using EPA 3510
3) Sample volumes altered in prep in an effort to reduce matrix effects resulting in (a) higher reporting limit(s).

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

LAB NUMBER: A110716-6 (continued)
SAMPLE ID: MW-13
SAMPLED: 28 NOV 00 14:00
METHOD: EPA 8270

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
SEMIVOLATILE ORGANIC COMPOUNDS (continued)				1	12.14.00	S000096BNA	
Benzylbutylphthalate	ND	10.	ug/L				
4-Bromophenyl phenyl ether	ND	10.	ug/L				
Carbazole	ND	10.	ug/L				
4-Chloroaniline	ND	10.	ug/L				
bis(2-chloroethoxy)methane	ND	10.	ug/L				
bis(2-chloroethyl)ether	ND	10.	ug/L				
bis(2-chloroisopropyl)ether	ND	20.	ug/L				
2-Chloronaphthalene	ND	10.	ug/L				
4-Chlorophenyl phenyl ether	ND	10.	ug/L				
Chrysene	ND	10.	ug/L				
Dibenzo(a,h)anthracene	ND	10.	ug/L				
Dibenzofuran	ND	10.	ug/L				
1,2-Dichlorobenzene	ND	10.	ug/L				
1,3-Dichlorobenzene	ND	10.	ug/L				
1,4-Dichlorobenzene	ND	10.	ug/L				
3,3-Dichlorobenzidine	ND	50.	ug/L				
Diethyl phthalate	ND	10.	ug/L				
Dimethyl phthalate	ND	10.	ug/L				
Di-n-butylphthalate	ND	50.	ug/L				
2,4-Dinitrotoluene	ND	10.	ug/L				
2,6-Dinitrotoluene	ND	10.	ug/L				
Di-n-octylphthalate	ND	10.	ug/L				
1,2-Diphenylhydrazine	ND	10.	ug/L				
bis(2-Ethylhexyl)phthalate	ND	50.	ug/L				
Fluoranthene	ND	10.	ug/L				
Fluorene	ND	10.	ug/L				
Hexachlorobenzene	ND	10.	ug/L				
Hexachlorobutadiene	ND	50.	ug/L				
Hexachlorocyclopentadiene	ND	50.	ug/L				
Hexachloroethane	ND	10.	ug/L				
Indeno(1,2,3-cd)pyrene	ND	10.	ug/L				
Isophorone	ND	50.	ug/L				
2-Methylnaphthalene	ND	20.	ug/L				
Naphthalene	ND	10.	ug/L				
2-Nitroaniline	ND	10.	ug/L				
3-Nitroaniline	ND	10.	ug/L				
4-Nitroaniline	ND	10.	ug/L				
Nitrobenzene	ND	10.	ug/L				
N-Nitrosodimethylamine	ND	50.	ug/L				
N-Nitrosodiphenylamine	ND	10.	ug/L				
N-Nitrosodi-n-propylamine	ND	10.	ug/L				

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

LAB NUMBER: A110716-6 (continued)
SAMPLE ID: MW-13
SAMPLED: 28 NOV 00 14:00
METHOD: EPA 8270

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
SEMIVOLATILE ORGANIC COMPOUNDS (continued)				1	12.14.00	S000096BNA	
Phenanthrene	ND	10.	ug/L				
Pyrene	10.	10.	ug/L				
Pyridine	ND	20.	ug/L				
1,2,4-Trichlorobenzene	ND	20.	ug/L				
Benzoic Acid	ND	40.	ug/L				
Benzyl Alcohol	ND	10.	ug/L				
4-Chloro-3-methylphenol	ND	10.	ug/L				
2-Chlorophenol	ND	10.	ug/L				
2,4-Dichlorophenol	ND	10.	ug/L				
2,4-Dimethylphenol	ND	10.	ug/L				
2,4-Dinitrophenol	ND	20.	ug/L				
2-Methyl-4,6-dinitrophenol	ND	20.	ug/L				
2-Methylphenol (o-Cresol)	ND	20.	ug/L				
3-/4-Methylphenol (m/p-Cresol)	ND	10.	ug/L				
2-Nitrophenol	ND	10.	ug/L				
4-Nitrophenol	ND	20.	ug/L				
Phenol	ND	10.	ug/L				
Pentachlorophenol	ND	10.	ug/L				
2,4,5-Trichlorophenol	ND	10.	ug/L				
2,4,6-Trichlorophenol	ND	10.	ug/L				
Surrogate Nitrobenzene-d5	55.		%				
Surrogate 2-Fluorobiphenyl	42.		%				
Surrogate Terphenyl-d14	97.		%				
Surrogate 2-Fluorophenol	26.		%				
Surrogate Phenol-d6	20.		%				
Surrogate 2,4,6-Tribromophenol	44.		%				

