CAMBRIA

NOV 15 2001

November 13, 2001

Barney Chan
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

#3849

Re: **Third Quarter 2001 Monitoring Report**
Shell-branded Service Station
105 Fifth Street
Oakland, California
Incident #98995757
Cambria Project #243-0472-002

Dear Mr. Chan:

On behalf of Equiva Services LLC, Cambria Environmental Technology, Inc. (Cambria) is submitting this groundwater monitoring report in accordance with the reporting requirements of 23 CCR 2652d.

HISTORICAL REMEDIATION SUMMARY

Mobile dual-phase vacuum extraction (DVE) was performed at the site from April to November 2000, and once in March 2001. Mobile DVE is the process of applying a high vacuum through an airtight well seal to simultaneously extract soil vapors from the vadose zone and enhance groundwater extraction (GWE) from the saturated zone. A stinger is lowered into the well to draw down the water table and increase the unsaturated area available for soil vapor extraction (SVE). Mobile DVE utilitizes a vacuum truck as an extraction device, moisture separator, and temporary storage tank. Extracted soil vapors pass through the vacuum truck tank and are abated through carbon filtration. An estimated 14.59 lbs of total petroleum hydrocarbons as gasoline (TPHg) and 14.50 lbs. of methyl tertiary butyl ether (MTBE) were removed by the DVE process from monitoring wells MW-2 and MW-3 between April 2000 and March 2001. Mass removal data from the DVE events are presented in Tables 1 and 2.

Oakland, CA
San Ramon, CA
Sonoma, CA

Cambria Environmental Technology, Inc.

1144 65th Street
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Oakland, CA 94608
Tel (510) 420-0700
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THIRD QUARTER 2001 ACTIVITIES

Groundwater Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, California gauged and sampled the site wells, calculated groundwater elevations, and compiled the analytical data. Cambria prepared a vicinity map showing well survey data (Figure 1) and a groundwater elevation contour map (Figure 2). Blaine's report, presenting the laboratory report and supporting field documents, is included as Attachment A.

Soil Data Evaluation: Soil sample data from all past investigations are presented in Table 3. Impacts of TPHg ranging up to 3,500 milligrams per kilogram (mg/kg) are found 5 feet below grade (fbg) in D-1 through 8, SB-3, SB-4, and MW-2. Impacts of MTBE between 8.83 mg/kg (analyzed by EPA Method 8260B) and 26 mg/kg (analyzed by EPA Method 8020) are found between 5 and 11.5 fbg in D-3, MW-2, and MW-3 (Table 3, Figure 2). Groundwater levels have fluctuated above and below the depths of these soil samples, indicating that TPHg- and MTBE-impacted groundwater may have contributed to the concentrations in these soil samples. Nonetheless, the lack of a potential source area upgradient of the dispensers, and the proximity of the sample locations to the dispensers suggest that the product dispensers may be acting as a source.

GWE: On July 17, 2001, Cambria submitted a *Dual Phase Vacuum Extraction Test Report*. In the report Cambria recommended conducting semi-monthly GWE from backfill well T-1 for a period of six months using a vacuum truck. Mobile GWE vacuum operations consist of lowering dedicated stingers into selected monitoring wells and extracting fluids using a vacuum truck. The volume of extracted fluid is recorded and used to calculate the quantity of aqueous-phase hydrocarbon removed from the subsurface.

Response to June 26, 2001 Agency Letter: In a letter dated June 26, 2001, the Alameda County Health Care Services Agency (ACHCSA) made the following bulleted comments in response to Cambria's June 7, 2001 *Offsite Subsurface Investigation Report*. Cambria's responses to the ACHCSA comments are italicized.

- The symbols used to designate the two potential receptor wells on Figure 3 were reversed. *A revised vicinity/well survey map is included in this report as Figure 1.*
- No recommendations were made to investigate the potential impact of a release on sewer and storm drain utilities. *Recommendations will be made in our Offsite Conduit Investigation Work Plan to be submitted in the fourth quarter of 2001.*
- No groundwater contour map was provided with the June 7, 2001 *Offsite Subsurface Investigation Report. A groundwater contour map is included in this report as Figure 2.*

- An additional on-site monitoring well and tank pit backfill could be used for groundwater contouring and remediation purposes. *As part of our DVE test, which is reported in our July 17, 2001 Dual-Phase Vacuum Extraction Test Report, we identified two tank backfill wells, T-1 and T-2 (Figure 2). We extracted 2,900 gallons of groundwater from T-1 in approximately one hour. Based on the good yield, the potential for significant liquid phase recovery from the tank backfill, and potential for hydraulic control of the contaminants in groundwater, we recommended conducting semi-monthly GWE from tank backfill well T-1 for a period of six months by means of a vacuum truck, and adding well T-1 to the quarterly monitoring schedule. These conclusions were supported by the DVE pilot test data, which showed that vapor MTBE concentrations were modest, and that groundwater production was not significantly enhanced by DVE. Additionally, we propose to collect vapor samples from the tank backfill wells to evaluate whether MTBE vapors are present and may be contributing to MTBE concentrations in groundwater. If significant MTBE vapors are identified, we will consider installing a continuously operating SVE system to extract tank backfill vapors.*
- The < (less than) term was used when summing actual amounts of analytes removed during groundwater and vapor extraction events. *Beginning with our July 17, 2001 Dual-Phase Vacuum Extraction Test Report, we have stopped using the < (less than) term for this purpose.*
- The merits of installing a permanent extraction system versus continued monthly extraction should be discussed. *In our our July 17, 2001 Dual-Phase Vacuum Extraction Test Report we discuss the merits of conducting semi-monthly groundwater extraction from tank backfill well T-1. Extracting groundwater from T-1 during this test shows that there is potential for significant liquid phase recovery from the tank backfill and that there is potential for hydraulic control of the contaminants in groundwater.*

ANTICIPATED FOURTH QUARTER 2001 ACTIVITIES

Groundwater Monitoring: Blaine will gauge and sample all wells, and tabulate the data. Cambria will prepare a monitoring report.

GWE: In the fourth quarter of 2001, Cambria will begin semi-monthly GWE from backfill well T-1 for six months. Well T-1 will also be added to the quarterly monitoring schedule to more accurately estimate mass removal quantities. After the six-month period, Cambria will evaluate the effectiveness of the GWE events.

