CAMBRIA

FEB 13 2002

February 7, 2002

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

Re: **Fourth Quarter 2001 Monitoring Report**
Shell-branded Service Station
105 Fifth Street
Oakland, California
Incident #98995757
Cambria Project #244-0472-002

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. 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.

FOURTH 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.

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

Additional Oxygenate Analysis: In addition to the regular quarterly analysis for TPHg, benzene, toluene, ethylbenzene, xylenes, and MTBE, groundwater samples from monitoring wells MW-2 and MW-3 were analyzed for four extra oxygenates and ethanol. Analytical results for MTBE, di-isopropyl ether, ethyl tertiary-butyl ether, tertiary-amyl methyl ether, tertiary-butyl alcohol, and ethanol are summarized in Table 1.

GWE: In November and December 2001, Advanced Cleanup Technology Inc. (ACTI) of Benicia, California conducted mobile GWE events from tank backfill well T-1. 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. Mass removal data from the GWE events is presented in Table 2. Semi-monthly mobile GWE from well T-1 will continue until May 2002, at which time the effectiveness of the GWE events will be evaluated.

Investigation Work Plan Submittal: A work plan for an offsite subsurface conduit investigation and an onsite monitoring well installation was submitted to the Alameda County Health Care Services Agency (ACHCSA) on December 17, 2001. The work plan was approved in an ACHCSA letter dated January 4, 2002. Cambria concurs with changes ACHCSA suggested to the proposed monitoring well location and number of borings adjacent to the offsite utility conduits, and will implement them during field activities. The new proposed well and boring locations are shown on Figure 2.

ANTICIPATED FIRST QUARTER 2002 ACTIVITIES

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

GWE: Cambria will continue semi-monthly mobile GWE from tank backfill well T-1.

Offsite Conduit Investigation: Cambria will proceed with the offsite utility conduit investigation and onsite monitoring well installation proposed in our December 17, 2001 *Subsurface Investigation Work Plan*.

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

Stephan A. Bork C.E.G., C.HG.,
Associate Hydrogeologist

REGISTERED GEOLOGIST
STEPHAN A. BORK
No. EG 2058
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Figures: 1 - Vicinity/Well Survey Map
2 - Groundwater Elevation Contour Map

Tables: 1 - Groundwater Analytical Data - Oxygenates
2 - Groundwater Extraction – Mass Removal 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