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A110716-6 (continued)							
SAMPLE ID: MW-13							
SAMPLED: 28 NOV 00 14:00							
METHOD: EPA 8015M							
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS				5	12.14.00	T000354TPH	1-6
TPH-Extractable, quantitated as diesel	2400.	1300.	ug/L				
TPH-Extractable, quantitated as Motor Oil	36000.	5000.	ug/L				
Surrogate o-Terphenyl	60.		%				
Kerosene	ND	1300.	ug/L				
LAB NUMBER: A110716-6 (continued)							
SAMPLE ID: MW-13							
SAMPLED: 28 NOV 00 14:00							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	12.14.00	T000354TPH	12567
TPH-Extractable, quantitated as diesel	280.	61.	ug/L				
TPH-Extractable, quantitated as Motor Oil	1100.	250.	ug/L				
Surrogate o-Terphenyl	77.		%				
Kerosene	ND	50.	ug/L				
LAB NUMBER: A110716-6 (continued)							
SAMPLE ID: MW-13							
SAMPLED: 28 NOV 00 14:00							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	12.01.00	V000161G9A	8

1) Sample Preparation on 12-07-00 using EPA 3510
2) This sample was analyzed following Silica Gel Cleanup.
3) The final volume of the sample extract was higher than the nominal amount, resulting in (a) higher reporting limit(s).
4) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
5) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
6) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
7) Sample filtered through 0.45 micron prior to extraction.
8) Sample Preparation on 12-01-00 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A110716-6 (continued)							
SAMPLE ID: MW-13							
SAMPLED: 28 NOV 00 14:00							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	12.01.00	V000161G9A	
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]	114.		%				
Surrogate 4-Bromofluorobenzene [PID]	108.		%				
LAB NUMBER: A110716-7							
SAMPLE ID: MW-14							
SAMPLED: 28 NOV 00 11:39							
METHOD: EPA 8015M							
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS				5	12.14.00	T000354TPH	1-5
TPH-Extractable, quantitated as diesel	380.	250.	ug/L				
TPH-Extractable, quantitated as Motor Oil	6400.	1000.	ug/L				
Surrogate o-Terphenyl	69.		%				
Kerosene	ND	250.	ug/L				
LAB NUMBER: A110716-7 (continued)							
SAMPLE ID: MW-14							
SAMPLED: 28 NOV 00 11:39							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	12.14.00	T000354TPH	1,2,6

1) Sample Preparation on 12-07-00 using EPA 3510
2) This sample was analyzed following Silica Gel Cleanup.
3) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
4) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
5) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
6) Sample filtered through 0.45 micron prior to extraction.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A110716-7 (continued)							
SAMPLE ID: MW-14							
SAMPLED: 28 NOV 00 11:39							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED (continued)				1	12.14.00	T000354TPH	
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	80.		%				
Kerosene	ND	50.	ug/L				
LAB NUMBER: A110716-7 (continued)							
SAMPLE ID: MW-14							
SAMPLED: 28 NOV 00 11:39							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	12.01.00	V000161G9A	1
TPH-Purgeable, quantitated as gasoline	140.	50.	ug/L				
Benzene	7.4	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]	127.		%				
Surrogate 4-Bromofluorobenzene [PID]	113.		%				

1) Sample Preparation on 12-01-00 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A110716-8							
SAMPLE ID: MW-15							
SAMPLED: 28 NOV 00 12:29							
METHOD: EPA 8015M							
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS				5	12.14.00	T000354TPH	1-6
TPH-Extractable, quantitated as diesel	2500.	1300.	ug/L				
TPH-Extractable, quantitated as Motor Oil	36000.	5000.	ug/L				
Surrogate o-Terphenyl	50.		%				
Kerosene	ND	1300.	ug/L				
LAB NUMBER: A110716-8 (continued)							
SAMPLE ID: MW-15							
SAMPLED: 28 NOV 00 12:29							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	12.14.00	T000354TPH	1,2,5,7
TPH-Extractable, quantitated as diesel	73.	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	88.		%				
Kerosene	ND	50.	ug/L				
LAB NUMBER: A110716-8 (continued)							
SAMPLE ID: MW-15							
SAMPLED: 28 NOV 00 12:29							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	12.01.00	V000161G9A	8