Offsite Conduit Investigation: In the fourth quarter of 2001, Cambria will submit a work plan proposing an investigation intended to determine if there has been an impact of petroleum hydrocarbons to the sewer and storm drain utilities in Oak Street downgradient of the site.

CLOSING

We appreciate the opportunity to work with you on this project. Please call James Loetterle at (510) 420-3336 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc

James Loetterle
Project Geologist

Diane M. Lundquist P.E.
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
DIANE M. LUNDQUIST
No. C46725
CIVIL
STATE OF CALIFORNIA

Figures: 1 - Vicinity/Well Survey Map
2 - Groundwater Elevation Contour Map
3 - MTBE Concentrations and Mass Removal, Well MW-3

Tables: 1 - Groundwater Extraction – Mass Removal Data
2- Vapor Extraction - Mass Removal Data
3 - Soil Analytical Data

Attachment: A - Blaine Groundwater Monitoring Report and Field Notes

cc: Karen Petryna, Equiva Services LLC, P.O. Box 7869, Burbank, CA 91510-7869
Arthur R. and Mary A. Hansen, Trs., et al, 820 Loyola Drive, Los Altos, CA 94024

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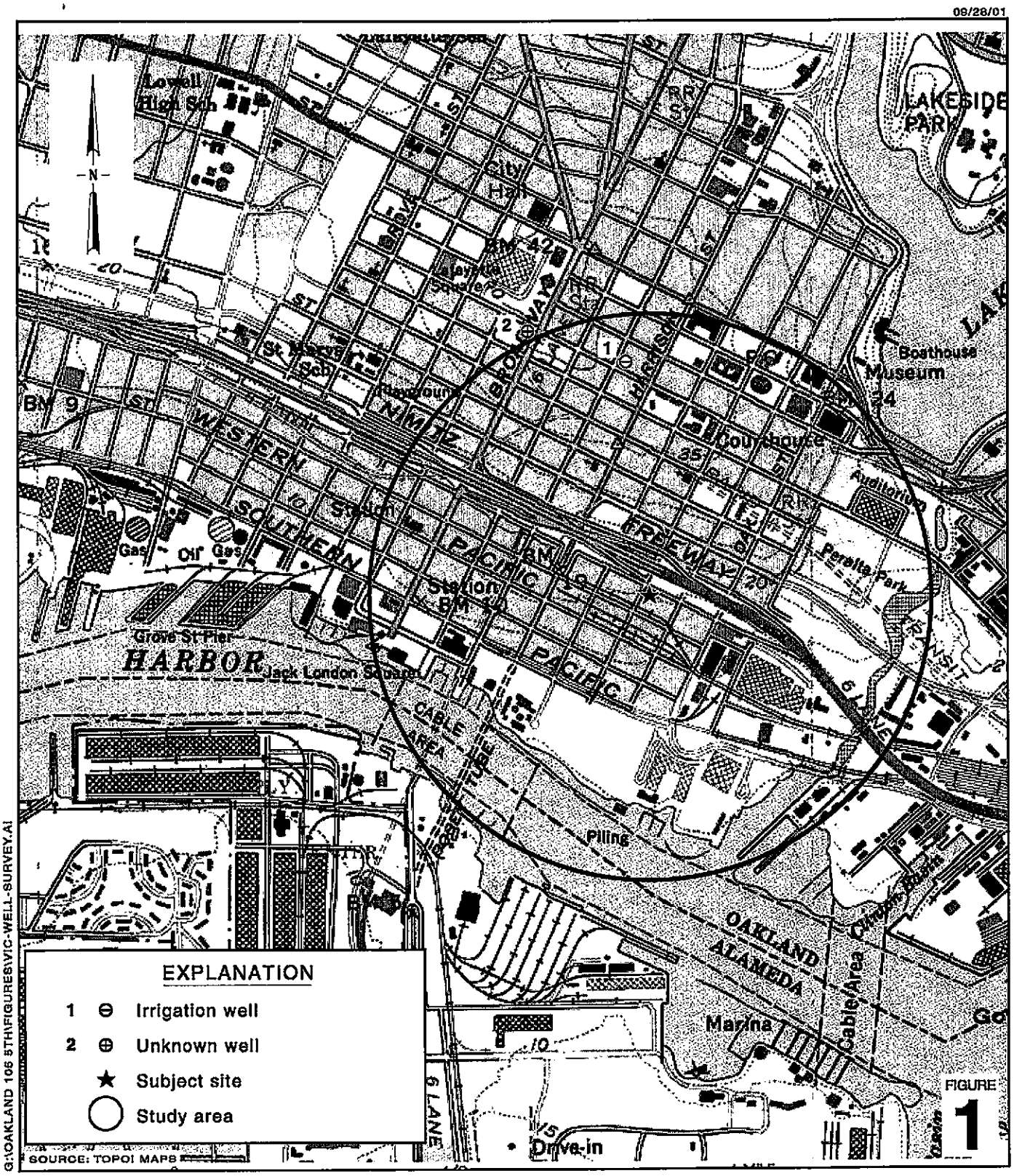
09/28/01



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Shell-branded Service Station
105 Fifth Street
Oakland, California
Incident# 98995757

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Vicinity / Well Survey Map

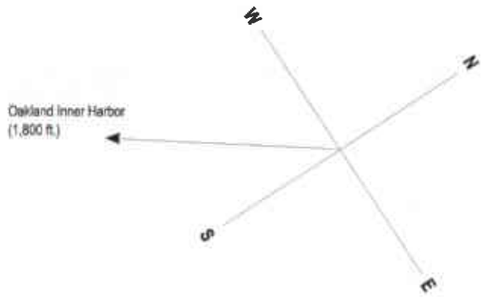
(1/2 Mile Radius)

