Shell Oil Products US

February 21, 2003

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

Subject: **Shell-branded Service Station**
105 Fifth Street
Oakland, California

Dear Mr. Chan:

Attached for your review and comment is a copy of the *Fourth Quarter 2002 Monitoring Report* for the above referenced site. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

As always, please feel free to contact me directly at (559) 645-9306 with any questions or concerns.

Sincerely,

Shell Oil Products US

Karen Petryna

Karen Petryna
Sr. Environmental Engineer

P.O. Box 7869 Burbank, CA 91510-7869 Phone (559) 645-9306 Facsimile (559) 645-5643

CAMBRIA

February 21, 2003

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

Re: **Fourth Quarter 2002 Monitoring Report**
Shell-branded Service Station
105 Fifth Street
Oakland, California
Incident #98995757
Cambria Project #245-0472-002

Dear Mr. Chan:

On behalf of Equilon Enterprises LLC dba Shell Oil Products US, 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. Between April 2000 and March 2001, the DVE process removed an estimated 14.59 lbs of total petroleum hydrocarbons as gasoline (TPHg) and 7.13 lbs. of methyl tertiary butyl ether (MTBE) from monitoring wells MW-2 and MW-3. DVE was discontinued due to limited chemical recovery.

FOURTH QUARTER 2002 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

Cambria Environmental Technology, Inc.

5900 Hollis Street
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Emeryville, CA 94608
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supporting field documents, is included as Attachment A. Well MW-3 was also sampled for oxygenates di-isopropyl ether, tert-amyl methyl ether, ethyl tertiary butyl ether, and tert-butanol, and for lead scavengers 1,2-dichloroethane and 1,2-dibromomethane. Results of this analysis are presented in Table 1.

GWE: Beginning in November 2001, Phillips Services Corporation of Benicia, California has conducted semi-monthly 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. Through January 2003, a total of of 104,644 gallons of water have been extracted, resulting in removal of 7.1 lbs of TPHg and 69.4 lbs of MTBE.

ANTICIPATED FIRST QUARTER 2003 ACTIVITIES

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

GWE: Monthly mobile GWE from well T-1 will continue until May 2003, at which time we anticipate beginning construction of a GWE system.

GWE System Installation: Cambria submitted an *Interim Remedial Work Plan* dated February 10, 2003 describing installation of a GWE system. We are presently permitting this system, and anticipate construction in May 2003, contingent on receipt of appropriate permits.

CLOSING

We appreciate the opportunity to work with you on this project. Please call Diane Lundquist at (510) 420-3334 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc

Diane M. Lundquist, P.E.
Principal Engineer

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

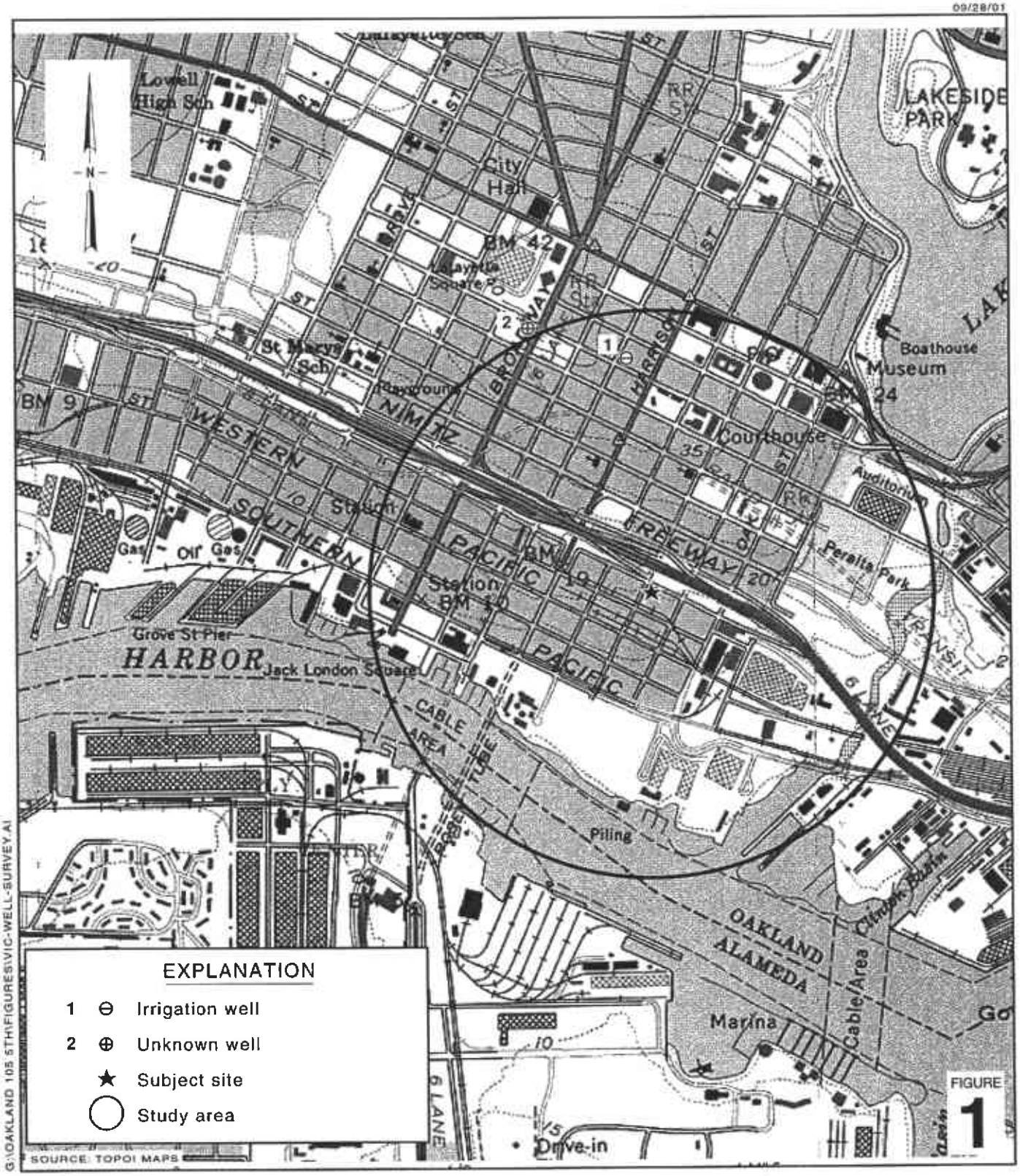
Tables: 1 - Groundwater Analytical Data - Oxygenates
2 - Groundwater Extraction – Mass Removal Data

