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

RO293

3978

DEC 21 2001

December 18, 2001

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

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

Dear Mr. Chan:

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

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

Sincerely,

Joseph A. Cotton, R.G.
Environmental Program Specialist

cc: Diane Heinz, Port of Oakland, 530 Water St., Oakland, CA 94604
Xinggang Tong, URS Corporation, 500 12th St., Suite 200, Oakland, CA 94607

CAMBRIA

November 16, 2001

DEC 2 1 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: **Third Quarter 2001 Monitoring Report**
City of Oakland, Municipal Services Center
7101 Edgewater Drive
Oakland, California
Cambria Project #153-1653-021

Dear Mr. Cotton:

As required by the Alameda County Health Care Services Agency (ACHCSA), Cambria Environmental Technology, Inc. (Cambria) has prepared this third quarter 2001 groundwater monitoring report for the above-referenced site.

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: Third Quarter 2001 Monitoring Report

Oakland, CA
San Ramon, CA
Sonoma, CA

Cambria Environmental Technology, Inc.

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

CAMBRIA

THIRD QUARTER 2001 MONITORING REPORT

City of Oakland, Municipal Services Center
7101 Edgewater Drive
Oakland, California
Cambria Project #153-1653-021

November 16, 2001

Prepared for:

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

Prepared by:

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

Thomas Howard
Project Geologist

Bob Clark-Riddell, P.E.
Principal Engineer

CAMBRIA

THIRD QUARTER 2001 MONITORING REPORT

City of Oakland, Municipal Services Center
7101 Edgewater Drive
Oakland, California
Cambria Project #153-1653-012

November 16, 2001

INTRODUCTION

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

THIRD QUARTER 2001 ACTIVITIES

Monitoring Activities

Field Activities: On August 16, 2001, Cambria gauged and inspected for separate-phase hydrocarbons (SPH) in site monitoring and tank pit backfill wells, and on August 16, 17 and 20 sampled in accordance with the ACHCSA-approved monitoring protocol presented below in Table A. Monitoring well MW-16 was not sampled due to the presence of viscous SPH. Monitoring well locations are shown on Figure 1. To facilitate design and selection of the treatment system and equipment for the approved dual-phase extraction (DPE) system, Cambria sampled four wells despite the presence of SPH (wells MW-6, TBW-1, TBW-3 and TBW-5). Each one of these four wells are located in different SPH plume areas. 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) by EPA Methods 8015/8020A; and metals by standard method 200.7, by Caltest Analytical Laboratory of Napa, California, a California state-certified laboratory.

Samples from the wells MW-6, TBW-1, TBW-3 and TBW-5 were also analyzed for volatile organic compounds (VOCs) by EPA Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method 8270, and for metals.

Prior to TPHd/k/mo analyses, samples were filtered using industry standard 0.45-micron filters and then subjected to silica gel treatment by EPA Method 3630. Laboratory QA/QC method blanks were also subject to 0.45-micron filtration and silica gel treatment by EPA Method 3630.

Detections of MTBE in wells TBW-1 and TBW-5 were confirmed as false positives by EPA Method 8260; the sample from well MW-5 which historically are known to test positive for MTBE, was not verified by EPA Method 8260. The specific analytes for each well sample are presented in Table A (below). Analytic results are summarized in Tables 1, 2, 3 and 4. The laboratory analytical reports are included as Appendix B.

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

Well	Quarter				Gauge Every Qtr	DO (field meter)	TPHg/ BTEX/ MTBE* (8015/ 8020)	TPH d/k/mo (8015) filter+ silica gel**	VOC (8260)	SVOC (8270)	metals	Comments
	1	2	3	4								
MW-1	X		X		X	X	X	X				
MW-2	X		X		X	X	X	X				
MW-5	X	X	X	X	X	X	X	X				
MW-6	X		X		X	X	X	X	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				
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	X	X	X	SPH present
TBW-3	X		X		X	X	X	X	X	X	X	SPH present
TBW-4	X		X		X	X	X	X				
TBW-5	X		X		X	X	X	X	X	X	X	SPH present
TBW-6	X		X		X	X	X	X				
Trip Blank	X	X	X	X	NA	NA	X	X				

DO = Dissolved oxygen
* = Any positive results for MTBE will be confirmed by re-analysis using EPA Method 8260, except in MW-5.
** = Prior to analysis, lab will filter sample with 0.45 micron filter, then subject filtrate to silica gel treatment (clean-up) by EPA Method 3630, and then sample/dilute the filtrate for analysis. The lab shall run a spiked method blank through the same procedure, evaluate, and explain any atypical deviation.
*** = Wells MW-3 and MW-4 were destroyed during the first quarter 1999.
Metals: antimony, arsenic, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium, and zinc.

MONITORING RESULTS

Shallow Groundwater Topography

On August 16, 2001, Cambria gauged site monitoring wells and tank backfill wells in accordance with the protocol shown on Table A. Cursory examination of the shallow groundwater elevation map suggests groundwater flow towards San Leandro Bay and Damon Slough (Figure 1). Apparent groundwater flow directions are consistent with historical measurements. Depth-to-water and groundwater elevation data are presented in Table 1. Sub-sea elevations in well MW-17 correspond with a low (minus) tide.

Occurrence of Separate-Phase Hydrocarbons

Separate-phase hydrocarbons (SPH) were detected in monitoring wells MW-6 (0.32 ft) and MW-16 (not measured), and in backfill wells TBW-1 (0.28 ft) and TBW-5 (0.67 ft). SPH in monitoring well MW-16 were extremely viscous and adhered to the oil-water interface probe. Cambria was unable to obtain an accurate and reliable SPH measurement in this well and consequently, neither product thickness nor depth to water could be measured with precision in this well. However, SPH in well MW-16 historically have been less than or equal to 0.42 ft thick.

SPH thickness measurements in wells frequently may not be representative of true thicknesses in the formation(s) screened by the wells, and are typically several to many times thicker than those actually occurring in the deposits or formation(s) intercepted by the well screens[1, 2]. This phenomena can also be exaggerated by fluctuating water tables. The extent of SPH is defined in the downgradient direction for each of these areas by other site wells. SPH removal activities are described below in the corrective action section.

Contaminant Distribution in Groundwater

The following section does not discuss the analytic results from the sampled wells that contained SPH (wells MW-6, TBW-1, TBW-3 and TBW-5), unless specifically noted. Analytic results from these wells are not likely representative of constituents dissolved in groundwater.

---

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

[2] Yaniga, P. M., *Hydrocarbon Retrieval and Apparent Hydrocarbon Thickness: Relationship to Recharging/Discharging Aquifer Conditions*, presented to the National Water Well Association and the American Petroleum Institute, Houston, TX, 1984.

Benzene in Groundwater: The maximum benzene concentration detected was 640 µg/l in well MW-1. The maximum benzene concentration detected in an offsite perimeter well was 0.62 µg/l in well MW-9. This analytic result for benzene is below the acceptable risk thresholds for both the San Francisco Airport Ecological Protection Zone Tier I Standards[3] and the City of Oakland Risk-Based Tier I[4] for inhalation of indoor air vapors of 71 µg/l 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)[5].

– Confirmed ?

MTBE in Groundwater: MTBE was detected at 850 µg/l in the groundwater sample collected from well MW-5 and 14 µg/l in the sample from well MW-6. MTBE historically has been detected only in wells MW-5 and MW-6.

TPHg in Groundwater: The maximum *reported* TPHg concentration detected was 4,000 µg/l in well MW-1. All other concentrations are below the San Francisco Airport Ecological Protection Zone Tier I Standard acceptable threshold of 3,700 µg/l.[6] TPHg concentrations appear to be defined in the downgradient and crossgradient directions to within acceptable ecological risk thresholds.

TPHd in Groundwater: The maximum dissolved TPHd concentration detected in offsite perimeter wells was 200 µg/l in well MW-12. Analytical results for all other site wells [except MW-6, TBW-1, 3, 4 & 5] were below the San Francisco Airport Ecological Protection Zone Tier I Standard of 640 µg/l.[7]

---

[3] 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.

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

[5] RWQCB-SFBR, *Application of Risk-Based Screening Levels and Decision Making to Sites with Impacted Soil and Groundwater.* Interim Final. August 2000.

[6] 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.

[7] Ibid.

TPHmo in Groundwater: Historically, TPHmo has not been detected in downgradient perimeter wells since implementation of filtration and silica-gel clean up. TPHmo was not detected in samples from four downgradient perimeter wells that had QA/QC results within acceptable ranges. Although TPHmo was reported in samples from some wells, these are likely false positives as TPHmo was detected in the corresponding QA/QC lab method blanks. These questionable TPHmo values are flagged and noted accordingly on the Table 1. Additional discussion of the TPHmo results is presented below.

Volatile Organic Compounds in Groundwater: VOC analyses were performed on samples from wells MW-6, TBW-1, TBW-3 and TBW-5 (one well from each of the SPH plumes) during the third quarter 2001 to facilitate design of the DPE treatment system. Current and previous monitoring results for VOCs are presented in Table 2.

Semi-Volatile Organic Compounds in Groundwater: SVOC analyses were performed this quarter on samples from wells MW-6, TBW-1, TBW-3 and TBW-5 to facilitate design of the DPE treatment system. Current and previous monitoring results for SVOCs are presented in Table 3.

LUFT Metals in Groundwater: LUFT metals and additional metals analyses were performed this quarter on samples from wells MW-6, TBW-1, TBW-3 and TBW-5 2001 to facilitate design of the DPE treatment system. Current and previous monitoring results for LUFT metals are presented in Table 4. Current results for additional metals are presented in Table 5.

Laboratory Quality Assurance and Quality Control: All samples and Laboratory Control Sample (LCS) method blanks were spiked with surrogates (prior to filtration and silica gel treatment) to evaluate laboratory QA/QC. [redacted] Regarding method blank results, both TPHmo and methyl chloride were reported in the lab method blanks. Since TPHmo has not been detected since implementation of filtration for TPHd/k/mo samples, the TPHmo detections are likely false positives. And since methyl chloride is a laboratory solvent and has not been detected historically in site wells, the detections of methyl chloride are also likely false positives.

Corrective Action Activities

Separate-Phase Hydrocarbon Removal: Separate-phase hydrocarbons (SPH) have been actively skimmed from well TBW-5 using a mobile SPH skimmer, during the third quarter 2001.

As shown on Table B (below), Cambria estimates that approximately 165 pounds of SPH were removed from the site after the 2nd quarter sampling event (after May 18, 2001) and through the 3rd quarter 2001 sampling event (August 20, 2001). SPH recovered by the skimmer is assumed to be 100% hydrocarbon, as no detectable water is currently detected in the 500-gallon recovery tank.

The sock in well TBW-2 was replaced during the third quarter. Since water is also removed during SPH bailing and sock removal, Cambria estimates that approximately 50% of the bailed volume and 50% of the sock saturation weight is actually SPH (unless otherwise calculated in field). To determine the sock saturation weight, Cambria weighs each removed sock and subtracts the dry weight from the total weight of the used sock. One gallon of separate-phase hydrocarbons is estimated to weigh 6.6 pounds. This cumulative volume does not include additional SPH removal achieved by "socks" prior to the fourth quarter 2000.

Table B – SPH Removal Summary

Hydrocarbon Removal Method	Removal This Quarter (pounds)	Cumulative Removal (pounds)
Active Skimming (TBW-5)	165	597
Bailing/Socks (TBW-5)	0	132.4
Bailing/Socks (TBW-1)	0	13.8
Bailing/Socks (TBW-2)	2.5	5.0
Bailing/Socks (TBW-3)	0	9.6
Bailing/Socks (MW-6)	0	0.225
Bailing/Socks (MW-16)	0	3
Total SPH Removal	167.5 Pounds	761 Pounds

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 have removed separate-phase hydrocarbons from the site subsurface, primarily in well TBW-5. Cambria recommends continued monitoring of SPH plume stability.

- Additional site assessment described in the January 2001 Site History and Characterization Report prepared by Baseline Environmental Consultants (Baseline) suggests that the downgradient extent of dissolved and separate-phase hydrocarbons has been adequately defined.

- With the exception of onsite well MW-1 and MW-6 and the sampled wells with SPH, TPHg concentrations are below the San Francisco Airport Ecological Protection Zone Tier I Standard acceptable threshold of 3,700 µg/l.[8] It should be noted that samples for TPHg analysis are *not* filtered, nor subject to silica gel treatment (cleanup). Therefore, the reported TPHg concentrations are indicative of *suspended* and dissolved *organic* and anthropogenic hydrocarbons, all quantitated as TPHg. Thus, the reported values for TPHg are likely *over-representative* of true dissolved concentrations of anthropogenic TPHg in groundwater. Many wells with TPHg detections did not contain detectable BTEX compounds, which are commonly detected in conjunction with gasoline releases. TPHg concentrations detected in perimeter offsite wells appear to be the result of local fill quality rather than offsite migration of dissolved petroleum hydrocarbons. The City may request that *duplicate* groundwater samples be subjected to filtration and silica gel treatment (as performed for the heavier-range petroleum hydrocarbon analyses), if the local regulatory agencies are concerned about the TPHg concentrations detected in offsite wells.

TPHs not allowed the clean by silica gel cleanup

- Reported *dissolved* TPHd concentrations in offsite perimeter wells were below the San Francisco Airport Ecological Protection Zone Tier I Standard of 640 µg/l.

---

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

- No dissolved TPHmo was detected in site groundwater for wells with acceptable QA/QC. The apparent detection of higher TPHmo concentrations prior to implementation of 0.45 micron filtration and silica gel treatment (based on previous monitoring results) suggests that heavier-range hydrocarbons may be adsorbed to extremely fine particles and colloids which were dislodged during sampling and occur as suspended solids in groundwater samples, and that *dissolved* TPHmo is not present in groundwater at detectable concentrations. The historical detection of TPHmo concentrations in downgradient offsite wells prior to filtration (based on previous monitoring results) also suggests that these TPHmo detections were a result of soil/fill quality effects and the resulting groundwater sample quality, rather than migration of dissolved TPHmo from an onsite release.

- Historical analytic results indicate 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.

ANTICIPATED FOURTH QUARTER 2001 ACTIVITIES

Monitoring Activities

City of Oakland contractors will gauge, measure any detected SPH, and collect groundwater samples from site wells in accordance with the protocol presented in Appendix C. The protocol now proposes sampling of well MW-5 on a quarterly basis with analysis for TPHg, BTEX, and MTBE. All TPHd/k/mo analyses will be subject to 0.45-micron filtration and silica gel treatment prior to analysis. Following field activities, Cambria will tabulate the analytic data, contour groundwater elevations, and prepare a quarterly monitoring report.

Corrective Action

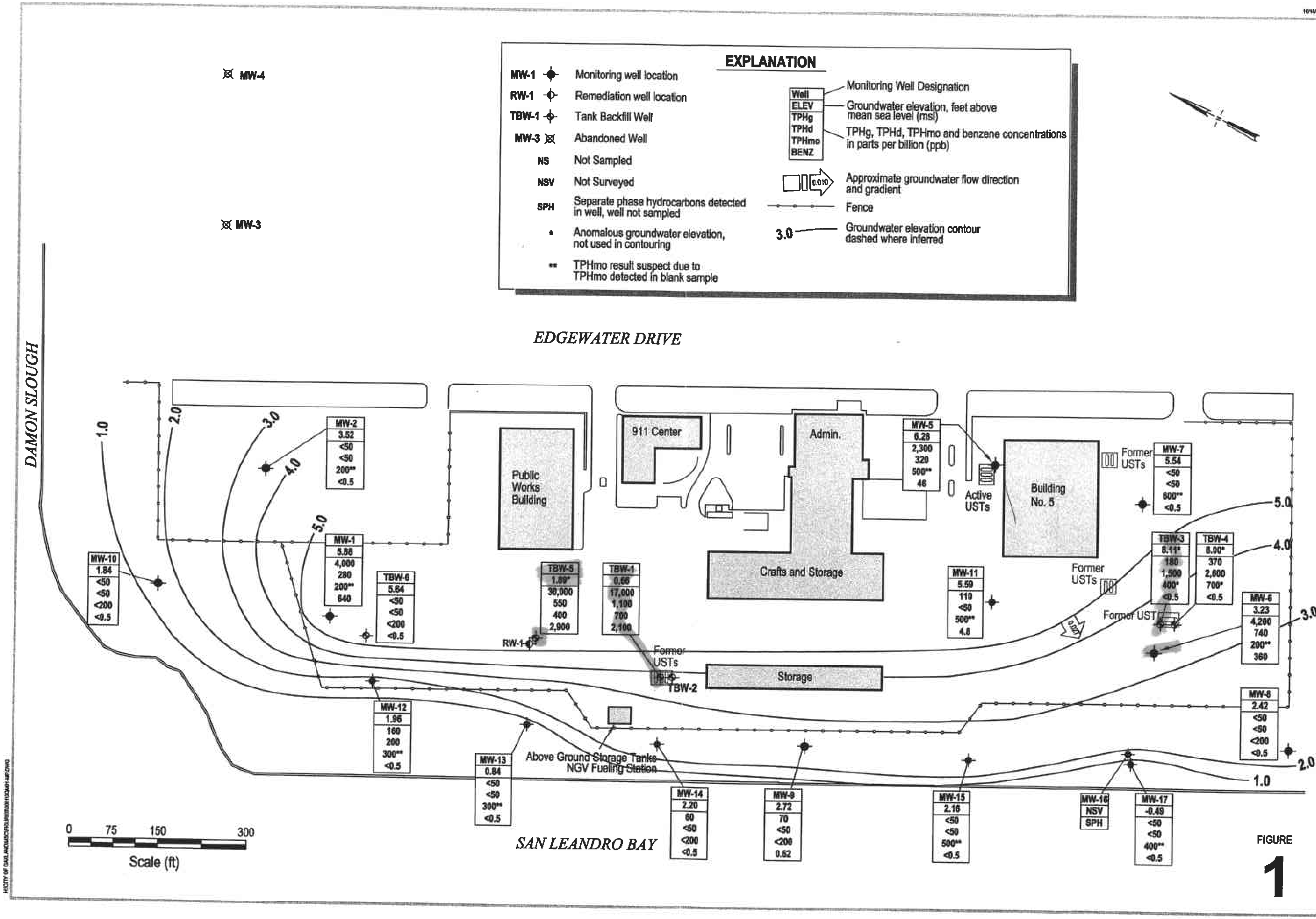
The City of Oakland has commenced implementation of the dual phase extraction (DPE) workplan approved by the ACHCSA. The first phase of DPE will consist of well installation and system design and permitting. With DPE planned for the near future, and decreasing quantities of recover Cambria had discontinued SPH removal using the active skimming in well TBW-5.