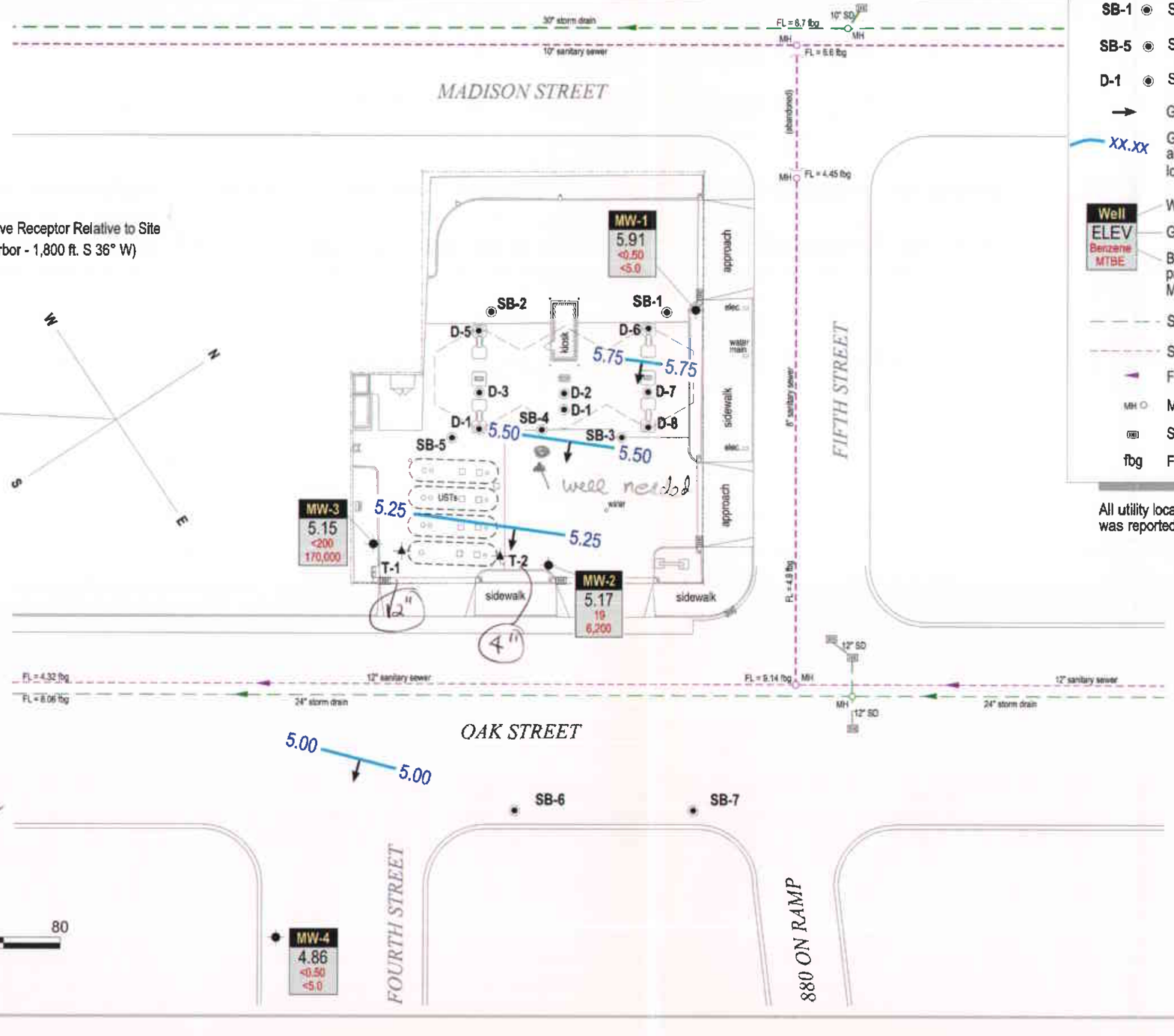
Groundwater Elevation Contour Map

July 9, 2001

Location of Sensitive Receptor Relative to Site
(Oakland Inner Harbor - 1,800 ft. S 36° W)

Oakland Inner Harbor
(1,800 ft.)

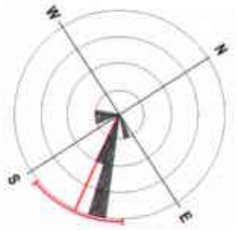




EXPLANATION

MW-1	Monitoring well location
T-1	Tank backfill well location
SB-1	Soil boring location
SB-5	Soil boring location (02/12/01)
D-1	Soil boring location
→	Groundwater flow direction
xx.xx	Groundwater elevation contour, in feet above mean sea level (msl), approximately located, dashed where inferred
Well / ELEV / Benzene / MTBE	Well designation; Groundwater elevation, in feet above msl; Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260.
	Storm drain line
	Sanitary sewer line
	Flow direction
MH	Manhole
	Storm drain inlet
fbg	Feet below grade

All utility locations are approximate. Utility information was reported by Cambria during June 2001.



Groundwater Flow Direction
(07/23/99 to 07/09/01)

0 20 40 80
Scale (ft)

FIGURE
2

Shell-branded Service Station
105 Fifth Street
Oakland, California
Incident #9899577

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Effect of Periodic Groundwater/Dual-phase Vapor Extraction on MTBE Concentration
Well MW-3

Date	Depth to Water - ft
07/23/1999	6.43
11/01/1999	6.48
01/05/2000	6.35
04/07/2000	5.91
07/26/2000	5.83
10/28/2000	17.51
01/30/2001	11.43
04/17/2001	6.57
07/09/2001	6.12

EXPLANATION

- Dual-phase Vapor Extraction Cumulative MTBE mass removed
- Groundwater Extraction Cumulative MTBE mass removed
- MTBE Concentration
- Log. (MTBE Concentration)