Attachment: A - Blaine Groundwater Monitoring Report and Field Notes

cc: Karen Petryna, Shell Oil Products US, 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\4q02\4q02qm.doc

09/28/01



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

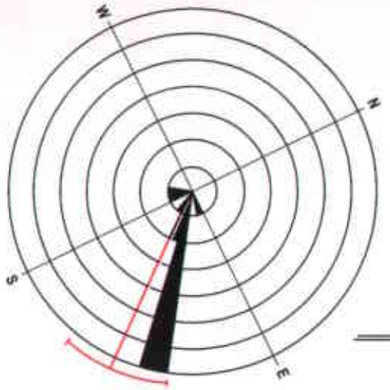
CAMBRIA

Vicinity / Well Survey Map

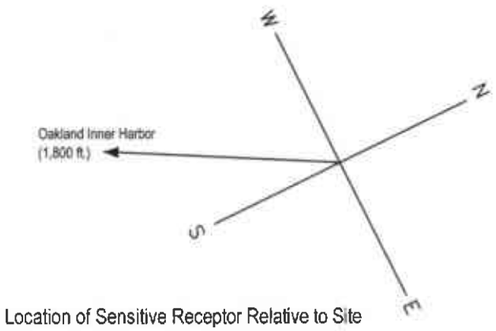
(1/2 Mile Radius)

Groundwater Elevation Contour Map

October 15, 2002



Groundwater Flow Direction
(07/23/99 to 10/15/02)



Location of Sensitive Receptor Relative to Site
(Oakland Inner Harbor - 1,800 ft. S 29° W)

EXPLANATION

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)
SB-8	Soil boring location (3/02)
D-1	Soil sample location
NS	Not surveyed
→	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 (SD)
	Sanitary sewer line (SS)
	Flow direction
MH	Manhole
SID	Storm drain inlet
fbg	Feet below grade

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

CAMBRIA

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

FIGURE
2

G:\OAKLAND 105 5TH\FIGURES\4Q02-MP.DWG
02/21/02

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	1,2-DCA	EDB
		← (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	---	---
	10/15/02	**44,000**	**<100**	**---**	**<100**	**9,100**	**---**	**<100**	**<100**

Abbreviations:

MTBE = Methyl tert-butyl ether, analyzed by 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
1,2-DCA = 1,2-dichloroethane, analyzed by EPA Method 8260
EDB = 1,2-dibromomethane or ethlyene dibromide, analyzed by EPA Method 8260
ppb = Parts per billion
--- = Not analyzed

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
01/09/01	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
01/23/02	T-1	4,250	17,684	01/07/02	**<20,000**	0.35464	2.50823	**310**	0.01099	0.03301	**92,000**	3.26264	19.63367
02/06/02	T-1	4,000	21,684	01/07/02	**<20,000**	0.33377	2.84200	**310**	0.01035	0.04336	**92,000**	3.07072	22.70439
02/20/02	T-1	3,000	24,684	01/07/02	**<20,000**	0.25033	3.09233	**310**	0.00776	0.05112	**92,000**	2.30304	25.00743
03/06/02	T-1	4,500	29,184	01/07/02	**<20,000**	0.37550	3.46783	**310**	0.01164	0.06276	**92,000**	3.45456	28.46200
03/20/02	T-1	5,000	34,184	01/07/02	**<20,000**	0.41722	3.88505	**310**	0.01293	0.07569	**92,000**	3.83840	32.30040