1) Sample Preparation on 12-07-00 using EPA 3510
2) This sample was analyzed following Silica Gel Cleanup.
3) The final volume of the sample extract was higher than the nominal amount, resulting in (a) higher reporting limit(s).
4) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
5) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
6) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
7) Sample filtered through 0.45 micron prior to extraction.
8) Sample Preparation on 12-01-00 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A110716-8 (continued)							
SAMPLE ID: MW-15							
SAMPLED: 28 NOV 00 12:29							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	12.01.00	V000161G9A	
TPH-Purgeable, quantitated as gasoline	80.	50.	ug/L				
Benzene	1.7	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	1.6	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	129.		%				
Surrogate 4-Bromofluorobenzene [PID]	117.		%				
LAB NUMBER: A110716-9							
SAMPLE ID: MW-17							
SAMPLED: 28 NOV 00 12:59							
METHOD: EPA 8270							
SEMIVOLATILE ORGANIC COMPOUNDS				1	12.15.00	S000096BNA	1,2
Acenaphthene	ND	10.	ug/L				
Acenaphthylene	ND	10.	ug/L				
Aniline	ND	20.	ug/L				
Anthracene	ND	10.	ug/L				
Benzidine	ND	40.	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	10.	ug/L				
Benzo(a)pyrene	ND	10.	ug/L				
Benzylbutylphthalate	ND	10.	ug/L				
4-Bromophenyl phenyl ether	ND	10.	ug/L				
Carbazole	ND	10.	ug/L				
4-Chloroaniline	ND	10.	ug/L				
bis(2-chloroethoxy)methane	ND	10.	ug/L				
bis(2-chloroethyl)ether	ND	10.	ug/L				
bis(2-chloroisopropyl)ether	ND	20.	ug/L				
2-Chloronaphthalene	ND	10.	ug/L				
4-Chlorophenyl phenyl ether	ND	10.	ug/L				
Chrysene	ND	10.	ug/L				

1) Sample Preparation on 12-05-00 using EPA 3510
2) Sample volumes altered in prep in an effort to reduce matrix effects resulting in (a) higher reporting limit(s).

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

LAB NUMBER: A110716-9 (continued)
SAMPLE ID: MW-17
SAMPLED: 28 NOV 00 12:59
METHOD: EPA 8270

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
SEMIVOLATILE ORGANIC COMPOUNDS (continued)				1	12.15.00	S000096BNA	
Dibenzo(a,h)anthracene	ND	10.	ug/L				
Dibenzofüran	ND	10.	ug/L				
1,2-Dichlorobenzene	ND	10.	ug/L				
1,3-Dichlorobenzene	ND	10.	ug/L				
1,4-Dichlorobenzene	ND	10.	ug/L				
3,3-Dichlorobenzidine	ND	50.	ug/L				
Diethyl phthalate	ND	10.	ug/L				
Dimethyl phthalate	ND	10.	ug/L				
Di-n-butylphthalate	ND	50.	ug/L				
2,4-Dinitrotoluene	ND	10.	ug/L				
2,6-Dinitrotoluene	ND	10.	ug/L				
Di-n-octylphthalate	ND	10.	ug/L				
1,2-Diphenylhydrazine	ND	10.	ug/L				
bis(2-Ethylhexyl)phthalate	ND	50.	ug/L				
Fluoranthene	ND	10.	ug/L				
Fluorene	ND	10.	ug/L				
Hexachlorobenzene	ND	10.	ug/L				
Hexachlorobutadiene	ND	50.	ug/L				
Hexachlorocyclopentadiene	ND	50.	ug/L				
Hexachloroethane	ND	10.	ug/L				
Indeno(1,2,3-cd)pyrene	ND	10.	ug/L				
Isophorone	ND	50.	ug/L				
2-Methylnaphthalene	ND	20.	ug/L				
Naphthalene	ND	10.	ug/L				
2-Nitroaniline	ND	10.	ug/L				
3-Nitroaniline	ND	10.	ug/L				
4-Nitroaniline	ND	10.	ug/L				
Nitrobenzene	ND	10.	ug/L				
N-Nitrosodimethylamine	ND	50.	ug/L				
N-Nitrosodiphenylamine	ND	10.	ug/L				
N-Nitrosodi-n-propylamine	ND	10.	ug/L				
Phenanthrene	ND	10.	ug/L				
Pyrene	ND	10.	ug/L				
Pyridine	ND	20.	ug/L				
1,2,4-Trichlorobenzene	ND	20.	ug/L				
Benzoic Acid	ND	40.	ug/L				
Benzyl Alcohol	ND	10.	ug/L				
4-Chloro-3-methylphenol	ND	10.	ug/L				
2-Chlorophenol	ND	10.	ug/L				
2,4-Dichlorophenol	ND	10.	ug/L				
2,4-Dimethylphenol	ND	10.	ug/L				