FIGURE **3**

MTBE Concentrations and Mass Removal

Well MW-3

Shell-branded Service Station

105 5th Street

Oakland, California

Incident #98995757

C A M B R I A

11/12/01

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)	MTBE Concentration (ppb)	MTBE Removed (pounds)	MTBE Removed To Date (pounds)
					TPPH			**Benzene**				**MTBE**	
04/21/00	MW-2	150	150	04/07/00	4,940	0.00618	0.00618	659	0.00082	0.00082	41,800	0.05232	0.05232
04/28/00	MW-2	100	250	04/07/00	4,940	0.00412	0.01031	659	0.00055	0.00137	41,800	0.03488	0.08720
05/05/00	MW-2	310	560	04/07/00	4,940	0.01278	0.02308	659	0.00170	0.00308	41,800	0.10813	0.19532
05/12/00	MW-2	350	910	04/07/00	4,940	0.01443	0.03751	659	0.00192	0.00500	41,800	0.12208	0.31740
06/02/00	MW-2	257	1,167	04/07/00	4,940	0.01059	0.04811	659	0.00141	0.00642	41,800	0.08964	0.40704
07/06/00	MW-2	334	1,501	04/07/00	4,940	0.01377	0.06187	659	0.00184	0.00825	41,800	0.11650	0.52354
09/12/00	MW-2	312	1,813	07/26/00	5,010	0.01304	0.07492	409	0.00106	0.00932	54,300	0.14137	0.66491
10/26/00	MW-2	56	1,869	07/26/00	5,010	0.00234	0.07726	409	0.00019	0.00951	54,300	0.02537	0.69028
04/21/00	MW-3	100	100	04/07/00	<1,000	0.00042	0.00042	853	0.00071	0.00071	283,000	0.23615	0.23615
04/28/00	MW-3	100	200	04/07/00	<1,000	0.00042	0.00083	853	0.00071	0.00142	283,000	0.23615	0.47229
05/05/00	MW-3	50	250	04/07/00	<1,000	0.00021	0.00104	853	0.00036	0.00178	283,000	0.11807	0.59036
05/12/00	MW-3	150	400	04/07/00	<1,000	0.00063	0.00167	853	0.00107	0.00285	283,000	0.35422	0.94458
06/02/00	MW-3	550	950	04/07/00	<1,000	0.00229	0.00396	853	0.00391	0.00676	283,000	1.29880	2.24338
07/06/00	MW-3	528	1,478	04/07/00	<1,000	0.00220	0.00617	853	0.00376	0.01052	283,000	1.24685	3.49023
08/16/00	MW-3	849	2,327	07/26/00	<20,000	0.07084	0.07701	<200	0.00071	0.01123	**320,000**	2.26699	5.75722
09/12/00	MW-3	188	2,515	07/26/00	<20,000	0.01569	0.09270	<200	0.00016	0.01139	**320,000**	0.50200	6.25922
10/26/00	MW-3	156	2,671	07/26/00	<20,000	0.01302	0.10571	<200	0.00013	0.01152	**320,000**	0.41655	6.67577
Total Gallons Extracted:			**4,540**		**Total Pounds Removed:**		**0.18297**			**0.02103**			**7.36605**
					Total Gallons Removed:		**0.03000**			**0.00288**			**1.18807**

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)	MTBE Concentration (ppb)	MTBE Removed (pounds)	MTBE Removed To Date (pounds)

Abbreviations & Notes:

TPPH = Total purgeable hydrocarbons as gasoline
MtBE = Methyl tert-butyl ether
µg/L = Micrograms per liter
ppb = Parts per billion, equivalent to µg/L
L = Liter
gal = Gallon
g = Gram
Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x ($g/10^6 \mu g$) x (pound/453.6g) x (3.785 L/gal)
Volume removal data based on the formula: density (in gms/cc) x 9.339 (ccxlbs/gmsxgals)
TPPH, benzene analyzed by EPA Method 8015/8020
MTBE analyzed by EPA Method 8260 in bold font, all other MTBE analyzed by EPA Method 8020
Concentrations based on most recent groundwater monitoring results
Groundwater extracted by vacuum trucks provided by ACTI. Water disposed of at a Martinez Refinery.
If concentration is less than the laboratory detection limit, one half of the detection limit concentration is used in the mass removal calculation.

Table 2: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Date	Well ID	Interval Hours of Operation (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPPH TPHg Removal Rate (#/hour)	TPPH Cumulative TPHg Removed (#)	Benzene Benzene Removal Rate (#/hour)	Benzene Cumulative Benzene Removed (#)	MTBE MTBE Removal Rate (#/hour)	MTBE Cumulative MTBE Removed (#)
04/21/00	MW-2	1.00	9.0	1,949	52	836	0.234	0.234	0.006	0.006	0.103	0.103
06/02/00	MW-2	3.50	0.4	30	6.51	108	0.000	0.235	0.000	0.006	0.001	0.105
07/06/00	MW-2	4.00	0.7	<567	<6.3	647	0.003	0.246	0.000	0.006	0.006	0.130
08/16/00	MW-2	3.00	8.6	13,654	<39	1,861	1.570	4.955	0.002	0.012	0.219	0.787
09/12/00	MW-2	4.00	7.6	12,100	<31.4	6,410	1.229	9.872	0.001	0.018	0.666	3.452
10/26/00	MW-2	1.50	5.5	35.1	0.562	41.0	0.003	9.876	0.000	0.018	0.003	3.457
03/20/01	MW-2	2.75	15.8	4,800	11.4	375	0.822	12.136	0.002	0.023	0.075	3.664
04/21/00	MW-3	1.00	7.0	<28	<0.31	594	0.001	0.001	0.000	0.000	0.057	0.057
06/02/00	MW-3	4.25	0.3	<14.2	0.36	608	0.000	0.001	0.000	0.000	0.002	0.067
07/06/00	MW-3	4.00	0.7	38	4.4	133	0.000	0.003	0.000	0.000	0.001	0.073
08/16/00	MW-3	6.75	7.0	<1,416	<15.7	3,333	0.066	0.450	0.001	0.005	0.319	2.227
09/12/00	MW-3	4.00	7.6	<1,420	<15.7	1,850	0.072	0.739	0.001	0.008	0.192	2.996
10/26/00	MW-3	4.00	7.2	<2,840	<31.4	531	0.137	1.285	0.001	0.013	0.052	3.205
03/20/01	MW-3	2.83	10.6	2,400	1.75	640	0.347	2.268	0.000	0.014	0.095	3.474
Total Pounds Removed:								**TPHg = 14.404**		**Benzene = 0.037**		**MTBE = 7.138**

Table 2: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Abbreviations and Notes:

CFM = Cubic feet per minute

TPHg = Total petroleum hydrocarbons as gasoline (C6-C12) by modified EPA Method 8015 in 1 liter tedlar bag samples

ppmv = Parts per million by volume

= Pounds

NA = Not available

TPHG, Benzene, and MTBE analyzed by EPA Method 8015/8020 in 1 liter tedlar bag samples

TPHg / Benzene / MTBE removal rate = Rate based on Bay Area Air Quality Management District's Manual of Procedures for Soil Vapor Extraction dated July 17, 1991.

(Rate = Concentration (ppmv) x system flow rate (cfm) x (1lb-mole/386ft3) x molecular weight (86 lb/lb-mole for TPHg, 78 lb/lb-mole for benzene, 88 lb/lb-mole for MTBE) x 60 min/hour x 1/1,000,000)

Cumulative TPHg / Benzene / MTBE removal = Previous removal rate multiplied by the hour-interval of operation plus the previous total

If concentration is less than the laboratory detection limit, one half of the detection limit concentration is used in the mass removal calculation.