Ask Joseph about this

ATTACHMENTS

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

H:\City of Oakland\Municipal Service Center\QM\3q01\CoO-3Q01 text.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
** TPHmo result suspect due to TPHmo detected in blank sample
Well — Monitoring Well Designation
ELEV — Groundwater elevation, feet above mean sea level (msl)
TPHg TPHd TPHmo BENZ — TPHg, TPHd, TPHmo and benzene concentrations in parts per billion (ppb)
0.010 Approximate groundwater flow direction and gradient
Fence
3.0 Groundwater elevation contour dashed where inferred
MW-4
MW-3
EDGEWATER DRIVE
DAMON SLOUGH
SAN LEANDRO BAY
Public Works Building
911 Center
Admin.
Crafts and Storage
Storage
Building No. 5
Active USTs
Former USTs
Former UST
Above Ground Storage Tanks NGV Fueling Station
MW-2 3.52 <50 <50 200** <0.5
MW-1 5.88 4,000 280 200** 640
MW-10 1.84 <50 <50 <200 <0.5
TBW-6 5.64 <50 <50 <200 <0.5
TBW-5 1.89* 30,000 550 400 2,900
TBW-1 0.66 17,000 1,100 700 2,100
RW-1
TBW-2
MW-5 6.28 2,300 320 500** 46
MW-11 5.59 110 <50 500** 4.8
MW-7 5.54 <50 <50 600** <0.5
TBW-3 8.11* 180 1,500 400* <0.5
TBW-4 8.00* 370 2,600 700* <0.5
MW-6 3.23 4,200 740 200** 360
MW-8 2.42 <50 <50 <200 <0.5
MW-12 1.96 160 200 300** <0.5
MW-13 0.84 <50 <50 300** <0.5
MW-14 2.20 60 <50 <200 <0.5
MW-9 2.72 70 <50 <200 0.62
MW-15 2.16 <50 <50 500** <0.5
MW-16 NSV SPH
MW-17 -0.49 <50 <50 400** <0.5
1.0
2.0
3.0
4.0
5.0
0.027
0 75 150 300
Scale (ft)

FIGURE 1

Groundwater Elevation Contour Map and Hydrocarbon Concentrations

August 16, 2001

CAMBRIA

Municipal Service Center

7101 Edgewater Drive

Oakland, California

CAMBRIA

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

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
MW-1														
10/4/89	10.20	---	---	8020		---	---	---	540	65	26	14	22	---
10/4/89	10.20	---	---	8240		---	---	---	---	120	46	43	78	---
4/27/93	10.20	---	---	8020		---	---	---	<1,000	<1.0	<1.0	<1.0	<1.0	---
4/19/95	10.20	---	---	8020		---	---	---	3,200	880	15	23	21	---
7/27/95	10.20	4.62	5.58	8020		---	---	---	980	130	3.6	1.4	5.6	---
11/20/95	10.20	6.08	4.12	8020		---	---	---	400	99	2.8	1.1	4.6	---
2/21/96	10.20	4.62	5.58	8020		---	---	---	1,700	340	8.4	5.3	16	---
5/13/96	10.20	4.33	5.87	8020		---	---	---	7,300	2,000	30	42	38	---
8/27/96	10.20	5.25	4.95	8020		---	---	---	380	61	2.4	<0.5	4.2	---
2/23/98	10.20	1.75	8.45	8020		<50	<500	<50	820	160	4.9	3	9.7	---
8/19/98	10.20	4.78	5.42	8020	SGC	1,200	---	---	780	69	4.1	0.84	8.5	<5.0
11/11/98	10.20	5.64	4.56	---		---	---	---	---	---	---	---	---	---
2/23/99	10.20	3.41	6.79	8020	SGC	1,200	1,600	<50	1,100	190	5	3	12	<5.0
5/27/99	10.20	3.96	6.24	---		---	---	---	---	---	---	---	---	---
8/24/99	10.20	4.92	5.28	8020	SGC	640	1,900	<50	370	37	0.9	<0.5	1.9	<5.0
11/22/99	10.20	5.46	4.74	---		---	---	---	---	---	---	---	---	---
1/18/00	10.05	5.41	4.64	---		---	---	---	---	---	---	---	---	---
1/19/00	---	---	---	8020	SGC	50	<200	<50	660	43	2.3	1.1	6	<5.0
5/11/00	10.05	4.63	5.42	---		---	---	---	---	---	---	---	---	---
8/24/00	10.05	5.07	4.98	---		---	---	---	---	---	---	---	---	---
8/25/00	---	---	---	8020	SGC	340	<250	290	480	53	1.4	<0.5	2.9	<5.0
11/28/00	10.05	5.60	4.45	---		---	---	---	---	---	---	---	---	---
2/27/01	10.05	3.95	6.10	8020	Filtered+SGC	270	<250	<61	1,500	110	6.3	<1.5	9.9	<15
5/17/01	10.05	4.00	6.05	---		---	---	---	---	---	---	---	---	---
8/16/01	**10.05**	**4.17**	**5.88**			**280**	**<B200**	**<100**	**4,000**	**640**	**9.7**	**5.7**	**13**	**<5.0**

CAMBRIA

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

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						← µg/l →								
MW-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
11/11/98	10.47	7.37	3.10	---		---	---	---	---	---	---	---	---	---
2/23/99	10.47	8.68	1.79	8020	SGC	200	900	<50	<50	3.5	0.6	0.6	1.2	<5.0
5/27/99	10.47	5.20	5.27	---		---	---	---	---	---	---	---	---	---
8/24/99	10.47	6.75	3.72	8020	SGC	140	700	<50	<50	2.6	<0.5	<0.5	<0.5	<5.0
11/22/99	10.47	7.58	2.89	---		---	---	---	---	---	---	---	---	---
1/18/00	10.47	7.41	3.06	8020	SGC	60 a	660	<50	<50	2.1	<0.5	<0.5	<0.5	<5.0
5/11/00	10.47	6.43	4.04	---		---	---	---	---	---	---	---	---	---
8/24/00	10.47	8.91	1.56	8020	SGC	170	440	130	<50	2.4	<0.5	<0.5	<0.5	<5.0
11/28/00	10.47	7.35	3.12	---		---	---	---	---	---	---	---	---	---
2/27/01	10.47	6.70	3.77	8020	Filtered+SGC	<59	<240	<59	<50	3.6	<0.5	<0.5	<0.5	<5
5/17/01	10.47	6.90	3.57	---		---	---	---	---	---	---	---	---	---
8/16/01	**10.47**	**6.95**	**3.52**			**<50**	**B200**	**<100**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**
MW-3														
10/4/89	---	---	---	8020		---	---	---	<30	<0.3	<0.3	<0.3	<0.3	---
10/4/89	---	---	---	8240		---	---	---	---	<2.0	<2.0	<2.0	<2.0	---
2/23/98	---	---	---	---		<50	<500	<50	---	---	---	---	---	---
11/11/98	---	5.83	---	---		---	---	---	---	---	---	---	---	---

CAMBRIA

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

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
2/23/99	---	---	---	---	Submerged	---	---	---	---	---	---	---	---	---
5/27/99	---	1.68	---	---		---	---	---	---	---	---	---	---	---
8/24/99	---	4.76	---	---		---	---	---	---	---	---	---	---	---
11/22/99	---	6.46	---	---		---	---	---	---	---	---	---	---	---
11/22/99	---	---	---	---	Destroyed	---	---	---	---	---	---	---	---	---
MW-4														
10/4/89	7.89	---	---	8020		---	---	---	<30	<0.3	<0.3	<0.3	<0.3	---
10/4/89	7.89	---	---	8240		---	---	---	---	<2.0	<2.0	<2.0	<2.0	---
11/11/98	7.89	6.25	1.64	---		---	---	---	---	---	---	---	---	---
2/23/99	7.89	3.10	4.79	---		---	---	---	---	---	---	---	---	---
5/27/99	7.89	4.03	3.86	---		---	---	---	---	---	---	---	---	---
8/24/99	7.89	5.07	2.82	---		---	---	---	---	---	---	---	---	---
11/22/99	7.89	6.32	1.57	---		---	---	---	---	---	---	---	---	---
11/22/99	---	---	---	---	Destroyed	---	---	---	---	---	---	---	---	---
MW-5														
12/13/91	11.15	---	---	8020		1,900	---	---	13,000	1,500	190	970	2,500	---
12/13/91	---	---	---	8020	Dup	---	---	---	16,000	1,400	180	870	2,500	---
12/13/91	11.15	---	---	8240		---	---	---	---	1,800	<250	1,000	3,800	---
12/13/91	---	---	---	8240	Dup	---	---	---	---	1,600	<250	980	3,500	---
4/27/93	11.15	---	---	8240		12,000	---	---	35,000	2,100	<1.0	1,800	2,700	---
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

CAMBRIA

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

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
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	---		---	---	---	---	---	---	---	---	---
2/27/01	11.15	4.40	6.75	8020	Filtered+SGC	230	<250	<61	6,300	150	7	350	55	830
5/17/01	11.15	5.77	5.38	8020	Filtered+SGC	190	<200	<50	7,500	140	7	580	101	170
8/16/01	**11.15**	**4.87**	**6.28**			**320**	**B500**	**<100**	**2,300**	**46**	**<5**	**110**	**24**	**850**
MW-6														
12/13/91	10.98	---	---	8020		520	---	---	780	110	2.7	<2.5	5.5	---
12/13/91	10.98	---	---	8240		---	---	---	---	95	5	<5	<5	---
4/27/93	10.98	---	---	8020		<1,000	---	---	<1,000	430	4	5	10	---
4/19/95	10.98	---	---	8020		6,700	---	---	5,700	40	<0.8	3.9	29	---
4/19/95	---	---	---	8020	Dup	3,700	---	---	3,000	310	3.1	2.7	100	---
7/27/95	10.98	7.09	3.89	8020		3,900	---	---	6,100	430	15	200	600	---
7/27/95	---	---	---	8020	Dup	2,600	---	---	6,300	420	15	200	600	---
11/20/95	10.98	7.89	3.09	8020		850	---	---	6,800	160	4.6	8	240	---
11/20/95	---	---	---	8020	Dup	---	---	---	3,600	130	11	4.4	200	---
2/21/96	10.98	7.40	3.58	8020	Filtered+SGC	1,700	---	---	2,800	230	2.8	3.8	44	---
2/21/96	---	---	---	8020	Dup	2,500	---	---	2,200	280	3	4	4.6	---
5/13/96	10.98	7.10	3.88	8020		400	<50	<50	3,100	430	12	5.2	67	---
8/27/96	10.98	7.42	3.56	8020		3,100	---	---	4,200	300	9.3	110	110	---
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	---	---	---	---	---	---	---	---	---

CAMBRIA

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

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
11/22/99	10.98	7.96	3.15	---	SPH: 0.16 ft	---	---	---	---	---	---	---	---	---
1/18/00	10.98	8.08	3.05	---	SPH: 0.19 ft	---	---	---	---	---	---	---	---	---
5/11/00	10.98	7.52	4.47	---	SPH: 0.01 ft	---	---	---	---	---	---	---	---	---
8/24/00	10.98	7.50	3.53	---	SPH: 0.06 ft	---	---	---	---	---	---	---	---	---
11/28/00	10.98	6.39	4.62	---	SPH: 0.04 ft	---	---	---	---	---	---	---	---	---
2/26/01	10.98	7.80	3.50	8020	SPH: 0.40 ft, f	820	<240	<60	6,100	181	<5	14.2	<5	<50
2/26/01	---	---	---	8260B		---	---	---	---	270	3	9	3	(19)
5/17/01	10.98	7.57	3.66	---	SPH: 0.32 ft	---	---	---	---	---	---	---	---	---
8/16/01	**10.98**	**8.01**	**3.23**		**SPH: 0.32 ft**	**740**	**B200**	**<100**	**4,200**	**360**	**4.6**	**13**	**12**	**14**
MW-7														
12/13/91	11.51	---	---	8020		<50	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
12/13/91	11.51	---	---	8240		---	---	---	---	<5	<5	<5	<5	---
4/27/93	11.51	---	---	8240		<1,000	---	---	<1,000	<1.0	<1.0	<1.0	<1.0	---
4/19/95	11.51	---	---	8240		<50	<1,000	---	<50	<2.0	<2.0	<2.0	<2.0	---
7/27/95	11.51	6.87	4.64	8240		<50	<1,000	---	<50	<2.0	<2.0	<2.0	<2.0	---
11/20/95	11.51	8.48	3.03	8020		<50	---	---	<50	<0.5	<0.5	<0.5	1.5	---
2/21/96	11.51	6.29	5.22	8020		<50	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
5/13/96	11.51	6.95	4.56	8020		<50	---	---	---	<0.5	<0.5	<0.5	<0.5	---
8/27/96	11.51	6.80	4.71	8020		---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
8/19/98	11.51	6.88	4.63	---		---	---	---	---	---	---	---	---	---
11/11/98	11.51	7.40	4.11	---		---	---	---	---	---	---	---	---	---
2/23/99	11.51	5.57	5.94	8020		<50	<200	<50	80	<0.5	<0.5	<0.5	1	<5.0
5/27/99	11.51	6.56	4.95	---		---	---	---	---	---	---	---	---	---
8/24/99	11.51	6.29	5.22	8020	SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	5
11/22/99	11.51	6.80	4.71	---		---	---	---	---	---	---	---	---	---
1/18/00	11.51	7.31	4.20	---		---	---	---	---	---	---	---	---	---
1/19/00	11.51	---	---	8020	SGC	<50	<200	<50	54	1.5	1.5	2.4	3.8	<5.0
5/11/00	11.51	6.41	5.10	---		---	---	---	---	---	---	---	---	---
8/24/00	11.51	7.11	4.40	8020		<50	<250	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	11.51	7.30	4.21	---		---	---	---	---	---	---	---	---	---
2/27/01	11.51	5.75	5.76	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5
5/17/01	11.51	6.65	4.86	---		---	---	---	---	---	---	---	---	---
8/16/01	**11.51**	**5.97**	**5.54**			**<50**	**B600**	**<100**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**

CAMBRIA

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

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						← µg/l →								
MW-8														
11/20/96	12.22	---	---	8020		880	---	---	<50	0.66	<0.5	<0.5	<0.5	---
11/20/97	12.22	9.59	2.63	8020		200	---	---	<50	<0.5	<0.5	<0.5	<0.5	2
2/24/98	12.22	8.42	3.80	8020		<50	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	---
6/8/98	12.22	9.57	2.65	8020		1,200	1,000	<50	<50	<0.5	<0.5	<0.5	<0.5	---
8/19/98	12.22	9.49	2.73	8020	SGC	<50	<250	<50	<50	1.6	3.4	1	2.8	<5.0
11/11/98	12.22	9.64	2.58	8020	SGC	<50	<200	<50	<50	0.9	0.8	0.6	2.3	<5.0
2/23/99	12.22	11.53	0.69	8020		700	1,500	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/27/99	12.22	9.65	2.57	8020		<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
8/24/99	12.22	9.62	2.60	8020	SGC	70	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/22/99	12.22	9.64	2.58	8020	SGC	57	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
1/18/00	12.22	8.31	3.91	8020	SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/11/00	12.22	9.69	2.53	8020	SGC	<50	<200	<50	<50	<0.5	1.3	<0.5	2.1	<5.0
8/24/00	12.22	9.40	2.82	---		---	---	---	---	---	---	---	---	---
8/25/00	---	---	---	8020	SGC	85	<250	<50	<50					
11/28/00	12.22	9.40	2.83	8020	SGC	<50	910	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
2/27/01	12.22	9.50	2.72	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/17/01	12.22	9.71	2.51	---		---	---	---	---	---	---	---	---	---
5/18/01	---	---	---	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
8/16/01	**12.22**	**9.80**	**2.42**			**<50**	**<200**	**<100**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**
MW-9														
11/20/96	10.77	---	---	8020		1,900	---	---	240	21	0.81	1.8	2.2	---
11/20/97	10.77	7.91	2.86	8020		---	---	---	300	20	<0.5	<0.5	1.8	<1.0
2/24/98	10.77	6.11	4.66	8020		<50	<500	<50	2,200	540	5.6	1.6	4.9	---
6/8/98	10.77	7.14	3.63	8020		1,800	890	<50	840	450	6.1	3.3	5.3	---
8/19/98	10.77	7.88	2.89	8020	SGC	190	<250	160	740	370	8.6	0.99	7.3	<5.0
11/11/98	10.77	8.23	2.54	8020	SGC	<50	230	<50	700	130	4.3	<0.5	3.9	<5.0
2/23/99	10.77	6.65	4.12	8020		1,100	3,700	<50	1,100	620	9.7	1.5	7.7	<5.0
5/27/99	10.77	7.70	3.07	8020	SGC	70	300	<50	950	470	11	1.5	9.2	<5.0
8/24/99	10.77	8.12	2.65	8020	SGC	890	1,700	<50	290	45	2.8	<0.5	3	<5.0
11/22/99	10.77	8.33	2.44	8020	SGC	1,000	6,000	<50	170	12	1.8	<0.5	2	<5.0
1/18/00	10.77	8.63	2.14	8020	SGC	200 a	2,300	<50	160	5.7	1.9	0.6	4.2	<5.0
5/11/00	10.77	7.70	3.07	8020	SGC	180 a	980	<100	1,050	280	7.0	<2.5	5.9	<25
8/24/00	10.77	8.31	2.46	---		---	---	---	---	---	---	---	---	---