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)
04/03/02	T-1	5,200	39,384	01/07/02	**<20,000**	0.43391	4.31896	**310**	0.01345	0.08914	**92,000**	3.99194	36.29234
04/17/02	T-1	4,800	44,184	04/12/02	**<5,000**	0.10013	4.41909	**230**	0.00921	0.09835	**57,000**	2.28302	38.57536
06/03/02	T-1	3,539	47,723	04/12/02	**<5,000**	0.07383	4.49291	**230**	0.00679	0.10515	**57,000**	1.68325	40.25861
06/17/02	T-1	5,000	52,723	04/12/02	**<5,000**	0.10430	4.59722	**230**	0.00960	0.11474	**57,000**	2.37814	42.63675
07/01/02	T-1	2,873	55,596	04/12/02	**<5,000**	0.05993	4.65715	**230**	0.00551	0.12026	**57,000**	1.36648	44.00323
07/15/02	T-1	4,000	59,596	07/10/02	**<20,000**	0.33377	4.99093	**260**	0.00868	0.12893	**69,000**	2.30304	46.30627
08/12/02	T-1	3,900	63,496	07/10/02	**<20,000**	0.32543	5.31636	**260**	0.00846	0.13739	**69,000**	2.24547	48.55174
08/26/02	T-1	2,367	65,863	07/10/02	**<20,000**	0.19751	5.51387	**260**	0.00514	0.14253	**69,000**	1.36283	49.91456
09/09/02	T-1	1,959	67,822	07/10/02	**<20,000**	0.16347	5.67733	**260**	0.00425	0.14678	**69,000**	1.12791	51.04248
09/23/02	T-1	5,000	72,822	07/10/02	**<20,000**	0.41722	6.09455	**260**	0.01085	0.15763	**69,000**	2.87880	53.92128
10/09/02	T-1	4,500	77,322	07/10/02	**<20,000**	0.37550	6.47005	**260**	0.00976	0.16739	**69,000**	2.59092	56.51220
10/22/02	T-1	4,500	81,822	10/15/02	**<5,000**	0.09387	6.56392	**150**	0.00563	0.17302	**29,000**	1.08894	57.60114
11/05/02	T-1	2,384	84,206	10/15/02	**<5,000**	0.04973	6.61365	**150**	0.00298	0.17601	**29,000**	0.57690	58.17804
11/19/02	T-1	4,375	88,581	10/15/02	**<5,000**	0.09127	6.70492	**150**	0.00548	0.18148	**29,000**	1.05869	59.23673
12/09/02	T-1	2,341	90,922	10/15/02	**<5,000**	0.04884	6.75376	**150**	0.00293	0.18441	**29,000**	0.56649	59.80322
12/23/02	T-1	2,341	93,263	10/15/02	**<5,000**	0.04884	6.80259	**150**	0.00293	0.18734	**29,000**	0.56649	60.36971
01/06/03	T-1	2,341	95,604	10/15/02	**<5,000**	0.04884	6.85143	**150**	0.00293	0.19027	**29,000**	0.56649	60.93620
01/28/03	T-1	4,500	100,104	10/15/02	**<5,000**	0.09387	6.94530	**150**	0.00563	0.19591	**29,000**	1.08894	62.02514
Total Gallons Extracted:			**104,644**		**Total Pounds Removed:**		**7.12827**			**0.21693**			**69.39118**
					Total Gallons Removed:		**1.16857**			**0.02972**			**11.19213**

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
TPPH, benzene MTBE analyzed by EPA Method 8260 are in bold font, all other results analyzed by EPA Method 8020.
Concentrations based on most recent groundwater monitoring results
Groundwater extracted by vacuum trucks provided by Phillips Services. 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

November 11, 2002

Karen Petryna
Shell Oil Products US
P.O. Box 7869
Burbank, CA 91510-7869

Fourth Quarter 2002 Groundwater Monitoring at
Shell-branded Service Station
105 5th Street
Oakland, CA

Monitoring performed on September 25
and October 15, 2002

Groundwater Monitoring Report **021015-DA-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,

Leon Gearhart
Project Coordinator

LG/jt

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

cc: Heidi Bauer
Miller Brooks Environmental, Inc.
2525 West 14th Street, Suite D2
Oakland, CA 94607

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-1	01/07/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.22	5.25	6.97	NA
MW-1	04/12/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	14.92	5.54	9.38	NA
MW-1	07/10/2002	<50	74	<0.50	<0.50	<0.50	<0.50	NA	<5.0	14.92	5.98	8.94	NA
MW-1	**10/15/2002**	**<50**	**51**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**	**<5.0**	**14.92**	**5.46**	**9.46**	**NA**
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