Table 3. Soil Analytical Data - Shell-branded Service Station,105 Fifth Street, Oakland, California - Incident #98995757

Sample ID	Depth (ft)	Date Sampled	TPHd	TPHg	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
			← (Concentrations reported in milligrams per kilogram) →						
D-1	5.0	11/27/1996	**1,400**	**2,500**	**26**	**21**	**6.7**	**33**	**49**
D-2	5.0	11/27/1996	---	**3,200**	<19	**6.4**	**22**	**36**	**210**
D-3	5.0	11/27/1996	**11**	**23**	**0.30**	<0.025	**0.064**	**0.15**	**1.6**
D-4	5.0	11/27/1996	---	**1,900**	<12	<2.5	**3.6**	**12**	**85**
D-5	5.0	11/27/1996	---	**1.0**	<0.025	**0.0064**	<0.0050	<0.0050	<0.0050
D-6	5.0	11/27/1996	---	**1,900**	<5.0	<1.0	**1.6**	**8.7**	**75**
D-7	5.0	11/27/1996	**14,000**	**1,600**	<12	<2.5	**11**	**21**	**65**
D-8	5.0	11/27/1996	---	**3,500**	<19	**5.4**	**25**	**42**	**180**
SB-1-5.0	5.0	7/23/1998	**1.3**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
SB-2-5.0	5.0	7/23/1998	**1.1**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
SB-3-5.0	5.0	7/23/1998	**15**	**2.8**	<0.0050	<0.0050	**0.0080**	**0.014**	<0.025
SB-4-5.0	5.0	7/23/1998	**2.5**	**1.3**	<0.0050	0.0063	**0.012**	**0.038**	0.13
SB-5-5.0	5.0	7/23/1998	**8.4**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.48

Table 3. Soil Analytical Data - Shell-branded Service Station,105 Fifth Street, Oakland, California - Incident #98995757

Sample ID	Depth (ft)	Date Sampled	TPHd	TPHg	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
			← (Concentrations reported in milligrams per kilogram) →						
SB-6-5.0	5.0	2/12/2001	---	(<1.0)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)
SB-6-10.0	10	2/12/2001	---	(<1.0)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)
SB-6-15.0	15	2/12/2001	---	(<1.0)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.05)
SB-6-20.0	20	2/12/2001	---	(<1.0)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)
SB-7-5.0	5	2/12/2001	---	(<1.0)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)
SB-7-10.0	10	2/12/2001	---	(<1.0)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)
SB-7-15.0	15	2/12/2001	---	(<1.0)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)
SB-7-20.0	20	2/12/2001	---	(<1.0)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)
MW1-5.5'	5.5'	5/14/1999	---	<0.400	<0.0100	<0.00200	<0.00200	<0.00200	<0.00400
MW1-10.5'	10.5'	5/14/1999	---	<0.400	<0.0100	<0.00200	<0.00200	<0.00200	<0.00400
MW1-15.5'	15.5'	5/14/1999	---	<0.400	<0.0100	<0.00200	<0.00200	<0.00200	<0.00400
MW1-20.5'	20.5'	5/14/1999	---	<0.400	<0.0100	<0.00200	<0.00200	<0.00200	<0.00400
MW1-25.5'	25.5'	5/14/1999	---	<0.400	<0.0100	<0.00200	<0.00200	<0.00200	<0.00400
MW2-5.5'	5.5'	5/14/1999	---	**1700**	**21.5 (13.2)**	<2.0	<2.0	**8.52**	**5.32**
MW2-10.5'	10.5'	5/14/1999	---	<2.0	**2.13**	**0.0369**	<0.0100	<0.0100	<0.0200
MW2-15.5'	15.5'	5/14/1999	---	<0.400	**0.0219**	<0.00200	<0.00200	<0.00200	<0.00400
MW2-20.5'	20.5'	5/14/1999	---	<0.400	**0.0421**	<0.00200	<0.00200	<0.00200	<0.00400
MW2-25.5'	25.5'	5/14/1999	---	<0.400	**0.0254**	<0.00200	<0.00200	<0.00200	<0.00400
MW3-6.5'	6.5'	5/14/1999	---	<20.0	**19.2**	<0.100	<0.100	<0.100	<0.200
MW3-11.5'	11.5'	5/14/1999	---	<20.0	**20.4 (8.83)**	<0.100	<0.100	<0.100	<0.200
MW3-16.5'	16.5'	5/14/1999	---	<20.0	**9.14**	<0.100	<0.100	<0.100	<0.200
MW3-21.5'	21.5'	5/14/1999	---	<2.0	**1.18**	<0.0100	<0.0100	<0.0100	<0.0200
MW3-25'	25'	5/14/1999	---	<0.400	**0.201**	<0.00200	<0.00200	<0.00200	<0.00400
MW-4-5	5.0	2/12/2001	---	(<1.0)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)
MW-4-10.0	10.0	2/12/2001	---	(<1.0)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)
MW-4-15.0	15.0	2/12/2001	---	(<1.0)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)
MW-4-20.0	20.0	2/12/2001	---	(<1.0)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)	(<0.0050)

Table 3. Soil Analytical Data - Shell-branded Service Station,105 Fifth Street, Oakland, California - Incident #98995757

Sample ID	Depth (ft)	Date Sampled	TPHd	TPHg	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
			← (Concentrations reported in milligrams per kilogram) →						

Notes and Abbreviations:

TPHd = Total petroleum hydrocarbons as diesel by modified EPA Method 8015
TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
MTBE = Methyl tert-butyl ether by EPA Method 8020
Benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020
--- = Not sampled for this constituent
(n) = TPHg, BTEX, and MTBE concentrations by EPA method 8260B
<n = Below detection limit of n mg/kg

ATTACHMENT A

Blaine Groundwater Monitoring Report and Field Notes

BLAINE
TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CA 95112-1105
(408) 573-7771 FAX
(408) 573-0555 PHONE
CONTRACTOR'S LICENSE #746684
www.blainetech.com

August 1, 2001

Karen Petryna
Equiva Services LLC
P.O. Box 7869
Burbank, CA 91510-7869

Third Quarter 2001 Groundwater Monitoring at
Shell-branded Service Station
105 5th Street
Oakland, CA

Monitoring performed on July 9, 2001

Groundwater Monitoring Report **010709-M-1**

This report covers the routine monitoring of groundwater wells at this Shell-branded facility. In accordance with standard procedures that conform to Regional Water Quality Control Board requirements, routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated purge volume (if applicable), elapsed evacuation time (if applicable), total volume of water removed (if applicable), and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater (if applicable) is, likewise, collected and transported to the Martinez Refining Company.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

At a minimum, Blaine Tech Services, Inc. field personnel are certified on completion of a forty hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. Our activities at this site consisted of objective data and sample

collection only. No interpretation of analytical results, defining of hydrological conditions or formulation of recommendations was performed.

Please call if you have any questions.

Yours truly,

Nick Sudano
Project Coordinator

NS/jt

attachments: Cumulative Table of WELL CONCENTRATIONS
Certified Analytical Report
Field Data Sheets

cc: Anni Kreml
Cambria Environmental Technology, Inc.
1144 65th Street, Suite C
Oakland, CA 94608-2411

WELL CONCENTRATIONS
Shell-branded Service Station
105 5th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft)	GW Elevation (MSL)	DO Reading (ppm)
MW-1	07/20/1999	NA	NA	NA	NA	NA	NA	NA	NA	12.22	17.56	-5.34	NA
MW-1	07/23/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	<2.00	12.22	6.45	5.77	NA
MW-1	11/01/1999	100	NA	15.6	3.12	4.04	12.6	6.69	NA	12.22	6.59	5.63	0.5/0.7
MW-1	01/05/2000	<50.0	<20.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	6.38	5.84	1.2/1.4
MW-1	04/07/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	5.83	6.39	1.6/2.4
MW-1	07/26/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	6.10	6.12	1.1/1.4
MW-1	10/28/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	14.08	-1.86	2.2/2.7
MW-1	01/30/2001	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	10.71	1.51	1.2/1.6
MW-1	04/17/2001	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	6.61	5.61	2.4/4.4
MW-1	**07/09/2001**	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**	**<5.0**	**12.22**	**6.31**	**5.91**	**1.4/3.4**
MW-2	07/20/1999	NA	NA	NA	NA	NA	NA	NA	NA	10.87	18.24	-7.37	NA
MW-2	07/23/1999	13,800	NA	1,790	<100	<100	682	29,900	29,400	10.87	5.98	4.89	NA
MW-2	11/01/1999	2,420	NA	316	10.8	119	44.2	17,000	NA	10.87	6.03	4.84	0.5/0.3
MW-2	01/05/2000	2,120a	687	301a	<5.00a	116a	84.4a	14,700	NA	10.87	5.90	4.97	2.1/2.6
MW-2	04/07/2000	4,940b	1,300	659b	<25.0b	214b	314b	41,800b	NA	10.87	5.37	5.50	0.4/0.2
MW-2	07/26/2000	5,010	1,520	409	<50.0	302	307	54,300	NA	10.87	5.81	5.06	2.1/2.2
MW-2	10/28/2000	1,720	412	82.2	<10.0	46.0	102	9,800	NA	10.87	14.59	-3.72	0.7/0.7
MW-2	01/30/2001	1,640	574	14.7	<5.00	40.1	58.1	3,670	NA	10.87	10.31	0.56	1.8/2.0
MW-2	04/17/2001	598	179	21.8	<2.00	16.9	10.8	5,630	NA	10.87	6.08	4.79	1.5/2.6
MW-2	**07/09/2001**	**<1,000**	**<500**	**19**	**<10**	**33**	**15**	**NA**	**6,200**	**10.87**	**5.70**	**5.17**	**1.1/2.0**
MW-3	07/20/1999	NA	NA	NA	NA	NA	NA	NA	NA	11.27	19.07	-7.80	NA
MW-3	07/23/1999	128	NA	<0.500	<0.500	<0.500	<0.500	404,000	324,000	11.27	6.43	4.84	NA
MW-3	11/01/1999	<1,000	NA	<10.0	<10.0	<10.0	<10.0	169,000	224,000	11.27	6.48	4.79	0.5/0.3
MW-3	01/05/2000	137	322	<1.00	<1.00	<1.00	<1.00	165,000	219,000	11.27	6.35	4.92	2.4/2.2
MW-3	04/07/2000	<1,000	264	853	<10.0	<10.0	<10.0	283,000	196,000a	11.27	5.91	5.36	04/0.2

WELL CONCENTRATIONS
Shell-branded Service Station
105 5th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft)	GW Elevation (MSL)	DO Reading (ppm)
MW-3	07/26/2000	<20,000	585	<200	<200	<200	<200	437,000	320,000	11.27	5.83	5.44	1.9/1.7
MW-3	10/28/2000	<12,500	441	<125	<125	<125	<125	266,000	308,000	11.27	17.51	-6.24	1.1/1.4
MW-3	01/30/2001	<5,000	555	<50.0	<50.0	<50.0	<50.0	248,000	167,000a	11.27	11.43	-0.16	2.0/2.2
MW-3	04/17/2001	<5,000	347	<50.0	<50.0	<50.0	<50.0	134,000	133,000	11.27	6.57	4.70	1.3/1.2
MW-3	**07/09/2001**	**<20,000**	**250**	**<200**	**<200**	**<200**	**<200**	**NA**	**170,000**	**11.27**	**6.12**	**5.15**	**1.2/1.9**
MW-4	03/23/2001	NA	NA	NA	NA	NA	NA	NA	NA	9.50	8.21	1.29	NA
MW-4	04/17/2001	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	9.50	5.08	4.42	2.4/2.6
MW-4	**07/09/2001**	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**	**<5.0**	**9.50**	**4.64**	**4.86**	**2.0/1.5**

Abbreviations:

TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to July 9, 2001 analyzed by EPA Method 8015

TEPH = Total petroleum hydrocarbons as diesel by modified EPA Method 8015

BTEX = benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to July 9, 2001 analyzed by EPA Method 8020

MTBE = methyl-tertiary-butyl ether

TOC = Top of Casing Elevation

GW = Groundwater

DO = Dissolved Oxygen

ug/L = parts per billion

ppm = parts per million

msl = Mean sea level

ft = Feet

<n = Below detection limit

NA = Not applicable

n/n = Pre-purge/Post-purge

WELL CONCENTRATIONS
Shell-branded Service Station
105 5th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft)	GW Elevation (MSL)	DO Reading (ppm)

Notes:

a = Sample was analyzed outside of the EPA recommended holding time

b = Result was generated out of hold time

Top of casing for well MW-4 provided by Cambria Environmental Technology, Inc.