CAMBRIA

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

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
8/25/00	---	---	---	8020	SGC	580	2,200	170	180	23	2.4	<0.5	2.7	<5.0
11/28/00	10.77	8.45	2.32	8020	SGC	200	1,600	<50	130	1.9	<0.5	<0.5	<0.5	<5.0
11/28/00	10.77	8.45	2.32	---	Filtered+SGC	<50	<200	<50	---	---	---	---	---	---
2/26/01	10.77	6.40	4.37	8020	Filtered+SGC	120	<200	<50	142	33	1.8	<0.5	<0.5	<5.0
5/17/01	10.77	9.88	0.89	---		---	---	---	---	---	---	---	---	---
5/18/01	---	---	---	8020	Filtered+SGC	<50	<200	<50	74	4.6	<0.5	<0.5	<0.5	<5.0
8/16/01	**10.77**	**8.05**	**2.72**			**<50**	**<200**	**<100**	**70**	**0.62**	**<0.5**	**<0.5**	**<0.5**	**<5**
MW-10														
11/20/96	10.59	---	---	8020		940	---	---	<50	49	0.59	0.54	1.2	---
11/20/97	10.59	7.70	2.89	8020		---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
2/24/98	10.59	4.39	6.20	8020		<50	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	---
6/8/98	10.59	6.94	3.65	8020		500	<500	<50	<50	7.3	<0.5	<0.5	<0.5	---
8/19/98	10.59	6.99	3.60	8020	SGC	240	520	110	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/11/98	10.59	7.57	3.02	8020	SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
2/23/99	10.59	5.51	5.08	8020		170	1,200	<50	<50	1.3	<0.5	<0.5	<0.5	<5.0
5/27/99	10.59	6.72	3.87	8020	SGC	<50	<200	<50	350	170	1.5	0.5	2.3	<5.0
8/24/99	10.59	7.27	3.32	8020	SGC	140	300	<50	380	160 e	<0.5	<0.5	2.6	<5.0
11/22/99	10.59	7.71	2.88	8020	SGC	570	3,400	<50	110	5.1	<0.5	<0.5	0.72	<5.0
1/18/00	10.59	7.77	2.82	---		---	---	---	---	---	---	---	---	---
1/19/00	---	---	---	8020	SGC	120 a,b	1,200	<50	100	<0.5	<0.5	0.8	<0.5	<5.0
5/11/00	10.59	7.00	3.59	8020	SGC	110 a	990	<50	145	1.62	0.5	0.5	0.9	<5.0
8/24/00	10.59	7.31	3.28	---		---	---	---	---	---	---	---	---	---
8/25/00	---	---	---	8020	SGC	430	1,300	110	<50	1.0	<0.5	<0.5	<0.5	<5.0
11/28/00	10.59	7.90	2.69	8020	SGC	220	1,500	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
2/27/01	10.59	5.80	4.79	8020	Filtered+SGC	85	<230	<57	<50	1.3	<0.5	<0.5	<0.5	<5.0
5/17/01	10.59	6.27	4.32	---		---	---	---	---	---	---	---	---	---
5/18/01	---	---	---	8020	Filtered+SGC	<50	<200	<50	<50	0.7	<0.5	<0.5	<0.5	<5.0
8/16/01	**10.59**	**8.75**	**1.84**			**<50**	**<200**	**<100**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**

CAMBRIA

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

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
MW-11														
1/18/00	11.60	7.08	4.52	---		---	---	---	---	---	---	---	---	---
1/19/00	---	---	---	8020	SGC	<50	500	<50	220	<0.5	<0.5	<0.5	<0.5	<5.0
5/11/00	11.60	5.95	5.65	8020	SGC	<50	430	<50	600	23	2.1	18	15	<5.0
8/24/00	11.60	6.58	5.02	8020		<50	<250	<50	110	5.9	<0.5	0.73	0.64	<5.0
11/28/00	11.60	6.91	4.69	8020	SGC	<50	<200	<50	180	4	<0.5	1.9	<0.5	<5.0
2/27/01	11.60	5.65	5.95	8020	Filtered+SGC	86	<240	<60	720	29	5.2	38	36	<5.0
5/17/01	11.60	6.85	4.75	8020	Filtered+SGC	<50	<200	<50	720	36	3.4	15	18	9.7
8/16/01	**11.60**	**6.01**	**5.59**			**<50**	**B500**	**<100**	**110**	**4.8**	**<0.5**	**1.4**	**<0.5**	**<5**
MW-12														
1/18/00	10.43	8.11	2.32	---		---	---	---	---	---	---	---	---	---
1/19/00	---	---	---	8020	SGC	1,800 a	11,000	<50	200	<0.5	3.4	1.5	8.4	<5.0
5/11/00	10.43	6.78	3.65	8020	SGC	2,400 a	4,900	<100	370	<0.5	<0.5	<0.5	0.9	<5.0
8/24/00	10.43	7.56	2.87	---		---	---	---	---	---	---	---	---	---
8/25/00	---	---	---	8020	SGC	3,500	5,000	3,700	170	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	10.43	8.13	2.30	8020	SGC	2,100	14,000	<50	290	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	10.43	8.13	2.30	---	Filtered+SGC	50	<200	<50	---	---	---	---	---	---
2/27/01	10.43	6.00	4.43	8020	Filtered+SGC	320	<250	66	110	1.4	<0.5	<0.5	<0.5	<5.0
5/17/01	10.43	7.01	3.42	8020	Filtered+SGC	<50	<200	<50	220	<0.5	<0.5	<0.5	<0.5	<5.0
8/16/01	**10.43**	**8.47**	**1.96**			**200**	**B300**	**<100**	**160**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**
MW-13														
1/18/00	11.34	9.63	1.71	8020	SGC	8,800 a	120,000	<50	<50	<0.5	0.8	<0.5	<0.5	<5.0
5/11/00	11.34	10.12	1.22	8020	SGC	11,000 a	110,000	<500	70	1.6	5.4	1.2	7.6	<5.0
8/24/00	11.34	10.22	1.12	---		---	---	---	---	---	---	---	---	---
8/25/00	---	---	---	8020	SGC	3,100	13,000	1,200	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	11.34	10.50	0.84	8020	SGC	2,400	36,000	<1300	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	11.34	10.50	0.84	---	Filtered+SGC	280	1,100	<50	---	---	---	---	---	---
2/26/01	11.34	9.60	1.74	8020	Filtered+SGC	100	<260	<64	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/17/01	11.34	10.10	1.24	---		---	---	---	---	---	---	---	---	---
5/18/01	---	---	---	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
8/16/01	**11.34**	**10.50**	**0.84**			**<50**	**B300**	**<100**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**

CAMBRIA

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

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						← µg/l →								
MW-14														
1/18/00	10.05	7.37	2.68	8020	SGC	1,700 a	22,000	<50	120	<0.5	<0.5	<0.5	<0.5	<5.0
5/11/00	10.05	6.73	3.32	8020	SGC	360 a	4,300	<100	120	<0.5	<0.5	0.5	<0.5	<5.0
8/24/00	10.05	7.30	2.75	---		---	---	---	---	---	---	---	---	---
8/25/00	---	---	---	8020	SGC	1,000	3,100	460	90	6.3	<0.5	<0.5	<0.5	<5.0
11/28/00	10.05	7.40	2.65	8020	SGC	380	6,400	<250	140	7.4	<0.5	<0.5	<0.5	<5.0
11/28/00	10.05	7.40	2.65	---	Filtered+SGC	<50	<200	<50	---	---	---	---	---	---
2/26/01	10.05	6.20	3.85	8020	Filtered+SGC	150	<230	<58	73	2.3	<0.5	<0.5	<0.5	<5.0
5/17/01	10.05	7.74	2.31	---		---	---	---	---	---	---	---	---	---
5/18/01	---	---	---	8020	Filtered+SGC	120	<200	<50	100	11	<0.5	<0.5	<0.5	<5.0
8/16/01	**10.05**	**7.85**	**2.20**			**<50**	**<200**	**<100**	**60**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**
MW-15														
1/18/00	12.36	10.56	1.80	8020	SGC	12,000 a	89,000	<50	110	3.8	2.1	1	4.6	<5.0
5/11/00	12.36	10.03	2.33	8020	SGC	120 a	590	<50	90	0.9	0.9	<0.5	3.3	<5.0
8/24/00	12.36	10.22	2.14	---		---	---	---	---	---	---	---	---	---
8/25/00	---	---	---	8020	SGC	1,900	8,600	1,000	<50	1.9	<0.5	<0.5	1.5	<5.0
11/28/00	12.36	10.30	2.06	8020	SGC	2,500	36,000	<1300	80	1.7	<0.5	<0.5	1.6	<5.0
11/28/00	12.36	10.30	2.06	---	Filtered+SGC	73	<200	<50	---	---	---	---	---	---
2/26/01	12.36	9.30	3.06	8020	Filtered+SGC	190	<240	<60	55	0.6	<0.5	<0.5	0.5	<5.0
5/17/01	12.36	10.09	2.27	---		---	---	---	---	---	---	---	---	---
5/18/01	---	---	---	8020	Filtered+SGC	210	<230	<57	66	1.5	<0.5	<0.5	2.1	<5.0
8/16/01	**12.36**	**10.20**	**2.16**			**<50**	**B500**	**<100**	**<50**	**<0.5**	**<0.5**	**<0.5**	**2.4**	**<5**
MW-16														
1/18/00	13.57	10.22	3.43	---	SPH: 0.1 ft	---	---	---	---	---	---	---	---	---
5/11/00	13.57	13.31	0.27	---	SPH: 0.01 ft	---	---	---	---	---	---	---	---	---
8/24/00	13.57	8.91	4.66	---	SPH: NM	---	---	---	---	---	---	---	---	---
11/28/00	13.57	13.05	0.86	---	SPH: 0.42 ft	---	---	---	---	---	---	---	---	---
2/26/01	13.57	13.10	0.79	---	SPH: 0.40 ft	---	---	---	---	---	---	---	---	---
5/17/01	13.57	12.62g	---	---	SPH: NM	---	---	---	---	---	---	---	---	---
8/16/01	**13.57**	**11.94g**	**---**	**---**	**SPH: NM**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**

CAMBRIA

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

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
MW-17														
1/18/00	9.86	5.35	4.51	8020	SGC	850 a	21,000	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/11/00	9.86	9.85	0.01	8020	SGC	150 a	2,900	<100	<50	<0.5	<0.5	<0.5	<0.5	<5.0
8/24/00	9.86	8.59	1.27	---		---	---	---	---	---	---	---	---	---
8/25/00	---	---	---	8020	SGC	190	610	71	<50	0.58	<0.5	<0.5	<0.5	<5.0
11/28/00	9.86	9.25	0.61	8020	SGC	<250	2,400	<250	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	9.86	9.25	0.61	---	Filtered+SGC	<50	<200	<50	---	---	---	---	---	---
2/26/01	9.86	9.40	0.46	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/17/01	9.86	8.32	1.54	---		---	---	---	---	---	---	---	---	---
5/18/01	---	---	---	8020	Filtered+SGC	<50	<200	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
8/16/01	**9.86**	**10.35**	**-0.49**			**<50**	**B400**	**<100**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**
TBW-1														
2/23/99	---	6.25	---	---	SPH: 0.10 ft	---	---	---	---	---	---	---	---	---
5/27/99	---	5.29	---	---	SPH: 0.01 ft	---	---	---	---	---	---	---	---	---
8/24/99	---	6.99	---	---	SPH: 0.18 ft	---	---	---	---	---	---	---	---	---
11/22/99	---	---	---	---	Inaccessible	---	---	---	---	---	---	---	---	---
1/18/00	---	---	---	---	Inaccessible	---	---	---	---	---	---	---	---	---
5/11/00	---	6.90	---	---	SPH: 0.10 ft	---	---	---	---	---	---	---	---	---
8/24/00	---	7.12	---	---	SPH: NM	---	---	---	---	---	---	---	---	---
11/28/00	---	7.75	---	---	SPH: 0.36 ft	---	---	---	---	---	---	---	---	---
2/27/01	---	9.06	---	---	SPH: 0.51 ft	---	---	---	---	---	---	---	---	---
5/17/01	---	6.98	---	---	SPH:0.28 ft	---	---	---	---	---	---	---	---	---
8/16/01	**---**	**6.02**	**---**	**---**	**SPH:0.66 ft**	**1,100**	**B700**	**<100**	**17,000**	**2,100**	**75**	**730**	**850**	**<1**
TBW-3														
8/19/98	---	2.67	---	8020	SGC	810,000	---	---	920	3.2	<0.5	<0.5	0.77	<10
8/19/98	---	2.67	---	8260		---	---	---	---	---	---	---	---	<5.0
2/23/99	---	1.25	---	8020		3,800	3,000	<50	110	1.6	<0.5	<0.5	<0.5	<5.0
5/27/99	---	---	---	---	DTW: NM	---	---	---	---	---	---	---	---	---
8/24/99	---	3.25	---	---	SPH globules	---	---	---	---	---	---	---	---	---
11/22/99	---	3.68	---	---		---	---	---	---	---	---	---	---	---

CAMBRIA

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

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						← µg/l →								
1/18/00	9.92	3.73	6.19	---	SPH globules	---	---	---	---	---	---	---	---	---
5/11/00	9.92	2.07	7.85	---		---	---	---	---	---	---	---	---	---
8/24/00	9.92	2.82	7.10	---	SPH: sheen	44,000	13,000	34,000	570	4.7	<0.5	<0.5	<0.5	<5.0
11/28/00	---	---	---	---		---	---	---	---	---	---	---	---	---
2/27/01	9.92	1.29	8.63	8020	Filtered+SGC	560	<230	<57	120	1.5	<0.5	<0.5	<0.5	<5.0
5/17/01	9.92	2.47	7.45	---		---	---	---	---	---	---	---	---	---
8/16/01	**9.92**	**1.81**	**8.11**			**1,500**	**B400**	**<100**	**180**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<1**
TBW-4														
2/27/01	9.88	1.35	8.53	8020	Filtered+SGC	410	<230	<57	250	1.9	<0.5	<0.5	<0.5	<5.0
5/17/01	9.88	2.52	7.36	---		---	---	---	---	---	---	---	---	---
8/16/01	**9.88**	**1.88**	**8.00**	**---**		**2,600**	**B700**	**<100**	**390.00**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**
TBW-5														
2/23/99	---	9.72	---	---	SPH: 1.45 ft	---	---	---	---	---	---	---	---	---
5/27/99	---	7.03	---	---	SPH: 1.13 ft	---	---	---	---	---	---	---	---	---
8/24/99	---	6.52	---	---	SPH: 1.33 ft	---	---	---	---	---	---	---	---	---
11/22/99	---	8.31	---	---	SPH: 1.29 ft	---	---	---	---	---	---	---	---	---
1/18/00	10.22	6.20	4.74	---	SPH: 0.90 ft	---	---	---	---	---	---	---	---	---
5/11/00	10.22	9.41	1.05	---	SPH: 0.30 ft	---	---	---	---	---	---	---	---	---
8/24/00	10.22	9.62	0.81	---	SPH: 0.26 ft	---	---	---	---	---	---	---	---	---
11/28/00	10.22	10.25	0.34	---	SPH: 0.46 ft	---	---	---	---	---	---	---	---	---
2/27/01	10.22	9.06	1.45	---	SPH: 0.36 ft	---	---	---	---	---	---	---	---	---
5/17/01	10.22	8.75	1.47	---	SPH: 0.67 ft	---	---	---	---	---	---	---	---	---
8/16/01	**10.22**	**8.32**	**1.89**		**SPH: 0.76 ft**	**550**	**B400**	**<100**	**30,000**	**2,900**	**100**	**1,500**	**5,100**	**<1**

CAMBRIA

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

Sample ID/ Date	TOC Elev.	DTW	GW Elev.	BTEX Method	Notes	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
						µg/l								
TBW-6														
2/23/99	---	2.09	---	8020		160	600	<50	60	<0.5	<0.5	<0.5	<0.5	<5.0
5/27/99	---	3.31	---	---		---	---	---	---	---	---	---	---	---
8/24/99	---	7.29	---	8020	SGC	180	400	<50	130	<0.5	<0.5	<0.5	<0.5	<5.0
11/22/99	---	4.37	---	---		---	---	---	---	---	---	---	---	---
1/18/00	9.49	3.83	5.66	---		---	---	---	---	---	---	---	---	---
1/19/00	---	---	---	8020	SGC	55 C	<200	<50	170	0.6	<0.5	<0.5	<0.5	<5.0
5/11/00	9.49	2.51	6.98	---		---	---	---	---	---	---	---	---	---
8/24/00	9.49	4.34	5.15	---		---	---	---	---	---	---	---	---	---
8/25/00	---	---	---	8020	SGC	320	<250	200	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	9.49	4.74	4.75	---		---	---	---	---	---	---	---	---	---
2/27/01	9.49	2.30	7.19	8020	Filtered+SGC	<57	<230	<57	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/17/01	9.49	3.35	6.14	---		---	---	---	---	---	---	---	---	---
8/16/01	**9.49**	**3.85**	**5.64**			**<50**	**<200**	**<100**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**
Trip Blank														
8/19/98	---	---	---	8020		---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/22/99	---	---	---	8020		---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/28/00	---	---	---	8020		---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5.0
2/27/01	---	---	---	8020	Filtered+SGC	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5.0
5/17/01	**---**	**---**	**---**	**8020**	**SGC**	**---**	**---**	**---**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**

CAMBRIA

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

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

Notes

All concentrations in micrograms per liter (µg/l)

--- = not measured/analyzed

TOC = Top of casing

DTW = Depth to water

DTP = Depth to product (SPH)

Filtered = 0.45 micron glass membrane filter

GW = Groundwater

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

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

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

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

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

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

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

DUP = Duplicate sample

SPH = Separate-phase hydrocarbons; measured thickness

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

NM = Not measured

TBW = Tank backfill well

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

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

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

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

f = Filtration with 0.45 micron glass membrane filter and silica gel treatment

g = Depth to product, depth to water could not be determined

B = Results flagged with "**B**" indicate motor oil was detected in the method blank

CAMBRIA

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

Sample ID/ Date	Benzene	n-Butyl-benzene	sec-Butyl-benzene	tert-Butyl-benzene	Chlorn-ethane	Chlorn-form	Methyl Chloride	1,2-DCA	cis-1,2-DCE	1,2-DCP	Ethyl-benzene	Isopropyl-benzene	p-Isopropyl-toluene	MTBE	Napthalene	n-Propyl-benzene	Toluene	1,2,4-TMB	1,3,5-TMB	Xylenes
MW-5																				
2/27/01	180	9	4	ND	3	ND	ND	7	ND	3	260	23	6	1,100	43	68	7	1	11	53
MW-6																				
2/27/01	270	11	3	ND	<1	ND	ND	7	ND	<1	9	6	1	19	62	21	3	1	<1	3
8/20/01	E280	14	<1	<1	<1	3	2a	<1	<1	<1	11	4	<1	14	E82	14	4	<1	<1	9
TBW-1																				
8/20/01	E530	30	<1	54	<1	4	10a	<1	2	<1	E540	36	54	<1	E300	E120	79	E430	<1	E790
TBW-3																				
8/20/01	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	6	<1	<1	<1	5	<1	<1	<1	<1	3
TBW-5																				
8/20/01	E620	<1	<1	E160	<1	3	<1	<1	<1	<1	E730	40	E160	<1	E450	E140	E110	<1	<1	E3100