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-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-2	01/07/2002	<1,000	<200	<10	<10	<10	<10	NA	4,500	10.87	4.87	6.00	NA
MW-2	04/12/2002	<1,000	<100	14	<10	27	13	NA	6,200	13.57	5.14	8.43	NA
MW-2	07/10/2002	<1,000	290	<10	<10	14	<10	NA	6,100	13.57	5.45	8.12	NA
MW-2	**10/15/2002**	**<100**	**85**	**1.2**	**<1.0**	**<1.0**	**<1.0**	**NA**	**640**	**13.57**	**5.38**	**8.19**	**NA**
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
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-3	01/07/2002	<10,000	160	<100	<100	<100	<100	NA	96,000	11.27	5.29	5.98	NA
MW-3	04/12/2002	<10,000	87	<100	<100	<100	<100	NA	78,000	13.96	5.43	8.53	NA
MW-3	07/10/2002	<20,000	150	<200	<200	<200	<200	NA	64,000	13.96	6.33	7.63	NA
MW-3	**10/15/2002**	**<10,000**	**120**	**<100**	**<100**	**<100**	**<100**	**NA**	**44,000**	**13.96**	**5.96**	**8.00**	**NA**
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
MW-4	01/07/2002	<50	64	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.50	5.00	4.50	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-4	04/12/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.17	7.49	4.68	NA
MW-4	07/10/2002	<50	67	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.17	4.75	7.42	NA
MW-4	**10/15/2002**	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**	**<5.0**	**12.17**	**4.56**	**7.61**	**NA**
MW-5	03/29/2002	NA	NA	NA	NA	NA	NA	NA	NA	14.78	5.86	8.92	NA
MW-5	04/12/2002	1,600	<50	25	3.5	44	110	NA	570	14.78	5.96	8.82	NA
MW-5	07/10/2002	930	<400	36	<2.0	93	8.8	NA	630	14.78	6.57	8.21	NA
MW-5	**10/15/2002**	**200**	**90**	**9.9**	**<0.50**	**19**	**5.5**	**NA**	**180**	**14.78**	**6.17**	**8.61**	**NA**
MW-6	**09/25/2002**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**12.91**	**5.50**	**7.41**	**NA**
MW-6	**10/15/2002**	**<500**	**72**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**NA**	**2,600**	**12.91**	**5.45**	**7.46**	**NA**
T-1	01/07/2002	<20,000	2,600	310	<200	<200	<200	NA	92,000	NA	4.86	NA	NA
T-1	04/12/2002	<5,000	1,000	230	<50	<50	<50	NA	57,000	NA	5.05	NA	NA
T-1	07/10/2002	<20,000	3,700	260	<200	<200	<200	NA	69,000	NA	5.84	NA	NA
T-1	**10/15/2002**	**<5,000**	**2,100**	**150**	**62**	**<50**	**75**	**NA**	**29,000**	**NA**	**5.77**	**NA**	**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)

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.

Wells MW-1 through MW-5 surveyed April 12, 2002, by Virgil Chavez Land Surveying of Vallejo, California.

Site surveyed Spetember 26, 2002, by Virgil Chavez Land Surveying of Vallejo, California.

KIFF ANALYTICAL LLC

Report Number : 29204
Date : 10/29/2002

Leon Gearhart
Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112-1105

Subject : 7 Water Samples
Project Name : 105 5th Street, Oakland
Project Number : 021015-DA-1
P.O. Number : 98995757

Dear Mr. Gearhart,

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 : 29204
Date : 10/29/2002

Subject : 7 Water Samples
Project Name : 105 5th Street, Oakland
Project Number : 021015-DA-1
P.O. Number : 98995757

Case Narrative

Hydrocarbons reported as TPH as Diesel do not exhibit a typical Diesel chromatographic pattern for samples MW-1, MW-2, MW-5 and MW-6.Matrix Spike/Matrix Spike Duplicate Results associated with sample MW-3 for the analyte Tert-Butanol were affected by the analyte concentrations already present in the un-spiked sample.

Approved By: Joel Kiff

2795 2nd St, Suite 300 Davis, CA 95616 916-297-4800

KIFF ANALYTICAL LLC

Report Number : 29204
Date : 10/29/2002

Project Name : **105 5th Street, Oakland**
Project Number : **021015-DA-1**

Sample : **MW-1** Matrix : Water Lab Number : 29204-01
Sample Date :10/15/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/19/2002
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/19/2002
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/19/2002
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	10/19/2002
Methyl-t-butyl ether (MTBE)	**< 5.0**	5.0	ug/L	EPA 8260B	10/19/2002
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	10/19/2002
Toluene - d8 (Surr)	99.3		% Recovery	EPA 8260B	10/19/2002
4-Bromofluorobenzene (Surr)	97.0		% Recovery	EPA 8260B	10/19/2002
TPH as Diesel	**51**	50	ug/L	M EPA 8015	10/25/2002