KIFF ANALYTICAL LLC

Report Number : 21200
Date : 7/25/2001

Nick Sudano
Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112-1105

Subject : 4 Water Samples
Project Name : 105 5th Street, Oakland
Project Number : 010709-M2
P.O. Number : 98995757

Dear Mr. Sudano,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Joel Kiff

Joel Kiff

KIFF ANALYTICAL LLC

Report Number : 21200
Date : 7/25/2001

Subject : 4 Water Samples
Project Name : 105 5th Street, Oakland
Project Number : 010709-M2
P.O. Number : 98995757

Case Narrative

The Method Reporting Limit for TPH as Diesel has been increased due to interference from Gasoline-Range Hydrocarbons for the following samples:

MW3-

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 916-297-4800

KIFF ANALYTICAL LLC

Report Number : 21200

Date : 7/25/2001

Project Name : **105 5th Street, Oakland**

Project Number : **010709-M2**

Sample : **MW1-** Matrix : Water Lab Number : 21200-01

Sample Date :7/9/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/16/2001
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	7/16/2001
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/16/2001
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	7/16/2001
Methyl-t-butyl ether (MTBE)	**< 5.0**	5.0	ug/L	EPA 8260B	7/16/2001
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	7/16/2001
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	7/16/2001
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	7/16/2001
TPH as Diesel	**< 50**	50	ug/L	M EPA 8015	7/18/2001

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 21200
Date : 7/25/2001

Project Name : **105 5th Street, Oakland**
Project Number : **010709-M2**

Sample : **MW2-** Matrix : Water Lab Number : 21200-02

Sample Date :7/9/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**19**	10	ug/L	EPA 8260B	7/16/2001
Toluene	**< 10**	10	ug/L	EPA 8260B	7/16/2001
Ethylbenzene	**33**	10	ug/L	EPA 8260B	7/16/2001
Total Xylenes	**15**	10	ug/L	EPA 8260B	7/16/2001
Methyl-t-butyl ether (MTBE)	**6200**	100	ug/L	EPA 8260B	7/16/2001
TPH as Gasoline	**< 1000**	1000	ug/L	EPA 8260B	7/16/2001
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	7/16/2001
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	7/16/2001
TPH as Diesel (See Narrative)	**< 500**	50	ug/L	M EPA 8015	7/18/2001

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 21200

Date : 7/25/2001

Project Name : **105 5th Street, Oakland**

Project Number : **010709-M2**

Sample : **MW3-** Matrix : Water Lab Number : 21200-03

Sample Date :7/9/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 200**	200	ug/L	EPA 8260B	7/16/2001
Toluene	**< 200**	200	ug/L	EPA 8260B	7/16/2001
Ethylbenzene	**< 200**	200	ug/L	EPA 8260B	7/16/2001
Total Xylenes	**< 200**	200	ug/L	EPA 8260B	7/16/2001
Methyl-t-butyl ether (MTBE)	**170000**	5000	ug/L	EPA 8260B	7/17/2001
TPH as Gasoline	**< 20000**	20000	ug/L	EPA 8260B	7/16/2001
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	7/16/2001
4-Bromofluorobenzene (Surr)	99.4		% Recovery	EPA 8260B	7/16/2001
TPH as Diesel	**250**	50	ug/L	M EPA 8015	7/18/2001

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 21200
Date : 7/25/2001

Project Name : **105 5th Street, Oakland**
Project Number : **010709-M2**

Sample : **MW4-** Matrix : Water Lab Number : 21200-04
Sample Date :7/9/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/20/2001
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	7/20/2001
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/20/2001
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	7/20/2001
Methyl-t-butyl ether (MTBE)	**< 5.0**	5.0	ug/L	EPA 8260B	7/20/2001
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	7/20/2001
Toluene - d8 (Surr)	99.0		% Recovery	EPA 8260B	7/20/2001
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	7/20/2001
TPH as Diesel	**< 50**	50	ug/L	M EPA 8015	7/18/2001

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Report Number : 21200

Date : 7/25/2001

Project Name : **105 5th Street, Oakland**

Project Number : **010709-M2**

21200 Quality Control Data - Method Blank

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/15/2001
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	7/15/2001
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/15/2001
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	7/15/2001
Methyl-t-butyl ether (MTBE)	**< 5.0**	5.0	ug/L	EPA 8260B	7/15/2001
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	7/15/2001
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	7/15/2001
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	7/15/2001

Approved By: Joel Kiff

Report Number : 21200

Date : 7/25/2001

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **105 5th Street, Oakland**

Project Number : **010709-M2**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Spike Recovery Data														
Benzene	21206-04	<0.50	19.7	19.7	19.0	19.0	ug/L	EPA 8260B	7/15/2001	96.6	96.6	0.0259	70-130	25
Toluene	21206-04	<0.50	19.7	19.7	19.8	19.6	ug/L	EPA 8260B	7/15/2001	100	99.4	1.05	70-130	25
Tert-Butanol	21206-04	<5.0	98.5	98.6	106	107	ug/L	EPA 8260B	7/15/2001	107	108	0.958	70-130	25
Methyl-t-Butyl Ether	21206-04	10	19.7	19.7	24.4	24.1	ug/L	EPA 8260B	7/15/2001	73.1	71.4	2.35	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Report Number : 21200

Date : 7/25/2001

Project Name : **105 5th Street, Oakland**

Project Number : **010709-M2**

21200 Quality Control Data - Method Blank

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel	**< 50**	50	ug/L	M EPA 8015	7/13/2001

Approved By: Joel Kiff

Report Number : 21200

Date : 7/25/2001

Project Name : **105 5th Street, Oakland**

Project Number : **010709-M2**

21200 Quality Control Data - Method Blank

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel	**< 50**	50	ug/L	M EPA 8015	7/13/2001

Approved By: Joel Kiff

Report Number : 21200

Date : 7/25/2001

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **105 5th Street, Oakland**

Project Number : **010709-M2**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Spike Recovery Data														
TPH as Diesel	Blank	<50	1000	1000	1300	1280	ug/L	M EPA 8015	7/13/2001	130	128	1.40	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

LAB: KIFF

EQUIVA Services LLC Chain Of Custody Record 21200

Lab Identification (if necessary):

Address:

City, State, Zip:

Equiva Project Manager to be invoiced: Karen Petryna

☒ SCIENCE & ENGINEERING ☐ TECHNICAL SERVICES ☐ CREDIT ADJUSTMENT

INCIDENT NUMBER (SAP ONLY): 9 8 9 9 5 7 8 7

SAP or CHART NUMBER (FACILITY):

7-9-01

PAGE: 1 of 1

CONSULTANT COMPANY: Blaine Tech Services

ADDRESS: 630 Rogers Avenue

CITY: San Jose, CA 95112

TELEPHONE: 08-573-0555 FAX: 408-573-7771 EMAIL: nsudano@blainetech.com

SITE ADDRESS (Street and City): 105 5th Street, Oakland

PROJECT CONTACT (Report to): Nick Sudano

CONSULTANT PROJECT NO.: BTS # 010709-M2

SAMPLER NAME(S) (Print): Matthew Miller

TURNAROUND TIME (BUSINESS DAYS): ☒ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

OXYS MTBE CONFIRMATION: HIGHEST 3 HIGHEST per BORING ALL

SPECIAL INSTRUCTIONS OR NOTES: ~~Confirm highest detected MTBE by 8260~~

TEMPERATURE ON RECEIPT OF:

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH - Gas, Purgeable (8015/8260)	BTEX (8021B)	MTBE (8021B)	MTBE (8260B)	TPH - Diesel, Extractable (8015m)	Oxygenates (5) by 8260	Ethanol, Methanol (8015B)	1,2-DCA & EDB by 8010	MS	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
	MW1-	7/9	1246	W	6	X	X	X		X					-01
	MW2-	7/9	1311	W	6	X	X	X		X					-02
	MW3-	7/9	1335	W	6	X	X	X		X					-03
	MW4-	7/9	1220	W	6	X	X	X		X					-04

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Matthew Miller			
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) John Cuttle / Kiff Analytical	Date: 071001	Time: 1205

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client.

10/16/00 Revision

QMQ Graphic (714) 895-8702

WELL GAUGING DATA

Project # 010709-M1 Date 7/9/01 Client Equiva

Site 105 5th St Oakland CA

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
MW-1	4					6.31	23.60		
MW-2	4	odor				5.70	23.61		
* MW-3	4	odor				6.12	24.99		
MW-4	2					4.64	20.07	↓	
* gauged w/ stinger in well									

EQUIVA WELL MONITORING DATA SHEET

STS #: 010709-M1	Site: 98995757
Sampler: MTM	Date: 7/9/01
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 23.60	Depth to Water: 6.31
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Purge Method: Bailer / Disposable Bailer / Middleburg / (Electric Submersible) / Waterra / Peristaltic / Extraction Pump / Other ____

Sampling Method: (Bailer) / Disposable Bailer / Extraction Port / Dedicated Tubing / Other: ____

11 (Gals.) X 3 = 33 Gals.
Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1240	72.2	7.0	500	116	11	
1241	70.5	6.9	464	94	22	
1241	68.8	6.8	440	>200	33	cloudy

Did well dewater? Yes (No) Gallons actually evacuated: 33

Sampling Time: 1246 Sampling Date: 7/9/01

Sample I.D.: MW-1 Laboratory: (Kiff) Sequoia Other ____

Analyzed for: (TPH-G BTEX MTBE TPH-D) Other:

MB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	1.4 mg/L	Post-purge:	3.4	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

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EQUIVA WELL MONITORING DATA SHEET

TS #: 010709-M1	Site: 98995757
mpler: MTM	Date: 7/9/01
ell I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ___
tal Well Depth: 23.61	Depth to Water: 5.70
epth to Free Product:	Thickness of Free Product (feet):
ferenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

ge Method: Bailer / Disposable Bailer / Middleburg / (Electric Submersible) / Waterra / Peristaltic / Extraction Pump / Other ____

Sampling Method: (Bailer) / Disposable Bailer / Extraction Port / Dedicated Tubing / Other: ____

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

12 (Gals.) X 3 = 36 Gals.
ase Volume | Specified Volumes | Calculated Volume

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1304	74.3	6.8	365	29	12	odor
1305	72.5	6.8	460	51	24	"
1306	71.1	6.8	409	115	36	"

id well dewater? Yes (No) Gallons actually evacuated: 36

mpling Time: 1311 Sampling Date: 7/9/01

mple I.D.: MW-2 Laboratory: (Kiff) Sequoia Other ____

nalyzed for: (TPH-G BTEX MTBE TPH-D) Other:

B I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

nalyzed for: TPH-G BTEX MTBE TPH-D Other:

.O. (if req'd):	Pre-purge:	1.1	mg/L	Post-purge:	2.0 mg/L
.R.P. (if req'd):	Pre-purge:		mV	Post-purge:	mV

EQUIVA WELL MONITORING DATA SHEET

BTS #: 010709-M1	Site: 98995757
Sampler: MTM	Date: 7/9/01
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 24.99	Depth to Water: 6.12
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Purge Method: Bailer; Disposable Bailer; Middleburg; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other ____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: ____

12 (Gals.) X 3 = 36 Gals.
Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	5"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1328	69.7	6.8	1197	66	12	color
1329	68.2	6.8	1152	101	24	"
1330	67.7	6.8	1072	>200	36	"

Did well dewater? Yes (No)	Gallons actually evacuated: 36
Sampling Time: 1335	Sampling Date: 7/9/01
Sample I.D.: MW-3	Laboratory: (Kiff) Sequoia Other ____
Analyzed for: (TPH-G BTEX MTBE TPH-D)	Other:
COC I.D. (if applicable): @ Time	Duplicate I.D. (if applicable):
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:
D.O. (if req'd): Pre-purge: 1.2 mg/L	Post-purge: 1.9 mg/L
O.R.P. (if req'd): Pre-purge: mV	Post-purge: mV

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EQUIVA WELL MONITORING DATA SHEET

BTS #: 010709-M1	Site: 98995757
Sampler: MJM	Date: 7/9/01
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 20.07	Depth to Water: 4.64
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Purge Method: Bailer / Disposable Bailer / (Middleburg) / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other ____

Sampling Method: (Bailer) / Disposable Bailer / Extraction Port / Dedicated Tubing / Other: ____

2.5 (Gals.) X 3 = 7.5 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1209	68.3	7.1	2127	>200	2.5	cloudy
1212	67.8	6.9	2136	>200	5	"
1215	67.9	6.9	2132	>200	7.5	"

Did well dewater? Yes (No) Gallons actually evacuated: 7.5

Sampling Time: 1220 Sampling Date: 7/9/01

Sample I.D.: MW-4 Laboratory: (Kiff) Sequoia Other ____

Analyzed for: (TPH-G BTEX MTBE TPH-D) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	2.0 mg/L	Post-purge:	1.5	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

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