G:\Oakland 105 Fifth\Qm\4q01\4q01qm.doc

09/28/01

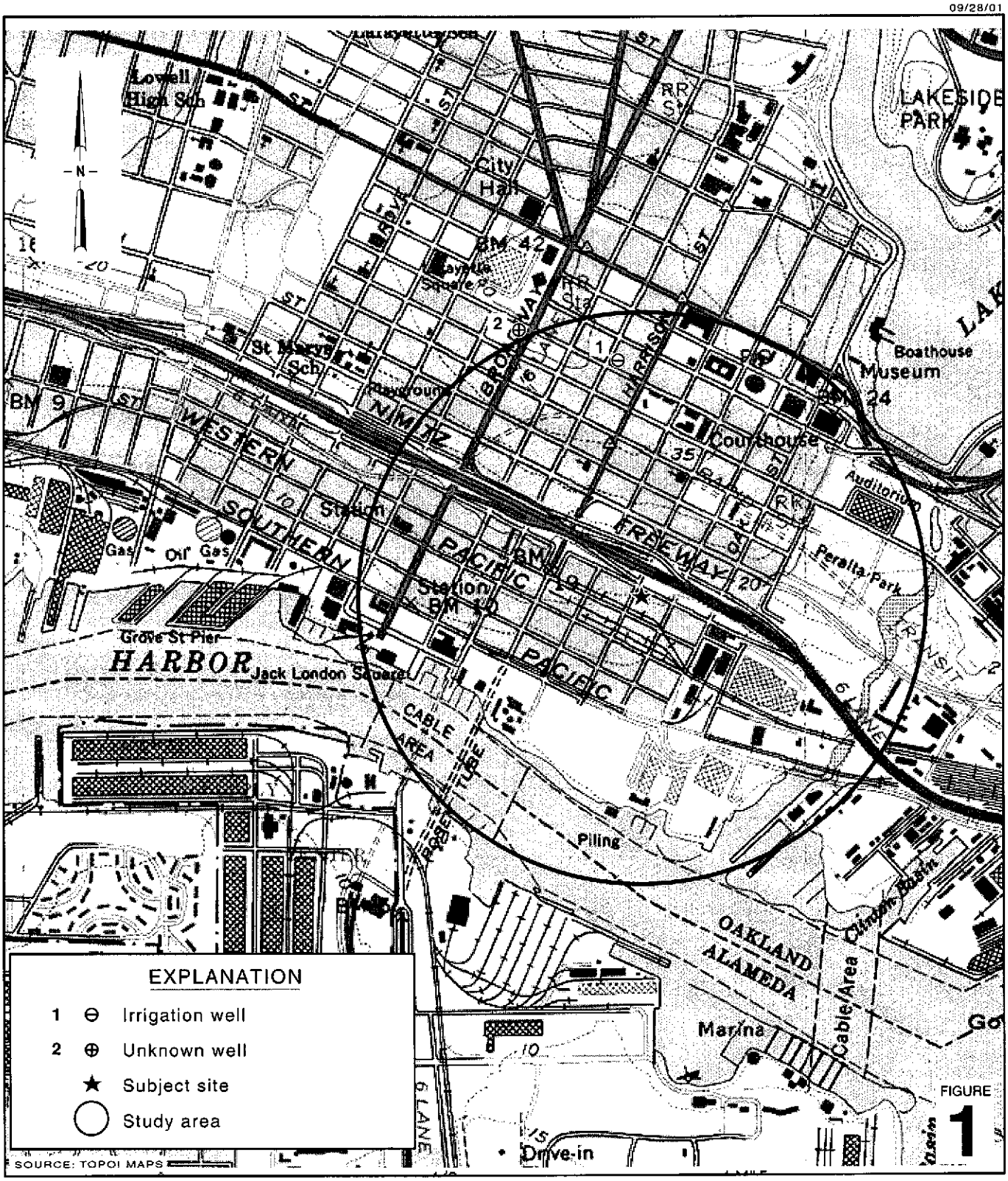

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FIGURE **1**

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

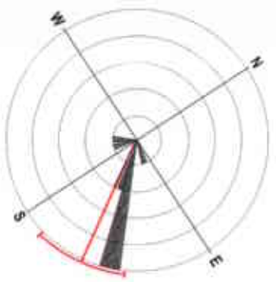
CAMBRIA

Vicinity / Well Survey Map

(1/2 Mile Radius)