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 29204
Date : 10/29/2002

Project Name : **105 5th Street, Oakland**
Project Number : **021015-DA-1**

Sample : **MW-2** Matrix : Water Lab Number : 29204-02
Sample Date :10/15/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**1.2**	1.0	ug/L	EPA 8260B	10/23/2002
Toluene	**< 1.0**	1.0	ug/L	EPA 8260B	10/23/2002
Ethylbenzene	**< 1.0**	1.0	ug/L	EPA 8260B	10/23/2002
Total Xylenes	**< 1.0**	1.0	ug/L	EPA 8260B	10/23/2002
Methyl-t-butyl ether (MTBE)	**640**	10	ug/L	EPA 8260B	10/23/2002
TPH as Gasoline	**< 100**	100	ug/L	EPA 8260B	10/23/2002
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	10/23/2002
4-Bromofluorobenzene (Surr)	104		% Recovery	EPA 8260B	10/23/2002
TPH as Diesel	**85**	50	ug/L	M EPA 8015	10/25/2002

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 29204

Date : 10/29/2002

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

Project Number : **021015-DA-1**

Sample : **MW-3** Matrix : Water Lab Number : 29204-03

Sample Date :10/15/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 100**	100	ug/L	EPA 8260B	10/24/2002
Toluene	**< 100**	100	ug/L	EPA 8260B	10/24/2002
Ethylbenzene	**< 100**	100	ug/L	EPA 8260B	10/24/2002
Total Xylenes	**< 100**	100	ug/L	EPA 8260B	10/24/2002
Methyl-t-butyl ether (MTBE)	**44000**	100	ug/L	EPA 8260B	10/24/2002
Diisopropyl ether (DIPE)	**< 100**	100	ug/L	EPA 8260B	10/24/2002
Tert-amyl methyl ether (TAME)	**< 100**	100	ug/L	EPA 8260B	10/24/2002
Tert-Butanol	**9100**	1000	ug/L	EPA 8260B	10/24/2002
TPH as Gasoline	**< 10000**	10000	ug/L	EPA 8260B	10/24/2002
1,2-Dichloroethane	**< 100**	100	ug/L	EPA 8260B	10/24/2002
1,2-Dibromoethane	**< 100**	100	ug/L	EPA 8260B	10/24/2002
Toluene - d8 (Surr)	98.0		% Recovery	EPA 8260B	10/24/2002
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	10/24/2002
Dibromofluoromethane (Surr)	110		% Recovery	EPA 8260B	10/24/2002
1,2-Dichloroethane-d4 (Surr)	99.2		% Recovery	EPA 8260B	10/24/2002
TPH as Diesel	**120**	50	ug/L	M EPA 8015	10/26/2002

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 29204
Date : 10/29/2002

Project Name : **105 5th Street, Oakland**
Project Number : **021015-DA-1**

Sample : **MW-4** Matrix : Water Lab Number : 29204-04
Sample Date :10/15/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/19/2002
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/19/2002
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/19/2002
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	10/19/2002
Methyl-t-butyl ether (MTBE)	**< 5.0**	5.0	ug/L	EPA 8260B	10/19/2002
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	10/19/2002
Toluene - d8 (Surr)	96.7		% Recovery	EPA 8260B	10/19/2002
4-Bromofluorobenzene (Surr)	96.5		% Recovery	EPA 8260B	10/19/2002
TPH as Diesel	**< 50**	50	ug/L	M EPA 8015	10/26/2002

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 29204

Date : 10/29/2002

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

Project Number : **021015-DA-1**

Sample : **MW-5** Matrix : Water Lab Number : 29204-05

Sample Date :10/15/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**9.9**	0.50	ug/L	EPA 8260B	10/23/2002
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/23/2002
Ethylbenzene	**19**	0.50	ug/L	EPA 8260B	10/23/2002
Total Xylenes	**5.5**	0.50	ug/L	EPA 8260B	10/23/2002
Methyl-t-butyl ether (MTBE)	**180**	5.0	ug/L	EPA 8260B	10/23/2002
TPH as Gasoline	**200**	50	ug/L	EPA 8260B	10/23/2002
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	10/23/2002
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	10/23/2002
TPH as Diesel	**90**	50	ug/L	M EPA 8015	10/26/2002