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A110716-9 (continued)							
SAMPLE ID: MW-17							
SAMPLED: 28 NOV 00 12:59							
METHOD: EPA 8270							
SEMIVOLATILE ORGANIC COMPOUNDS (continued)				1	12.15.00	S000096BNA	
2,4-Dinitrophenol	ND	20.	ug/L				
2-Methyl-4,6-dinitrophenol	ND	20.	ug/L				
2-Methylphenol (o-Cresol)	ND	20.	ug/L				
3-/4-Methylphenol (m/p-Cresol)	ND	10.	ug/L				
2-Nitrophenol	ND	10.	ug/L				
4-Nitrophenol	ND	20.	ug/L				
Phenol	ND	10.	ug/L				
Pentachlorophenol	ND	10.	ug/L				
2,4,5-Trichlorophenol	ND	10.	ug/L				
2,4,6-Trichlorophenol	ND	10.	ug/L				
Surrogate Nitrobenzene-d5	62.		%				
Surrogate 2-Fluorobiphenyl	43.		%				
Surrogate Terphenyl-d14	95.		%				
Surrogate 2-Fluorophenol	42.		%				
Surrogate Phenol-d6	34.		%				
Surrogate 2,4,6-Tribromophenol	59.		%				
LAB NUMBER: A110716-9 (continued)							
SAMPLE ID: MW-17							
SAMPLED: 28 NOV 00 12:59							
METHOD: EPA 8015M							
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS				5	12.14.00	T000354TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	ND	250.	ug/L				
TPH-Extractable, quantitated as Motor Oil	2400.	1000.	ug/L				
Surrogate o-Terphenyl	78.		%				
Kerosene	ND	250.	ug/L				

1) Sample Preparation on 12-07-00 using EPA 3510
2) This sample was analyzed following Silica Gel Cleanup.
3) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
4) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A110716-9 (continued)							
SAMPLE ID: MW-17							
SAMPLED: 28 NOV 00 12:59							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	12.14.00	T000354TPH	1,2,3
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	86.		%				
Kerosene	ND	50.	ug/L				
LAB NUMBER: A110716-9 (continued)							
SAMPLE ID: MW-17							
SAMPLED: 28 NOV 00 12:59							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	12.02.00	V000161G9A	4
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]	111.		%				
Surrogate 4-Bromofluorobenzene [PID]	104.		%				
LAB NUMBER: A110716-10							
SAMPLE ID: TB							
SAMPLED: 28 NOV 00							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	12.02.00	V000161G9A	4
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				

1) Sample Preparation on 12-07-00 using EPA 3510
2) This sample was analyzed following Silica Gel Cleanup.
3) Sample filtered through 0.45 micron prior to extraction.
4) Sample Preparation on 12-01-00 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A110716

LAB NUMBER: A110716-10 (continued)
SAMPLE ID: TB
SAMPLED: 28 NOV 00
METHOD: EPA 8015/8020A

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	12.02.00	V000161G9A	
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	117.		%				
Surrogate 4-Bromofluorobenzene [PID]	112.		%				

Caltest
ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

LAB ORDER No.: A110716

SUPPLEMENTAL QUALITY CONTROL (QC) DATA REPORT

Report Date: 21 DEC 2000
Received Date: 29 NOV 2000

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

Project: CITY OF OAKLAND

QC Batch ID	Method	Matrix
S000096BNA	8270	AQUEOUS
T000354TPH	8015M	AQUEOUS
V000161G9A	8015/8020A	AQUEOUS

Todd M. Albertson
Project Manager

Christine Horn
Laboratory Director

CALTEST authorizes this report to be reproduced only in its entirety.
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.

METHOD BLANK ANALYTICAL RESULTS

LAB ORDER No.: A110716

QC BATCH: S000096BNA

ANALYTE	RESULT	R.L.	UNITS	ANALYZED	NOTES
SEMIVOLATILE ORGANIC COMPOUNDS				12.14.00	
Acenaphthene	ND	5.	ug/L		
Acenaphthylene	ND	5.	ug/L		
Aniline	ND	10.	ug/L		
Anthracene	ND	5.	ug/L		
Benzidine	ND	20.	ug/L		
Benzo(a)anthracene	ND	5.	ug/L		
Benzo(b)fluoranthene	ND	5.	ug/L		
Benzo(k)fluoranthene	ND	5.	ug/L		
Benzo(ghi)perylene	ND	5.	ug/L		
Benzo(a)pyrene	ND	5.	ug/L		
Benzylbutylphthalate	ND	5.	ug/L		
4-Bromophenyl phenyl ether	ND	5.	ug/L		
Carbazole	ND	5.	ug/L		
4-Chloroaniline	ND	5.	ug/L		
bis(2-chloroethoxy)methane	ND	5.	ug/L		
bis(2-chloroethyl)ether	ND	5.	ug/L		
bis(2-chloroisopropyl)ether	ND	10.	ug/L		
2-Chloronaphthalene	ND	5.	ug/L		
4-Chlorophenyl phenyl ether	ND	5.	ug/L		
Chrysene	ND	5.	ug/L		
Dibenzo(a,h)anthracene	ND	5.	ug/L		
Dibenzofuran	ND	5.	ug/L		
1,2-Dichlorobenzene	ND	5.	ug/L		
1,3-Dichlorobenzene	ND	5.	ug/L		
1,4-Dichlorobenzene	ND	5.	ug/L		
3,3-Dichlorobenzidine	ND	25.	ug/L		
Diethyl phthalate	ND	5.	ug/L		
Dimethyl phthalate	ND	5.	ug/L		
Di-n-butylphthalate	ND	25.	ug/L		
2,4-Dinitrotoluene	ND	5.	ug/L		
2,6-Dinitrotoluene	ND	5.	ug/L		
Di-n-octylphthalate	ND	5.	ug/L		
1,2-Diphenylhydrazine	ND	5.	ug/L		
bis(2-Ethylhexyl)phthalate	ND	25.	ug/L		
Fluoranthene	ND	5.	ug/L		
Fluorene	ND	5.	ug/L		
Hexachlorobenzene	ND	5.	ug/L		
Hexachlorobutadiene	ND	25.	ug/L		
Hexachlorocyclopentadiene	ND	25.	ug/L		
Hexachloroethane	ND	5.	ug/L		
Indeno(1,2,3-cd)pyrene	ND	5.	ug/L		
Isophorone	ND	25.	ug/L		
2-Methylnaphthalene	ND	10.	ug/L		
Naphthalene	ND	5.	ug/L		
2-Nitroaniline	ND	5.	ug/L		