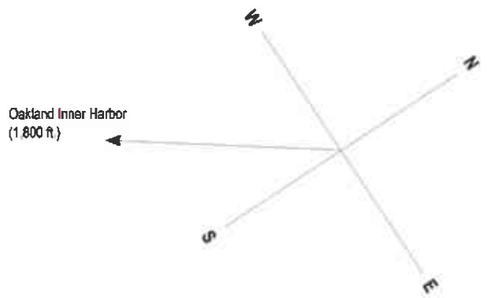
Groundwater Elevation Contour Map

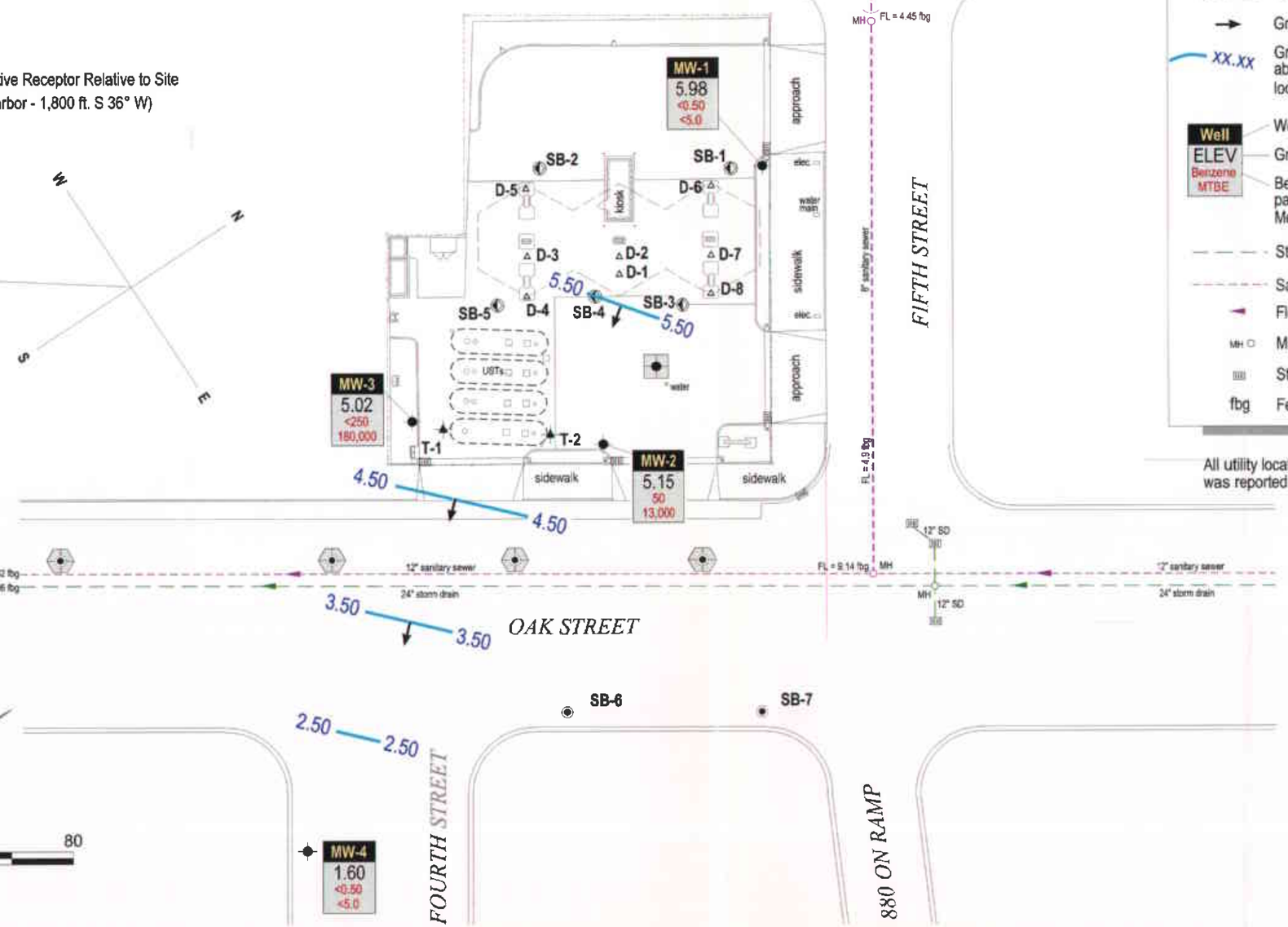
October 23, 2001



Groundwater Flow Direction
(07/23/99 to 10/23/01)

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





EXPLANATION

- Proposed monitoring well location
- Proposed soil boring location
- MW-1 — Monitoring well location
- T-1 — Tank backfill well location
- SB-1 — Soil boring location (7/98)
- SB-6 — Soil boring location (2/01)
- D-1 — Soil sample 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.

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

FIGURE
2

G:\OAKLAND 105 5TH\FIGURES\MAGNA1.MP DWG

Table 1. **Groundwater Analytical Data - Oxygenates -** Shell-branded Service Station, Incident #98995757, 105 5th Street, Oakland, California

Sample ID	Date Sampled	MTBE	DIPE	ETBE	TAME	TBA	Ethanol
		← (Concentrations in ppb) →					
MW-2	10/23/01	13,000	<25	<25	<25	820	<500
MW-3	10/23/01	180,000	<250	<250	<250	53,000	<5,000

Abbreviations:

MTBE = Methyl tert-butyl ether, analyzed by EPA Method 8260
DIPE = Di-isopropyl ether, analyzed by EPA Method 8260
ETBE = Ethyl tert-butyl ether, analyzed by EPA Method 8260
TAME = Tert-amyl methyl ether, analyzed by EPA Method 8260
TBA = Tert-butyl alcohol, analyzed by EPA Method 8260
Ethanol analyzed by EPA Method 8260
ppb = Parts per billion

Table 2: 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)
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
11/26/01	T-1*	2,700	2,700	10/23/01	<50,000	0.56324	0.56324	<250	0.00282	0.00282	**180,000**	4.05536	4.05536
12/10/01	T-1*	2,750	5,450	10/23/01	<50,000	0.57367	1.13692	<250	0.00287	0.00568	**180,000**	4.13046	8.18581
12/26/01	T-1*	2,800	8,250	10/23/01	<50,000	0.58410	1.72102	<250	0.00292	0.00861	**180,000**	4.20556	12.39137
01/09/02	T-1	5,184	13,434	01/07/02	<20,000	0.43257	2.15359	310	0.01341	0.02201	**92,000**	3.97966	16.37103
Total Gallons Extracted:			**17,974**		**Total Pounds Removed:**		**2.33657**			**0.04304**			**23.73708**
					Total Gallons Removed:		**0.38304**			**0.00590**			**3.82856**

Table 2: 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
ppb = Parts per billion
gal = Gallon
* = Concentrations for tank backfill well T-1 estimated from nearest monitoring well MW-3.
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.