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 29204
Date : 10/29/2002

Project Name : **105 5th Street, Oakland**
Project Number : **021015-DA-1**

Sample : **MW-6** Matrix : Water Lab Number : 29204-06
Sample Date :10/15/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 5.0**	5.0	ug/L	EPA 8260B	10/23/2002
Toluene	**< 5.0**	5.0	ug/L	EPA 8260B	10/23/2002
Ethylbenzene	**< 5.0**	5.0	ug/L	EPA 8260B	10/23/2002
Total Xylenes	**< 5.0**	5.0	ug/L	EPA 8260B	10/23/2002
Methyl-t-butyl ether (MTBE)	**2600**	50	ug/L	EPA 8260B	10/23/2002
TPH as Gasoline	**< 500**	500	ug/L	EPA 8260B	10/23/2002
Toluene - d8 (Surr)	98.5		% Recovery	EPA 8260B	10/23/2002
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	10/23/2002
TPH as Diesel	**72**	50	ug/L	M EPA 8015	10/29/2002

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 29204
Date : 10/29/2002

Project Name : **105 5th Street, Oakland**
Project Number : **021015-DA-1**

Sample : **T-1** Matrix : Water Lab Number : 29204-07
Sample Date :10/15/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**150**	50	ug/L	EPA 8260B	10/23/2002
Toluene	**62**	50	ug/L	EPA 8260B	10/23/2002
Ethylbenzene	**< 50**	50	ug/L	EPA 8260B	10/23/2002
Total Xylenes	**75**	50	ug/L	EPA 8260B	10/23/2002
Methyl-t-butyl ether (MTBE)	**29000**	500	ug/L	EPA 8260B	10/23/2002
TPH as Gasoline	**< 5000**	5000	ug/L	EPA 8260B	10/23/2002
Toluene - d8 (Surr)	98.8		% Recovery	EPA 8260B	10/23/2002
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	10/23/2002
TPH as Diesel	**2100**	50	ug/L	M EPA 8015	10/21/2002

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Report Number : 29204

Date : 10/29/2002

QC Report : Method Blank Data

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

Project Number : **021015-DA-1**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel	< 50	50	ug/L	M EPA 8015	10/19/2002
TPH as Diesel	< 50	50	ug/L	M EPA 8015	10/25/2002
Benzene	< 0.50	0.50	ug/L	EPA 8260B	10/21/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	10/21/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	10/21/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	10/21/2002
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	10/21/2002
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	10/21/2002
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	10/21/2002
Tert-Butanol	< 50	50	ug/L	EPA 8260B	10/21/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	10/21/2002
1,2-Dichloroethane	< 2.0	2.0	ug/L	EPA 8260B	10/21/2002
1,2-Dibromoethane	< 2.0	2.0	ug/L	EPA 8260B	10/21/2002
Toluene - d8 (Surr)	106		%	EPA 8260B	10/21/2002
4-Bromofluorobenzene (Surr)	97.8		%	EPA 8260B	10/21/2002
Dibromofluoromethane (Surr)	102		%	EPA 8260B	10/21/2002
1,2-Dichloroethane-d4 (Surr)	105		%	EPA 8260B	10/21/2002
Benzene	< 0.50	0.50	ug/L	EPA 8260B	10/18/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	10/18/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	10/18/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	10/18/2002
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	10/18/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	10/18/2002
Toluene - d8 (Surr)	100		%	EPA 8260B	10/18/2002
4-Bromofluorobenzene (Surr)	97.4		%	EPA 8260B	10/18/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St. Suite 300 Davis. CA 95616 530-297-4800

Report Number : 29204

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 10/29/2002

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

Project Number : **021015-DA-1**

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
TPH as Diesel	Blank	<50	1000	1000	1210	1170	ug/L	M EPA 8015	10/19/02	121	117	2.93	70-130	25
TPH as Diesel	Blank	<50	1000	1000	1020	1100	ug/L	M EPA 8015	10/25/02	102	110	7.98	70-130	25
Benzene	29229-09	<0.50	66.2	66.7	65.1	64.5	ug/L	EPA 8260B	10/21/02	98.4	96.8	1.61	70-130	25
Toluene	29229-09	<0.50	66.2	66.7	64.6	62.7	ug/L	EPA 8260B	10/21/02	97.6	94.0	3.71	70-130	25
Tert-Butanol	29229-09	2200	331	333	2460	2420	ug/L	EPA 8260B	10/21/02	71.6	59.8	18.1	70-130	25
Methyl-t-Butyl Ether	29229-09	270	66.2	66.7	329	322	ug/L	EPA 8260B	10/21/02	87.1	75.1	14.8	70-130	25
Benzene	29238-08	<0.50	40.0	40.0	41.9	40.7	ug/L	EPA 8260B	10/18/02	105	102	2.95	70-130	25
Toluene	29238-08	<0.50	40.0	40.0	41.8	40.8	ug/L	EPA 8260B	10/18/02	105	102	2.49	70-130	25
Tert-Butanol	29238-08	<5.0	200	200	197	196	ug/L	EPA 8260B	10/18/02	98.4	98.1	0.285	70-130	25
Methyl-t-Butyl Ether	29238-08	<0.50	40.0	40.0	41.7	41.8	ug/L	EPA 8260B	10/18/02	104	105	0.431	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 29204

Date : 10/29/2002

QC Report : Laboratory Control Sample (LCS)