Notes

All concentrations in micrograms per liter (mg/l), E = estimated concentration

µg/l = micrograms per liter

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

1,2-DCA = 1,2-dichloroenthane

1,2-DCP = 1,2-dichloropropane

MTBE = methyl tertiary-butyl ether

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

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

a = methyl chloride detected in lab method blank

CAMBRIA

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

Sample ID/ Date	Naphthalene	Pyrene	Other SVOCs
	µg/L		
MW-6			
2/27/01	19	ND	ND
8/20/01	52	<5	39
MW-9			
11/28/00	ND	ND	ND
MW-13			
11/28/00	ND	10	ND
MW-17			
11/28/00	ND	ND	ND
TBW-1			
8/20/01	140	8	387
TBW-3			
8/20/01	<5	<5	5
TBW-5			
8/20/01	220	<5	73

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

CAMBRIA

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

Sample ID/ Date	Cadmium	Chromium	Lead	Nickel	Zinc	Notes
	<——— mg/l ———>					
MW-2						
8/19/98	---	---	<100	---	---	a
MW-6						
2/28/01	<0.001	0.035	0.23	0.046	0.19	non-filtered
8/16/01	<0.001	0.020	0.12	0.032	0.11	
TBW-1						
8/16/01	<0.001	0.017	0.042	0.034	0.10	
TBW-3						
8/16/01	<0.001	0.008	0.01	0.019	<0.02	
TBW-5						
8/16/01	<0.001	<0.005	0.01	0.008	0.03	

all metals in gw S/B filtered

Abbreviations and Notes:

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

mg/l = milligrams per liter

--- = not measured/analyzed

a = Analyzed for organic lead

CAMBRIA

Table 5. Groundwater Analytical Results - Additional Metals - City of Oakland Municipal Services Center, Oakland, California

Sample ID/ Date	Antimony	Arsenic	Beryllium	Copper	Selenium	Silver	Thallium
	mg/l						
MW-6							
8/16/01	<0.01	0.033	<0.001	0.025	<0.01	<0.003	<0.01
TBW-1							
8/16/01	<0.01	0.015	<0.001	0.017	<0.01	<0.003	<0.01
TBW-3							
8/16/01	<0.01	0.009	<0.001	0.008	<0.01	<0.003	<0.01
TBW-5							
8/16/01	<0.01	0.020	<0.001	<0.005	<0.01	<0.003	<0.01

Abbreviations and Notes:

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

mg/l = milligrams per liter

CAMBRIA

WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
TBW-1	9:35	6.53	7.19	0.66		
TBW-3	9:19		1.81		10.50	
TBW-4	9:17		1.88		9.70	
TBW-5	9:38	8.17	8.93	0.76		
TBW-6	9:40		3.85		12.15	
MW-1	9:42		4.17		15.60	
MW-2	9:45		6.95		15.50	
MW-5	9:20		4.87		14.30	
MW-6	9:27	7.69	8.01	0.32		
MW-7	9:15		5.97		14.27	
MW-8	9:17		9.80		15.15	
MW-9	9:30		8.05		14.00	
MW-10	9:40		8.75		14.95	
MW-11	9:24		6.01		19.45	
MW-12	9:37		8.47		14.75	

Project Name: City of Oakland

Project Number: 153-1247 (1655)

Measured By: S. Dell

Date: 8-16-01

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

CAMBRIA

WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
MW-13	9:35		10.50		20.05	
MW-14	9:33		7.85		14.70	
MW-15	9:27		10.20		20.15	
MW-16	9:25	11.94	13.40 ?	1.46*		VISCOUS NOT RELIABLE SLOWING TO IFP
MW-17	9:20		10.35		18.00	

Project Name: City of Oakland

Measured By: S. Hill

Project Number: 153-1147.1653

Date: 8-16-01

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: BCR	Well ID: TBW-1
Project Number: 153~~-1247-~~ 1653	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 4" pvc
		Technician(s): SG
Initial Depth to Water: 7.19	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device: ~~sub-pump~~	Did Well Dewater?:	Total Gallons Purged:
Start Purge Time:	Stop Purge Time:	Total Time:

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
					contained
			sample		SPH
		no purge			SPH @ 6.53

Post-purge DO= 0.17 ~~ug/L~~ mg/L
Post-purge ORP=_____ **mV**
Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
TBW-1	8/20/01	11:00	TPHg/BTEX/ MTBE	~~3~~ 4 Voas	Hcl 4° C	
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	~~3~~ 2 Voas	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: TBW-3
Project Number: 153~~-1247~~ 1653	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 6" pvc
		Technician(s): SG
Initial Depth to Water: 1.81	Total Well Depth: 10.50	Water Column Height: ~~8.69~~
Volume/ft: 1.47	1 Casing Volume: 12.77	3 Casing Volumes: ~~38.32~~ 17
Purging Device: **sub pump**	Did Well Dewater?: no	Total Gallons Purged: 17
Start Purge Time: 11:00	Stop Purge Time: 11:09	Total Time: 9 mins

Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
11:05	13	22.9	6.84	519	
11:07	~~26~~ 15	23.5	6.69	468	
11:10	~~39~~ 17	23.4	6.52	470	

Post-purge DO= 2.77 ~~ug~~ mg/L
Post-purge ORP=_____mV
Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
TBW-3	8-16-01	11:15	TPHg/BTEX/ MTBE	~~3~~ 4 Voas	Hcl 4° C	
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	~~3~~ 2 Voas	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: TBW-4
Project Number: **153-~~1247~~ 1653**	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 6" pvc
		Technician(s): SG
Initial Depth to Water: 1.88	Total Well Depth: 9.70	Water Column Height: 7.82
Volume/ft: 1.47	1 Casing Volume: 11.49	3 Casing Volumes: ———
Purging Device: **sub pump**	Did Well Dewater?: no	Total Gallons Purged: 15
Start Purge Time: 10:25	Stop Purge Time: 10:31	Total Time: 6 mins

Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
10:30	12	~~22.3~~	7.30	504	sl odours sheen
10:31	13	21.6	6.89	529	odor
10:32	15	22.1	6.71	4.85	

Post-purge DO= 2.66 ~~ug/L~~ mg/L
Post-purge ORP=_____ **mV**
Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
TBW-4	8-16-01	10:37	TPHg/BTEX/ MTBE	~~3~~ Voas 4	Hcl 4° C	
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	~~3~~ Voas 2 ~~4~~	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: TBW-5
Project Number: **153-~~1247~~ 1653**	Date: 8/16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 8.93	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device: ~~sub pump~~	Did Well Dewater?:	Total Gallons Purged:
Start Purge Time:	Stop Purge Time:	Total Time:

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
		no purge	sample	taken	
	SDM @	8.17			

Post-purge DO= 0.11 mg/L
Post-purge ORP=_____ **mV**
Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
TBW-5	8-20-01	13:30	TPHg/BTEX/ MTBE	3 Voas 4	Hcl 4° C	
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	3 Voas 2 4	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: TBW-6
Project Number: **153-~~1247~~ 1653**	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 6" pvc
		Technician(s): SG
Initial Depth to Water: 3.85	Total Well Depth: 12.15	Water Column Height: 8.30
Volume/ft: 1.47	1 Casing Volume: 12.20	3 Casing Volumes: —
Purging Device: **sub pump**	Did Well Dewater?: NO	Total Gallons Purged: 16
Start Purge Time: 8:35	Stop Purge Time: 8:45	Total Time: 10 mins

Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
8:40	12	19.4	7.21	3999	
8:45	14	19.7	7.30	3999	
8:50	16	19.5	7.28	3999	

Post-purge DO= 0.13 ~~mg/L~~ mg/L
Post-purge ORP=_____ **mV**
Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
TBW-6	8-17-01	9:00	**TPHg/BTEX/ MTBE**	~~3~~ 4 **Voas**	**Hcl 4° C**	
			TPHd/k/mo	**One liter amber**	**No chemicals 4° C**	
			VOCs	~~3~~ 2 **Voas**	**Hcl 4° C**	**A, B, C, D plume (circle)**
			SVOCs	**One liter amber**	**4° C**	"
			Metals* (see list)	**2 one liter amber**	**HNO_3 4° C**	"

TOC=
GW=
CU

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-1
Project Number: **153-~~1247~~ 1653**	Date: 3-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 4.17	Total Well Depth: 15.60	Water Column Height: 11.43
Volume/ft: 0.16	1 Casing Volume: 1.82	3 Casing Volumes: 5.48
Purging Device: **sub pump**	Did Well Dewater?: NO	Total Gallons Purged: 6
Start Purge Time: 6:25	Stop Purge Time: 6:32	Total Time: 7mins

Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
6:27	2	19.1	7.52	3599	
6:30	4	19.1	7.39	3599	
6:33	6	19.4	7.35	3599	

Post-purge DO= 0.55 mg/L
Post-purge ORP=_____ **mV**
Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
MW-1	3-17-01	6:38	**TPHg/BTEX/ MTBE**	~~3~~ 4 Voas	**Hcl 4° C**	
			TPHd/k/mo	One liter amber	**No chemicals 4° C**	
			VOCs	~~3~~ 2 Voas	**Hcl 4° C**	**A, B, C, D plume (circle)**
			SVOCs	**One liter amber**	**4° C**	"
			Metals*(see list)	**2 one liter amber**	**HNO_3 4° C**	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: BCR	Well ID: MW-2
Project Number: **153-~~1247~~ 1653**	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 6.95	Total Well Depth: 15.50	Water Column Height: 8.55
Volume/ft: 0.16	1 Casing Volume: 1.36	3 Casing Volumes: 4.10
Purging Device: **sub pump**	Did Well Dewater?: no	Total Gallons Purged: 4
Start Purge Time: 6:45	Stop Purge Time: 6:52	Total Time: 7 mins

Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
6:48	1.5	19.9	7.31	3999	
6:50	3	19.7	7.35	3999	
6:53	4	19.8	7.33	3999	

Post-purge DO= 0.40 ~~mg/L~~ ug/L
Post-purge ORP=_____ **mV**
Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
MW-2	8-17-01	6:58	**TPHg/BTEX/ MTBE**	3 Voas (4)	**Hcl 4° C**	
			TPHd/k/mo	One liter amber	**No chemicals 4° C**	
			VOCs	3 Voas 2	**Hcl 4° C**	**A, B, C, D plume (circle)**
			SVOCs	**One liter amber**	**4° C**	"
			Metals (see list)	**2 one liter amber**	**HNO_3 4° C**	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-5
Project Number: 153-~~1247~~ /653	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 4.87	Total Well Depth: 14.30	Water Column Height: 9.43
Volume/ft: 0.16	1 Casing Volume: 1.51	3 Casing Volumes: 4.53
Purging Device: **sub pump**	Did Well Dewater?: no	Total Gallons Purged: 4.5
Start Purge Time: 11:45	Stop Purge Time: 11:59	Total Time: 14 min

Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
11:50	1.5	25.1	6.56	1535	odor
11:55	3	24.2	6.47	1608	
12:00	4.5	24.1	6.54	1493	

Post-purge DO= 1.95 ~~ug~~ mg/L
Post-purge ORP=_____ **mV**
Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
~~12:05~~	8/16/01	12:05	TPHg/BTEX/ MTBE	~~3~~ 4 Voas	Hcl 4° C	
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	~~3~~ 2 Voas	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-6
Project Number: **153-~~1247~~-1653**	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SA
Initial Depth to Water: 8.01	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device: ~~submersible pump~~	Did Well Dewater?:	Total Gallons Purged:
Start Purge Time:	Stop Purge Time:	Total Time:

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
	no	purge	sample	taker	
	SPH @ 7.69				

Post-purge DO= 0.39 ~~mg/L~~ ms/L
Post-purge ORP=_____**mV**
Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
MW-6	8-20-01	10:30	TPHg/BTEX/ MTBE	~~3~~ 4 Voas	Hcl 4° C	
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	~~3~~ 2 Voas	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-7
Project Number: **153-~~1247~~** 1653	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: **" pvc**
		Technician(s):
Initial Depth to Water: 5.97	Total Well Depth: 14.27	Water Column Height: 8.3
Volume/ft: 0.16	1 Casing Volume: 1.33	3 Casing Volumes: 3.98
Purging Device: **sub pump**	Did Well Dewater?: no	Total Gallons Purged: 4
Start Purge Time: 11:25	Stop Purge Time: 11:39	Total Time: 14 mins

Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
11:30	1.5	24.1	6.45	1424	
11:25	3	23.9	6.29	1451	
11:90	9	23.9	6.31	1499	

Post-purge DO= 1.06 mg/~~ug~~/L
Post-purge ORP=_____mV
Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
MW-7	8/16/01	11:45	TPHg/BTEX/ MTBE	~~3~~ 4 Voas	Hcl 4° C	
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	~~3~~ 2 Voas	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-8
Project Number: **153-~~1247~~-1653**	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 9.80	Total Well Depth: 15.15	Water Column Height: 5.35
Volume/ft: 0.16	1 Casing Volume: 0.85	3 Casing Volumes: 2.56
Purging Device: **sub pump**	Did Well Dewater?: NO	Total Gallons Purged: 2.5
Start Purge Time: 5:30	Stop Purge Time: 5.44	Total Time: 14 mins

Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
5:35	1	18.8	7.50	3999	
5:40	2	18.9	7.83	3999	
5:45	2.5	19.1	7.70	3999	

Post-purge DO= 0.91 mg/L
Post-purge ORP= _____ **mV**
Ferrous Iron= _____ **ug/L**

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
MW-8	8-17-01	5:50	TPHg/BTEX/ MTBE	3 Voas 4	Hcl 4° C	
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	3 Voas 2 4	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-9
Project Number: **153-~~1247~~-1653**	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 8.05	Total Well Depth: 14.00	Water Column Height: 5.95
Volume/ft: 0.16	1 Casing Volume: 0.95	3 Casing Volumes: 2.85
Purging Device: **sub pump**	Did Well Dewater?: no	Total Gallons Purged: 3
Start Purge Time: 4:30	Stop Purge Time: 4:44	Total Time: 14 mins

Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
4:35	1	18.4	7.22	3999	
4:40	2	19.1	7.39	3999	
4:45	3	19.1	7.47	3999	

Post-purge DO= 0.94 ~~ug/L~~ mg/L
Post-purge ORP=_____mV
Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
MW-9	8-17-01	4:50	TPHg/BTEX/ MTBE	~~3~~ 4 Voas	Hcl 4° C	
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	~~3~~ 2 Voas	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-10
Project Number: **153~~-1247~~** 1653	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 8.75	Total Well Depth: 14.95	Water Column Height: 6.20
Volume/ft: 0.16	1 Casing Volume: 0.99	3 Casing Volumes: 2.97
Purging Device: **sub pump**	Did Well Dewater?: NO	Total Gallons Purged: 3
Start Purge Time: 3:00	Stop Purge Time: 3:14	Total Time: 14 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
3:05	1	18.41	7.20	3999	
3:10	2	19.7	7.03	3999	
3:15	3	19.2	7.19	3999	

Post-purge DO= 1.39 mg/L
Post-purge ORP=_____ **mV**
Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
MW-10	8-17-01	3:20	TPHg/BTEX/ MTBE	~~3~~ Voas (4)	Hcl 4° C	
			TPHd/k/mo	One liter ~~amber~~	No chemicals 4° C	
			VOCs	~~3~~ Voas 2 ~~4~~	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-11
Project Number: 153-~~1247~~/653	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 6.01	Total Well Depth: 19.45	Water Column Height: 13.44
Volume/ft:	1 Casing Volume: 2.15	3 Casing Volumes: 6.45
Purging Device: **sub pump**	Did Well Dewater?: no	Total Gallons Purged: 6.5
Start Purge Time: 12:05	Stop Purge Time: 12:19	Total Time: 14 mins

Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
12:10	2	24.3	6.28	2578	
12:15	4	23.2	6.31	2682	
12:20	6.5	22.1	6.29	2627	

Post-purge DO= 2.12 ~~mg~~/L
Post-purge ORP=_____mV
Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
MW-11	8/16/01	12:25	TPHg/BTEX/ MTBE	~~3~~ 4 Voas	Hcl 4° C	Fizzing
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	~~3~~ 2 Voas	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-12
Project Number: **153-~~1247~~/653**	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 8.47	Total Well Depth: ~~8.47~~ 14.75	Water Column Height: 6.28
Volume/ft: 0.16	1 Casing Volume: 1.00	3 Casing Volumes: 3.00
Purging Device: **sub pump**	Did Well Dewater?: NO	Total Gallons Purged: 3
Start Purge Time: 6:00	Stop Purge Time: 6:14	Total Time: 14 mins

Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
6:05	1	19.4	7.50	3999	
6:10	2	19.6	7.59	3599	
6:15	3	19.6	7.53	3999	

Post-purge DO= 0.51 mg/L
Post-purge ORP=_____mV
Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
MW-12	8-17-01	6:20	TPHg/BTEX/ MTBE	~~3~~ Voas (4)	Hcl 4° C	
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	~~3~~ Voas 2 ~~4~~	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-13
Project Number: **153-~~1247~~-1653**	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		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	3 Casing Volumes: 4.58
Purging Device: **sub pump**	Did Well Dewater?: no	Total Gallons Purged: 4.5
Start Purge Time: 3:30	Stop Purge Time: 3:44	Total Time: 14mins

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
3:35	1.5	19.4	7.42	3999	
3:40	3.5	18.7	7.37	3999	
3:45	4.5	18.3	7.30	3999	

Post-purge DO= 0.93 **ug/L**
Post-purge ORP=_____**mV**
Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
MW-13	8-17-01	3:50	TPHg/BTEX/ MTBE	~~3~~ Voas (4)	Hcl 4° C	
			TPHd/k/mo	One liter ~~amber~~	No chemicals 4° C	
			VOCs	~~3~~ Voas 2 ~~4~~	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-14
Project Number: 153~~1247~~/653	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 7.85	Total Well Depth: 14.70	Water Column Height: 6.85
Volume/ft: 0.16	1 Casing Volume: 1.09	3 Casing Volumes: 3.27
Purging Device: **sub pump**	Did Well Dewater?: no	Total Gallons Purged: 3
Start Purge Time: 4:00	Stop Purge Time: 4:14	Total Time: 14 mins

Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
4:05	1	19.4	7.51	3999	
4:10	2	19.7	7.39	3999	
4:15	3	19.5	7.33	3999	

Post-purge DO= 0.87 mg/L ug/L
Post-purge ORP=_____mV
Ferrous Iron=_____ ug/L

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
MW-14	8-17-01	4:20	TPHg/BTEX/ MTBE	~~3~~ 4 Voas	Hcl 4° C	
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	~~3~~ 2 Voas	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-15
Project Number: 153-~~1247~~/653	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 10.20	Total Well Depth: 20.15	Water Column Height: 9.95
Volume/ft: 0.16	1 Casing Volume: 1.59	3 Casing Volumes: 4.77
Purging Device: **sub pump**	Did Well Dewater?: no	Total Gallons Purged: 5
Start Purge Time: 5:00	Stop Purge Time: 5:14	Total Time: 4mins

Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
5:05	1.5	19.4	7.92	3999	
5:10	3	19.7	7.55	3999	
5:15	5	19.3	7.59	3999	

Post-purge DO= 0.83 **ug/L**
Post-purge ORP=_____ **mV**
Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
MW-15	8-17-01	5:20	TPHg/BTEX/ MTBE	3 Voas (4)	Hcl 4° C	
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	3 Voas 2	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

CAMBRIA

WELL SAMPLING FORM

Project Name: **City of Oakland**	Cambria Mgr: **BCR**	Well ID: MW-17
Project Number: 153-~~1247~~ 1653	Date: 8-16-01	Well Yield:
Site Address: **7101 Edgewater Drive Oakland, California**	Sampling Method: **Disposable bailer**	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 10.35	Total Well Depth: 18.00	Water Column Height: 7.65
Volume/ft: 0.16	1 Casing Volume: 1.22	3 Casing Volumes: 3.66
Purging Device: **sub pump**	Did Well Dewater?: no	Total Gallons Purged: 3.5
Start Purge Time: 7:20	Stop Purge Time: 7:24	Total Time: 4 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
7:22	1.5	19.4	7.39	3999	
7:23	3	18.7	7.55	3999	
7:25	3.5	18.7	7.82	3990	

Post-purge DO= 0.40 **ug/L**
Post-purge ORP=_____ **mV**
Ferrous Iron=_____ **ug/L**

Sample ID	Date	Time	Analysis	Container	Preserve	Comment
MW-17	8-17-01	7:30	TPHg/BTEX/ MTBE	~~3~~ 4 Voas	Hcl 4° C	
			TPHd/k/mo	One liter amber	No chemicals 4° C	
			VOCs	~~3~~ 2 Voas	Hcl 4° C	A, B, C, D plume (circle)
			SVOCs	One liter amber	4° C	"
			Metals* (see list)	2 one liter amber	HNO_3 4° C	"

Appendix B

Laboratory Analytical Reports/Correspondence

CASE NARRATIVE

Client: CAMBRIA
Project: City of Oakland
Order #: B080656
Date: October 4, 2001

Sample control
On August 20, 2001, Caltest received 19 samples for analyses. Samples were received cold sealed and intact.