METHOD BLANK ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	ANALYZED	NOTES
QC BATCH: S000096BNA (continued)					
SEMIVOLATILE ORGANIC COMPOUNDS (continued)				12.14.00	
3-Nitroaniline	ND	5.	ug/L		
4-Nitroaniline	ND	5.	ug/L		
Nitrobenzene	ND	5.	ug/L		
N-Nitrosodimethylamine	ND	25.	ug/L		
N-Nitrosodiphenylamine	ND	5.	ug/L		
N-Nitrosodi-n-propylamine	ND	5.	ug/L		
Phenanthrene	ND	5.	ug/L		
Pyrene	ND	5.	ug/L		
Pyridine	ND	10.	ug/L		
1,2,4-Trichlorobenzene	ND	10.	ug/L		
Benzoic Acid	ND	20.	ug/L		
Benzyl Alcohol	ND	5.	ug/L		
4-Chloro-3-methylphenol	ND	5.	ug/L		
2-Chlorophenol	ND	5.	ug/L		
2,4-Dichlorophenol	ND	5.	ug/L		
2,4-Dimethylphenol	ND	5.	ug/L		
2,4-Dinitrophenol	ND	10.	ug/L		
2-Methyl-4,6-dinitrophenol	ND	10.	ug/L		
2-Methylphenol (o-Cresol)	ND	10.	ug/L		
3-/4-Methylphenol (m/p-Cresol)	ND	10.	ug/L		
2-Nitrophenol	ND	5.	ug/L		
4-Nitrophenol	ND	10.	ug/L		
Phenol	ND	5.	ug/L		
Pentachlorophenol	ND	5.	ug/L		
2,4,5-Trichlorophenol	ND	5.	ug/L		
2,4,6-Trichlorophenol	ND	5.	ug/L		
Diesel #2	ND	50.	ug/L		
Surrogate Nitrobenzene-d5	65.		%		
Surrogate 2-Fluorobiphenyl	38.		%		
Surrogate Terphenyl-d14	69.		%		
Surrogate 2-Fluorophenol	40.		%		
Surrogate Phenol-d6	28.		%		
Surrogate 2,4,6-Tribromophenol	60.		%		
QC BATCH: T000354TPH					
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS				12.13.00	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	82.		%		

1) This sample was analyzed following Silica Gel Cleanup.

METHOD BLANK ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	RESULT	R.L.	UNITS	ANALYZED	NOTES
QC BATCH: T000354TPH (continued)					
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS (continued)				12.13.00	
Kerosene	ND	50.	ug/L		
QC BATCH: V000161G9A					
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				12.01.00	
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L		
TPH-Purgeable, quantitated as gasoline	ND	50.	ug/L		
Aviation 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]	123.		%		
Surrogate 4-Bromofluorobenzene [PID]	113.		%		

LABORATORY CONTROL SAMPLE ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	SPIKE AMOUNT	SPIKE\DUP RESULT	SPK\DUP %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: S000096BNA							
SEMIVOLATILE ORGANIC COMPOUNDS						12.14.00	1,2
Acenaphthene	50.0	26.5\	53\	30-130\			
1,4-Dichlorobenzene	50.0	11.0\	22\	20-120\			
2,4-Dinitrotoluene	50.0	34.1\	68\	30-130\			
N-Nitrosodi-n-propylamine	50.0	31.5\	63\	30-130\			
Pyrene	50.0	32.8\	66\	30-130\			
1,2,4-Trichlorobenzene	50.0	13.6\	27\	20-120\			
4-Chloro-3-methylphenol	100	55.9\	56\	30-130\			
2-Chlorophenol	100	48.8\	49\	30-130\			
4-Nitrophenol	100	14.4\	14\	20-120\			
Phenol	100	27.0\	27\	20-120\			
Pentachlorophenol	100	80.2\	80\	20-120\			
Surrogate Nitrobenzene-d5	50.0	27.4\	55\	30-130\			
Surrogate 2-Fluorobiphenyl	50.0	22.6\	45\	30-130\			
Surrogate Terphenyl-d14	50.0	33.3\	67\	30-130\			
Surrogate 2-Fluorophenol	100	35.6\	36\	20-120\			
Surrogate Phenol-d6	100	28.2\	28\	20-120\			
Surrogate 2,4,6-Tribromophenol	100	62.1\	62\	20-120\			
QC BATCH: T000354TPH							
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS						12.13.00	3
Diesel Fuel	1000	781.\	78\	36-102\			
Surrogate o-Terphenyl	100	72.6\	73\	40-140\			
QC BATCH: V000161G9A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS						12.01.00	
Total Petroleum Hydrocarbons - Gasoline	550.	522.\	95\	50-130\			
Benzene	6.69	5.13\	77\	50-130\			
Toluene	39.0	33.0\	85\	50-130\			
Surrogate 4-Bromofluorobenzene [FID]	20.0	23.4\	117\	50-130\			
Surrogate 4-Bromofluorobenzene [PID]	20.0	22.4\	112\	50-130\			

1) Due to low recoveries of 4-Nitrophenol in both the LCS and the LCSD this
2) compound results in batch S000096BNA should be considered an estimate.
3) This sample was analyzed following Silica Gel Cleanup.