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

Project Number : **021015-DA-1**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	20.0	ug/L	EPA 8260B	10/21/02	99.6	70-130
Toluene	20.0	ug/L	EPA 8260B	10/21/02	97.3	70-130
Tert-Butanol	100	ug/L	EPA 8260B	10/21/02	99.9	70-130
Methyl-t-Butyl Ether	20.0	ug/L	EPA 8260B	10/21/02	101	70-130
Benzene	40.0	ug/L	EPA 8260B	10/18/02	105	70-130
Toluene	40.0	ug/L	EPA 8260B	10/18/02	109	70-130
Tert-Butanol	200	ug/L	EPA 8260B	10/18/02	101	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	10/18/02	107	70-130

KIFF ANALYTICAL, LLC

Approved By: Joel Kiff

SHELL Chain Of Custody Record

Lab Identification (if necessary):

Address:

City, State, Zip:

Shell Project Manager to be invoiced: Karen Petryna

☑ SCIENCE & ENGINEERING ☐ TECHNICAL SERVICES ☐ CRMT HOUSTON

29204

INCIDENT NUMBER (S&E ONLY): 98995757

SAP or CRMT NUMBER (TS/CRMT):

DATE: 10/15/02

PAGE: 1 of 1

SAMPLING 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): Leon Gearhart

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

EDF DELIVERABLE TO (Responsible Party or Designee): Heidi Bauer PHONE NO.: (510) 891-0092 E-MAIL: hbauer@millerbrooksenv.com CONSULTANT PROJECT NO.: BTS # 021015-DA-1

SAMPLER NAME(S) (Print): David Allbutt

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: CHECK BOX IF EDD IS NOT NEEDED ☐

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)	TBA, DIPE, TAME									TEMPERATURE ON RECEIPT C°
	MW-1	10/15/02	850	W	5	X	X	X								X									-01
	MW-2		930			X	X	X								X									-02
	MW-3		950			X	X	X					X	X		X	X								-03
	MW-4		825			X	X	X								X									-04
	MW-5		911			X	X	X								X									-05
	MW-6		800			X	X	X								X									-06
	T-1		1211			X	X	X								X									-07

FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
David Allbutt			
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	John Cuttler/KHF Analytical	101602	1132

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

10/18/00 Revision

Q&D Graphic (714) 898-9702

WELL GAUGING DATA

Project # 021015-DA-1 Date 10/15/02 Client Shell

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					5.46	23.60	TOC	
MW-2	4					5.38	23.61		
MW-3	4		Gauged w/stinger in well			5.96	24.99		
MW-4	2					4.56	20.07		
MW-5	4	O				6.17	24.17		
MW-6	2/4					5.45	24.12		
T-1	12		Gauged w/stinger in well			5.77	11.50		

SHELL WELL MONITORING DATA SHEET

BTS #: 021016-DA-1	Site: 105 5th St. Oakland, CA
Sampler: David A.	Date: 10/15/02
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 23.60	Depth to Water (DTW): 5.46
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.09	

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: _____

11.8 (Gals.) X 3 = 35.4 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. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
839	66.7	7.5	1086	80	12	~~clear~~ cloudy
841	69.6	7.0	900	46	24	clearing
844	69.7	6.9	820	83	36	cloudy

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

Sampling Date: 10/15/02 Sampling Time: 850 Depth to Water: 9.01

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

SHELL WELL MONITORING DATA SHEET

BTS #: 021015-DA-1	Site: 105 5th St. Oakland, CA
Sampler: David A.	Date: 10/15/02
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 23.61	Depth to Water (DTW): 5.38
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.03	

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:_____

11.8 (Gals.) X 3 = 35.4 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. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
918	68.2	7.0	264	86	12	cloudy; odor
921	71.6	6.8	277	112	24	"
923	71.1	6.8	300	88	36	"

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

Sampling Date: 10/15/02 Sampling Time: 930 Depth to Water: 9.00

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

SHELL WELL MONITORING DATA SHEET

BTS #: 021016-DA-1	Site: 105 5th St. Oakland, CA
Sampler: David A.	Date: 10/15/02
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 24.99	Depth to Water (DTW): 5.96
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.77	

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: _____

12.4 (Gals.) X 3 = 37.2 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

~~12 5.87~~

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
940	66.3	6.6	1183	63	13	cloudy, odor
943	67.2	6.8	1149	86	26	"
944	67.4	6.8	1115	114	38	"

Did well dewater? Yes (No) Gallons actually evacuated: 38

Sampling Date: 10/15/02 Sampling Time: 950 Depth to Water: 9.73

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

SHELL WELL MONITORING DATA SHEET

BTS #: 021015-DA-1	Site: 105 5th St. Oakland, CA
Sampler: David A.	Date: 10/15/02
Well I.D.: ~~20.07~~ MW-4	Well Diameter: ② 3 ~~4~~ 6 8
Total Well Depth (TD): 20.07	Depth to Water (DTW): 4.56
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 7.66	