EPA 8015
The samples were extracted and analyzed within hold time. Samples were filtered through a 0.45 micron filter prior to analyses. After filtration the samples were extracted, passed through a silica gel column and analyzed by GC (EPA 8015).

EPA 8020
MTBE was detected in samples -17- and –19; these samples were reanalyzed on the GCMS for confirmation. The 8260 analyses did not detect any MTBE in these samples, therefore MTBE is not reported as the GCMS indicates the GC detections were false positives. Sample –16, MTBE is reported as the 8260 analyses confirmed the presence of this compound.

If you have any questions please call me or another project manager at Caltest (707) 258-4000.

Sincerely,
Caltest Analytical Laboratory

William Svoboda
Project Manager

LAB ORDER No.: B080656

REPORT of ANALYTICAL RESULTS

Report Date: 19 OCT 2001
Received Date: 20 AUG 2001

Client: Tom Howard
Cambria
1144 65th Street, Suite C
Oakland, CA 94608

Project: 153-1653\CITY OF OAKLAND

Sampled by: SANJIV GILL

Lab Number	Sample Identification	Matrix	Sampled Date/Time
B080656-1	MW-1	AQUEOUS	17 AUG 01 06:38
B080656-2	MW-2	AQUEOUS	17 AUG 01 06:58
B080656-3	MW-5	AQUEOUS	16 AUG 01 12:05
B080656-4	MW-7	AQUEOUS	16 AUG 01 11:45
B080656-5	MW-8	AQUEOUS	17 AUG 01 05:50
B080656-6	MW-9	AQUEOUS	17 AUG 01 04:50
B080656-7	MW-10	AQUEOUS	17 AUG 01 03:20
B080656-8	MW-11	AQUEOUS	16 AUG 01 12:25
B080656-9	MW-12	AQUEOUS	17 AUG 01 06:20
B080656-10	MW-13	AQUEOUS	17 AUG 01 03:50
B080656-11	MW-14	AQUEOUS	17 AUG 01 04:20
B080656-12	MW-15	AQUEOUS	17 AUG 01 05:20
B080656-13	MW-17	AQUEOUS	17 AUG 01 07:30
B080656-14	TBW-4	AQUEOUS	16 AUG 01 10:37
B080656-15	TBW-6	AQUEOUS	17 AUG 01 09:00
B080656-16	MW-6	AQUEOUS	20 AUG 01 10:30
B080656-17	TBW-1	AQUEOUS	20 AUG 01 11:00
B080656-18	TBW-3	AQUEOUS	20 AUG 01 11:15
B080656-19	TBW-5	AQUEOUS	20 AUG 01 13:30

William Svoboda
Project Manager

CAHorn
Christine Horn
Laboratory Director

Results are specific to the sample as submitted and only to the parameters reported.
All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.
Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).
'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.

INORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-16								
SAMPLE ID: MW-6								
SAMPLED: 20 AUG 01 10:30								
Antimony	ND	0.01	mg/L	1	200.7	09.04.01	A010833ICP	1
Arsenic	0.033	0.004	mg/L	1	200.7	09.04.01	A010833ICP	1
Beryllium	ND	0.001	mg/L	1	200.7	09.04.01	A010833ICP	1
Cadmium	ND	0.001	mg/L	1	200.7	09.04.01	A010833ICP	1
Chromium	0.020	0.005	mg/L	1	200.7	09.04.01	A010833ICP	1
Copper	0.025	0.005	mg/L	1	200.7	09.04.01	A010833ICP	1
Lead	0.12	0.003	mg/L	1	200.7	09.04.01	A010833ICP	1
Nickel	0.032	0.005	mg/L	1	200.7	09.05.01	A010833ICP	1
Selenium	ND	0.01	mg/L	1	200.7	09.04.01	A010833ICP	1
Silver	ND	0.003	mg/L	1	200.7	09.04.01	A010833ICP	1
Thallium	ND	0.01	mg/L	1	200.7	09.04.01	A010833ICP	1
Zinc	0.11	0.02	mg/L	1	200.7	09.04.01	A010833ICP	1
LAB NUMBER: B080656-17								
SAMPLE ID: TBW-1								
SAMPLED: 20 AUG 01 11:00								
Antimony	ND	0.01	mg/L	1	200.7	09.04.01	A010833ICP	1
Arsenic	0.015	0.004	mg/L	1	200.7	09.04.01	A010833ICP	1
Beryllium	ND	0.001	mg/L	1	200.7	09.04.01	A010833ICP	1
Cadmium	ND	0.001	mg/L	1	200.7	09.04.01	A010833ICP	1
Chromium	0.017	0.005	mg/L	1	200.7	09.04.01	A010833ICP	1
Copper	0.029	0.005	mg/L	1	200.7	09.04.01	A010833ICP	1
Lead	0.042	0.003	mg/L	1	200.7	09.04.01	A010833ICP	1
Nickel	0.034	0.005	mg/L	1	200.7	09.05.01	A010833ICP	1
Selenium	ND	0.01	mg/L	1	200.7	09.04.01	A010833ICP	1
Silver	ND	0.003	mg/L	1	200.7	09.04.01	A010833ICP	1
Thallium	0.01	0.01	mg/L	1	200.7	09.04.01	A010833ICP	1
Zinc	0.1	0.02	mg/L	1	200.7	09.04.01	A010833ICP	1
LAB NUMBER: B080656-18								
SAMPLE ID: TBW-3								
SAMPLED: 20 AUG 01 11:15								
Antimony	ND	0.01	mg/L	1	200.7	09.04.01	A010833ICP	1
Arsenic	0.009	0.004	mg/L	1	200.7	09.04.01	A010833ICP	1
Beryllium	ND	0.001	mg/L	1	200.7	09.04.01	A010833ICP	1
Cadmium	ND	0.001	mg/L	1	200.7	09.04.01	A010833ICP	1
Chromium	0.008	0.005	mg/L	1	200.7	09.04.01	A010833ICP	1
Copper	0.006	0.005	mg/L	1	200.7	09.04.01	A010833ICP	1
Lead	0.008	0.003	mg/L	1	200.7	09.04.01	A010833ICP	1

1) Sample Preparation on 08-29-01 using 200.2

INORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-18 (continued)								
Nickel	0.019	0.005	mg/L	1	200.7	09.05.01	A010833ICP	1
Selenium	ND	0.01	mg/L	1	200.7	09.04.01	A010833ICP	1
Silver	ND	0.003	mg/L	1	200.7	09.04.01	A010833ICP	1
Thallium	ND	0.01	mg/L	1	200.7	09.04.01	A010833ICP	1
Zinc	ND	0.02	mg/L	1	200.7	09.04.01	A010833ICP	1
LAB NUMBER: B080656-19								
SAMPLE ID: TBW-5								
SAMPLED: 20 AUG 01 13:30								
Antimony	ND	0.01	mg/L	1	200.7	09.04.01	A010833ICP	1
Arsenic	0.020	0.004	mg/L	1	200.7	09.04.01	A010833ICP	1
Beryllium	ND	0.001	mg/L	1	200.7	09.04.01	A010833ICP	1
Cadmium	ND	0.001	mg/L	1	200.7	09.04.01	A010833ICP	1
Chromium	ND	0.005	mg/L	1	200.7	09.04.01	A010833ICP	1
Copper	ND	0.005	mg/L	1	200.7	09.04.01	A010833ICP	1
Lead	0.01	0.003	mg/L	1	200.7	09.04.01	A010833ICP	1
Nickel	0.008	0.005	mg/L	1	200.7	09.05.01	A010833ICP	1
Selenium	ND	0.01	mg/L	1	200.7	09.04.01	A010833ICP	1
Silver	ND	0.003	mg/L	1	200.7	09.04.01	A010833ICP	1
Thallium	0.02	0.01	mg/L	1	200.7	09.04.01	A010833ICP	1
Zinc	0.03	0.02	mg/L	1	200.7	09.04.01	A010833ICP	1

1) Sample Preparation on 08-29-01 using 200.2

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-1 SAMPLE ID: MW-1 SAMPLED: 17 AUG 01 06:38 METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	1-5
TPH-Extractable, quantitated as diesel	280.	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B200.	200.	ug/L				
Surrogate o-Terphenyl	88.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-1 (continued) SAMPLE ID: MW-1 SAMPLED: 17 AUG 01 06:38 METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS						V010091G9A	6,7,8,9
Total Petroleum Hydrocarbons - Gasoline	ND	1000.	ug/L	20	08.29.01		
TPH-Purgeable, quantitated as gasoline	4000.	1000.	ug/L	20	08.29.01		
Benzene	640.	10.	ug/L	20	08.29.01		
Toluene	9.7	0.5	ug/L	1	08.28.01		
Ethylbenzene	5.7	0.5	ug/L	1	08.29.01		
Xylenes (Total)	13.	0.5	ug/L	1	08.29.01		
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L	1	08.29.01		
Surrogate 4-Bromofluorobenzene [FID]	97.		%	20	08.29.01		
Surrogate 4-Bromofluorobenzene [PID]	83.		%	20	08.29.01		

1) Sample Preparation on 08-24-01 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) Those analytes with "B" flagged results were detected in the Method Blank.
6) Sample Preparation on 08-29-01 using EPA 5030
7) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
8) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.
9) 1X dilution results are from 08.27.01, batch ID V010090G9A.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-2							
SAMPLE ID: MW-2							
SAMPLED: 17 AUG 01 06:58							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B200.	200.	ug/L				
Surrogate o-Terphenyl	93.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-2 (continued)							
SAMPLE ID: MW-2							
SAMPLED: 17 AUG 01 06:58							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.29.01	V010091G9A	5
Total Petroleum Hydrocarbons - 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]	94.		%				
Surrogate 4-Bromofluorobenzene [PID]	80.		%				
LAB NUMBER: B080656-3							
SAMPLE ID: MW-5							
SAMPLED: 16 AUG 01 12:05							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.28.01	T010222TPH	12346

1) Sample Preparation on 08-24-01 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) Those analytes with "B" flagged results were detected in the Method Blank.
5) Sample Preparation on 08-29-01 using EPA 5030
6) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-3 (continued)							
SAMPLE ID: MW-5							
SAMPLED: 16 AUG 01 12:05							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED (continued)				1	08.28.01	T010222TPH	
TPH-Extractable, quantitated as diesel	320.	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B500.	200.	ug/L				
Surrogate o-Terphenyl	75.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-3 (continued)							
SAMPLE ID: MW-5							
SAMPLED: 16 AUG 01 12:05							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS						V010091G9A	1,2,3,4
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L	1	08.29.01		
TPH-Purgeable, quantitated as gasoline	2300.	500.	ug/L	10	08.29.01		
Benzene	46.	0.5	ug/L	1	08.29.01		
Toluene	ND	5.	ug/L	10	08.29.01		
Ethylbenzene	110.	5.	ug/L	10	08.29.01		
Xylenes (Total)	24.	0.5	ug/L	1	08.29.01		
Methyl tert-Butyl Ether (MTBE)	850.	50.	ug/L	10	08.29.01		
Surrogate 4-Bromofluorobenzene [FID]	95.		%	10	08.29.01		
Surrogate 4-Bromofluorobenzene [PID]	87.		%	10	08.29.01		

1) Sample Preparation on 08-29-01 using EPA 5030
2) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
3) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.
4) 1X dilution results are from 08.27.01, batch ID V010090G9A.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-4							
SAMPLE ID: MW-7							
SAMPLED: 16 AUG 01 11:45							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.28.01	T010222TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B600.	200.	ug/L				
Surrogate o-Terphenyl	84.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-4 (continued)							
SAMPLE ID: MW-7							
SAMPLED: 16 AUG 01 11:45							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.29.01	V010091G9A	5
Total Petroleum Hydrocarbons - 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]	95.		%				
Surrogate 4-Bromofluorobenzene [PID]	81.		%				
LAB NUMBER: B080656-5							
SAMPLE ID: MW-8							
SAMPLED: 17 AUG 01 05:50							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B200.	200.	ug/L				

1) Sample Preparation on 08-24-01 using EPA 3510
2) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
3) This sample was analyzed following Silica Gel Cleanup.
4) Those analytes with "B" flagged results were detected in the Method Blank.
5) Sample Preparation on 08-29-01 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-5 (continued)							
SAMPLE ID: MW-8							
SAMPLED: 17 AUG 01 05:50							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED (continued)				1	08.29.01	T010222TPH	
Surrogate o-Terphenyl	57.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-5 (continued)							
SAMPLE ID: MW-8							
SAMPLED: 17 AUG 01 05:50							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.30.01	V010091G9A	1
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L				
Benzene	ND	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	96.		%				
Surrogate 4-Bromofluorobenzene [PID]	81.		%				
LAB NUMBER: B080656-6							
SAMPLE ID: MW-9							
SAMPLED: 17 AUG 01 04:50							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	2,3
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	88.		%				
Kerosene	ND	100.	ug/L				

1) Sample Preparation on 08-29-01 using EPA 5030
2) Sample Preparation on 08-24-01 using EPA 3510
3) This sample was analyzed following Silica Gel Cleanup.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-6 (continued)							
SAMPLE ID: MW-9							
SAMPLED: 17 AUG 01 04:50							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.30.01	V010091G9A	1,2
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L				
TPH-Purgeable, quantitated as gasoline	70.	50.	ug/L				
Benzene	0.62	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	100.		%				
Surrogate 4-Bromofluorobenzene [PID]	84.		%				
LAB NUMBER: B080656-7							
SAMPLE ID: MW-10							
SAMPLED: 17 AUG 01 03:20							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	3,4
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	83.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-7 (continued)							
SAMPLE ID: MW-10							
SAMPLED: 17 AUG 01 03:20							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.30.01	V010091G9A	1
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L				

1) Sample Preparation on 08-29-01 using EPA 5030
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.
3) Sample Preparation on 08-24-01 using EPA 3510
4) This sample was analyzed following Silica Gel Cleanup.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-7 (continued)							
SAMPLE ID: MW-10							
SAMPLED: 17 AUG 01 03:20							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	08.30.01	V010091G9A	
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]	95.		%				
Surrogate 4-Bromofluorobenzene [PID]	82.		%				
LAB NUMBER: B080656-8							
SAMPLE ID: MW-11							
SAMPLED: 16 AUG 01 12:25							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B500.	200.	ug/L				
Surrogate o-Terphenyl	95.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-8 (continued)							
SAMPLE ID: MW-11							
SAMPLED: 16 AUG 01 12:25							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.29.01	V010091G9A	5,6
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L				

1) Sample Preparation on 08-24-01 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) Those analytes with "B" flagged results were detected in the Method Blank.
5) Sample Preparation on 08-29-01 using EPA 5030
6) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-8 (continued)							
SAMPLE ID: MW-11							
SAMPLED: 16 AUG 01 12:25							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	08.29.01	V010091G9A	
TPH-Purgeable, quantitated as gasoline	110.	50.	ug/L				
Benzene	4.8	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	1.4	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	99.		%				
Surrogate 4-Bromofluorobenzene [PID]	85.		%				
LAB NUMBER: B080656-9							
SAMPLE ID: MW-12							
SAMPLED: 17 AUG 01 06:20							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	1-5
TPH-Extractable, quantitated as diesel	200.	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B300.	200.	ug/L				
Surrogate o-Terphenyl	88.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-9 (continued)							
SAMPLE ID: MW-12							
SAMPLED: 17 AUG 01 06:20							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.30.01	V010091G9A	6,7
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L				

1) Sample Preparation on 08-24-01 using EPA 3510
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
3) This sample was analyzed following Silica Gel Cleanup.
4) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
5) Those analytes with "B" flagged results were detected in the Method Blank.
6) Sample Preparation on 08-29-01 using EPA 5030
calculated based on gasoline standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-9 (continued)							
SAMPLE ID: MW-12							
SAMPLED: 17 AUG 01 06:20							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	08.30.01	V010091G9A	
TPH-Purgeable, quantitated as gasoline	160.	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]	87.		%				
LAB NUMBER: B080656-10							
SAMPLE ID: MW-13							
SAMPLED: 17 AUG 01 03:50							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	8-11
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B300.	200.	ug/L				
Surrogate o-Terphenyl	96.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-10 (continued)							
SAMPLE ID: MW-13							
SAMPLED: 17 AUG 01 03:50							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.30.01	V010091G9A	12
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L				