MATRIX SPIKE ANALYTICAL RESULTS

LAB ORDER No.: A110716

ANALYTE	ORIGINAL RESULT	SPIKE AMOUNT	SPIKE\DUP RESULT	SPK\DUP %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: T000354TPH								
QC SAMPLE LAB NUMBER: A110760-1								
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS							12.13.00	
TPH-Extractable, quantitated as diesel	494.	2000.	2500.\2820.	100\116	40-140\25	12.		
Surrogate o-Terphenyl	82.%	200.	151.\152.	76\76	40-140\			

Caltest ANALYTICAL LABORATORY

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

LAB ORDER #:

PAGE 1 OF 1

SAMPLE CHAIN OF CUSTODY

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

P.O. #: 153-1653

CLIENT: AMBRIA Env. Tech

REPORT TO: Bob Clark Riddell

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

ANALYSES REQUESTED: TPH d/k/mo (8015) / TPH d/k/mo (8015) silica gel / SVOC (8270)

TURN-AROUND TIME: ☒ STANDARD ☐ RUSH

DUE DATE:

CALTEST #	DATE SAMPLED	TIME SAMPLED	MATRIX	CONTAINER AMOUNT/TYPE	PRESERVATIVE	SAMPLE IDENTIFICATION SITE	CLIENT LAB #	COMP. or GRAB	TPH d/k/mo (8015)	TPH d/k/mo (8015) silica gel	SVOC (8270)				REMARKS
1	11/28	1234	WATER	2/1L + 4/VOA		MW-8		GRAB	X						*Analyze Sample MW-8 through MW-17
2		1157		6/1L + 4/VOA		MW-9**				X	X				TPH d/k/mo ...
3		1039		2/1L + 4/VOA		MW-10									w/ Silica Gel Cl... but Filter...
4		1522		2/1L + 4/VOA		MW-11									samples before using a 0.45...
5		1444		4/1L + 4/VOA		MW-12**				X					0.7 micron... membrane...
6		1400		6/1L		MW-13*					X				this is in ... to the 9 sam...
7		1139		4/1L + ~~4/VOA~~		MW-14 *									analyzed w/o ...
8		1229		4/1L + 4/VOA		MW-15									**MW-9/MW-12/...
9		1259		6/1L + 4/VOA		MW-17					X				need to be ... by 8270 for S...
10	11/28			2 VOA		TB 1 cm bubble / 1 cm bubble									

PRESERVATIVE: ALL VOA'S PRESERVATIVE W/ HCL

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]	11/29 10:42	[signature]	[signature]	11/29/00 1444	[signature]

FOR LAB USE ONLY: Samples: WC ___ MICRO ___ BIO ___ AA ___ SV ___ VOA ___ pH? Y/N TEMP: ___ SEALED: Y/N INTACT: Y/N

BD: BIO ___ WC ___ AA ___

CC: AA ___ SV ___ VOA ___

SIL: HP ___ PT ___ QT ___ VOA ___

W/HNO3 ___ H2SO4 ___ NaOH ___

Fill: HNO3 ___ H2SO4 ___ NaOH ___ HCL ___

COMMENTS: ... 2 cm bubble ... w/ 4 mm bubble ... MW-15 ... 9 cm bubble ... 2 of 4 voas w/ 2 cm bubble ... 4 voas w/ over 1 cm bubble ...

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 ___ PR ___ M ___ F ___

REV. 2/99

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

Appendix C

Well Sampling Protocol for 1st Quarter 2001

Well Sampling Protocol (1st Qtr 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)	Metals LUFT	Comments
	1	2	3	4								
MW-1	x		x		x	x	x	x				
MW-2	x		x		x	x	x	x				
MW-3	Well destroyed											
MW-4	Well destroyed											
MW-5	x		x		x	x	x	x	x (1q)			
MW-6***	x		x		x	x	x	x	x (1q)	x (1q)	x (1q)	Sample w/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				SPH present?
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				
TripBlank	x	x	x	x	NA	NA	x					

DO = Dissolved Oxygen

* = Confirm any MTBE hit by 8260, except for well MW-5

** =The lab will first filter the sample with 0.45 micron glass-fiber filter, then treat the 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.

*** = Bail product first and use a custom oil/water separator to facilitate sample collection.