Purge Method: Bailer; Disposable Bailer; X Middleburg; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

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

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

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. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
815	65.1	6.6	1608	7200	2.5	tan, turbid
818	65.4	7.1	1815	78	5	clearing
821	65.3	7.4	1851	192	7.5	cloudy

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

Sampling Date: 10/15/02 Sampling Time: 825 Depth to Water: 13.46 sampled @ well depth in street

Sample I.D.: MW-4 Laboratory: (Kiff) SPL 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:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 021016-DA-1	Site: 105 5th St. Oakland, CA
Sampler: David A.	Date: 10/15/02
Well I.D.: MW-5	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 24.17	Depth to Water (DTW): 6.17
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.77	

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 ___

1 Case Volume	(Gals.) X	Specified Volumes	=	Calculated Volume	Gals.
11.7		3		35.1	

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. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
901	67.5	7.3	341	87	12	cloudy; odor
903	70.5	7.1	257	117	24	cloudy; odor
904	70.1	7.0	276	183	36	"

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

Sampling Date: 10/15/02 Sampling Time: 911 Depth to Water: 9.63

Sample I.D.: Laboratory: (Kiff) SPL 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:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 021016-DA-1	Site: 105 5th St. Oakland, CA
Sampler: David A.	Date: 10/15/02
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 24.12	Depth to Water (DTW): 5.45
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.18	

Purge Method: Bailer; Disposable Bailer; X Middleburg; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

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

3.0 (Gals.) X	3	=	9.0 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. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
754	66.5	5.4	516	7200	3	tan, turbid
756	68.8	6.1	497	7200	6	"
758	68.5	6.4	517	7200	9	"

Did well dewater? Yes (No) Gallons actually evacuated: 9

Sampling Date: 10/15/02 Sampling Time: 800 Depth to Water: 9.13

Sample I.D.: MW-6 Laboratory: (Kiff) SPL 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:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 021015-DA-1	Site: 105 5th St. Oakland, CA
Sampler: David A.	Date: 10/15/02
Well I.D.: MW-3 T-1	Well Diameter: 2 3 (4) 6 8 12
Total Well Depth (TD): 11.50	Depth to Water (DTW): 5.77
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.92	

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:_____

33.6 (Gals.) X 3 = 100.8 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

(12) 5.87

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1007	69.7	7.0	1033	29	34	clear; odor
1013	72.8	6.8	1020	13	68	"
1207	71.8	7.0	1012	10	101	"

Did well dewater? Yes (No) Gallons actually evacuated: 101

Sampling Date: 10/15/02 Sampling Time: 1211 Depth to Water: 5.79

Sample I.D.: T-1 Laboratory: (Kiff) SPL Other_____

Analyzed for: (TPH-G) (BTEX) (MTBE) (TPH-D) Other: TBA, DIPE, TAME, EDB, 1,2DCA by 8260

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

WELL GAUGING DATA

Project # 020925-MG1 Date 9/25/02 Client Shell

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-6	2					5.50	24.18	↓	

WELL DEVELOPMENT DATA SHEET

Project #: 020925-MG1	Client: Shell
Developer: MG	Date Developed: 9/25/02
Well I.D. MW-6	Well Diameter: (circle one) (2) 3 4 6
Total Well Depth: 24.15	Depth to Water: 5.50
Before After	Before After
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF):
(12 x (d^2/4) x π) /231
where
12 = in / foot
d = diameter (in.)
π = 3.1416
231 = in 3/gal

Well dia.		VCF
2"	=	0.16
3"	=	0.37
4"	=	0.65
6"	=	1.47
10"	=	4.08
12"	=	6.87

3.0	x	10	=	30
1 Case Volume		Specified Volumes		gallons

Purging Device: Bailer ☐ Electric Submersible ☐
Middleburg ☑ Suction Pump ☐

Type of Installed Pump _____
Other equipment used 2" Surge Block

TIME	TEMP (F)	pH	Cond. (mS or (µS))	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1133	71.8	6.6	488	>200	3.5	Surged for 10 min. DTW=9.26
1137	70.9	6.6	480	>200	6.5	Agitate bottom w/ pump.
1140	70.2	7.0	515	>200	9.5	Silty, hard bottom
1143	70.4	7.2	537	>200	12.5	DTW=9.85 Less silty.
1147	70.2	7.3	542	>200	16.0	DTW=10.69'
1150	70.1	7.1	561	>200	19	DTW=11.30'
1153	69.3	7.0	571	>200	22	Less turbid
1156	69.8	7.0	577	>200	25	DTW=11.45'
1159	69.9	7.0	587	>200	28	
1202	69.9	7.0	591	>200	31	TD=24.18
						hard, clean bottom
Did Well Dewater? No		If yes, note above.		Gallons Actually Evacuated: 31		