... notes continued from prior page ...
7) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been
8) Sample Preparation on 08-24-01 using EPA 3510
9) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
10) This sample was analyzed following Silica Gel Cleanup.
11) Those analytes with "B" flagged results were detected in the Method Blank.
12) Sample Preparation on 08-29-01 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-10 (continued)							
SAMPLE ID: MW-13							
SAMPLED: 17 AUG 01 03:50							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	08.30.01	V010091G9A	
Benzene	ND	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	100.		%				
Surrogate 4-Bromofluorobenzene [PID]	83.		%				
LAB NUMBER: B080656-11							
SAMPLE ID: MW-14							
SAMPLED: 17 AUG 01 04:20							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	1,2
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	92.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-11 (continued)							
SAMPLE ID: MW-14							
SAMPLED: 17 AUG 01 04:20							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.30.01	V010091G9A	3,4
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L				
TPH-Purgeable, quantitated as gasoline	60.	50.	ug/L				
Benzene	ND	0.5	ug/L				

1) Sample Preparation on 08-24-01 using EPA 3510
2) This sample was analyzed following Silica Gel Cleanup.
3) Sample Preparation on 08-29-01 using EPA 5030
4) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-11 (continued)							
SAMPLE ID: MW-14							
SAMPLED: 17 AUG 01 04:20							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	08.30.01	V010091G9A	
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	104.		%				
Surrogate 4-Bromofluorobenzene [PID]	87.		%				
LAB NUMBER: B080656-12							
SAMPLE ID: MW-15							
SAMPLED: 17 AUG 01 05:20							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B500.	200.	ug/L				
Surrogate o-Terphenyl	93.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-12 (continued)							
SAMPLE ID: MW-15							
SAMPLED: 17 AUG 01 05:20							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.30.01	V010091G9A	5
Total Petroleum Hydrocarbons - 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 08-24-01 using EPA 3510
2) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
3) This sample was analyzed following Silica Gel Cleanup.
4) Those analytes with "B" flagged results were detected in the Method Blank.
5) Sample Preparation on 08-29-01 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-12 (continued)							
SAMPLE ID: MW-15							
SAMPLED: 17 AUG 01 05:20							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	08.30.01	V010091G9A	
Xylenes (Total)	2.4	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	105.		%				
Surrogate 4-Bromofluorobenzene [PID]	93.		%				
LAB NUMBER: B080656-13							
SAMPLE ID: MW-17							
SAMPLED: 17 AUG 01 07:30							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	1,2,3,4
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B400.	200.	ug/L				
Surrogate o-Terphenyl	86.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-13 (continued)							
SAMPLE ID: MW-17							
SAMPLED: 17 AUG 01 07:30							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.30.01	V010091G9A	5
Total Petroleum Hydrocarbons - 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				

1) Sample Preparation on 08-24-01 using EPA 3510
2) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
3) This sample was analyzed following Silica Gel Cleanup.
4) Those analytes with "B" flagged results were detected in the Method Blank.
5) Sample Preparation on 08-29-01 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-13 (continued)							
SAMPLE ID: MW-17							
SAMPLED: 17 AUG 01 07:30							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	08.30.01	V010091G9A	
Surrogate 4-Bromofluorobenzene [FID]	98.		%				
Surrogate 4-Bromofluorobenzene [PID]	80.		%				
LAB NUMBER: B080656-14							
SAMPLE ID: TBW-4							
SAMPLED: 16 AUG 01 10:37							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	1-5
TPH-Extractable, quantitated as diesel	2600.	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B700.	200.	ug/L				
Surrogate o-Terphenyl	95.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-14 (continued)							
SAMPLE ID: TBW-4							
SAMPLED: 16 AUG 01 10:37							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.29.01	V010091G9A	6,7
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L				
TPH-Purgeable, quantitated as gasoline	370.	50.	ug/L				
Benzene	ND	0.5	ug/L				

1) Sample Preparation on 08-24-01 using EPA 3510
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
3) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
4) This sample was analyzed following Silica Gel Cleanup.
5) Those analytes with "B" flagged results were detected in the Method Blank.
6) Sample Preparation on 08-29-01 using EPA 5030
7) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-14 (continued)							
SAMPLE ID: TBW-4							
SAMPLED: 16 AUG 01 10:37							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	08.29.01	V010091G9A	
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]	97.		%				
Surrogate 4-Bromofluorobenzene [PID]	90.		%				
LAB NUMBER: B080656-15							
SAMPLE ID: TBW-6							
SAMPLED: 17 AUG 01 09:00							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	1,2
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L				
Surrogate o-Terphenyl	90.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-15 (continued)							
SAMPLE ID: TBW-6							
SAMPLED: 17 AUG 01 09:00							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.30.01	V010091G9A	3
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L				
Benzene	ND	0.5	ug/L				
Toluene	ND	0.5	ug/L				
Ethylbenzene	ND	0.5	ug/L				
Xylenes (Total)	ND	0.5	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L				
Surrogate 4-Bromofluorobenzene [FID]	96.		%				

1) Sample Preparation on 08-24-01 using EPA 3510
2) This sample was analyzed following Silica Gel Cleanup.
3) Sample Preparation on 08-29-01 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-15 (continued)							
SAMPLE ID: TBW-6							
SAMPLED: 17 AUG 01 09:00							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	08.30.01	V010091G9A	
Surrogate 4-Bromofluorobenzene [PID]	80.		%				
LAB NUMBER: B080656-16							
SAMPLE ID: MW-6							
SAMPLED: 20 AUG 01 10:30							
METHOD: EPA 8270							
SEMIVOLATILE ORGANIC COMPOUNDS				1	09.17.01	S010073BNA	1
Acenaphthene	ND	5.	ug/L				
Acenaphthylene	ND	5.	ug/L				
Aniline	ND	5.	ug/L				
Anthracene	ND	5.	ug/L				
Benzidine	ND	10.	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	5.	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	5.	ug/L				
Diethyl phthalate	ND	5.	ug/L				
Dimethyl phthalate	ND	5.	ug/L				
Di-n-butylphthalate	ND	5.	ug/L				
2,4-Dinitrotoluene	ND	5.	ug/L				

1) Sample Preparation on 08-27-01 using EPA 3510

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

LAB NUMBER: B080656-16 (continued)
SAMPLE ID: MW-6
SAMPLED: 20 AUG 01 10:30
METHOD: EPA 8270

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
SEMIVOLATILE ORGANIC COMPOUNDS (continued)				1	09.17.01	S010073BNA	
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	5.	ug/L				
Fluoranthene	ND	5.	ug/L				
Fluorene	ND	5.	ug/L				
Hexachlorobenzene	ND	5.	ug/L				
Hexachlorobutadiene	ND	5.	ug/L				
Hexachlorocyclopentadiene	ND	5.	ug/L				
Hexachloroethane	ND	5.	ug/L				
Indeno(1,2,3-cd)pyrene	ND	5.	ug/L				
Isophorone	ND	5.	ug/L				
2-Methylnaphthalene	33.	5.	ug/L				
Naphthalene	52.	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	5.	ug/L				
N-Nitrosodiphenylamine	ND	5.	ug/L				
N-Nitrosodi-n-propylamine	ND	5.	ug/L				
Phenanthrene	6.	5.	ug/L				
Pyrene	ND	5.	ug/L				
Pyridine	ND	5.	ug/L				
1,2,4-Trichlorobenzene	ND	5.	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	5.	ug/L				
2-Methyl-4,6-dinitrophenol	ND	5.	ug/L				
2-Methylphenol (o-Cresol)	ND	5.	ug/L				
3-/4-Methylphenol (m/p-Cresol)	ND	5.	ug/L				
2-Nitrophenol	ND	5.	ug/L				
4-Nitrophenol	ND	5.	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				

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-16 (continued)							
SAMPLE ID: MW-6							
SAMPLED: 20 AUG 01 10:30							
METHOD: EPA 8270							
SEMIVOLATILE ORGANIC COMPOUNDS (continued)				1	09.17.01	S010073BNA	
Surrogate Nitrobenzene-d5	58.		%				
Surrogate 2-Fluorobiphenyl	50.		%				
Surrogate Terphenyl-d14	61.		%				
Surrogate 2-Fluorophenol	34.		%				
Surrogate Phenol-d6	24.		%				
Surrogate 2,4,6-Tribromophenol	68.		%				
LAB NUMBER: B080656-16 (continued)							
SAMPLE ID: MW-6							
SAMPLED: 20 AUG 01 10:30							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	1-5
TPH-Extractable, quantitated as diesel	740.	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B200.	200.	ug/L				
Surrogate o-Terphenyl	91.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-16 (continued)							
SAMPLE ID: MW-6							
SAMPLED: 20 AUG 01 10:30							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS						V010091G9A	6,7,8,9
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L	1	08.30.01		

1) Sample Preparation on 08-24-01 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) Those analytes with "B" flagged results were detected in the Method Blank.
6) Sample Preparation on 08-29-01 using EPA 5030
7) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
8) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.
9) 1X dilution results are from 08.27.01,batch ID v010090G9A.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-16 (continued)							
SAMPLE ID: MW-6							
SAMPLED: 20 AUG 01 10:30							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)						V010091G9A	
TPH-Purgeable, quantitated as gasoline	4200.	500.	ug/L	10	08.30.01		
Benzene	360.	5.	ug/L	10	08.30.01		
Toluene	4.6	0.5	ug/L	1	08.30.01		
Ethylbenzene	13.	5.	ug/L	10	08.30.01		
Xylenes (Total)	12.	0.5	ug/L	1	08.30.01		
Methyl tert-Butyl Ether (MTBE)	25.	5.	ug/L	1	08.30.01		
Surrogate 4-Bromofluorobenzene [FID]	93.		%	10	08.30.01		
Surrogate 4-Bromofluorobenzene [PID]	85.		%	10	08.30.01		
LAB NUMBER: B080656-16 (continued)							
SAMPLE ID: MW-6							
SAMPLED: 20 AUG 01 10:30							
METHOD: EPA 8260B							
VOLATILE ORGANIC COMPOUNDS				1	08.27.01	V010116MSB	1,2,3
Benzene	E280.	1.	ug/L				
Bromobenzene	ND	1.	ug/L				
Bromochloromethane	ND	1.	ug/L				
Bromodichloromethane	ND	1.	ug/L				
Bromoform	ND	1.	ug/L				
Bromomethane (Methyl Bromide)	ND	1.	ug/L				
n-Butylbenzene	14.	1.	ug/L				
sec-Butylbenzene	ND	1.	ug/L				
tert-Butylbenzene	ND	1.	ug/L				
Carbon Tetrachloride	ND	1.	ug/L				
Chlorobenzene	ND	1.	ug/L				
Chloroethane (Ethyl Chloride)	ND	1.	ug/L				
Chloroform	3.	1.	ug/L				
Chloromethane (Methyl Chloride)	2.	1.	ug/L				
2-Chlorotoluene	ND	1.	ug/L				
4-Chlorotoluene	ND	1.	ug/L				
Dibromochloromethane	ND	1.	ug/L				
1,2-Dibromo-3-chloropropane (DBCP)	ND	1.	ug/L				
1,2-Dibromoethane (EDB)	ND	1.	ug/L				
Dibromomethane	ND	1.	ug/L				

1) Sample Preparation on 08-27-01 using EPA 5030
2) "E" flagged results are estimated due to concentrations exceeding the calibration range.
3) Those analytes with "B" flagged results were detected in the Method Blank.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

LAB NUMBER: B080656-16 (continued)
SAMPLE ID: MW-6
SAMPLED: 20 AUG 01 10:30
METHOD: EPA 8260B

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
VOLATILE ORGANIC COMPOUNDS (continued)				1	08.27.01	V010116MSB	
1,2-Dichlorobenzene	ND	1.	ug/L				
1,3-Dichlorobenzene	ND	1.	ug/L				
1,4-Dichlorobenzene	ND	1.	ug/L				
Dichlorodifluoromethane (F-12)	ND	1.	ug/L				
1,1-Dichloroethane	ND	1.	ug/L				
1,2-Dichloroethane (EDC)	ND	1.	ug/L				
1,1-Dichloroethene	ND	1.	ug/L				
cis-1,2-Dichloroethene	ND	1.	ug/L				
trans-1,2-Dichloroethene	ND	1.	ug/L				
1,2-Dichloropropane	ND	1.	ug/L				
1,3-Dichloropropane	ND	1.	ug/L				
2,2-Dichloropropane	ND	1.	ug/L				
1,1-Dichloropropene	ND	1.	ug/L				
Dichlorotrifluoroethane (F-123)	ND	1.	ug/L				
Ethylbenzene	11.	1.	ug/L				
Hexachlorobutadiene	ND	1.	ug/L				
Isopropylbenzene	4.	1.	ug/L				
p-Isopropyltoluene	ND	1.	ug/L				
Methylene Chloride	B5.	3.	ug/L				
Methyl tert-Butyl Ether (MTBE)	14.	1.	ug/L				
Naphthalene	E82.	1.	ug/L				
n-Propylbenzene	14.	1.	ug/L				
Styrene	ND	1.	ug/L				
1,1,1,2-Tetrachloroethane	ND	1.	ug/L				
1,1,2,2-Tetrachloroethane	ND	1.	ug/L				
Tetrachloroethene (PCE)	ND	1.	ug/L				
Toluene	4.	1.	ug/L				
1,2,3-Trichlorobenzene	ND	1.	ug/L				
1,2,4-Trichlorobenzene	ND	1.	ug/L				
1,1,1-Trichloroethane (TCA)	ND	1.	ug/L				
1,1,2-Trichloroethane	ND	1.	ug/L				
Trichloroethene (TCE)	ND	1.	ug/L				
Trichlorofluoromethane (F-11)	ND	1.	ug/L				
1,2,3-Trichloropropane	ND	1.	ug/L				
Trichlorotrifluoroethane (F-113)	ND	1.	ug/L				
1,2,4-Trimethylbenzene	ND	1.	ug/L				
1,3,5-Trimethylbenzene	ND	1.	ug/L				
Vinyl Chloride	ND	1.	ug/L				
Xylenes (Total)	9.	1.	ug/L				
Surrogate Dibromofluoromethane	114.		%				
Surrogate 1,2-DCA-d4	133.		%				

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-16 (continued)							
SAMPLE ID: MW-6							
SAMPLED: 20 AUG 01 10:30							
METHOD: EPA 8260B							
VOLATILE ORGANIC COMPOUNDS (continued)				1	08.27.01	V010116MSB	
Surrogate Toluene-d8	122.		%				
Surrogate 4-BFB	114.		%				
LAB NUMBER: B080656-17							
SAMPLE ID: TBW-1							
SAMPLED: 20 AUG 01 11:00							
METHOD: EPA 8270							
SEMIVOLATILE ORGANIC COMPOUNDS						S010073BNA	1
Acenaphthene	ND	5.	ug/L	1	09.17.01		
Acenaphthylene	ND	5.	ug/L	1	09.17.01		
Aniline	ND	5.	ug/L	1	09.17.01		
Anthracene	ND	5.	ug/L	1	09.17.01		
Benzidine	ND	10.	ug/L	1	09.17.01		
Benzo(a)anthracene	ND	5.	ug/L	1	09.17.01		
Benzo(b)fluoranthene	ND	5.	ug/L	1	09.17.01		
Benzo(k)fluoranthene	ND	5.	ug/L	1	09.17.01		
Benzo(ghi)perylene	ND	5.	ug/L	1	09.17.01		
Benzo(a)pyrene	ND	5.	ug/L	1	09.17.01		
Benzylbutylphthalate	120.	5.	ug/L	1	09.17.01		
4-Bromophenyl phenyl ether	ND	5.	ug/L	1	09.17.01		
Carbazole	7.	5.	ug/L	1	09.17.01		
4-Chloroaniline	ND	5.	ug/L	1	09.17.01		
bis(2-chloroethoxy)methane	ND	5.	ug/L	1	09.17.01		
bis(2-chloroethyl)ether	ND	5.	ug/L	1	09.17.01		
bis(2-chloroisopropyl)ether	ND	5.	ug/L	1	09.17.01		
2-Chloronaphthalene	ND	5.	ug/L	1	09.17.01		
4-Chlorophenyl phenyl ether	ND	5.	ug/L	1	09.17.01		
Chrysene	6.	5.	ug/L	1	09.17.01		
Dibenzo(a,h)anthracene	ND	5.	ug/L	1	09.17.01		
Dibenzofuran	ND	5.	ug/L	1	09.17.01		
1,2-Dichlorobenzene	ND	5.	ug/L	1	09.17.01		
1,3-Dichlorobenzene	ND	5.	ug/L	1	09.17.01		
1,4-Dichlorobenzene	ND	5.	ug/L	1	09.17.01		
3,3-Dichlorobenzidine	ND	5.	ug/L	1	09.17.01		
Diethyl phthalate	ND	5.	ug/L	1	09.17.01		
Dimethyl phthalate	ND	5.	ug/L	1	09.17.01		
Di-n-butylphthalate	ND	5.	ug/L	1	09.17.01		
2,4-Dinitrotoluene	ND	5.	ug/L	1	09.17.01		