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

December 10, 2001

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

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

Monitoring performed on October 23, 2001

Groundwater Monitoring Report **011023-C-6**

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-1	**10/23/2001**	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**	**<5.0**	**12.22**	**6.24**	**5.98**	**2.6/4.1**
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-2	**10/23/2001**	**<5,000**	**<500**	**50**	**<25**	**92**	**<25**	**NA**	**13,000**	**10.87**	**5.72**	**5.15**	**2.0/3.2**
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

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	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
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-3	**10/23/2001**	**<50,000**	**260**	**<250**	**<250**	**<250**	**<250**	**NA**	**180,000**	**11.27**	**6.25**	**5.02**	**2.2/1.6**
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
MW-4	**10/23/2001**	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**	**<5.0**	**9.50**	**7.90**	**1.60**	**2.8/1.8**

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)

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

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 : 23015
Date : 11/05/2001

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 : 011023-C6
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 : 23015
Date : 11/05/2001

Subject : 4 Water Samples
Project Name : 105 5th Street, Oakland
Project Number : 011023-C6
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 sample MW-2.

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 23015
Date : 11/05/2001

Project Name : **105 5th Street, Oakland**
Project Number : **011023-C6**

Sample : **MW-1** Matrix : Water Lab Number : 23015-01
Sample Date :10/23/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/25/2001
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/25/2001
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/25/2001
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	10/25/2001
Methyl-t-butyl ether (MTBE)	**< 5.0**	5.0	ug/L	EPA 8260B	10/25/2001
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	10/25/2001
Toluene - d8 (Surr)	104		% Recovery	EPA 8260B	10/25/2001
4-Bromofluorobenzene (Surr)	89.8		% Recovery	EPA 8260B	10/25/2001
TPH as Diesel	**< 50**	50	ug/L	M EPA 8015	10/27/2001

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 23015
Date : 11/05/2001

Project Name : **105 5th Street, Oakland**
Project Number : **011023-C6**

Sample : **MW-2** Matrix : Water Lab Number : 23015-02
Sample Date :10/23/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**50**	25	ug/L	EPA 8260B	11/02/2001
Toluene	**< 25**	25	ug/L	EPA 8260B	11/02/2001
Ethylbenzene	**92**	25	ug/L	EPA 8260B	11/02/2001
Total Xylenes	**< 25**	25	ug/L	EPA 8260B	11/02/2001
Methyl-t-butyl ether (MTBE)	**13000**	25	ug/L	EPA 8260B	11/02/2001
Diisopropyl ether (DIPE)	**< 25**	25	ug/L	EPA 8260B	11/02/2001
Ethyl-t-butyl ether (ETBE)	**< 25**	25	ug/L	EPA 8260B	11/02/2001
Tert-amyl methyl ether (TAME)	**< 25**	25	ug/L	EPA 8260B	11/02/2001
Tert-Butanol	**820**	250	ug/L	EPA 8260B	11/02/2001
Ethanol	**< 500**	500	ug/L	EPA 8260B	11/02/2001
TPH as Gasoline	**< 5000**	5000	ug/L	EPA 8260B	11/02/2001
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	11/02/2001
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	11/02/2001
TPH as Diesel	**< 500**	500	ug/L	M EPA 8015	10/27/2001