1) Sample Preparation on 08-27-01 using EPA 3510

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

LAB NUMBER: B080656-17 (continued)
SAMPLE ID: TBW-1
SAMPLED: 20 AUG 01 11:00
METHOD: EPA 8270

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
SEMIVOLATILE ORGANIC COMPOUNDS (continued)						S010073BNA	
2,6-Dinitrotoluene	ND	5.	ug/L	1	09.17.01		
Di-n-octylphthalate	ND	5.	ug/L	1	09.17.01		
1,2-Diphenylhydrazine	ND	5.	ug/L	1	09.17.01		
bis(2-Ethylhexyl)phthalate	18.	5.	ug/L	1	09.17.01		
Fluoranthene	9.	5.	ug/L	1	09.17.01		
Fluorene	ND	5.	ug/L	1	09.17.01		
Hexachlorobenzene	ND	5.	ug/L	1	09.17.01		
Hexachlorobutadiene	ND	5.	ug/L	1	09.17.01		
Hexachlorocyclopentadiene	ND	5.	ug/L	1	09.17.01		
Hexachloroethane	ND	5.	ug/L	1	09.17.01		
Indeno(1,2,3-cd)pyrene	ND	5.	ug/L	1	09.17.01		
Isophorone	ND	5.	ug/L	1	09.17.01		
2-Methylnaphthalene	78.	5.	ug/L	1	09.17.01		
Naphthalene	140.	25.	ug/L	5	09.27.01		
2-Nitroaniline	ND	5.	ug/L	1	09.17.01		
3-Nitroaniline	ND	5.	ug/L	1	09.17.01		
4-Nitroaniline	ND	5.	ug/L	1	09.17.01		
Nitrobenzene	ND	5.	ug/L	1	09.17.01		
N-Nitrosodimethylamine	ND	5.	ug/L	1	09.17.01		
N-Nitrosodiphenylamine	ND	5.	ug/L	1	09.17.01		
N-Nitrosodi-n-propylamine	ND	5.	ug/L	1	09.17.01		
Phenanthrene	9.	5.	ug/L	1	09.17.01		
Pyrene	8.	5.	ug/L	1	09.17.01		
Pyridine	ND	5.	ug/L	1	09.17.01		
1,2,4-Trichlorobenzene	ND	5.	ug/L	1	09.17.01		
Benzoic Acid	ND	20.	ug/L	1	09.17.01		
Benzyl Alcohol	ND	5.	ug/L	1	09.17.01		
4-Chloro-3-methylphenol	ND	5.	ug/L	1	09.17.01		
2-Chlorophenol	ND	5.	ug/L	1	09.17.01		
2,4-Dichlorophenol	ND	5.	ug/L	1	09.17.01		
2,4-Dimethylphenol	ND	5.	ug/L	1	09.17.01		
2,4-Dinitrophenol	ND	5.	ug/L	1	09.17.01		
2-Methyl-4,6-dinitrophenol	ND	5.	ug/L	1	09.17.01		
2-Methylphenol (o-Cresol)	ND	5.	ug/L	1	09.17.01		
3-/4-Methylphenol (m/p-Cresol)	ND	5.	ug/L	1	09.17.01		
2-Nitrophenol	ND	5.	ug/L	1	09.17.01		
4-Nitrophenol	ND	5.	ug/L	1	09.17.01		
Phenol	ND	5.	ug/L	1	09.17.01		
Pentachlorophenol	ND	5.	ug/L	1	09.17.01		
2,4,5-Trichlorophenol	ND	5.	ug/L	1	09.17.01		
2,4,6-Trichlorophenol	ND	5.	ug/L	1	09.17.01		

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-17 (continued)							
SAMPLE ID: TBW-1							
SAMPLED: 20 AUG 01 11:00							
METHOD: EPA 8270							
SEMIVOLATILE ORGANIC COMPOUNDS (continued)						S010073BNA	
Surrogate Nitrobenzene-d5	53.		%	1	09.17.01		
Surrogate 2-Fluorobiphenyl	44.		%	1	09.17.01		
Surrogate Terphenyl-d14	64.		%	1	09.17.01		
Surrogate 2-Fluorophenol	32.		%	1	09.17.01		
Surrogate Phenol-d6	25.		%	1	09.17.01		
Surrogate 2,4,6-Tribromophenol	71.		%	1	09.17.01		
LAB NUMBER: B080656-17 (continued)							
SAMPLE ID: TBW-1							
SAMPLED: 20 AUG 01 11:00							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.29.01	T010222TPH	1-5
TPH-Extractable, quantitated as diesel	1100.	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B700.	200.	ug/L				
Surrogate o-Terphenyl	85.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-17 (continued)							
SAMPLE ID: TBW-1							
SAMPLED: 20 AUG 01 11:00							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS					08.30.01	V010091G9A	6,7,8,9
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L	1			

1) Sample Preparation on 08-24-01 using EPA 3510
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
3) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
4) This sample was analyzed following Silica Gel Cleanup.
5) Those analytes with "B" flagged results were detected in the Method Blank.
6) Sample Preparation on 08-29-01 using EPA 5030
7) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
8) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.
9) 1X dilution results are from 08.27.01,batch ID v010090G9A.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-17 (continued)							
SAMPLE ID: TBW-1							
SAMPLED: 20 AUG 01 11:00							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)					08.30.01	V010091G9A	
TPH-Purgeable, quantitated as gasoline	17000.	2500.	ug/L	50			
Benzene	2100.	25.	ug/L	50			
Toluene	75.	25.	ug/L	50			
Ethylbenzene	730.	25.	ug/L	50			
Xylenes (Total)	850.	25.	ug/L	50			
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L	1			
Surrogate 4-Bromofluorobenzene [FID]	101.		%	50			
Surrogate 4-Bromofluorobenzene [PID]	88.		%	50			
LAB NUMBER: B080656-17 (continued)							
SAMPLE ID: TBW-1							
SAMPLED: 20 AUG 01 11:00							
METHOD: EPA 8260B							
VOLATILE ORGANIC COMPOUNDS				1	08.27.01	V010116MSB	1,2,3
Benzene	E530.	1.	ug/L				
Bromobenzene	ND	1.	ug/L				
Bromochloromethane	ND	1.	ug/L				
Bromodichloromethane	ND	1.	ug/L				
Bromoform	ND	1.	ug/L				
Bromomethane (Methyl Bromide)	ND	1.	ug/L				
n-Butylbenzene	30.	1.	ug/L				
sec-Butylbenzene	ND	1.	ug/L				
tert-Butylbenzene	54.	1.	ug/L				
Carbon Tetrachloride	ND	1.	ug/L				
Chlorobenzene	ND	1.	ug/L				
Chloroethane (Ethyl Chloride)	ND	1.	ug/L				
Chloroform	4.	1.	ug/L				
Chloromethane (Methyl Chloride)	10.	1.	ug/L				
2-Chlorotoluene	ND	1.	ug/L				
4-Chlorotoluene	ND	1.	ug/L				
Dibromochloromethane	ND	1.	ug/L				
1,2-Dibromo-3-chloropropane (DBCP)	ND	1.	ug/L				
1,2-Dibromoethane (EDB)	ND	1.	ug/L				
Dibromomethane	ND	1.	ug/L				

1) Sample Preparation on 08-27-01 using EPA 5030
2) "E" flagged results are estimated due to concentrations exceeding the calibration range.
3) Those analytes with "B" flagged results were detected in the Method Blank.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

LAB NUMBER: B080656-17 (continued)
SAMPLE ID: TBW-1
SAMPLED: 20 AUG 01 11:00
METHOD: EPA 8260B

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
VOLATILE ORGANIC COMPOUNDS (continued)				1	08.27.01	V010116MSB	
1,2-Dichlorobenzene	ND	1.	ug/L				
1,3-Dichlorobenzene	ND	1.	ug/L				
1,4-Dichlorobenzene	ND	1.	ug/L				
Dichlorodifluoromethane (F-12)	ND	1.	ug/L				
1,1-Dichloroethane	ND	1.	ug/L				
1,2-Dichloroethane (EDC)	ND	1.	ug/L				
1,1-Dichloroethene	ND	1.	ug/L				
cis-1,2-Dichloroethene	2.	1.	ug/L				
trans-1,2-Dichloroethene	ND	1.	ug/L				
1,2-Dichloropropane	ND	1.	ug/L				
1,3-Dichloropropane	ND	1.	ug/L				
2,2-Dichloropropane	ND	1.	ug/L				
1,1-Dichloropropene	ND	1.	ug/L				
Dichlorotrifluoroethane (F-123)	ND	1.	ug/L				
Ethylbenzene	E540.	1.	ug/L				
Hexachlorobutadiene	ND	1.	ug/L				
Isopropylbenzene	36.	1.	ug/L				
p-Isopropyltoluene	54.	1.	ug/L				
Methylene Chloride	B16.	3.	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	1.	ug/L				
Naphthalene	E300.	1.	ug/L				
n-Propylbenzene	E120.	1.	ug/L				
Styrene	ND	1.	ug/L				
1,1,1,2-Tetrachloroethane	ND	1.	ug/L				
1,1,2,2-Tetrachloroethane	ND	1.	ug/L				
Tetrachloroethene (PCE)	ND	1.	ug/L				
Toluene	79.	1.	ug/L				
1,2,3-Trichlorobenzene	ND	1.	ug/L				
1,2,4-Trichlorobenzene	ND	1.	ug/L				
1,1,1-Trichloroethane (TCA)	ND	1.	ug/L				
1,1,2-Trichloroethane	ND	1.	ug/L				
Trichloroethene (TCE)	ND	1.	ug/L				
Trichlorofluoromethane (F-11)	ND	1.	ug/L				
1,2,3-Trichloropropane	ND	1.	ug/L				
Trichlorotrifluoroethane (F-113)	ND	1.	ug/L				
1,2,4-Trimethylbenzene	E430.	1.	ug/L				
1,3,5-Trimethylbenzene	ND	1.	ug/L				
Vinyl Chloride	ND	1.	ug/L				
Xylenes (Total)	E790.	1.	ug/L				
Surrogate Dibromofluoromethane	102.		%				
Surrogate 1,2-DCA-d4	95.		%				

ORGANIC ANALYTICAL RESULTS

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-17 (continued)							
SAMPLE ID: TBW-1							
SAMPLED: 20 AUG 01 11:00							
METHOD: EPA 8260B							
VOLATILE ORGANIC COMPOUNDS (continued)				1	08.27.01	V010116MSB	
Surrogate Toluene-d8	123.		%				
Surrogate 4-BFB	110.		%				
LAB NUMBER: B080656-18							
SAMPLE ID: TBW-3							
SAMPLED: 20 AUG 01 11:15							
METHOD: EPA 8270							
SEMIVOLATILE ORGANIC COMPOUNDS				1	09.17.01	S010073BNA	1
Acenaphthene	ND	5.	ug/L				
Acenaphthylene	ND	5.	ug/L				
Aniline	ND	5.	ug/L				
Anthracene	ND	5.	ug/L				
Benzidine	ND	10.	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	5.	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	5.	ug/L				
Diethyl phthalate	ND	5.	ug/L				
Dimethyl phthalate	ND	5.	ug/L				
Di-n-butylphthalate	ND	5.	ug/L				
2,4-Dinitrotoluene	ND	5.	ug/L				

1) Sample Preparation on 08-27-01 using EPA 3510

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

LAB NUMBER: B080656-18 (continued)
SAMPLE ID: TBW-3
SAMPLED: 20 AUG 01 11:15
METHOD: EPA 8270

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
SEMIVOLATILE ORGANIC COMPOUNDS (continued)				1	09.17.01	S010073BNA	
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	5.	ug/L				
Fluoranthene	ND	5.	ug/L				
Fluorene	ND	5.	ug/L				
Hexachlorobenzene	ND	5.	ug/L				
Hexachlorobutadiene	ND	5.	ug/L				
Hexachlorocyclopentadiene	ND	5.	ug/L				
Hexachloroethane	ND	5.	ug/L				
Indeno(1,2,3-cd)pyrene	ND	5.	ug/L				
Isophorone	ND	5.	ug/L				
2-Methylnaphthalene	ND	5.	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	5.	ug/L				
N-Nitrosodiphenylamine	ND	5.	ug/L				
N-Nitrosodi-n-propylamine	ND	5.	ug/L				
Phenanthrene	5.	5.	ug/L				
Pyrene	ND	5.	ug/L				
Pyridine	ND	5.	ug/L				
1,2,4-Trichlorobenzene	ND	5.	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	5.	ug/L				
2-Methyl-4,6-dinitrophenol	ND	5.	ug/L				
2-Methylphenol (o-Cresol)	ND	5.	ug/L				
3-/4-Methylphenol (m/p-Cresol)	ND	5.	ug/L				
2-Nitrophenol	ND	5.	ug/L				
4-Nitrophenol	ND	5.	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				

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-18 (continued)							
SAMPLE ID: TBW-3							
SAMPLED: 20 AUG 01 11:15							
METHOD: EPA 8270							
SEMIVOLATILE ORGANIC COMPOUNDS (continued)				1	09.17.01	S010073BNA	
Surrogate Nitrobenzene-d5	67.		%				
Surrogate 2-Fluorobiphenyl	64.		%				
Surrogate Terphenyl-d14	77.		%				
Surrogate 2-Fluorophenol	43.		%				
Surrogate Phenol-d6	31.		%				
Surrogate 2,4,6-Tribromophenol	82.		%				
LAB NUMBER: B080656-18 (continued)							
SAMPLE ID: TBW-3							
SAMPLED: 20 AUG 01 11:15							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.30.01	T010222TPH	1-5
TPH-Extractable, quantitated as diesel	1500.	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B400.	200.	ug/L				
Surrogate o-Terphenyl	90.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-18 (continued)							
SAMPLE ID: TBW-3							
SAMPLED: 20 AUG 01 11:15							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS				1	08.30.01	V010091G9A	6,7
Total Petroleum Hydrocarbons - Gasoline	ND	50.	ug/L				

1) Sample Preparation on 08-24-01 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) Those analytes with "B" flagged results were detected in the Method Blank.
6) Sample Preparation on 08-29-01 using EPA 5030
7) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on gasoline standards.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-18 (continued)							
SAMPLE ID: TBW-3							
SAMPLED: 20 AUG 01 11:15							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS (continued)				1	08.30.01	V010091G9A	
TPH-Purgeable, quantitated as gasoline	180.	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]	93.		%				
Surrogate 4-Bromofluorobenzene [PID]	87.		%				
LAB NUMBER: B080656-18 (continued)							
SAMPLE ID: TBW-3							
SAMPLED: 20 AUG 01 11:15							
METHOD: EPA 8260B							
VOLATILE ORGANIC COMPOUNDS				1	08.27.01	V010116MSB	1
Benzene	10.	1.	ug/L				
Bromobenzene	ND	1.	ug/L				
Bromochloromethane	ND	1.	ug/L				
Bromodichloromethane	ND	1.	ug/L				
Bromoform	ND	1.	ug/L				
Bromomethane (Methyl Bromide)	ND	1.	ug/L				
n-Butylbenzene	ND	1.	ug/L				
sec-Butylbenzene	ND	1.	ug/L				
tert-Butylbenzene	ND	1.	ug/L				
Carbon Tetrachloride	ND	1.	ug/L				
Chlorobenzene	ND	1.	ug/L				
Chloroethane (Ethyl Chloride)	ND	1.	ug/L				
Chloroform	ND	1.	ug/L				
Chloromethane (Methyl Chloride)	ND	1.	ug/L				
2-Chlorotoluene	ND	1.	ug/L				
4-Chlorotoluene	ND	1.	ug/L				
Dibromochloromethane	ND	1.	ug/L				
1,2-Dibromo-3-chloropropane (DBCP)	ND	1.	ug/L				
1,2-Dibromoethane (EDB)	ND	1.	ug/L				
Dibromomethane	ND	1.	ug/L				
1,2-Dichlorobenzene	ND	1.	ug/L				
1,3-Dichlorobenzene	ND	1.	ug/L				

1) Sample Preparation on 08-27-01 using EPA 5030

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

LAB NUMBER: B080656-18 (continued)
SAMPLE ID: TBW-3
SAMPLED: 20 AUG 01 11:15
METHOD: EPA 8260B

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
VOLATILE ORGANIC COMPOUNDS (continued)				1	08.27.01	V010116MSB	
1,4-Dichlorobenzene	ND	1.	ug/L				
Dichlorodifluoromethane (F-12)	ND	1.	ug/L				
1,1-Dichloroethane	ND	1.	ug/L				
1,2-Dichloroethane (EDC)	ND	1.	ug/L				
1,1-Dichloroethene	ND	1.	ug/L				
cis-1,2-Dichloroethene	ND	1.	ug/L				
trans-1,2-Dichloroethene	ND	1.	ug/L				
1,2-Dichloropropane	ND	1.	ug/L				
1,3-Dichloropropane	ND	1.	ug/L				
2,2-Dichloropropane	ND	1.	ug/L				
1,1-Dichloropropene	ND	1.	ug/L				
Dichlorotrifluoroethane (F-123)	ND	1.	ug/L				
Ethylbenzene	6.	1.	ug/L				
Hexachlorobutadiene	ND	1.	ug/L				
Isopropylbenzene	ND	1.	ug/L				
p-Isopropyltoluene	ND	1.	ug/L				
Methylene Chloride	ND	3.	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	1.	ug/L				
Naphthalene	5.	1.	ug/L				
n-Propylbenzene	ND	1.	ug/L				
Styrene	ND	1.	ug/L				
1,1,1,2-Tetrachloroethane	ND	1.	ug/L				
1,1,2,2-Tetrachloroethane	ND	1.	ug/L				
Tetrachloroethene (PCE)	ND	1.	ug/L				
Toluene	ND	1.	ug/L				
1,2,3-Trichlorobenzene	ND	1.	ug/L				
1,2,4-Trichlorobenzene	ND	1.	ug/L				
1,1,1-Trichloroethane (TCA)	ND	1.	ug/L				
1,1,2-Trichloroethane	ND	1.	ug/L				
Trichloroethene (TCE)	ND	1.	ug/L				
Trichlorofluoromethane (F-11)	ND	1.	ug/L				
1,2,3-Trichloropropane	ND	1.	ug/L				
Trichlorotrifluoroethane (F-113)	ND	1.	ug/L				
1,2,4-Trimethylbenzene	ND	1.	ug/L				
1,3,5-Trimethylbenzene	ND	1.	ug/L				
Vinyl Chloride	ND	1.	ug/L				
Xylenes (Total)	3.	1.	ug/L				
Surrogate Dibromofluoromethane	124.		%				
Surrogate 1,2-DCA-d4	118.		%				
Surrogate Toluene-d8	118.		%				
Surrogate 4-BFB	112.		%				

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

LAB NUMBER: B080656-19
SAMPLE ID: TBW-5
SAMPLED: 20 AUG 01 13:30
METHOD: EPA 8270

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
SEMIVOLATILE ORGANIC COMPOUNDS						S010073BNA	1
Acenaphthene	ND	5.	ug/L	1	09.17.01		
Acenaphthylene	ND	5.	ug/L	1	09.17.01		
Aniline	ND	5.	ug/L	1	09.17.01		
Anthracene	ND	5.	ug/L	1	09.17.01		
Benzidine	ND	10.	ug/L	1	09.17.01		
Benzo(a)anthracene	ND	5.	ug/L	1	09.17.01		
Benzo(b)fluoranthene	ND	5.	ug/L	1	09.17.01		
Benzo(k)fluoranthene	ND	5.	ug/L	1	09.17.01		
Benzo(ghi)perylene	ND	5.	ug/L	1	09.17.01		
Benzo(a)pyrene	ND	5.	ug/L	1	09.17.01		
Benzylbutylphthalate	ND	5.	ug/L	1	09.17.01		
4-Bromophenyl phenyl ether	ND	5.	ug/L	1	09.17.01		
Carbazole	ND	5.	ug/L	1	09.17.01		
4-Chloroaniline	ND	5.	ug/L	1	09.17.01		
bis(2-chloroethoxy)methane	ND	5.	ug/L	1	09.17.01		
bis(2-chloroethyl)ether	ND	5.	ug/L	1	09.17.01		
bis(2-chloroisopropyl)ether	ND	5.	ug/L	1	09.17.01		
2-Chloronaphthalene	ND	5.	ug/L	1	09.17.01		
4-Chlorophenyl phenyl ether	ND	5.	ug/L	1	09.17.01		
Chrysene	ND	5.	ug/L	1	09.17.01		
Dibenzo(a,h)anthracene	ND	5.	ug/L	1	09.17.01		
Dibenzofuran	ND	5.	ug/L	1	09.17.01		
1,2-Dichlorobenzene	ND	5.	ug/L	1	09.17.01		
1,3-Dichlorobenzene	ND	5.	ug/L	1	09.17.01		
1,4-Dichlorobenzene	ND	5.	ug/L	1	09.17.01		
3,3-Dichlorobenzidine	ND	5.	ug/L	1	09.17.01		
Diethyl phthalate	ND	5.	ug/L	1	09.17.01		
Dimethyl phthalate	ND	5.	ug/L	1	09.17.01		
Di-n-butylphthalate	ND	5.	ug/L	1	09.17.01		
2,4-Dinitrotoluene	ND	5.	ug/L	1	09.17.01		
2,6-Dinitrotoluene	ND	5.	ug/L	1	09.17.01		
Di-n-octylphthalate	ND	5.	ug/L	1	09.17.01		
1,2-Diphenylhydrazine	ND	5.	ug/L	1	09.17.01		
bis(2-Ethylhexyl)phthalate	ND	5.	ug/L	1	09.17.01		
Fluoranthene	ND	5.	ug/L	1	09.17.01		
Fluorene	ND	5.	ug/L	1	09.17.01		
Hexachlorobenzene	ND	5.	ug/L	1	09.17.01		
Hexachlorobutadiene	ND	5.	ug/L	1	09.17.01		
Hexachlorocyclopentadiene	ND	5.	ug/L	1	09.17.01		
Hexachloroethane	ND	5.	ug/L	1	09.17.01		
Indeno(1,2,3-cd)pyrene	ND	5.	ug/L	1	09.17.01		

1) Sample Preparation on 08-27-01 using EPA 3510

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

LAB NUMBER: B080656-19 (continued)
SAMPLE ID: TBW-5
SAMPLED: 20 AUG 01 13:30
METHOD: EPA 8270

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
SEMIVOLATILE ORGANIC COMPOUNDS (continued)						S010073BNA	
Isophorone	ND	5.	ug/L	1	09.17.01		
2-Methylnaphthalene	63.	5.	ug/L	1	09.17.01		
Naphthalene	220.	25.	ug/L	5	09.27.01		
2-Nitroaniline	ND	5.	ug/L	1	09.17.01		
3-Nitroaniline	ND	5.	ug/L	1	09.17.01		
4-Nitroaniline	ND	5.	ug/L	1	09.17.01		
Nitrobenzene	ND	5.	ug/L	1	09.17.01		
N-Nitrosodimethylamine	ND	5.	ug/L	1	09.17.01		
N-Nitrosodiphenylamine	ND	5.	ug/L	1	09.17.01		
N-Nitrosodi-n-propylamine	ND	5.	ug/L	1	09.17.01		
Phenanthrene	ND	5.	ug/L	1	09.17.01		
Pyrene	ND	5.	ug/L	1	09.17.01		
Pyridine	ND	5.	ug/L	1	09.17.01		
1,2,4-Trichlorobenzene	ND	5.	ug/L	1	09.17.01		
Benzoic Acid	ND	20.	ug/L	1	09.17.01		
Benzyl Alcohol	ND	5.	ug/L	1	09.17.01		
4-Chloro-3-methylphenol	ND	5.	ug/L	1	09.17.01		
2-Chlorophenol	ND	5.	ug/L	1	09.17.01		
2,4-Dichlorophenol	ND	5.	ug/L	1	09.17.01		
2,4-Dimethylphenol	ND	5.	ug/L	1	09.17.01		
2,4-Dinitrophenol	ND	5.	ug/L	1	09.17.01		
2-Methyl-4,6-dinitrophenol	ND	5.	ug/L	1	09.17.01		
2-Methylphenol (o-Cresol)	ND	5.	ug/L	1	09.17.01		
3-/4-Methylphenol (m/p-Cresol)	ND	5.	ug/L	1	09.17.01		
2-Nitrophenol	ND	5.	ug/L	1	09.17.01		
4-Nitrophenol	ND	5.	ug/L	1	09.17.01		
Phenol	10.	5.	ug/L	1	09.17.01		
Pentachlorophenol	ND	5.	ug/L	1	09.17.01		
2,4,5-Trichlorophenol	ND	5.	ug/L	1	09.17.01		
2,4,6-Trichlorophenol	ND	5.	ug/L	1	09.17.01		
Surrogate Nitrobenzene-d5	58.		%	1	09.17.01		
Surrogate 2-Fluorobiphenyl	45.		%	1	09.17.01		
Surrogate Terphenyl-d14	79.		%	1	09.17.01		
Surrogate 2-Fluorophenol	36.		%	1	09.17.01		
Surrogate Phenol-d6	33.		%	1	09.17.01		
Surrogate 2,4,6-Tribromophenol	73.		%	1	09.17.01		

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: B080656-19 (continued)							
SAMPLE ID: TBW-5							
SAMPLED: 20 AUG 01 13:30							
METHOD: EPA 8015M							
TPH SEMI-VOL- DISSOLVED				1	08.30.01	T010222TPH	1-5
TPH-Extractable, quantitated as diesel	550.	50.	ug/L				
TPH-Extractable, quantitated as Motor Oil	B400.	200.	ug/L				
Surrogate o-Terphenyl	87.		%				
Kerosene	ND	100.	ug/L				
LAB NUMBER: B080656-19 (continued)							
SAMPLE ID: TBW-5							
SAMPLED: 20 AUG 01 13:30							
METHOD: EPA 8015/8020A							
AROMATIC HYDROCARBONS AND TOTAL PURGEABLE PETROLEUM HYDROCARBONS						V010091G9A	6,7
Total Petroleum Hydrocarbons - Gasoline	30000.	2000.	ug/L	40	08.30.01		
Benzene	2900.	20.	ug/L	40	08.30.01		
Toluene	100.	20.	ug/L	40	08.30.01		
Ethylbenzene	1500.	20.	ug/L	40	08.30.01		
Xylenes (Total)	5100.	20.	ug/L	40	08.30.01		
Methyl tert-Butyl Ether (MTBE)	ND	5.	ug/L	1	08.28.01		
Surrogate 4-Bromofluorobenzene [FID]	114.		%	40	08.30.01		
Surrogate 4-Bromofluorobenzene [PID]	91.		%	40	08.30.01		
LAB NUMBER: B080656-19 (continued)							
SAMPLE ID: TBW-5							
SAMPLED: 20 AUG 01 13:30							
METHOD: EPA 8260B							
VOLATILE ORGANIC COMPOUNDS				1	08.27.01	V010116MSB	5,8,9
Benzene	E620.	1.	ug/L				

1) Sample Preparation on 08-24-01 using EPA 3510
2) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.
3) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
4) This sample was analyzed following Silica Gel Cleanup.
5) Those analytes with "B" flagged results were detected in the Method Blank.
6) Sample Preparation on 08-29-01 using EPA 5030
7) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
8) Sample Preparation on 08-27-01 using EPA 5030
9) "E" flagged results are estimated due to concentrations exceeding the calibration range.

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

LAB NUMBER: B080656-19 (continued)
SAMPLE ID: TBW-5
SAMPLED: 20 AUG 01 13:30
METHOD: EPA 8260B

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
VOLATILE ORGANIC COMPOUNDS (continued)				1	08.27.01	V010116MSB	
Bromobenzene	ND	1.	ug/L				
Bromochloromethane	ND	1.	ug/L				
Bromodichloromethane	ND	1.	ug/L				
Bromoform	ND	1.	ug/L				
Bromomethane (Methyl Bromide)	ND	1.	ug/L				
n-Butylbenzene	ND	1.	ug/L				
sec-Butylbenzene	ND	1.	ug/L				
tert-Butylbenzene	E160.	1.	ug/L				
Carbon Tetrachloride	ND	1.	ug/L				
Chlorobenzene	ND	1.	ug/L				
Chloroethane (Ethyl Chloride)	ND	1.	ug/L				
Chloroform	3.	1.	ug/L				
Chloromethane (Methyl Chloride)	ND	1.	ug/L				
2-Chlorotoluene	ND	1.	ug/L				
4-Chlorotoluene	ND	1.	ug/L				
Dibromochloromethane	ND	1.	ug/L				
1,2-Dibromo-3-chloropropane (DBCP)	ND	1.	ug/L				
1,2-Dibromoethane (EDB)	ND	1.	ug/L				
Dibromomethane	ND	1.	ug/L				
1,2-Dichlorobenzene	ND	1.	ug/L				
1,3-Dichlorobenzene	ND	1.	ug/L				
1,4-Dichlorobenzene	ND	1.	ug/L				
Dichlorodifluoromethane (F-12)	ND	1.	ug/L				
1,1-Dichloroethane	ND	1.	ug/L				
1,2-Dichloroethane (EDC)	ND	1.	ug/L				
1,1-Dichloroethene	ND	1.	ug/L				
cis-1,2-Dichloroethene	ND	1.	ug/L				
trans-1,2-Dichloroethene	ND	1.	ug/L				
1,2-Dichloropropane	ND	1.	ug/L				
1,3-Dichloropropane	ND	1.	ug/L				
2,2-Dichloropropane	ND	1.	ug/L				
1,1-Dichloropropene	ND	1.	ug/L				
Dichlorotrifluoroethane (F-123)	ND	1.	ug/L				
Ethylbenzene	E730.	1.	ug/L				
Hexachlorobutadiene	ND	1.	ug/L				
Isopropylbenzene	40.	1.	ug/L				
p-Isopropyltoluene	E160.	1.	ug/L				
Methylene Chloride	B10.	3.	ug/L				
Methyl tert-Butyl Ether (MTBE)	ND	1.	ug/L				
Naphthalene	E450.	1.	ug/L				
n-Propylbenzene	E140.	1.	ug/L				

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: B080656

LAB NUMBER: B080656-19 (continued)
SAMPLE ID: TBW-5
SAMPLED: 20 AUG 01 13:30
METHOD: EPA 8260B

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
VOLATILE ORGANIC COMPOUNDS (continued)				1	08.27.01	V010116MSB	
Styrene	ND	1.	ug/L				
1,1,1,2-Tetrachloroethane	ND	1.	ug/L				
1,1,2,2-Tetrachloroethane	ND	1.	ug/L				
Tetrachloroethene (PCE)	ND	1.	ug/L				
Toluene	E110.	1.	ug/L				
1,2,3-Trichlorobenzene	ND	1.	ug/L				
1,2,4-Trichlorobenzene	ND	1.	ug/L				
1,1,1-Trichloroethane (TCA)	ND	1.	ug/L				
1,1,2-Trichloroethane	ND	1.	ug/L				
Trichloroethene (TCE)	ND	1.	ug/L				
Trichlorofluoromethane (F-11)	ND	1.	ug/L				
1,2,3-Trichloropropane	ND	1.	ug/L				
Trichlorotrifluoroethane (F-113)	ND	1.	ug/L				
1,2,4-Trimethylbenzene	E1300.	1.	ug/L				
1,3,5-Trimethylbenzene	ND	1.	ug/L				
Vinyl Chloride	ND	1.	ug/L				
Xylenes (Total)	E3100.	1.	ug/L				
Surrogate Dibromofluoromethane	102.		%				
Surrogate 1,2-DCA-d4	91.		%				
Surrogate Toluene-d8	132.		%				
Surrogate 4-BFB	106.		%				

Caltest ANALYTICAL LABORATORY

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

SAMPLE CHAIN OF CUSTODY

PAGE 2 OF 2

LAB ORDER #: [illegible]

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

P.O. #:

CLIENT: Cambria Env Tech

REPORT TO: Tom Howard

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

BILLING ADDRESS: 3000 Citrus Cr #111 Griya Walnut Creek, Ca 94598

PHONE #: 510-420-3310 FAX PHONE: 510-420-9170 SAMPLER (PRINT & SIGN NAME): Sanju Gill

ANALYSES REQUESTED

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							REMARKS
-10	8-17-01	3:50	AQ	1AL 4voa	HCl	MW-13			X		X				
-11	8-17-01	4:20	AQ	1AL 4voa	HCl	MW-14			X		X				see
-12	8-17-01	5:20	AQ	1AL 4voa	HCl	MW-15			X		X				page
-13	8-17-01	7:30	AQ	1AL 4voa	HCl	MW-17			X		X				
-17	8-20-01	11:00	AQ	2AL 6voa 1 1L poly	HCl HNO3	TBW-1			X		X		X	X	1 of 2
-18	8-20-01	11:15	AQ	2AL 6voa 1 1L poly	HCl HNO3	TBW-3			X		X		X	X	
-14	8-16-01	10:37	AQ	1AL 4voa	HCl	TBW-4			X		X				
-19	8-20-01	1330	AQ	2AL 6voa 1 1L poly	HCl HNO3	TBW-5			X		X		X	X	
-15	8-17-01	9:00	AQ	1AL 4voa	HCl	TBW-6			X		X				
									X		X				

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	RELINQUISHED BY	DATE/TIME	RECEIVED BY
S. Gill	8-20-01 14:55	secure location	S. Gill	8/20/01 1445	Flo. [illegible]
Flo. [illegible]	8/20/01 1640	[signature]			

FOR LAB USE ONLY

Samples: WC ____ MICRO ____ BIO ____ AA ____ SV ____ VOA ____ pH? Y/N TEMP: 3°C SEALED: Y/N INTACT: Y/N

BD: BIO ____ WC ____ AA ____

CC: AA ____ SV ____ VOA ____

SIL: HP ____ PT ____ QT ____ VOA ____

W/HNO$_3$ ____ H_2SO_4 ____ NaOH ____

PIL: HNO$_3$ ____ H_2SO_4 ____ NaOH ____ HCL ____

COMMENTS

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

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

R ____ PR ____ M 10/04/01 F ____

REV. 2/99

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

Caltest ANALYTICAL LABORATORY

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

SAMPLE CHAIN OF CUSTODY

PAGE 1 OF 2

LAB ORDER #: K080956

PROJECT # / PROJECT NAME: 153-1153 / City of Oakland

P.O. #

CLIENT: Cambria Env Tech

REPORT TO: Tom Howard

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

BILLING ADDRESS: Caiya 3000 Citrus Cr. #111 Walnut Creek, Ca 94598

PHONE #: 510-420-3310 FAX PHONE: 510-420-9170 SAMPLER (PRINT & SIGN NAME): Sanjiv Gill

ANALYSES REQUESTED: TPH g / BTEX / MTBE by 8015/8020; TPH d / Kero (8015) w/ silica gel cleanup; VOC by 8260; SVOCs by 8270; metals

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 g/BTEX/MTBE		TPH d/Kero		VOC	SVOC	metals	REMARKS
-1	8-17-01	6:38	AQ	1AL 4VOA	HCl	MW-1			X		X					send data to Cambria
-2	8-17-01	6:58	AQ	1AL 4VOA	HCl	MW-2			X		X					send invoice to Caiya
-3	8-16-01	12:05	AQ	1AL 4VOA	HCl	MW-5			X		X					any positive results for MTBE will be confirmed
-16	8-20-01	10:30	AQ	2AL 4VOA 1L poly	HCl HNO3	MW-6			X		X		X	X		by reanalysis using EPA Method 8260 in MW-5
-4	8-16-01	11:45	AQ	1AL 4VOA	HCl	MW-7			X		X					Prior to analysis, lab will filter sample w/ 0.45 micron filter then
-5	8-17-01	5:50	AQ	1AL 4VOA	HCl	MW-8			X		X					subject filtrate to silica gel treatment
-6	8-17-01	4:50	AQ	1AL 4VOA	HCl	MW-9			X		X					(cleanup) using 3630, and then sample / dilute the filtrate
-7	8-17-01	3:20	AQ	1AL 4VOA	HCl	MW-10			X		X					for analysis. The lab shall run a spiked [illegible]
-8	8-10-01	12:25	AQ	1AL 4VOA	HCl	MW-11			X		X					blank through the same procedure and
-9	8-17-01	6:20	AQ	1AL 4VOA	HCl	MW-12			X		X					evaluate and report any atypical results

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
S. Gill	8-20-01 14:15	secure location	S. Gill	8/20/01 1445	[signature]
[signature]	8/20/01 1640	[signature]			

FOR LAB USE ONLY

Samples: WC____ MICRO____ BIO____ AA____ SV____ VOA____ pH? Y/N TEMP: 3.9 SEALED: Y/N INTACT: Y/N

BD: BIO____ WC____ AA____

CC: AA____ SV____ VOA____

SIL: HP____ PT____ QT____ VOA____

W/HNO$_3$____ H$_2$SO$_4$____ NaOH____

PIL: HNO$_3$____ H$_2$SO$_4$____ NaOH____ HCL____

COMMENTS

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

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

R____ PR____ M 8/14/01 F____

REV. 2/99

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

Appendix C

Well Sampling Protocol for 4th Quarter 2001

CAMBRIA

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

Well	Quarter				Gauge Every Qtr	DO (field meter)	TPHg/ BTEX/ MTBE* (8015/ 8020)	TPH d/k/mo (8015) filter+ silica gel**	VOC (8260)	SVOC (8270)	metals	Comments
	1	2	3	4								
MW-1	X		X		X	X						
MW-2	X		X		X	X						
MW-5	X	X	X	X	X	X						
MW-6	X		X		X	X					X	SPH-present
MW-7	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	SPH present
TBW-3	X		X		X	X					X	SPH present
TBW-4	X		X		X	X						
TBW-5	X		X		X	X					X	SPH present
TBW-6	X		X		X	X						
Trip Blank	X	X	X	X	NA	NA	X	X				

DO = Dissolved oxygen
* = Any positive results for MTBE will be confirmed by re-analysis using EPA Method 8260, except in MW-5.
** = Prior to analysis, lab will filter sample with 0.45 micron filter, then subject filtrate to silica gel treatment (clean-up) by EPA Method 3630, and then sample/dilute the filtrate for analysis. The lab shall run a spiked method blank through the same procedure, evaluate, and explain any atypical deviation.
*** = Wells MW-3 and MW-4 were destroyed during the first quarter 1999.
Metals: cyanide and chromium VI.