Approved By: Joel Kiff

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KIFF ANALYTICAL LLC

Report Number : 23015
Date : 11/05/2001

Project Name : **105 5th Street, Oakland**
Project Number : **011023-C6**

Sample : **MW-3** Matrix : Water Lab Number : 23015-03
Sample Date :10/23/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 250**	250	ug/L	EPA 8260B	11/03/2001
Toluene	**< 250**	250	ug/L	EPA 8260B	11/03/2001
Ethylbenzene	**< 250**	250	ug/L	EPA 8260B	11/03/2001
Total Xylenes	**< 250**	250	ug/L	EPA 8260B	11/03/2001
Methyl-t-butyl ether (MTBE)	**180000**	250	ug/L	EPA 8260B	11/03/2001
Diisopropyl ether (DIPE)	**< 250**	250	ug/L	EPA 8260B	11/03/2001
Ethyl-t-butyl ether (ETBE)	**< 250**	250	ug/L	EPA 8260B	11/03/2001
Tert-amyl methyl ether (TAME)	**< 250**	250	ug/L	EPA 8260B	11/03/2001
Tert-Butanol	**53000**	5000	ug/L	EPA 8260B	11/03/2001
Ethanol	**< 5000**	5000	ug/L	EPA 8260B	11/03/2001
TPH as Gasoline	**< 50000**	50000	ug/L	EPA 8260B	11/03/2001
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	11/03/2001
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	11/03/2001
TPH as Diesel	**260**	50	ug/L	M EPA 8015	10/27/2001

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 23015
Date : 11/05/2001

Project Name : **105 5th Street, Oakland**
Project Number : **011023-C6**

Sample : **MW-4** Matrix : Water Lab Number : 23015-04
Sample Date :10/23/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/28/2001
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/28/2001
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/28/2001
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	10/28/2001
Methyl-t-butyl ether (MTBE)	**< 5.0**	5.0	ug/L	EPA 8260B	10/28/2001
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	10/28/2001
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	10/28/2001
4-Bromofluorobenzene (Surr)	92.9		% Recovery	EPA 8260B	10/28/2001
TPH as Diesel	**< 50**	50	ug/L	M EPA 8015	10/27/2001

Approved By: Joel Kiff

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

Report Number : 23015

Date : 11/05/2001

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

Project Number : **011023-C6**

23015 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	10/26/2001

Approved By: Joel Kiff

Report Number : 23015

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 11/05/2001

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

Project Number : **011023-C6**

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	1120	1210	ug/L	M EPA 8015	10/26/200	112	121	7.27	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 23015

Date : 11/05/2001

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

Project Number : **011023-C6**

23015 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	10/28/2001
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/28/2001
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/28/2001
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	10/28/2001
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	10/28/2001
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	10/28/2001
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	10/28/2001
Tert-amyl methyl ether (TAME)	**< 2.0**	2.0	ug/L	EPA 8260B	10/28/2001
Tert-Butanol	**< 50**	50	ug/L	EPA 8260B	10/28/2001
Ethanol	**< 500**	500	ug/L	EPA 8260B	10/28/2001
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	10/28/2001
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	10/28/2001
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	10/28/2001

Approved By: Joel Kiff

Report Number : 23015

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 11/05/2001

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

Project Number : **011023-C6**

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	23015-04	<0.50	19.1	19.5	17.8	18.0	ug/L	EPA 8260B	10/28/2000	92.9	92.3	0.648	70-130	25
Toluene	23015-04	<0.50	19.1	19.5	17.8	17.8	ug/L	EPA 8260B	10/28/2000	93.2	91.6	1.84	70-130	25
Tert-Butanol	23015-04	<5.0	95.6	97.4	91.4	93.0	ug/L	EPA 8260B	10/28/2000	95.6	95.5	0.0890	70-130	25
Methyl-t-Butyl Ether	23015-04	<0.50	19.1	19.5	16.9	16.9	ug/L	EPA 8260B	10/28/2000	88.4	86.8	1.94	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 23015

Date : 11/05/2001

QC Report : Laboratory Control Sample (LCS)

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

Project Number : **011023-C6**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	20.0	ug/L	EPA 8260B	10/28/200	95.2	70-130
Toluene	20.0	ug/L	EPA 8260B	10/28/200	95.7	70-130
Tert-Butanol	100	ug/L	EPA 8260B	10/28/200	95.8	70-130
Methyl-t-Butyl Ether	20.0	ug/L	EPA 8260B	10/28/200	88.8	70-130

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

Lab Identification (if necessary):

Address:

City, State, Zip:

Equiva Project Manager to be invoiced: Karen Petryna 23015

☑ SCIENCE & ENGINEERING ☐ TECHNICAL SERVICES ☐ CRMT HOUSTON

INCIDENT NUMBER (S&E ONLY): 9 8 9 9 5 7 5 7

SAP or CRMT NUMBER (TS/CRMT):

DATE: 10-23-01

PAGE: 1 of 1

SUBMITTING COMPANY:	LOG CODE:	SITE ADDRESS (Street and City):	GLOBAL ID NO.:
Blaine Tech Services	BTSS	105 5th Street, Oakland	T0600102116

ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112

PROJECT CONTACT (Hardcopy or PDF Report to): Nick Sudano

TELEPHONE: 408-573-0555 FAX: 408-573-7771 E-MAIL: nsudano@blainetech.com

EDF DELIVERABLE TO (Responsible Party or Designee): Anni Kreml PHONE NO.: 510-420-3335 E-MAIL: akreml@cambria-env.com CONSULTANT PROJECT NO.: BTS # 011023-C6

SAMPLER NAME(S) (Print): Hank Castro

LAB USE ONLY

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

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

GC/MS MTBE CONFIRMATION: HIGHEST _____ HIGHEST per BORING _____ ALL _____

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT C°

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH - Gas, Purgeable	BTEX	MTBE (8021B - 5ppb RL)	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by (8260B)	Ethanol (8260B)	Methanol	1,2-DCA (8260B)	EDB (8260B)	TPH - Diesel, Extractable (8015m)	MTBE (8260B) Confirmation, See Note	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
	MW-1	10-23	1451	W	5	X	X	X							X		01
	MW-2		1514			X	X	X		X	X				X		02
	MW-3		1535			X	X	X		X	X				X		03
	MW-4	↓	1438	↓	↓	X	X	X							X		04

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Hank Castro			
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	Paul Brewer KIFF	102401	1105

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

10/16/00 Revision

WELL GAUGING DATA

Project # 011023-C6 Date 10-23-01 Client Equiva

Site 105 5th St Oak

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					6.24	23.60		
MW-2	4	odor				5.72	23.61		
* MW-3	4					6.25	24.99		
MW-4	2					7.90	20.07		
	*	Gauged w/ stinger in well							

EQUVA WELL MONITORING DATA SHEET

BTS #: 011023-C6	Site: 98995757
Sampler: Hank	Date: 10-23-01
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 23.60	Depth to Water: 6.24
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; X Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other:

Sampling Method: X Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other:

11.2 (Gals.) X 3 = 33.6 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
1442	69.6	7.2	785	96	11.2	
1444	70.4	7.1	814	84	22.4	
1446	69.1	7.1	804	124	33.6	

Did well dewater? Yes (No) Gallons actually evacuated: 33.6

Sampling Time: 1451 Sampling Date: 10-23-01

Sample I.D.: MW-1 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):	2.6 mg/L	(Post-purge):	4.1 mg/L	
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV	

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EQUVA WELL MONITORING DATA SHEET

BTS #: 011023-C6	Site: 98995757
Sampler: Hanks	Date: 10-23-01
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 23.61	Depth to Water: 5.72
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; X Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other ____

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

11.6 (Gals.) X 3 = 34.8 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
1505	73.9	6.8	349	38	11.6	odor
1507	72.6	6.8	427	49	23.2	↓
1509	72.0	6.7	411	40	~~35~~	↓

Did well dewater? Yes (No) Gallons actually evacuated: 35

Sampling Time: 1514 Sampling Date: 10-23-01

Sample I.D.: MW-2 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):	3.2	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

EQUVA WELL MONITORING DATA SHEET

BTS #: 011023-C6	Site: 98995757
Sampler: Hank	Date: 10-23-01
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8
Total Well Depth: 24.99	Depth to Water: 6.25
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; (X) Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other:

Sampling Method: (X) 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

12.1 (Gals.) X 3 = 36.3 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1526	68.7	6.7	1214	78	12.1	Odor
1528	67.8	6.7	1192	96	24.2	↓
1530	67.4	6.8	1146	168	36.5	↓

Did well dewater? Yes (No) Gallons actually evacuated: 36.5

Sampling Time: 1535 Sampling Date: 10-23-01

Sample I.D.: MW-3 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):	2.2 mg/L	(Post-purge):	1.6 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

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EQUIVA WELL MONITORING DATA SHEET

BTS #: 011023-C6	Site: 98995757
Sampler: Hanlt	Date: 10-23-01
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 20.07	Depth to Water: 7.90
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 (Gals.) X	3	=	6 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
1415	69.8	6.5	2071	>200	2	
1419	69.6	6.6	2090	>200	4	
1423	69.9	6.8	2082	>200	6	
"						

Did well dewater? Yes (No) Gallons actually evacuated: 6

Sampling Time: 1428 Sampling Date: 10-23-01

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):	2.8 mg/L	(Post-purge):	~~2~~ 1.8 mg/L	
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV	