Shell Oil Products US

March 21, 2003

RO223

review # 3/19/03

Alameda County
MAR 26 2003
Environmental Health

Amir K. Gholami
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: **Shell-branded Service Station**
540 Hegenberger Road
Oakland, California

Dear Mr. Gholami:

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

MW5 installed 6/7/02

Karen Petryna

Karen Petryna
Sr. Environmental Engineer

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

CAMBRIA

March 21, 2003

Amir K. Gholami, REHS
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
540 Hegenberger Road
Oakland, California
Incident #98995752
Cambria Project #245-0414-002

Dear Mr. Gholami:

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.

FOURTH QUARTER 2002 ACTIVITIES

Groundwater Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, California gauged water levels, sampled the monitoring wells, calculated groundwater elevations, and compiled the analytical data. The adjacent Arco station located at 566 Hegenberger Road was sampled concurrently. In addition, Blaine collected a sample from the canal northwest of the site and attempted to collect samples from two storm drain inlets north of the site which were dry during the sampling event. Cambria prepared a vicinity map, which includes previously submitted well survey information (Figure 1) and a groundwater elevation contour map (Figure 2). Data from the Arco site is presented on Figure 2. However, water level elevation data for the Arco site is anomalous, and was not used in contouring. Shell recently resurveyed all wellhead elevations while obtaining latitude and longitude data required for Geotracker.

On January 2, 2003, Blaine sampled wells MW-1 and MW-3 for volatile organics and metals as required by the East Bay Municipal Utility District as part of a discharge permit applications for the site. Blaine's report, presenting the laboratory reports and supporting field documents for the both the December 12, 2002 sampling and the January 2, 2003 sampling, is included as Attachment A.

Cambria Environmental Technology, Inc.

5900 Hollis Street
Suite A
Emeryville, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

Interim Remedial Action: From July 1999 through June 2000, groundwater extraction (GWE) was performed at the site to remove dissolved-phase hydrocarbons and methyl tert-butyl ether (MTBE) from beneath the site. From June through December 2000, dual-phase vacuum extraction (DVE) was conducted to enhance GWE and to extract vapor-phase hydrocarbon and MTBE from the soil as well. DVE was discontinued after the December 2000 event, and monthly DVE events were resumed in May 2001. Due to low vapor mass-removal rates, DVE was discontinued in October 2001, and monthly GWE was re-initiated. Wells MW-1 and MW-3 and tank backfill well BW-D were used for extraction until April 2002, when extraction from the tank backfill was switched from well BW-D to BW-B due to higher historic MTBE concentrations observed in this well. Hydrocarbon mass removal data for liquid and vapor phase are presented in Tables 1 and 2, respectively. Mass removal and MTBE concentrations versus time for wells MW-1 and MW-3 are shown on graphs presented in Figures 3 and 4, respectively.

ANTICIPATED FIRST QUARTER 2003 ACTIVITIES

Groundwater Monitoring: Blaine will gauge water levels, sample the monitoring wells using the non-purging method, and tabulate the data. In addition, Blaine will sample all tank backfill wells at the site. The sampling event will take place concurrently with sampling at the Arco station located at 566 Hegenberger Road, north of the site. Arco and Shell will exchange water level and analytical data on these events. Cambria will prepare a report documenting those activities.

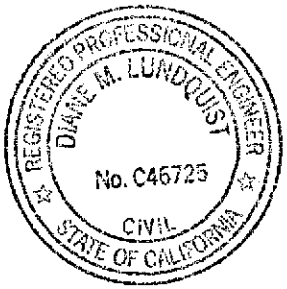
GWE System Installation: Cambria submitted an *Interim Remedial Work Plan* dated February 13, 2003 describing installation of a GWE system. The system is presently under construction.

Interim Remedial Action: Monthly extraction events have been discontinued since construction of a fixed GWE system was initiated.

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 Lundquist, P.E.
Principal Engineer

Figures:
1 - Vicinity/Area Well Survey Map
2 - Groundwater Elevation Contour Map
3 - GWE/DVE Effect on MTBE Concentration – MW-1
4 - GWE/DVE Effect on MTBE Concentration – MW-3

Tables:
1 - Groundwater Extraction - Mass Removal Data
2 - Vapor Extraction - Mass Removal Data

Attachments:
A - Blaine Groundwater Monitoring Report and Field Notes
B - Arco Groundwater Data

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

G:\Oakland 540 Hegenberger\Qm\4q02\4q02q.doc

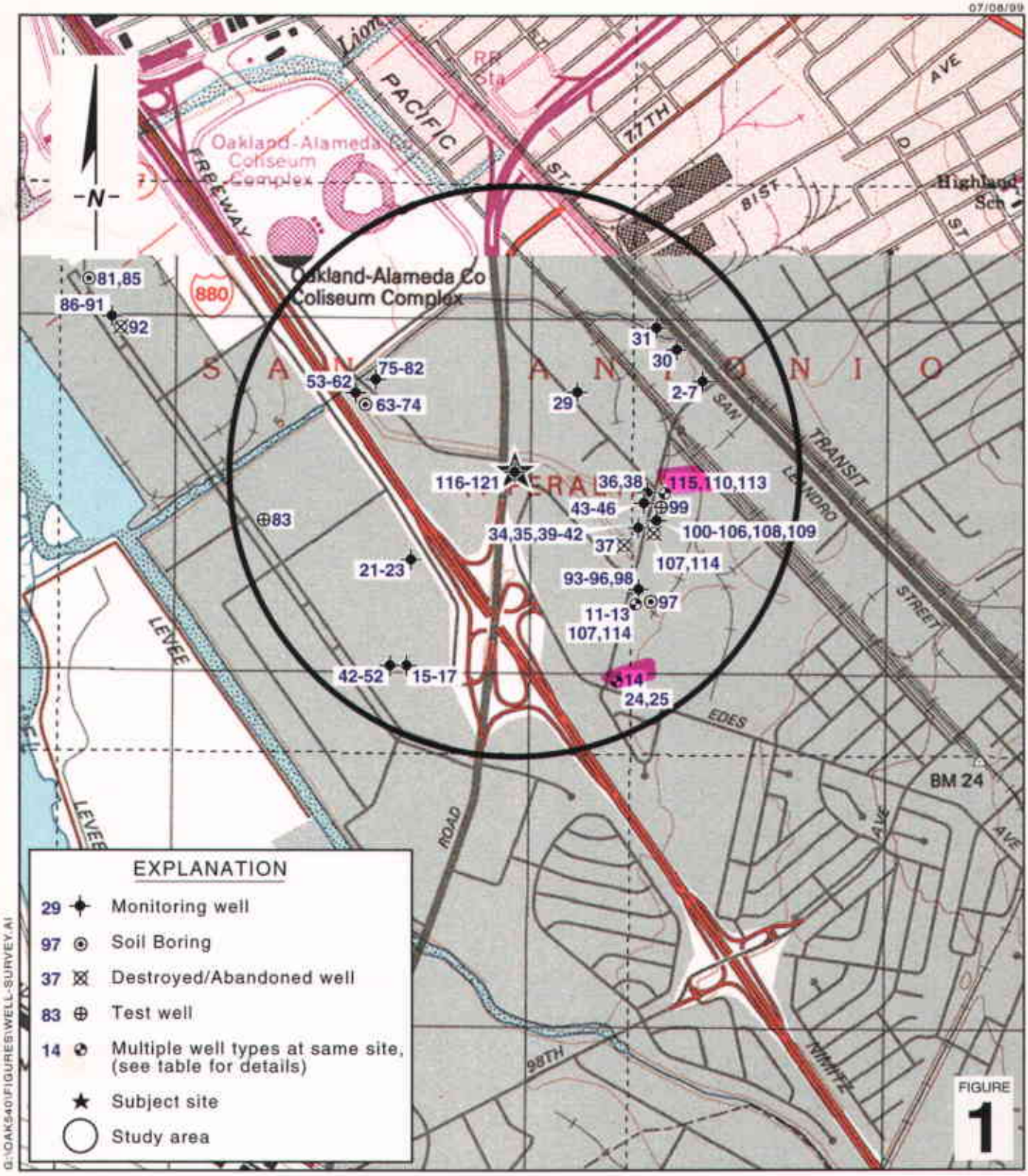


FIGURE 1

0 1/8 1/4 1/2 1 MILES

SCALE 1:1/4

Shell-branded Service Station
540 Hegenberger Road
Oakland, California
Incident #98995752

CAMBRIA

Area Well Survey

(1/2-Mile Radius)

03/21/03

Groundwater Elevation Contour Map

December 12, 2002

Groundwater Gradient Direction
August 1998 through December 2002
(19 events)

N
E
S
W

EXPLANATION

- MW-1 — Site monitoring well
- BW-A — Tank backfill well
- MW-1 — ARCO monitoring well, not referenced to mean sea level, not used for contouring
- RW-1 — ARCO recovery well
- SB-1 — Soil boring location (March 1998)
- SB-D — Soil boring location (July 1998)
- SB-E — Soil boring location (August 2000)
- C-1 — Canal sampling location
- FH — Fire hydrant
- FL = 5.0' — Flowline elevation (msl)
- Sanitary sewer main (SS)
- Water line (W)
- Storm drain (SD)
- Flow direction
- NS — Not surveyed
- NA — Not available
- Groundwater flow direction and gradient (ft/ft)
- 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; results in parentheses were analyzed by EPA Method 8020.

G:\OAKLAND\540HEGENBERGER\FIGURES\4QM02-MP.DWG

approximate ARCO property line
driveway
sidewalk
canopy
dispenser islands
MW-7 NA (<0.50) (160)
MW-3 96.78 (<0.50) (<2.5)
RW-1 NS (<0.50) (<2.5)
MW-6 98.89 (3.3) (<2.5)
MW-2 (destroyed 12/92)
ARCO property line
MW-5 98.66 (2.2) (<2.5)
72" SD
Groundwater Flow Direction (as reported by Arco for December 12, 2002)
USTs
MW-1 98.82 (<5.0) (1,300)
Former waste oil tank
ARCO Service Station #4494
586 Hegenberger Road
AM/PM Mini-Mart
Burger King
planter
EDES AVE
sidewalk
SD-1 Dry
SD-2 Dry
SB-E
MW-2 1.86 <0.50 170
BW-A NS <5.0 2,900
BW-B NS <5.0 1,700
BW-D NS <50 16,000
BW-C NS <20 8,000
SB-F
MW-4 98.33 (<0.50) (<2.5)
MW-5 1.54 <50 33,000
MW-4 1.80 <0.50 <5.0
SB-2
SB-3
SB-D
SB-5
SB-G
MW-3 2.48 170 45,000
MW-1 2.11 <50 30,000
dispensers
building
carwash
PG&E Vault
SB-4
SB-1
Shell-branded Service Station
540 Hegenberger Road
Jack in the Box
Laborers' International Union
Days Inn
ENTERPRISE WAY
HEGENBERGER RD
COLISEUM WAY
Canal
C-1 NS <0.50 <5.0
FL = -2.0'
FL = -0.63'
FL = -0.45'
5' x 5' x 8' culvert
FL = 6.0'
FL = 0.14'
FL = 5.0'
FL = 4.81'
FL = -1.80'
FL = -1.0'
FL = -0.8'
15" SD
16" SD
8" SS
10" SS
12" W
16" W
8" W (abandoned)
12" SS
2.00
1.70
2.30
0 20 40 80
Scale (ft)

Shell-branded Service Station
540 Hegenberger Road
Oakland, California
Incident #98995752

CAMBRIA

FIGURE
2

GWE/DVE effect on MTBE concentration
540 Hegenberger, Oakland - MW-1

Date	DTW-ft
3/29/99	8.32
6/22/99	9.05
9/30/99	8.35
12/10/99	8.86
3/2/00	8.83
6/8/00	7.78
9/5/00	7.84
12/15/00	7.65
3/9/01	6.44
6/27/01	8.46
9/19/01	8.10
12/31/01	7.31
3/14/02	7.68
6/25/02	8.40
9/19/02	8.58
12/12/02	8.41

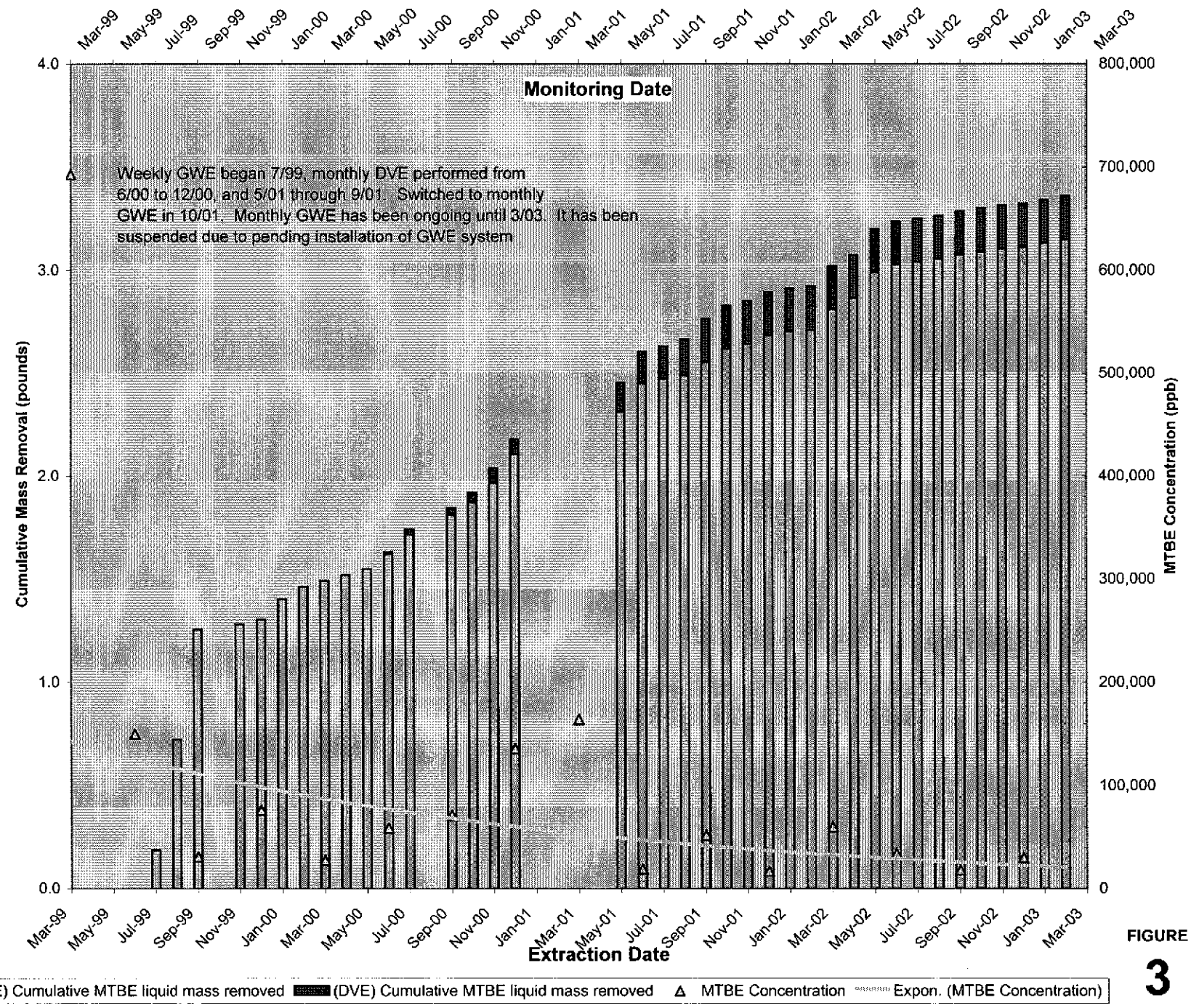
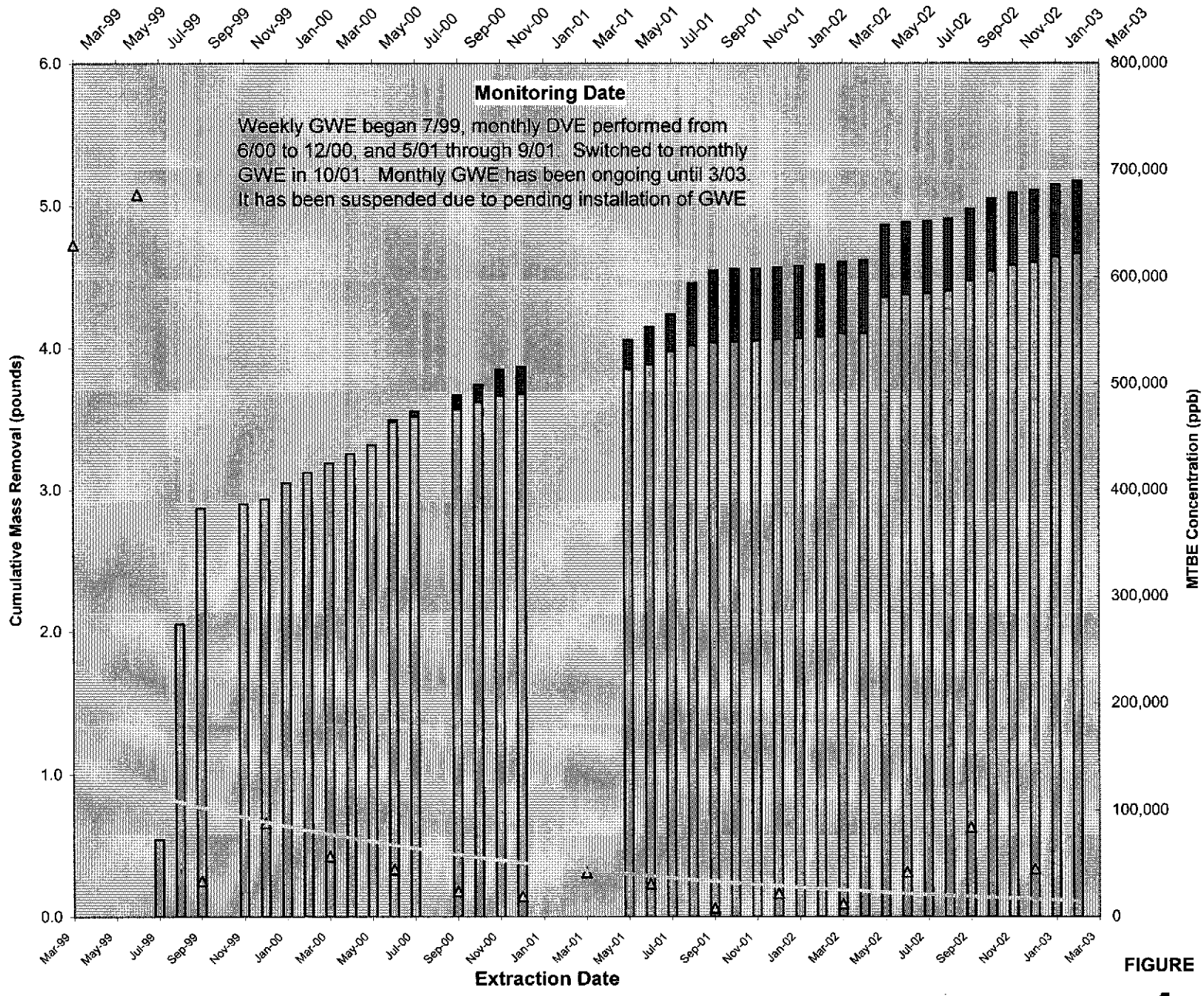


FIGURE 3

G:\Oakland 540 Hegenberger\Remediation Graphs\540Hegenberger-remgraph.xls

GWE/DVE effect on MTBE concentration
540 Hegenberger, Oakland - MW-3

Date	DTW-ft
3/29/99	6.21
6/22/99	7.00
9/30/99	6.84
12/10/99	7.28
3/2/00	5.87
6/8/00	5.32
9/5/00	5.60
12/15/00	6.27
3/9/01	5.71
6/27/01	6.88
9/19/01	6.70
12/31/01	5.92
3/14/02	6.25
6/25/02	6.65
9/19/02	6.51
12/12/02	6.97



FIGURE

4

G:\Oakland 540 Hegenberger\Remediation Graphs\540Hegenberger-remgraph.xls

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, 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)
07/29/99	BW-A	400	400	06/22/99	318	0.00106	0.00106	<0.50	0.00000	0.00000	4,470	0.01492	0.01492
08/04/99	BW-A	2,000	2,400	06/22/99	318	0.00531	0.00637	<0.50	0.00000	0.00001	4,470	0.07460	0.08952
08/11/99	BW-A	2,437	4,837	06/22/99	318	0.00647	0.01284	<0.50	0.00001	0.00001	4,470	0.09090	0.18042
08/20/99	BW-A	1,213	6,050	06/22/99	318	0.00322	0.01605	<0.50	0.00000	0.00001	4,470	0.04524	0.22566
08/30/99	BW-A	2,673	8,723	06/22/99	318	0.00709	0.02315	<0.50	0.00001	0.00002	4,470	0.09970	0.32536
09/03/99*	BW-A	325	9,048	06/22/99	318	0.00086	0.02401	<0.50	0.00000	0.00002	4,470	0.01212	0.33748
09/10/99*	BW-A	425	9,148	06/22/99	318	0.00113	0.02514	<0.50	0.00000	0.00002	4,470	0.01585	0.35334
09/23/99	BW-A	615	9,763	06/22/99	318	0.00163	0.02677	<0.50	0.00000	0.00002	4,470	0.02294	0.37628
09/29/99	BW-A	800	10,563	06/22/99	318	0.00212	0.02889	<0.50	0.00000	0.00002	4,470	0.02984	0.40611
11/05/99	BW-A	675	11,238	06/22/99	318	0.00179	0.03068	<0.50	0.00000	0.00002	4,470	0.02518	0.43129
07/29/99	BW-B	1,000	1,000	06/22/99	<250	0.00104	0.00104	<2.5	0.00001	0.00001	8,600	0.07176	0.07176
08/04/99	BW-B	800	1,800	06/22/99	<250	0.00083	0.00188	<2.5	0.00001	0.00105	8,600	0.05741	0.12917
08/11/99	BW-B	2,213	4,013	06/22/99	<250	0.00231	0.00419	<2.5	0.00002	0.00190	8,600	0.15881	0.28798
08/20/99	BW-B	1,213	5,226	06/22/99	<250	0.00127	0.00545	<2.5	0.00001	0.00420	8,600	0.08705	0.37503
08/30/99	BW-B	877	6,103	06/22/99	<250	0.00091	0.00637	<2.5	0.00001	0.00546	8,600	0.06293	0.43796
09/03/99*	BW-B	325	6,428	06/22/99	<250	0.00034	0.00670	<2.5	0.00000	0.00637	8,600	0.02332	0.46128
09/10/99*	BW-B	425	6,853	06/22/99	<250	0.00044	0.00715	<2.5	0.00000	0.00671	8,600	0.03050	0.49178
09/23/99	BW-B	750	7,603	06/22/99	<250	0.00078	0.00793	<2.5	0.00001	0.00716	8,600	0.05382	0.54560
09/29/99	BW-B	600	8,203	06/22/99	<250	0.00063	0.00856	<2.5	0.00001	0.00794	8,600	0.04306	0.58866
11/05/99	BW-B	650	8,853	06/22/99	<250	0.00068	0.00923	<2.5	0.00001	0.00856	8,600	0.04664	0.63530
04/30/02	BW-B	1,050	9,903	03/14/02	<2,000	0.00876	0.01800	<20	0.00009	0.00932	9,400	0.08236	0.71766
05/28/02	BW-B	2,650	12,553	03/14/02	<2,000	0.02211	0.04011	<20	0.00022	0.01822	9,400	0.20786	0.92552
06/25/02	BW-B	2,170	14,723	06/25/02	<2,000	0.01811	0.05822	<20	0.00018	0.04029	6,600	0.11951	1.04503
07/30/02	BW-B	2,321	17,044	06/25/02	<2,000	0.01937	0.07758	<20	0.00019	0.05841	6,600	0.12782	1.17285
08/20/02	BW-B	2,380	19,424	06/25/02	<2,000	0.01986	0.09744	<20	0.00020	0.07778	6,600	0.13107	1.30393
09/20/02	BW-B	1,600	21,024	09/19/02	<500	0.00334	0.10078	<5.0	0.00003	0.09748	<50	0.00033	1.30426
10/11/02	BW-B	2,203	23,227	09/19/02	<500	0.00460	0.10538	<5.0	0.00005	0.10083	<50	0.00046	1.30472
11/15/02	BW-B	1,808	22,832	09/19/02	<500	0.00377	0.10915	<5.0	0.00004	0.10541	<50	0.00038	1.30510

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, 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)
12/16/02	BW-B	2,850	25,682	12/12/02	<500	0.00595	0.11509	<5.0	0.00006	0.10921	<1700	0.04043	1.34552
01/20/03	BW-B	2,237	27,919	12/12/02	<500	0.00467	0.11976	<5.0	0.00005	0.11514	<1700	0.03173	1.37726
02/19/03	BW-B	2,660	30,579	12/12/02	<500	0.00555	0.12531	<5.0	0.00006	0.11981	<1700	0.03773	1.41499
07/29/99	BW-C	300	300	06/22/99	<50	0.00006	0.00006	<0.50	0.00000	0.00000	11,000	0.02754	0.02754
08/04/99	BW-C	700	1,000	06/22/99	<50	0.00015	0.00021	<0.50	0.00000	0.00000	11,000	0.06425	0.09179
08/11/99	BW-C	0	1,000	06/22/99	<50	0.00000	0.00021	<0.50	0.00000	0.00000	11,000	0.00000	0.09179
08/20/99	BW-C	1,013	2,013	06/22/99	<50	0.00021	0.00042	<0.50	0.00000	0.00000	11,000	0.09298	0.18477
08/30/99	BW-C	375	2,388	06/22/99	<50	0.00008	0.00050	<0.50	0.00000	0.00000	11,000	0.03442	0.21919
09/03/99*	BW-C	325	2,713	06/22/99	<50	0.00007	0.00057	<0.50	0.00000	0.00001	11,000	0.02983	0.24902
09/10/99*	BW-C	425	3,138	06/22/99	<50	0.00009	0.00065	<0.50	0.00000	0.00001	11,000	0.03901	0.28803
09/23/99	BW-C	750	3,888	06/22/99	<50	0.00016	0.00081	<0.50	0.00000	0.00001	11,000	0.06884	0.35687
09/29/99	BW-C	700	4,588	06/22/99	<50	0.00015	0.00096	<0.50	0.00000	0.00001	11,000	0.06425	0.42112
11/05/99	BW-C	550	5,138	06/22/99	<50	0.00011	0.00107	<0.50	0.00000	0.00001	11,000	0.05048	0.47161
06/06/00	BW-C	926	6,064	06/22/99	<50	0.00019	0.00127	<0.50	0.00000	0.00001	11,000	0.08500	0.55660
09/07/00	BW-C	1,000	7,064	06/22/99	<50	0.00021	0.00147	<0.50	0.00000	0.00001	11,000	0.09179	0.64839
07/29/99	BW-D	1,500	1,500	06/22/99	<50	0.00031	0.00031	<0.500	0.00000	0.00000	2,190	0.02741	0.02741
08/04/99	BW-D	250	1,750	06/22/99	<50	0.00005	0.00037	<0.500	0.00000	0.00000	2,190	0.00457	0.03198
08/11/99	BW-D	0	1,750	06/22/99	<50	0.00000	0.00037	<0.500	0.00000	0.00000	2,190	0.00000	0.03198
08/20/99	BW-D	1,213	2,963	06/22/99	<50	0.00025	0.00062	<0.500	0.00000	0.00001	2,190	0.02217	0.05415
08/30/99	BW-D	280	3,243	06/22/99	<50	0.00006	0.00068	<0.500	0.00000	0.00001	2,190	0.00512	0.05926
09/03/99*	BW-D	325	3,568	06/22/99	<50	0.00007	0.00074	<0.500	0.00000	0.00001	2,190	0.00594	0.06520
09/10/99*	BW-D	425	3,993	06/22/99	<50	0.00009	0.00083	<0.500	0.00000	0.00001	2,190	0.00777	0.07297
09/23/99	BW-D	750	4,743	06/22/99	<50	0.00016	0.00099	<0.500	0.00000	0.00001	2,190	0.01371	0.08667
09/29/99	BW-D	700	5,443	06/22/99	<50	0.00015	0.00114	<0.500	0.00000	0.00001	2,190	0.01279	0.09947
11/05/99	BW-D	625	6,068	06/22/99	<50	0.00013	0.00127	<0.500	0.00000	0.00001	2,190	0.01142	0.11089
10/22/01	BW-D**	2,100	8,168	06/27/01	<5,000	0.04381	0.04507	<50	0.00044	0.00045	**40,000**	0.70093	0.81181
11/06/01	BW-D**	2,600	10,768	06/27/01	<5,000	0.05424	0.09931	<50	0.00054	0.00099	**40,000**	0.86781	1.67963

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, 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)
12/04/01	BW-D**	1,500	12,268	06/27/01	<5,000	0.03129	0.13060	<50	0.00031	0.00131	**40,000**	0.50066	2.18029
01/28/02	BW-D**	2,520	14,788	12/31/01	<2,000	0.02103	0.15163	<20	0.00021	0.00152	**9,200**	0.19346	2.37374
02/18/02	BW-D**	2,451	17,239	12/31/01	<2,000	0.02045	0.17208	<20	0.00020	0.00172	**9,200**	0.18816	2.56190
03/27/02	BW-D**	1,400	18,639	03/14/02	<2,000	0.01168	0.18377	<20	0.00012	0.00184	**9,400**	0.10981	2.67171
07/29/99	MW-1	150	150	06/22/99	20,000	0.02503	0.02503	100	0.00013	0.00013	150,000	0.18775	0.18775
08/04/99	MW-1	150	300	06/22/99	20,000	0.02503	0.05007	100	0.00013	0.00025	150,000	0.18775	0.37550
08/11/99	MW-1	15	315	06/22/99	20,000	0.00250	0.05257	100	0.00001	0.00026	150,000	0.01877	0.39427
08/20/99	MW-1	44	359	06/22/99	20,000	0.00734	0.05991	100	0.00004	0.00030	150,000	0.05507	0.44934
08/30/99	MW-1	218	577	06/22/99	20,000	0.03638	0.09629	100	0.00018	0.00048	150,000	0.27286	0.72220
09/03/99*	MW-1	125	702	06/22/99	20,000	0.02086	0.11715	100	0.00010	0.00059	150,000	0.15646	0.87866
09/10/99*	MW-1	75	777	06/22/99	20,000	0.01252	0.12967	100	0.00006	0.00065	150,000	0.09387	0.97253
09/23/99	MW-1	175	952	06/22/99	20,000	0.02921	0.15888	100	0.00015	0.00079	150,000	0.21904	1.19157
09/29/99	MW-1	50	1,002	06/22/99	20,000	0.00834	0.16722	100	0.00004	0.00084	150,000	0.06258	1.25416
11/05/99	MW-1	50	1,052	09/30/99	<2,500	0.00052	0.16774	<25.0	0.00001	0.00084	30,900	0.01289	1.26705
11/19/99	MW-1	22.5	1,075	09/30/99	<2,500	0.00023	0.16798	<25.0	0.00000	0.00084	30,900	0.00580	1.27285
11/24/99	MW-1	25	1,100	09/30/99	<2,500	0.00026	0.16824	<25.0	0.00000	0.00085	30,900	0.00645	1.27930
12/02/99	MW-1	25	1,125	09/30/99	<2,500	0.00026	0.16850	<25.0	0.00000	0.00085	30,900	0.00645	1.28574
12/17/99	MW-1	25	1,150	12/10/99	<50.0	0.00001	0.16850	29.7	0.00001	0.00086	76,300	0.01592	1.30166
01/03/00	MW-1	40	1,190	12/10/99	<50.0	0.00001	0.16851	29.7	0.00001	0.00086	76,300	0.02547	1.32713
01/07/00	MW-1	0	1,190	12/10/99	<50.0	0.00000	0.16851	29.7	0.00000	0.00086	76,300	0.00000	1.32713
01/13/00	MW-1	45	1,235	12/10/99	<50.0	0.00001	0.16852	29.7	0.00001	0.00088	76,300	0.02865	1.35578
01/12/00	MW-1	35	1,270	12/10/99	<50.0	0.00001	0.16853	29.7	0.00001	0.00088	76,300	0.02228	1.37806
01/25/00	MW-1	35	1,305	12/10/99	<50.0	0.00001	0.16854	29.7	0.00001	0.00089	76,300	0.02228	1.40034
02/01/00	MW-1	22	1,327	12/10/99	<50.0	0.00000	0.16854	29.7	0.00001	0.00090	76,300	0.01401	1.41435
02/11/00	MW-1	28	1,355	12/10/99	<50.0	0.00001	0.16855	29.7	0.00001	0.00091	76,300	0.01783	1.43218
02/15/00	MW-1	25	1,380	12/10/99	<50.0	0.00001	0.16855	29.7	0.00001	0.00091	76,300	0.01592	1.44809
02/23/00	MW-1	20	1,400	12/10/99	<50.0	0.00000	0.16856	29.7	0.00000	0.00092	76,300	0.01273	1.46083
03/02/00	MW-1	7.5	1,407	03/02/00	<2,500	0.00008	0.16863	<25.0	0.00000	0.00092	27,600	0.00173	1.46255

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, 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**		
03/10/00	MW-1	40	1,447	03/02/00	<2,500	0.00042	0.16905	<25.0	0.00000	0.00092	27,600	0.00921	1.47177
03/15/00	MW-1	25	1,472	03/02/00	<2,500	0.00026	0.16931	<25.0	0.00000	0.00092	27,600	0.00576	1.47752
03/21/00	MW-1	25	1,497	03/02/00	<2,500	0.00026	0.16957	<25.0	0.00000	0.00093	27,600	0.00576	1.48328
03/27/00	MW-1	30	1,527	03/02/00	<2,500	0.00031	0.16989	<25.0	0.00000	0.00093	27,600	0.00691	1.49019
04/07/00	MW-1	45	1,572	03/02/00	<2,500	0.00047	0.17036	<25.0	0.00000	0.00094	27,600	0.01036	1.50056
04/13/00	MW-1	30	1,602	03/02/00	<2,500	0.00031	0.17067	<25.0	0.00000	0.00094	27,600	0.00691	1.50746
04/20/00	MW-1	25	1,627	03/02/00	<2,500	0.00026	0.17093	<25.0	0.00000	0.00094	27,600	0.00576	1.51322
04/26/00	MW-1	25	1,652	03/02/00	<2,500	0.00026	0.17119	<25.0	0.00000	0.00094	27,600	0.00576	1.51898
05/04/00	MW-1	28	1,680	03/02/00	<2,500	0.00029	0.17148	<25.0	0.00000	0.00095	27,600	0.00645	1.52543
05/09/00	MW-1	45	1,725	03/02/00	<2,500	0.00047	0.17195	<25.0	0.00000	0.00095	27,600	0.01036	1.53579
05/17/00	MW-1	27	1,752	03/02/00	<2,500	0.00028	0.17223	<25.0	0.00000	0.00095	27,600	0.00622	1.54201
05/22/00	MW-1	25	1,777	03/02/00	<2,500	0.00026	0.17249	<25.0	0.00000	0.00096	27,600	0.00576	1.54777
06/01/00	MW-1	25	1,802	03/02/00	<2,500	0.00026	0.17275	<25.0	0.00000	0.00096	27,600	0.00576	1.55353
06/06/00	MW-1	175	1,977	03/02/00	<2,500	0.00183	0.17458	<25.0	0.00002	0.00098	27,600	0.04030	1.59383
06/08/00	MW-1	43	2,020	03/02/00	<2,500	0.00045	0.17503	<25.0	0.00000	0.00098	27,600	0.00990	1.60373
06/15/00	MW-1	29	2,049	06/08/00	<2,000	0.00024	0.17527	<20.0	0.00000	0.00098	**67,600**	0.01636	1.62009
07/10/00	MW-1	169	2,218	06/08/00	<2,000	0.00141	0.17668	<20.0	0.00001	0.00100	**67,600**	0.09533	1.71542
09/07/00	MW-1	100	2,318	09/05/00	<10,000	0.00417	0.18085	411	0.00034	0.00134	**115,000**	0.09596	1.81138
10/23/00*	MW-1	100	2,418	09/05/00	<10,000	0.00417	0.18502	411	0.00034	0.00168	71,100	0.05933	1.87071
11/30/00	MW-1	160	2,578	09/05/00	<10,000	0.00668	0.19170	411	0.00055	0.00223	71,100	0.09493	1.96563
12/21/00	MW-1	125	2,703	12/15/00	35,600	0.03713	0.22883	1,310	0.00137	0.00360	136,000	0.14185	2.10749
05/16/01	MW-1	150	2,853	03/09/01	<10,000	0.00626	0.23509	1,390	0.00174	0.00534	**164,000**	0.20527	2.31276
06/19/01	MW-1	100	2,953	03/09/01	<10,000	0.00417	0.23926	1,390	0.00116	0.00650	**164,000**	0.13685	2.44961
07/24/01	MW-1	150	3,103	06/27/01	<5,000	0.00313	0.24239	<50	0.00003	0.00653	**19,000**	0.02378	2.47339
08/17/01	MW-1	100	3,203	06/27/01	<5,000	0.00209	0.24448	<50	0.00002	0.00655	**19,000**	0.01585	2.48924
09/25/01	MW-1	150	3,353	09/19/01	<5,000	0.00313	0.24761	<50	0.00003	0.00658	**52,000**	0.06509	2.55433
10/22/01	MW-1	150	3,503	09/19/01	<5,000	0.00313	0.25074	<50	0.00003	0.00661	**52,000**	0.06509	2.61941
11/06/01	MW-1	50	3,553	09/19/01	<5,000	0.00104	0.25178	<50	0.00001	0.00662	**52,000**	0.02170	2.64111
12/04/01	MW-1	100	3,653	09/19/01	<5,000	0.00209	0.25387	<50	0.00002	0.00664	**52,000**	0.04339	2.68450

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, 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**		
01/28/02	MW-1	125	3,778	12/31/01	<5,000	0.00261	0.25647	<25	0.00001	0.00666	**17,000**	0.01773	2.70223
02/18/02	MW-1	50	3,828	12/31/01	<5,000	0.00104	0.25752	<25	0.00001	0.00666	**17,000**	0.00709	2.70932
03/27/02	MW-1	200	4,028	03/14/02	<20,000	0.01669	0.27420	<200	0.00017	0.00683	**60,000**	0.10013	2.80946
04/30/02	MW-1	108	4,136	03/14/02	<20,000	0.00901	0.28322	<200	0.00009	0.00692	**60,000**	0.05407	2.86353
05/28/02	MW-1	253	4,389	03/14/02	<20,000	0.02111	0.30433	<200	0.00021	0.00713	**60,000**	0.12667	2.99019
06/25/02	MW-1	125	4,514	06/25/02	<5,000	0.00261	0.30694	<50	0.00003	0.00716	**34,000**	0.03546	3.02566
07/30/02	MW-1	50	4,564	06/25/02	<5,000	0.00104	0.30798	<50	0.00001	0.00717	**34,000**	0.01419	3.03984
08/20/02	MW-1	50	4,614	06/25/02	<5,000	0.00104	0.30902	<50	0.00001	0.00718	**34,000**	0.01419	3.05403
09/20/02	MW-1	139	4,753	09/19/02	<2,500	0.00145	0.31047	<25	0.00001	0.00719	**18,000**	0.02088	3.07491
10/11/02	MW-1	100	4,853	09/19/02	<2,500	0.00104	0.31151	<25	0.00001	0.00720	**18,000**	0.01502	3.08993
11/15/02	MW-1	100	4,853	09/19/02	<2,500	0.00104	0.31256	<25	0.00001	0.00721	**18,000**	0.01502	3.10495
12/16/02	MW-1	30	4,883	12/12/02	<5,000	0.00063	0.31318	<50	0.00001	0.00722	**30,000**	0.00751	3.11246
01/20/03	MW-1	75	4,958	12/12/02	<5,000	0.00156	0.31475	<50	0.00002	0.00724	**30,000**	0.01877	3.13123
02/19/03	MW-1	76	5,034	12/12/02	<5,000	0.00159	0.31633	<50	0.00002	0.00725	**30,000**	0.01903	3.15026
07/29/99	MW-3	100	100	06/22/99	58,000	0.04840	0.04840	6,600	0.00551	0.00551	**653,000**	0.54489	0.54489
08/04/99	MW-3	100	200	06/22/99	58,000	0.04840	0.09679	6,600	0.00551	0.01101	**653,000**	0.54489	1.08977
08/11/99	MW-3	45	245	06/22/99	58,000	0.02178	0.11857	6,600	0.00248	0.01349	**653,000**	0.24520	1.33497
08/20/99	MW-3	55	300	06/22/99	58,000	0.02662	0.14519	6,600	0.00303	0.01652	**653,000**	0.29969	1.63466
08/30/99	MW-3	77	377	06/22/99	58,000	0.03727	0.18246	6,600	0.00424	0.02076	**653,000**	0.41956	2.05422
09/03/99*	MW-3	50	427	06/22/99	58,000	0.02420	0.20666	6,600	0.00275	0.02352	**653,000**	0.27244	2.32667
09/10/99*	MW-3	40	467	06/22/99	58,000	0.01936	0.22602	6,600	0.00220	0.02572	**653,000**	0.21795	2.54462
09/23/99	MW-3	10	477	06/22/99	58,000	0.00484	0.23085	6,600	0.00055	0.02627	**653,000**	0.05449	2.59911
09/29/99	MW-3	50	527	06/22/99	58,000	0.02420	0.25505	6,600	0.00275	0.02902	**653,000**	0.27244	2.87155
11/05/99	MW-3	50	577	09/30/99	4,360	0.00182	0.25687	121	0.00005	0.02907	**35,600**	0.01485	2.88640
11/19/99	MW-3	22.5	600	09/30/99	4,360	0.00082	0.25769	121	0.00002	0.02910	**35,600**	0.00668	2.89309
11/24/99	MW-3	28	628	09/30/99	4,360	0.00102	0.25871	121	0.00003	0.02912	**35,600**	0.00832	2.90141
12/02/99	MW-3	25	653	09/30/99	4,360	0.00091	0.25962	121	0.00003	0.02915	**35,600**	0.00743	2.90883
12/17/99	MW-3	35	688	12/10/99	4,220	0.00123	0.26085	973	0.00028	0.02943	**88,200**	0.02576	2.93459

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, 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**		
11/30/00	MW-3	210	2,492	09/05/00	26,100	0.04574	0.88474	959	0.00168	0.07135	24,000	0.04206	3.66192
12/21/00	MW-3	150	2,642	12/15/00	5,190	0.00650	0.89124	438	0.00055	0.07190	**11,800**	0.01477	3.67669
05/16/01	MW-3	500	3,142	03/09/01	5,880	0.02453	0.91577	472	0.00197	0.07387	41,800	0.17440	3.85109
06/19/01	MW-3	100	3,242	03/09/01	5,880	0.00491	0.92068	472	0.00039	0.07426	41,800	0.03488	3.88597
07/24/01	MW-3	350	3,592	06/27/01	9,100	0.02658	0.94725	330	0.00096	0.07522	**31,000**	0.09054	3.97650
08/17/01	MW-3	150	3,742	06/27/01	9,100	0.01139	0.95864	330	0.00041	0.07564	**31,000**	0.03880	4.01530
09/25/01	MW-3	300	4,042	09/19/01	790	0.00198	0.96062	14	0.00004	0.07567	**8,100**	0.02028	4.03558
10/22/01	MW-3	150	4,192	09/19/01	790	0.00099	0.96161	14	0.00002	0.07569	**8,100**	0.01014	4.04572
11/06/01	MW-3	50	4,242	09/19/01	790	0.00033	0.96194	14	0.00001	0.07570	**8,100**	0.00338	4.04910
12/04/01	MW-3	150	4,392	09/19/01	790	0.00099	0.96293	14	0.00002	0.07571	**8,100**	0.01014	4.05924
01/28/02	MW-3	50	4,442	12/31/01	<5,000	0.00104	0.96397	220	0.00009	0.07581	**22,000**	0.00918	4.06842
02/18/02	MW-3	49	4,491	12/31/01	<5,000	0.00102	0.96499	220	0.00009	0.07590	**22,000**	0.00900	4.07741
03/27/02	MW-3	220	4,711	03/14/02	<2,500	0.00229	0.96729	<25	0.00002	0.07592	**12,000**	0.02203	4.09944
04/30/02	MW-3	50	4,761	03/14/02	<2,500	0.00052	0.96781	<25	0.00001	0.07592	**12,000**	0.00501	4.10445
05/28/02	MW-3	2,520	7,281	03/14/02	<2,500	0.02628	0.99409	<25	0.00026	0.07619	**12,000**	0.25233	4.35678
06/25/02	MW-3	50	7,331	06/25/02	<10,000	0.00209	0.99618	160	0.00007	0.07625	**42,000**	0.01752	4.37430
07/30/02	MW-3	20	7,351	06/25/02	<10,000	0.00083	0.99701	160	0.00003	0.07628	**42,000**	0.00701	4.38131
08/20/02	MW-3	50	7,401	06/25/02	<10,000	0.00209	0.99910	160	0.00007	0.07635	**42,000**	0.01752	4.39884
09/20/02	MW-3	100	7,501	09/19/02	<10,000	0.00417	1.00327	650	0.00054	0.07689	**84,000**	0.07009	4.46893
10/11/02	MW-3	100	7,601	09/19/02	<10,000	0.00417	1.00744	650	0.00054	0.07743	**84,000**	0.07009	4.53902
11/15/02	MW-3	60	7,561	09/19/02	<10,000	0.00250	1.00995	650	0.00033	0.07776	**84,000**	0.04206	4.58108
12/16/02	MW-3	50	7,611	12/12/02	<10,000	0.00209	1.01203	170	0.00007	0.07783	**45,000**	0.01877	4.59985
01/20/03	MW-3	100	7,711	12/12/02	<10,000	0.00417	1.01621	170	0.00014	0.07797	**45,000**	0.03755	4.63740
02/19/03	MW-3	70	7,781	12/12/02	<10,000	0.00292	1.01913	170	0.00010	0.07807	**45,000**	0.02628	4.66369
Total Gallons Extracted:		**83,063**			**Total Pounds Removed:**		**1.67669**			**0.08845**			**12.98033**
					Total Gallons Removed:		**0.27487**			**0.01212**			**2.09360**

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, 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)
01/03/00	MW-3	40	728	12/10/99	4,220	0.00141	0.26226	973	0.00032	0.02976	**88,200**	0.02944	2.96403
01/07/00	MW-3	0	728	12/10/99	4,220	0.00000	0.26226	973	0.00000	0.02976	**88,200**	0.00000	2.96403
01/13/00	MW-3	45	773	12/10/99	4,220	0.00158	0.26385	973	0.00037	0.03012	**88,200**	0.03312	2.99715
01/21/00	MW-3	35	808	12/10/99	4,220	0.00123	0.26508	973	0.00028	0.03041	**88,200**	0.02576	3.02291
01/25/00	MW-3	38	846	12/10/99	4,220	0.00134	0.26642	973	0.00031	0.03072	**88,200**	0.02797	3.05088
02/01/00	MW-3	23	869	12/10/99	4,220	0.00081	0.26723	973	0.00019	0.03090	**88,200**	0.01693	3.06780
02/11/00	MW-3	22	891	12/10/99	4,220	0.00077	0.26800	973	0.00018	0.03108	**88,200**	0.01619	3.08399
02/15/00	MW-3	22	913	12/10/99	4,220	0.00077	0.26877	973	0.00018	0.03126	**88,200**	0.01619	3.10019
02/23/00	MW-3	30	943	12/10/99	4,220	0.00106	0.26983	973	0.00024	0.03150	**88,200**	0.02208	3.12226
03/02/00	MW-3	7	950	03/02/00	65,300	0.00381	0.27365	5,210	0.00030	0.03181	**59,800**	0.00349	3.12576
03/10/00	MW-3	42	992	03/02/00	65,300	0.02289	0.29653	5,210	0.00183	0.03363	**59,800**	0.02096	3.14672
03/15/00	MW-3	20	1,012	03/02/00	65,300	0.01090	0.30743	5,210	0.00087	0.03450	**59,800**	0.00998	3.15670
03/21/00	MW-3	25	1,037	03/02/00	65,300	0.01362	0.32105	5,210	0.00109	0.03559	**59,800**	0.01247	3.16917
03/27/00	MW-3	40	1,077	03/02/00	65,300	0.02180	0.34285	5,210	0.00174	0.03733	**59,800**	0.01996	3.18913
04/07/00	MW-3	45	1,122	03/02/00	65,300	0.02452	0.36737	5,210	0.00196	0.03929	**59,800**	0.02245	3.21158
04/13/00	MW-3	30	1,152	03/02/00	65,300	0.01635	0.38371	5,210	0.00130	0.04059	**59,800**	0.01497	3.22655
04/20/00	MW-3	25	1,177	03/02/00	65,300	0.01362	0.39733	5,210	0.00109	0.04168	**59,800**	0.01247	3.23903
04/26/00	MW-3	30	1,207	03/02/00	65,300	0.01635	0.41368	5,210	0.00130	0.04298	**59,800**	0.01497	3.25400
05/04/00	MW-3	26	1,233	03/02/00	65,300	0.01417	0.42785	5,210	0.00113	0.04411	**59,800**	0.01297	3.26697
05/09/00	MW-3	45	1,278	03/02/00	65,300	0.02452	0.45237	5,210	0.00196	0.04607	**59,800**	0.02245	3.28943
05/17/00	MW-3	27	1,305	03/02/00	65,300	0.01471	0.46708	5,210	0.00117	0.04724	**59,800**	0.01347	3.30290
05/22/00	MW-3	25	1,330	03/02/00	65,300	0.01362	0.48070	5,210	0.00109	0.04833	**59,800**	0.01247	3.31537
06/01/00	MW-3	25	1,355	03/02/00	65,300	0.01362	0.49432	5,210	0.00109	0.04942	**59,800**	0.01247	3.32785
06/06/00	MW-3	240	1,595	03/02/00	65,300	0.13077	0.62510	5,210	0.01043	0.05985	**59,800**	0.11976	3.44761
06/08/00	MW-3	42	1,637	03/02/00	65,300	0.02289	0.64798	5,210	0.00183	0.06168	**59,800**	0.02096	3.46857
06/15/00	MW-3	29	1,666	06/08/00	72,700	0.01759	0.66557	3,570	0.00086	0.06254	44,400	0.01074	3.47931
07/10/00	MW-3	101	1,767	06/08/00	72,700	0.06127	0.72684	3,570	0.00301	0.06555	44,400	0.03742	3.51673
09/07/00	MW-3	265	2,032	09/05/00	26,100	0.05771	0.78456	959	0.00212	0.06767	24,000	0.05307	3.56980
10/23/00*	MW-3	250	2,282	09/05/00	26,100	0.05445	0.83901	959	0.00200	0.06967	24,000	0.05007	3.61987

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, 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
* = Groundwater extracted per well estimated; subcontractor did not report individual well volumes
** = Concentrations for tank backfill well BW-D taken from nearest sampled tank backfill well, BW-B.
Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x (g/10^6µg) 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
If concentration is less than the laboratory detection limit, one half of the detection limit concentration is used in the mass removal calculation.
Groundwater extracted by vacuum trucks provided by Onyx. Water disposed of at a Martinez Refinery.

Table 2: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, Oakland, California

Date	Well ID	Interval Hours of Operation (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPHg Removal Rate (#/hour)	TPHg Cumulative TPHg Removed (#)	Benzene Removal Rate (#/hour)	Benzene Cumulative Benzene Removed (#)	MTBE Removal Rate (#/hour)	MTBE Cumulative MTBE Removed (#)
							TPHg		**Benzene**		**MTBE**	
06/06/00	MW-1	3.00	12.76	4.4	0.192	20.7	0.001	0.002	0.000	0.000	0.004	0.011
07/10/00	MW-1	3.00	11	<28	<0.31	30	0.002	0.008	0.000	0.000	0.005	0.024
09/07/00	MW-1	2.00	2.4	25.4	2.51	138	0.001	0.010	0.000	0.000	0.005	0.033
10/23/00	MW-1	4.00	0.7	1,650	61.6	392	0.015	0.072	0.001	0.002	0.004	0.048
11/30/00	MW-1	4.00	7.0	561	<1.57	62.8	0.052	0.282	0.000	0.003	0.006	0.073
12/21/00	MW-1	3.60	2.1	<2.838	<0.031	<0.277	0.000	0.282	0.000	0.003	0.000	0.073
05/16/01	MW-1	4.00	28.4	400	0.26	44	0.152	0.889	0.000	0.003	0.017	0.141
06/19/01	MW-1	3.83	5.8	350	<0.40	52	0.027	0.993	0.000	0.003	0.004	0.157
07/24/01	MW-1	4.00	10.3	<5.0	<0.050	<0.10	0.000	0.995	0.000	0.003	0.000	0.157
08/17/01	MW-1	4.00	15.1	1,900	7.3	51	0.384	2.529	0.001	0.008	0.011	0.199
09/25/01	MW-1	4.00	5.8	160	<0.10	37	0.012	2.578	0.000	0.008	0.003	0.211
06/06/00	MW-3	3.50	9.35	1,371	27.6	32	0.171	0.600	0.003	0.011	0.004	0.014
07/10/00	MW-3	2.00	11	564	8.9	76	0.083	0.766	0.001	0.013	0.011	0.037
09/07/00	MW-3	4.00	4.7	2,832	109	244	0.178	1.477	0.006	0.038	0.016	0.100
10/23/00	MW-3	4.00	1.4	3,040	45.6	323	0.057	1.705	0.001	0.041	0.006	0.125
11/30/00	MW-3	2.00	2.5	23,800	59.9	974	0.795	3.296	0.002	0.045	0.033	0.191
12/21/00	MW-3	4.50	3.0	<2.838	<0.031	<0.277	0.000	3.296	0.000	0.045	0.000	0.191
05/16/01	MW-3	4.25	0.9	21,000	64	270	0.253	4.370	0.001	0.048	0.003	0.205
06/19/01	MW-3	5.83	2.4	14,000	62	300	0.449	6.988	0.002	0.058	0.010	0.263
07/24/01	MW-3	4.00	5.3	<5.0	0.10	0.80	0.000	6.989	0.000	0.058	0.000	0.263
08/17/01	MW-3	4.00	11.0	11,000	53	290	1.618	13.459	0.007	0.087	0.044	0.438
09/25/01	MW-3	4.00	3.2	19,000	79	410	0.813	16.710	0.003	0.099	0.018	0.509
Total Pounds Removed:							**TPHg =**	**19.289**	**Benzene =**	**0.107**	**MTBE =**	**0.720**

Table 2: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, Oakland, California

							TPHg		Benzene		MTBE	
		Interval	System				TPHg	Cumulative	Benzene	Cumulative	MTBE	Cumulative
		Hours of	Flow	Hydrocarbon Concentrations			Removal	TPHg	Removal	Benzene	Removal	MTBE
	Well	Operation	Rate	TPHg	Benzene	MTBE	Rate	Removed	Rate	Removed	Rate	Removed
Date	ID	(hours)	(CFM)	(Concentrations in ppmv)			(#/hour)	(#)	(#/hour)	(#)	(#/hour)	(#)

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

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.

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

January 23, 2003

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

Fourth Quarter 2002 Groundwater Monitoring at
Shell-branded Service Station
540 Hegenberger Road
Oakland, CA

Monitoring performed on December 12, 2002 and
January 2, 2003

Groundwater Monitoring Report **021212-RH-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: Anni Kreml
Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Oakland, CA 94608

WELL CONCENTRATIONS
Shell-branded Service Station
540 Hegenberger Road
Oakland, CA

Well ID	Date	TPPH (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 (a)	08/26/1998	2,700	28	55	59	39	33,000	NA	10.54	7.91	2.63	1.8
MW-1 (b)	08/26/1998	<1,000	22	<10	<10	<10	17,000	NA	10.54	7.91	2.63	2.2
MW-1	12/28/1998	<5,000	<50.0	<50.0	<50.0	<50.0	153,000	33,000	10.54	8.75	1.79	1.9
MW-1	03/29/1999	<2,000	<20.0	<20.0	<20.0	<20.0	693,000	NA	10.54	8.32	2.22	2.0
MW-1	06/22/1999	20,000	<200	<200	<200	<200	150,000	NA	10.54	9.05	1.49	1.7
MW-1	09/30/1999	<2,500	<25.0	<25.0	<25.0	<25.0	30,900	NA	10.54	8.35	2.19	2.6
MW-1	11/19/1999	NA	NA	NA	NA	NA	NA	NA	10.54	9.58	0.96	NA
MW-1	11/24/1999	NA	NA	NA	NA	NA	NA	NA	10.54	9.65	0.89	NA
MW-1	12/02/1999	NA	NA	NA	NA	NA	NA	NA	10.54	9.55	0.99	NA
MW-1	12/10/1999	<50.0	29.7	<20.0	<20.0	<20.0	76,300	NA	10.54	8.86	1.68	1.2
MW-1	03/02/2000	<2,500	<25.0	<25.0	<25.0	<25.0	27,600	NA	10.54	8.83	1.71	3.2
MW-1	06/08/2000	<2,000	<20.0	<20.0	<20.0	<20.0	59,000	67,600	10.54	7.78	2.76	1.9
MW-1	09/05/2000	<10,000	411	<100	<100	<100	71,100	115,000e	10.54	7.84	2.70	NA
MW-1	12/15/2000	35,600	1,310	<50.0	<50.0	<50.0	136,000	f	10.54	7.65	2.89	NA
MW-1	03/09/2001	<10,000	1,390	<100	<100	<100	89,600	164,000	10.54	6.44	4.10	NA
MW-1	06/27/2001	<5,000	<50	<50	<50	<50	NA	19,000	10.54	8.46	2.08	NA
MW-1	09/19/2001	<5,000	<50	<50	<50	<50	NA	52,000	10.54	8.10	2.44	NA
MW-1	12/31/2001	<5,000	<25	<25	<25	<25	NA	17,000	10.54	7.31	3.23	NA
MW-1	03/14/2002	<20,000	<200	<200	<200	<200	NA	60,000	10.54	7.68	2.86	NA
MW-1	06/25/2002	<5,000	<50	<50	<50	<50	NA	34,000	10.54	8.40	2.14	NA
MW-1	09/19/2002	<2,500	<25	<25	<25	<25	NA	18,000	10.52	8.58	1.94	NA
MW-1	**12/12/2002**	**<5,000**	**<50**	**<50**	**<50**	**<50**	**NA**	**30,000**	**10.52**	**8.41**	**2.11**	**NA**
MW-1	**01/02/2003**	**NA**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**NA**	**NA**	**10.52**	**7.45**	**3.07**	**NA**
MW-2 (a)	08/26/1998	<250	3.2	<2.5	<2.5	<2.5	4,000	NA	9.21	7.18	2.03	2.4
MW-2 (b)	08/26/1998	<250	3.1	<2.5	<2.5	<2.5	4,800	NA	9.21	7.18	2.03	2.7
MW-2 (D)(b)	08/26/1998	<250	4.8	<2.5	<2.5	6.0	3,300	NA	9.21	7.18	2.03	2.7

WELL CONCENTRATIONS
Shell-branded Service Station
540 Hegenberger Road
Oakland, CA

Well ID	Date	TPPH (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	12/28/1998	<50.0	<0.500	<0.500	<0.500	<0.500	28.8	NA	9.21	7.34	1.87	2.1
MW-2	03/29/1999	235	<0.500	<0.500	<0.500	3.4	101	NA	9.21	6.85	2.36	2.0
MW-2	06/22/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	9.21	7.10	2.11	1.9
MW-2	09/30/1999	<50.0	<0.500	<0.500	<0.500	<0.500	1,700	NA	9.21	8.06	1.15	1.0
MW-2	12/10/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	9.21	8.61	0.60	1.4
MW-2	03/02/2000	<500	11.5	<5.00	<5.00	<5.00	5,280	NA	9.21	6.33	2.88	0.4
MW-2	06/08/2000	<50.0	0.670	<0.500	<0.500	<0.500	3,160	NA	9.21	6.87	2.34	1.6
MW-2	09/05/2000	<1,000	<10.0	<10.0	<10.0	<10.0	9,600	NA	9.21	6.79	2.42	NA
MW-2	12/15/2000	<200	<2.00	<2.00	<2.00	<2.00	6,320	NA	9.21	6.76	2.45	NA
MW-2	03/09/2001	<500	<5.00	<5.00	<5.00	<5.00	17,200	NA	9.21	6.28	2.93	NA
MW-2	06/27/2001	<100	1.4	<1.0	<1.0	<2.0	NA	470	9.21	7.12	2.09	NA
MW-2	09/19/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	330	9.21	7.17	2.04	NA
MW-2	12/31/2001	<100	<1.0	<1.0	<1.0	<1.0	NA	420	9.21	6.24	2.97	NA
MW-2	03/14/2002	<250	4.5	3.3	<2.5	<2.5	NA	1,600	9.21	6.72	2.49	NA
MW-2	06/25/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	110	9.21	7.23	1.98	NA
MW-2	09/19/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	90	9.19	7.48	1.71	NA
MW-2	**12/12/2002**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**	**170**	**9.19**	**7.33**	**1.86**	**NA**
MW-3 (a)	08/26/1998	2,300	180	330	<0.50	420	44,000	NA	9.45	6.52	2.93	1.8
MW-3 (b)	08/26/1998	<50	<0.50	<0.50	<0.50	<0.50	52,000	75,000	9.45	6.52	2.93	2.3
MW-3	12/28/1998	<5,00	139	<50.0	<50.0	<50.0	15,100	NA	9.45	6.73	2.72	1.7
MW-3	03/29/1999	52,500	5,500	6,900	1,360	6,250	508,000	630,000 (c)	9.45	6.21	3.24	2.1
MW-3	06/22/1999	58,000	6,600	9,850	1,640	6,950	677,000	653,000	9.45	7.00	2.45	1.3
MW-3	09/30/1999	4,360	121	122	36.1	647	33,700	35,600	9.45	6.84	2.61	0.6
MW-3	11/19/1999	NA	NA	NA	NA	NA	NA	NA	9.45	7.93	1.52	NA
MW-3	11/24/1999	NA	NA	NA	NA	NA	NA	NA	9.45	8.25	1.20	NA
MW-3	12/02/1999	NA	NA	NA	NA	NA	NA	NA	9.45	7.55	1.90	NA
MW-3	12/10/1999	4,220	973	26.3	273	584	88,200	NA	9.45	7.28	2.17	2.5

WELL CONCENTRATIONS
Shell-branded Service Station
540 Hegenberger Road
Oakland, CA

Well ID	Date	TPPH (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	03/02/2000	65,300	5,210	10,300	2,650	15,100	56,800	59,800e	9.45	5.87	3.58	d
MW-3	06/08/2000	72,700	3,570	10,200	2,100	13,400	44,400	NA	9.45	5.32	4.13	1.1
MW-3	09/05/2000	26,100	959	2,910	1,090	5,640	24,000	NA	9.45	5.60	3.85	NA
MW-3	12/15/2000	5,190	438	8.39	483	530	19,100	11,800f	9.45	6.27	3.18	NA
MW-3	03/09/2001	5,880	472	42.2	392	1,290	41,800	NA	9.45	5.71	3.74	NA
MW-3	06/27/2001	9,100	330	79	140	1,600	NA	31,000	9.45	6.88	2.57	NA
MW-3	09/19/2001	790	14	18	17	67	NA	8,100	9.45	6.70	2.75	NA
MW-3	12/31/2001	<5,000	220	<50	86	<50	NA	22,000	9.45	5.92	3.53	NA
MW-3	03/14/2002	<2,500	<25	<25	<25	<25	NA	12,000	9.45	6.25	3.20	NA
MW-3	06/25/2002	<10,000	160	<100	<100	<100	NA	42,000	9.45	6.65	2.80	NA
MW-3	09/19/2002	<10,000	650	<100	280	360	NA	84,000	9.45	6.51	2.94	NA
MW-3	**12/12/2002**	**<10,000**	**170**	**<100**	**<100**	**<100**	**NA**	**45,000**	**9.45**	**6.97**	**2.48**	**NA**
MW-3	**01/02/2003**	**NA**	**59**	**<5.0**	**5.3**	**<10**	**NA**	**NA**	**9.45**	**5.90**	**3.55**	**NA**
MW-4	09/25/2000	NA	NA	NA	NA	NA	NA	NA	9.88	7.64	2.24	NA
MW-4	12/15/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	9.88	7.55	2.33	NA
MW-4	03/09/2001	<50.0	<0.500	0.730	<0.500	0.529	3.16	NA	9.88	7.04	2.84	NA
MW-4	06/27/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	7.76	2.12	NA
MW-4	09/19/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	7.69	2.19	NA
MW-4	12/31/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	7.08	2.80	NA
MW-4	03/14/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	7.57	2.31	NA
MW-4	06/25/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	8.50	1.38	NA
MW-4	09/19/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	8.22	1.66	NA
MW-4	**12/12/2002**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**	**<5.0**	**9.88**	**8.08**	**1.80**	**NA**
MW-5	06/18/2002	NA	NA	NA	NA	NA	NA	NA	NA	8.36	NA	NA
MW-5	06/25/2002	<10,000	<100	<100	<100	<100	NA	60,000	NA	8.30	NA	NA
MW-5	09/19/2002	<2,000	<20	<20	<20	<20	NA	7,200	10.03	8.44	1.59	NA

WELL CONCENTRATIONS
Shell-branded Service Station
540 Hegenberger Road
Oakland, CA

Well ID	Date	TPPH (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-5	**12/12/2002**	**<5,000**	**<50**	**<50**	**<50**	**<50**	**NA**	**33,000**	**10.03**	**8.49**	**1.54**	**NA**
C-1	09/19/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	1.44	NA	NA
C-1	03/29/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	2.59	NA	NA
C-1	06/25/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	3.72	NA	NA
C-1	09/19/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	3.08	NA	NA
C-1	**12/12/2002**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**	**<5.0**	**NA**	**0.64**	**NA**	**NA**
SD-1	09/19/2001	Unable to sample		NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-1	03/29/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-1	06/25/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-1	09/19/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-1	**12/12/2002**	**Dry**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
SD-2	09/19/2001	Unable to sample		NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-2	03/29/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-2	06/25/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-2	09/19/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-2	**12/12/2002**	**Dry**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
BW-A	06/22/1999	318	<0.50	<0.50	0.590	1.48	4,470	NA	NA	4.71	NA	1.1
BW-A	06/25/2002	<500	<5.0	<5.0	<5.0	18	NA	3,100	NA	5.14	NA	NA
BW-A	09/19/2002	<200	<2.0	<2.0	<2.0	<2.0	NA	<20	NA	7.19	NA	NA
BW-A	**12/12/2002**	**<500**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**NA**	**2,900**	**NA**	**6.40**	**NA**	**NA**
BW-B	06/22/1999	<250	<2.5	<2.5	<2.5	<2.5	8,600	NA	NA	5.90	NA	1.2
BW-B	06/27/2001	<5,000	<50	<50	<50	<50	NA	40,000	NA	5.83	NA	NA
BW-B	12/31/2001	<2,000	<20	<20	<20	<20	NA	9,200	NA	4.19	NA	NA

WELL CONCENTRATIONS
Shell-branded Service Station
540 Hegenberger Road
Oakland, CA

Well ID	Date	TPPH (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)
BW-B	03/14/2002	<2,000	<20	<20	<20	<20	NA	9,400	NA	5.24	NA	NA
BW-B	06/25/2002	<2,000	<20	<20	<20	<20	NA	6,600	NA	6.19	NA	NA
BW-B	09/19/2002	<500	<5.0	<5.0	<5.0	<5.0	NA	<50	NA	8.46	NA	NA
BW-B	**12/12/2002**	**<500**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**NA**	**1,700**	**NA**	**7.46**	**NA**	**NA**
BW-C	06/22/1999	<50	<0.50	<0.50	<0.50	0.98	11,000	NA	NA	5.91	NA	1.6
BW-C	06/25/2002	<5,000	<50	<50	<50	<50	NA	20,000	NA	6.49	NA	NA
BW-C	09/19/2002	<1,000	<10	<10	<10	<10	NA	400	NA	8.52	NA	NA
BW-C	**12/12/2002**	**<2,000**	**<20**	**<20**	**<20**	**<20**	**NA**	**8,000**	**NA**	**7.57**	**NA**	**NA**
BW-D	06/22/1999	<50.0	<0.500	<0.500	<0.500	<0.500	2,190	NA	NA	4.78	NA	1.4
BW-D	06/25/2002	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA
BW-D	07/02/2002	<1,000	23	<10	<10	<10	NA	<100	NA	6.36	NA	NA
BW-D	09/19/2002	<250	<2.5	<2.5	<2.5	<2.5	NA	<25	NA	7.25	NA	NA
BW-D	**12/12/2002**	**<5,000**	**<50**	**<50**	**<50**	**<50**	**NA**	**16,000**	**NA**	**6.21**	**NA**	**NA**

WELL CONCENTRATIONS
Shell-branded Service Station
540 Hegenberger Road
Oakland, CA

Well ID	Date	TPPH (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 June 27, 2001, analyzed by EPA Method 8015.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to June 27, 2001, analyzed by EPA Method 8020.
MTBE = Methyl-tertiary-butyl ether
TOC = Top of Casing Elevation
GW = Groundwater
DO = Dissolved Oxygen
ppm = Parts per million
ug/L = Parts per billion
MSL = Mean sea level
ft = Feet
<n = Below detection limit
D = Duplicate sample
NA = Not applicable

Notes:
a = pre-purge
b = post purge
c = Lab confirmed MTBE by mistake. MTBE value at MW-1 should have been confirmed instead.
d = DO reading not taken.
e = Sample was analyzed outside of the EPA recommended holding time.
f = The second highest MTBE hit was mistakenly confirmed. MTBE for MW-1 should have been confirmed.
Site surveyed September 21, 2000 by Virgil Chavez Land Surveying of Vallejo, California.
C-1 is a canal sample location.
SD-1 and SD-2 are storm drains.
Wells MW-1 through MW-5 surveyed January 24 and June 19, 2002, by Virgil Chavez Land Surveying of Vallejo, California.

KIFF ANALYTICAL LLC

Report Number : 30727
Date : 01/10/2003

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

Subject : 2 Water Samples
Project Name : 540 Hegenberger Road, Oakland
Project Number : 030102-SS1
P.O. Number : 98995752

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 : 30727
Date : 01/10/2003

Subject : 2 Water Samples
Project Name : 540 Hegenberger Road, Oakland
Project Number : 030102-SS1
P.O. Number : 98995752

Case Narrative

The Method Reporting Limits for sample MW-3 have been increased due to the high level of Methyl-t-butyl ether in the samples.

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 30727

Date : 01/10/2003

Sample : **MW-1**

Project Name : **540 Hegenberger Road,**

Project Number : **030102-SS1** Date Analyzed : 01/10/2003 Lab Number : 30727-01

Matrix : Water Sample Date :01/02/2003 Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Dichlorodifluoromethane	< 0.50	0.50	ug/L
Chloromethane	< 0.50	0.50	ug/L
Vinyl Chloride	< 0.50	0.50	ug/L
Bromomethane	< 20	20	ug/L
Chloroethane	< 0.50	0.50	ug/L
Trichlorofluoromethane	< 0.50	0.50	ug/L
1,1-Dichloroethene	< 0.50	0.50	ug/L
Methylene Chloride	< 5.0	5.0	ug/L
trans-1,2-Dichloroethene	< 0.50	0.50	ug/L
1,1-Dichloroethane	< 0.50	0.50	ug/L
2,2-Dichloropropane	< 0.50	0.50	ug/L
cis-1,2-Dichloroethene	< 0.50	0.50	ug/L
Chloroform	< 0.50	0.50	ug/L
Bromochloromethane	< 0.50	0.50	ug/L
1,1,1-Trichloroethane	< 0.50	0.50	ug/L
1,1-Dichloropropene	< 0.50	0.50	ug/L
1,2-Dichloroethane	< 2.0	2.0	ug/L
Carbon Tetrachloride	< 0.50	0.50	ug/L
Benzene	< 0.50	0.50	ug/L
Trichloroethene	< 0.50	0.50	ug/L
1,2-Dichloropropane	< 0.50	0.50	ug/L
Bromodichloromethane	< 0.50	0.50	ug/L
Dibromomethane	< 0.50	0.50	ug/L
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L
Toluene	< 0.50	0.50	ug/L
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L
1,1,2-Trichloroethane	< 0.50	0.50	ug/L
1,3-Dichloropropane	< 0.50	0.50	ug/L
Tetrachloroethene	< 0.50	0.50	ug/L
Dibromochloromethane	< 0.50	0.50	ug/L
1,2-Dibromoethane	< 2.0	2.0	ug/L
Chlorobenzene	< 0.50	0.50	ug/L
1,1,1,2-Tetrachloroethane	< 0.50	0.50	ug/L
Ethylbenzene	< 0.50	0.50	ug/L
P,M-Xylene	< 1.0	1.0	ug/L
O-Xylene	< 0.50	0.50	ug/L
Styrene	< 0.50	0.50	ug/L
Isopropyl benzene	< 0.50	0.50	ug/L

Parameter	Measured Value	MRL [1]	Units
Bromoform	< 0.50	0.50	ug/L
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L
1,2,3-Trichloropropane	< 0.50	0.50	ug/L
n-Propylbenzene	< 0.50	0.50	ug/L
Bromobenzene	< 0.50	0.50	ug/L
1,3,5-Trimethylbenzene	< 0.50	0.50	ug/L
2+4-Chlorotoluene	< 1.0	1.0	ug/L
tert-Butylbenzene	< 0.50	0.50	ug/L
1,2,4-Trimethylbenzene	< 0.50	0.50	ug/L
sec-Butylbenzene	< 0.50	0.50	ug/L
p-Isopropyltoluene	< 0.50	0.50	ug/L
1,3-Dichlorobenzene	< 0.50	0.50	ug/L
1,4-Dichlorobenzene	< 0.50	0.50	ug/L
n-Butylbenzene	< 0.50	0.50	ug/L
1,2-Dichlorobenzene	< 0.50	0.50	ug/L
1,2-Dibromo-3-chloropropane	< 0.50	0.50	ug/L
1,2,4-Trichlorobenzene	< 0.50	0.50	ug/L
Hexachlorobutadiene	< 0.50	0.50	ug/L
Naphthalene	< 0.50	0.50	ug/L
1,2,3-Trichlorobenzene	< 0.50	0.50	ug/L
Dibromofluoromethane (Surr)	101		% Recovery
1,2-Dichloroethane-d4 (Surr)	104		% Recovery
Toluene-d8 (Surr)	102		% Recovery
4-Bromofluorobenzene (Surr)	98.3		% Recovery

1) MRL = Method reporting limit
tr = Trace detected below reporting limit

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 30727

Date : 01/10/2003

Sample : **MW-3**

Project Name : **540 Hegenberger Road,**

Project Number : **030102-SS1**

Date Analyzed : 01/10/2003

Lab Number : 30727-02

Matrix : Water

Sample Date :01/02/2003

Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Dichlorodifluoromethane	< 5.0	5.0	ug/L
Chloromethane	< 5.0	5.0	ug/L
Vinyl Chloride	< 5.0	5.0	ug/L
Bromomethane	< 200	200	ug/L
Chloroethane	< 5.0	5.0	ug/L
Trichlorofluoromethane	< 5.0	5.0	ug/L
1,1-Dichloroethene	< 5.0	5.0	ug/L
Methylene Chloride	< 50	50	ug/L
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L
1,1-Dichloroethane	< 5.0	5.0	ug/L
2,2-Dichloropropane	< 5.0	5.0	ug/L
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L
Chloroform	< 5.0	5.0	ug/L
Bromochloromethane	< 5.0	5.0	ug/L
1,1,1-Trichloroethane	< 5.0	5.0	ug/L
1,1-Dichloropropene	< 5.0	5.0	ug/L
1,2-Dichloroethane	< 5.0	5.0	ug/L
Carbon Tetrachloride	< 5.0	5.0	ug/L
Benzene	**59**	5.0	ug/L
Trichloroethene	< 5.0	5.0	ug/L
1,2-Dichloropropane	< 5.0	5.0	ug/L
Bromodichloromethane	< 5.0	5.0	ug/L
Dibromomethane	< 5.0	5.0	ug/L
cis-1,3-Dichloropropene	< 5.0	5.0	ug/L
Toluene	< 5.0	5.0	ug/L
trans-1,3-Dichloropropene	< 5.0	5.0	ug/L
1,1,2-Trichloroethane	< 5.0	5.0	ug/L
1,3-Dichloropropane	< 5.0	5.0	ug/L
Tetrachloroethene	< 5.0	5.0	ug/L
Dibromochloromethane	< 5.0	5.0	ug/L
1,2-Dibromoethane	< 5.0	5.0	ug/L
Chlorobenzene	< 5.0	5.0	ug/L
1,1,1,2-Tetrachloroethane	< 5.0	5.0	ug/L
Ethylbenzene	**5.3**	5.0	ug/L
P,M-Xylene	< 10	10	ug/L
O-Xylene	< 5.0	5.0	ug/L
Styrene	< 5.0	5.0	ug/L
Isopropyl benzene	< 5.0	5.0	ug/L

Parameter	Measured Value	MRL [1]	Units
Bromoform	< 5.0	5.0	ug/L
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L
1,2,3-Trichloropropane	< 5.0	5.0	ug/L
n-Propylbenzene	< 5.0	5.0	ug/L
Bromobenzene	< 5.0	5.0	ug/L
1,3,5-Trimethylbenzene	< 5.0	5.0	ug/L
2+4-Chlorotoluene	< 10	10	ug/L
tert-Butylbenzene	< 5.0	5.0	ug/L
1,2,4-Trimethylbenzene	**7.8**	5.0	ug/L
sec-Butylbenzene	< 5.0	5.0	ug/L
p-Isopropyltoluene	< 5.0	5.0	ug/L
1,3-Dichlorobenzene	< 5.0	5.0	ug/L
1,4-Dichlorobenzene	< 5.0	5.0	ug/L
n-Butylbenzene	< 5.0	5.0	ug/L
1,2-Dichlorobenzene	< 5.0	5.0	ug/L
1,2-Dibromo-3-chloropropane	< 5.0	5.0	ug/L
1,2,4-Trichlorobenzene	< 5.0	5.0	ug/L
Hexachlorobutadiene	< 5.0	5.0	ug/L
Naphthalene	< 5.0	5.0	ug/L
1,2,3-Trichlorobenzene	< 5.0	5.0	ug/L

Dibromofluoromethane (Surr)	104	% Recovery
1,2-Dichloroethane-d4 (Surr)	103	% Recovery
Toluene-d8 (Surr)	96.7	% Recovery
4-Bromofluorobenzene (Surr)	93.4	% Recovery

1) MRL = Method reporting limit
tr = Trace detected below reporting limit

Approved By: Joel Kiff

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

Report Number : 30727

Date : 01/10/2003

QC Report : Method Blank Data

Project Name : **540 Hegenberger Road, Oakland**

Project Number : **030102-SS1**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Dichlorodifluoromethane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Chloromethane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Vinyl Chloride	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Bromomethane	< 20	20	ug/L	EPA 8260B	01/09/2003
Chloroethane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Trichlorofluoromethane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,1-Dichloroethene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Methylene Chloride	< 5.0	5.0	ug/L	EPA 8260B	01/09/2003
trans-1,2-Dichloroethene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,1-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
2,2-Dichloropropane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
cis-1,2-Dichloroethene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Chloroform	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Bromochloromethane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,1,1-Trichloroethane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,1-Dichloropropene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,2-Dichloroethane	< 2.0	2.0	ug/L	EPA 8260B	01/09/2003
Carbon Tetrachloride	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Benzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Trichloroethene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,2-Dichloropropane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Bromodichloromethane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Dibromomethane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Toluene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,1,2-Trichloroethane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,3-Dichloropropane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Tetrachloroethene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Dibromochloromethane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,2-Dibromoethane	< 2.0	2.0	ug/L	EPA 8260B	01/09/2003
Chlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,1,1,2-Tetrachloroethane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
P,M-Xylene	< 1.0	1.0	ug/L	EPA 8260B	01/09/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
O-Xylene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Styrene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Isopropyl benzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Bromoform	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,2,3-Trichloropropane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
n-Propylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Bromobenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,3,5-Trimethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
2+4-Chlorotoluene	< 1.0	1.0	ug/L	EPA 8260B	01/09/2003
tert-Butylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,2,4-Trimethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
sec-Butylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
p-Isopropyltoluene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,3-Dichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,4-Dichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
n-Butylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,2-Dichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,2-Dibromo-3-chloropropane	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,2,4-Trichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Hexachlorobutadiene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
1,2,3-Trichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	01/09/2003
Dibromofluoromethane (Surr)	98.2		%	EPA 8260B	01/09/2003
1,2-Dichloroethane-d4 (Surr)	100		%	EPA 8260B	01/09/2003
Toluene - d8 (Surr)	106		%	EPA 8260B	01/09/2003
4-Bromofluorobenzene (Surr)	100		%	EPA 8260B	01/09/2003

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 30727

Date : 01/10/2003

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **540 Hegenberger Road,**

Project Number : **030102-SS1**

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
1,1-Dichloroethane	30806-03	<0.50	40.0	40.0	41.0	40.3	ug/L	EPA 8260B	1/9/03	102	101	1.67	70-130	25
Benzene	30806-03	<0.50	40.0	40.0	39.1	38.6	ug/L	EPA 8260B	1/9/03	97.7	96.4	1.29	70-130	25
1,2-Dichloroethane	30806-03	<0.50	40.0	40.0	39.7	38.5	ug/L	EPA 8260B	1/9/03	99.3	96.3	3.07	70-130	25
Toluene	30806-03	<0.50	40.0	40.0	38.0	38.0	ug/L	EPA 8260B	1/9/03	95.0	95.0	0.0263	70-130	25
Chlorobenzene	30806-03	<0.50	40.0	40.0	42.0	41.2	ug/L	EPA 8260B	1/9/03	105	103	1.92	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 30727

QC Report : Laboratory Control Sample (LCS)

Date : 01/10/2003

Project Name : **540 Hegenberger Road,**

Project Number : **030102-SS1**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
1,1-Dichloroethane	40.0	ug/L	EPA 8260B	1/9/03	95.1	70-130
Benzene	40.0	ug/L	EPA 8260B	1/9/03	96.5	70-130
1,2-Dichloroethane	40.0	ug/L	EPA 8260B	1/9/03	98.6	70-130
Toluene	40.0	ug/L	EPA 8260B	1/9/03	107	70-130
Chlorobenzene	40.0	ug/L	EPA 8260B	1/9/03	102	70-130

KIFF ANALYTICAL, LLC

Approved By: Joel Kiff

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Shell Oil Products US

Certificate of Analysis Number:

03010141

Report To:		Project Name:	INC#98995752
KIFF Analytical		Site:	540 Hegenberger Road
Joel Kiff		Site Address:	
2795 2nd Street			
Suite 300		PO Number:	
Davis		State:	California
CA		State Cert. No.:	01142CA
95616-		Date Reported:	1/17/2003
ph (530) 297-4800	fax: (530) 297-4808		

This Report Contains A Total Of 13 Pages

Excluding This Page

1/17/2003

Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Case Narrative for:

Shell Oil Products US

Certificate of Analysis Number:

03010141

Report To:		Project Name:	INC#98995752
KIFF Analytical		Site:	540 Hegenberger Road
Joel Kiff		Site Address:	
2795 2nd Street			
Suite 300		PO Number:	
Davis		State:	California
CA		State Cert. No.:	01142CA
95616-		Date Reported:	1/17/2003
ph (530) 297-4800	fax: (530) 297-4808		

Due to background interference your sample ID " MW-1 " (SPL ID: 03010141-01) required a ten times dilution for Thallium and Zinc.

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

1/17/2003

Bernadette Fini
Customer Service Manager

Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Shell Oil Products US

Certificate of Analysis Number:

03010141

Report To: KIFF Analytical
Joel Kiff
2795 2nd Street
Suite 300
Davis
CA
95616-
ph (530) 297-4800 fax: (530) 297-4803

Fax To: KIFF Analytical
Joel Kiff fax (530) 297-4808

Project Name: INC#98995752
Site: 540 Hegenberger Road
Site Address:
PO Number:
State: California
State Cert. No.: 01142CA
Date Reported: 1/17/2003

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
MW-1	03010141-01	Water	1/2/2003 9:00:00 AM	1/7/2003 9:30:00 AM		☐
MW-3	03010141-02	Water	1/2/2003 9:17:00 AM	1/7/2003 9:30:00 AM		☐

Bernadette Fini
Customer Service Manager

1/17/2003
Date

Joel Grice
Laboratory Director

Ted Yen
Quality Assurance Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: MW-1 **Collected:** 01/02/2003 9:00 **SPL Sample ID:** 03010141-01

Site: 540 Hegenberger Road

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
MERCURY, TOTAL			**MCL**	**E245.1**	**Units: mg/L**		
Mercury	ND	0.0002	1		01/10/03 9:51	R_T	1457951

Prep Method	Prep Date	Prep Initials
E245.1	01/10/2003 6:45	R_T

METALS BY METHOD 200.7, TOTAL			MCL	E200.7	Units: mg/L		
Antimony	0.289	0.005	1		01/16/03 13:37	NS	1465796
Arsenic	0.0155	0.005	1		01/16/03 13:37	NS	1465796
Lead	ND	0.005	1		01/16/03 13:37	NS	1465796
Selenium	ND	0.005	1		01/16/03 13:37	NS	1465796
Thallium	ND	0.05	10		01/16/03 14:38	NS	1465803
Barium	0.0916	0.005	1		01/08/03 14:35	EG	1464098
Beryllium	ND	0.003	1		01/08/03 14:35	EG	1464098
Cadmium	ND	0.005	1		01/08/03 14:35	EG	1464098
Chromium	ND	0.01	1		01/08/03 14:35	EG	1464098
Cobalt	ND	0.01	1		01/08/03 14:35	EG	1464098
Copper	ND	0.01	1		01/08/03 14:35	EG	1464098
Molybdenum	ND	0.02	1		01/08/03 14:35	EG	1464098
Nickel	ND	0.02	1		01/08/03 14:35	EG	1464098
Silver	ND	0.01	1		01/08/03 14:35	EG	1464098
Vanadium	ND	0.005	1		01/08/03 14:35	EG	1464098
Zinc	ND	0.2	10		01/15/03 20:12	EG	1464862

Prep Method	Prep Date	Prep Initials
E200.7	01/08/2003 8:15	MW

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: MW-3 **Collected:** 01/02/2003 9:17 **SPL Sample ID:** 03010141-02

Site: 540 Hegenberger Road

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
MERCURY, TOTAL			**MCL**	**E245.1**	**Units: mg/L**		
Mercury	ND	0.0002	1		01/10/03 9:53	R_T	1457952

Prep Method	Prep Date	Prep Initials
E245.1	01/10/2003 6:45	R_T

METALS BY METHOD 200.7, TOTAL			MCL	E200.7	Units: mg/L		
Antimony	0.107	0.005	1		01/16/03 14:15	NS	1465799
Arsenic	0.0139	0.005	1		01/16/03 14:15	NS	1465799
Lead	ND	0.005	1		01/16/03 14:15	NS	1465799
Selenium	ND	0.005	1		01/16/03 14:15	NS	1465799
Thallium	ND	0.005	1		01/16/03 14:15	NS	1465799
Barium	0.181	0.005	1		01/08/03 14:42	EG	1464099
Beryllium	ND	0.003	1		01/08/03 14:42	EG	1464099
Cadmium	ND	0.005	1		01/08/03 14:42	EG	1464099
Chromium	ND	0.01	1		01/08/03 14:42	EG	1464099
Cobalt	ND	0.01	1		01/08/03 14:42	EG	1464099
Copper	ND	0.01	1		01/08/03 14:42	EG	1464099
Molybdenum	ND	0.02	1		01/08/03 14:42	EG	1464099
Nickel	ND	0.02	1		01/08/03 14:42	EG	1464099
Silver	ND	0.01	1		01/08/03 14:42	EG	1464099
Vanadium	0.00541	0.005	1		01/08/03 14:42	EG	1464099
Zinc	ND	0.02	1		01/08/03 14:42	EG	1464099

Prep Method	Prep Date	Prep Initials
E200.7	01/08/2003 8:15	MW

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

Quality Control Documentation

1/17/2003 10:32:49 AM

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Shell Oil Products US

INC#98995752

Analysis: Mercury, Total
Method: E245.1
WorkOrder: 03010141
Lab Batch ID: 24696

Method Blank

RunID: HGLB_030110A-1457938 Units: mg/L
Analysis Date: 01/10/2003 9:18 Analyst: R_T
Preparation Date: 01/10/2003 6:45 Prep By: R_T Method E245.1

Samples In Analytical Batch:

Lab Sample ID	Client Sample ID
03010141-01A	MW-1
03010141-02A	MW-3

Analyte	Result	Rep Limit
Mercury	ND	0.0002

Laboratory Control Sample (LCS)

RunID: HGLB_030110A-1457939 Units: mg/L
Analysis Date: 01/10/2003 9:21 Analyst: R_T
Preparation Date: 01/10/2003 6:45 Prep By: R_T Method E245.1

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Mercury	0.002	0.002094	105	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 03010065-01
RunID: HGLB_030110A-1457941 Units: mg/L
Analysis Date: 01/10/2003 9:26 Analyst: R_T
Preparation Date: 01/10/2003 6:45 Prep By: R_T Method E245.1

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Mercury	ND	0.002	0.002118	105.9	0.002	0.002108	105.4	0.4659	20	75	125

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Shell Oil Products US

INC#98995752

Analysis: Metals by Method 200.7, Total
Method: E200.7
WorkOrder: 03010141
Lab Batch ID: 24717

Method Blank

RunID: TJA_030108E-1464086 Units: mg/L
Analysis Date: 01/08/2003 13:16 Analyst: EG
Preparation Date: 01/08/2003 8:15 Prep By: MW Method E200.7

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
03010141-01A	MW-1
03010141-02A	MW-3

Analyte	Result	Rep Limit
Barium	ND	0.005
Beryllium	ND	0.003
Cadmium	ND	0.005
Chromium	ND	0.01
Cobalt	ND	0.01
Copper	ND	0.01
Molybdenum	ND	0.02
Nickel	ND	0.02
Silver	ND	0.01
Vanadium	ND	0.005
Zinc	ND	0.02

Laboratory Control Sample (LCS)

RunID: TJA_030108E-1464087 Units: mg/L
Analysis Date: 01/08/2003 13:21 Analyst: EG
Preparation Date: 01/08/2003 8:15 Prep By: MW Method E200.7

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Barium	1	1.069	107	85	115
Beryllium	1	1.031	103	85	115
Cadmium	1	1.016	102	85	115
Chromium	1	1.002	100	85	115
Cobalt	1	1.051	105	85	115
Copper	1	1.037	104	85	115
Molybdenum	1	1.063	106	85	115
Nickel	1	1.044	104	85	115
Silver	1	1.074	107	85	115
Vanadium	1	1.035	104	85	115
Zinc	1	1.07	107	85	115

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 03010140-01
RunID: TJA_030108E-1464089 Units: mg/L
Analysis Date: 01/08/2003 13:35 Analyst: EG
Preparation Date: 01/08/2003 8:15 Prep By: MW Method E200.7

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Shell Oil Products US

INC#98995752

Analysis: Metals by Method 200.7, Total
Method: E200.7
WorkOrder: 03010141
Lab Batch ID: 24717

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Barium	0.1683	1	1.157	98.91	1	1.118	95.02	4.004	20	85	115
Beryllium	ND	1	1.082	108.2	1	1.001	100.1	7.817	20	85	115
Cadmium	ND	1	1.055	105.5	1	0.9725	97.25	8.095	20	85	115
Chromium	0.01682	1	1.053	103.6	1	0.9727	95.59	8.049	20	85	115
Cobalt	ND	1	1.069	106.9	1	0.9901	99.01	7.705	20	85	115
Copper	ND	1	1.055	105.0	1	0.9809	97.61	7.292	20	85	115
Molybdenum	ND	1	1.103	110.0	1	1.024	102.1	7.444	20	85	115
Nickel	ND	1	1.068	105.4	1	0.9962	98.26	7.005	20	85	115
Silver	ND	1	1.009	100.9	1	0.9751	97.51	3.420	20	85	115
Vanadium	0.01033	1	1.082	107.2	1	1.003	99.23	7.699	20	85	115
Zinc	ND	1	1.113	110.5	1	1.031	102.3	7.698	20	85	115

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Shell Oil Products US

INC#98995752

Analysis: Metals by Method 200.7, Total
Method: E200.7
WorkOrder: 03010141
Lab Batch ID: 24717-T

Method Blank

RunID: TJAT_030116A-1465787 Units: mg/L
Analysis Date: 01/16/2003 12:42 Analyst: NS
Preparation Date: 01/08/2003 8:15 Prep By: MW Method E200.7

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
03010141-01A	MW-1
03010141-02A	MW-3

Analyte	Result	Rep Limit
Antimony	ND	0.005
Arsenic	ND	0.005
Lead	ND	0.005
Selenium	ND	0.005
Thallium	ND	0.005

Laboratory Control Sample (LCS)

RunID: TJAT_030116A-1465788 Units: mg/L
Analysis Date: 01/16/2003 12:47 Analyst: NS
Preparation Date: 01/08/2003 8:15 Prep By: MW Method E200.7

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Antimony	1	1.034	103	85	115
Arsenic	1	1.013	101	85	115
Lead	1	1.009	101	85	115
Selenium	1	1.033	103	85	115
Thallium	1	1.022	102	85	115

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 03010140-01
RunID: TJAT_030116A-1465790 Units: mg/L
Analysis Date: 01/16/2003 13:01 Analyst: NS
Preparation Date: 01/08/2003 8:15 Prep By: MW Method E200.7

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Antimony	0.1135	1	1.173	105.9	1	1.106	99.27	6.492	20	85	115
Arsenic	0.01184	1	1.054	104.3	1	0.9902	97.84	6.350	20	85	115
Lead	ND	1	1.019	101.7	1	0.9593	95.76	6.014	20	85	115
Selenium	ND	1	1.068	106.8	1	1.008	100.8	5.792	20	85	115
Thallium	ND	1	1.043	104.3	1	0.9808	98.08	6.158	20	85	115

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Shell Oil Products US

INC#98995752

Analysis: Metals by Method 200.7, Total
Method: E200.7
WorkOrder: 03010141
Lab Batch ID: 24717B

Method Blank

RunID: TJA_030115A-1464854 Units: mg/L
Analysis Date: 01/15/2003 19:13 Analyst: EG
Preparation Date: 01/08/2003 8:15 Prep By: MW Method E200.7

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
03010141-01A	MW-1

Analyte	Result	Rep Limit
Zinc	ND	0.02

Laboratory Control Sample (LCS)

RunID: TJA_030115A-1464855 Units: mg/L
Analysis Date: 01/15/2003 19:18 Analyst: EG
Preparation Date: 01/08/2003 8:15 Prep By: MW Method E200.7

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Zinc	1	1.047	105	85	115

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 03010140-01
RunID: TJA_030115A-1464857 Units: mg/L
Analysis Date: 01/15/2003 19:32 Analyst: EG
Preparation Date: 01/08/2003 8:15 Prep By: MW Method E200.7

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Zinc	ND	1	1.056	104.9	1	0.9992	99.21	5.544	20	85	115

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

Sample Receipt Checklist

And

Chain of Custody

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Sample Receipt Checklist

Workorder:	03010141	Received By:	NB
Date and Time Received:	1/7/2003 9:30:00 AM	Carrier name:	FedEx
Temperature:	3	Chilled by:	Water Ice

		Ye	No	Not Present	Not Applicable
1.	Shipping container/cooler in good condition?	☑	☐	☐	
2.	Custody seals intact on shippping container/cooler?	☑	☐	☐	
3.	Custody seals intact on sample bottles?	☐	☐	☑	
4.	Chain of custody present?	☑	☐		
5.	Chain of custody signed when relinquished and receiv	☑	☐		
6.	Chain of custody agrees with sample labels?	☑	☐		
7.	Samples in proper container/bottle?	☑	☐		
8.	Sample containers intact?	☑	☐		
9.	Sufficient sample volume for indicated test?	☑	☐		
10.	All samples received within holding time?	☑	☐		
11.	Container/Temp Blank temperature in compliance?	☑	☐		
12.	Water - VOA vials have zero headspace	☐	☐		☑
13.	Water - pH acceptable upon receipt?	☑	☐	☐	

SPL Representative: _____ Contact Date & Time: _____

Client Name Contacted: _____

Non Conformance Issues: _____

Client Instructions: _____

030101141

KIFF ANALYTICAL LLC
2795 Second Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4803

Southern Petroleum Laboratory
Houston, TX

Lab No. _____ Page 1 of 1

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF to): Joel Kiff

EDF Report? X Yes __ No

Company/Address: Kiff Analytical, LLC

Recommended but not mandatory to complete this section:

Sampling Company Log Code: BTSS

Phone No.: FAX No.:

Global ID: T0600102123

Project Number: 030102-SS1

P.O. No.: 30727

EDF Deliverable to (Email Address): inbox@kiffanalytical.com

Project Name: 540 Hegenberger Road, Oakland

E-mail address: inbox@kiffanalytical.com

Project Address:

Sample Designation	Sampling		Container					Preservative					Matrix			Analysis Request							Date due:	For Lab Use Only
	Date	Time	Glass Jar	Poly	Amber			HCl	HNO3	ICE	NONE		WATER	SOIL		CAM 17 METALS BY 200.7								
MW-1	1/2/03	900		1					X	X			X			X								X	
MW-3	1/2/03	917		1					X	X			X			X								X	

Relinquished by:	Date	Time	Received by:
Michelle Wordsworth / Kiff Analytical	010603	1405	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:
	1/7/03	0930	

Remarks: Return Shipped Coolers

Incident# 98995752

Bill to: Karen Petryna

SHELL Chain Of Custody Record

Lab Identification (if necessary):
Address:
City, State, Zip:

Shell Project Manager to be Invoiced:

- [x] SCIENCE & ENGINEERING
- [ ] TECHNICAL SERVICES
- [ ] CRMT HOUSTON

Karen Petryna

30727

INCIDENT NUMBER (S&E ONLY)							
9	8	9	9	5	7	5	2

SAP or CRMT NUMBER (TS/CRMT)

DATE: 1/2/03
PAGE: 1 of 1

SAMPLING COMPANY: Blaine Tech Services	LOG CODE: BTSS	SITE ADDRESS (Street and City): 540 Hegenberger Road, Oakland	GLOBAL ID NO.: T0600102123
ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112		EDF DELIVERABLE TO (Responsible Party or Designee): Anni Kreml	PHONE NO.: (510)420-3335
		E-MAIL: ShellOaklandEDF@cambria-env.com	CONSULTANT PROJECT NO.: BTS # 030102-SS1
PROJECT CONTACT (Hardcopy or PDF Report to): Leon Gearhart		SAMPLER NAME(S) (Print): SUKHEON SUNG	LAB USE ONLY
TELEPHONE: 408-573-0555	FAX: 408-573-7771	E-MAIL: lgearhart@blainetech.com	

TURNAROUND TIME (BUSINESS DAYS):
[x] 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)	EPA 8260 FULL SUITE	CAM 17 METALS BY 200.7							FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
	MW-1	1/2/03	900	GW	4												X	X							-01
	MW-3	"	917	"	"												X	X							-02

TEMPERATURE ON RECEIPT C°

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]			
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) John Cuttle / Kiff Analytical	Date: 010303	Time: 1053

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

10/16/00 Revision

Q&Q Graphic (714) 898-9702

KIFF ANALYTICAL LLC

Report Number : 30385
Date : 12/24/02

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

Subject : 10 Water Samples
Project Name : 540 Hegenberger Road, Oakland
Project Number : 021212-RH1
P.O. Number : 98995752

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 : 30385
Date : 12/24/02

Project Name : **540 Hegenberger Road, Oakland**
Project Number : **021212-RH1**

Sample : **MW-1** Matrix : Water Lab Number : 30385-01
Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 50**	50	ug/L	EPA 8260B	12/20/02
Toluene	**< 50**	50	ug/L	EPA 8260B	12/20/02
Ethylbenzene	**< 50**	50	ug/L	EPA 8260B	12/20/02
Total Xylenes	**< 50**	50	ug/L	EPA 8260B	12/20/02
Methyl-t-butyl ether (MTBE)	**30000**	500	ug/L	EPA 8260B	12/20/02
TPH as Gasoline	**< 5000**	5000	ug/L	EPA 8260B	12/20/02
Toluene - d8 (Surr)	98.7		% Recovery	EPA 8260B	12/20/02
4-Bromofluorobenzene (Surr)	93.6		% Recovery	EPA 8260B	12/20/02

Sample : **MW-2** Matrix : Water Lab Number : 30385-02
Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	12/16/02
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	12/16/02
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	12/16/02
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	12/16/02
Methyl-t-butyl ether (MTBE)	**170**	5.0	ug/L	EPA 8260B	12/16/02
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	12/16/02
Toluene - d8 (Surr)	99.7		% Recovery	EPA 8260B	12/16/02
4-Bromofluorobenzene (Surr)	97.3		% Recovery	EPA 8260B	12/16/02

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 30385
Date : 12/24/02

Project Name : **540 Hegenberger Road, Oakland**
Project Number : **021212-RH1**

Sample : **MW-3** Matrix : Water Lab Number : 30385-03
Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**170**	100	ug/L	EPA 8260B	12/20/02
Toluene	**< 100**	100	ug/L	EPA 8260B	12/20/02
Ethylbenzene	**< 100**	100	ug/L	EPA 8260B	12/20/02
Total Xylenes	**< 100**	100	ug/L	EPA 8260B	12/20/02
Methyl-t-butyl ether (MTBE)	**45000**	1000	ug/L	EPA 8260B	12/20/02
TPH as Gasoline	**< 10000**	10000	ug/L	EPA 8260B	12/20/02
Toluene - d8 (Surr)	99.5		% Recovery	EPA 8260B	12/20/02
4-Bromofluorobenzene (Surr)	96.0		% Recovery	EPA 8260B	12/20/02

Sample : **MW-4** Matrix : Water Lab Number : 30385-04
Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	12/16/02
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	12/16/02
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	12/16/02
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	12/16/02
Methyl-t-butyl ether (MTBE)	**< 5.0**	5.0	ug/L	EPA 8260B	12/16/02
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	12/16/02
Toluene - d8 (Surr)	98.1		% Recovery	EPA 8260B	12/16/02
4-Bromofluorobenzene (Surr)	98.2		% Recovery	EPA 8260B	12/16/02

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 30385
Date : 12/24/02

Project Name : **540 Hegenberger Road, Oakland**
Project Number : **021212-RH1**

Sample : **MW-5** Matrix : Water Lab Number : 30385-05
Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 50**	50	ug/L	EPA 8260B	12/19/02
Toluene	**< 50**	50	ug/L	EPA 8260B	12/19/02
Ethylbenzene	**< 50**	50	ug/L	EPA 8260B	12/19/02
Total Xylenes	**< 50**	50	ug/L	EPA 8260B	12/22/02
Methyl-t-butyl ether (MTBE)	**33000**	500	ug/L	EPA 8260B	12/19/02
TPH as Gasoline	**< 5000**	5000	ug/L	EPA 8260B	12/19/02
Toluene - d8 (Surr)	97.7		% Recovery	EPA 8260B	12/19/02
4-Bromofluorobenzene (Surr)	96.0		% Recovery	EPA 8260B	12/19/02

Sample : **BW-A** Matrix : Water Lab Number : 30385-06
Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 5.0**	5.0	ug/L	EPA 8260B	12/19/02
Toluene	**< 5.0**	5.0	ug/L	EPA 8260B	12/19/02
Ethylbenzene	**< 5.0**	5.0	ug/L	EPA 8260B	12/19/02
Total Xylenes	**< 5.0**	5.0	ug/L	EPA 8260B	12/19/02
Methyl-t-butyl ether (MTBE)	**2900**	50	ug/L	EPA 8260B	12/19/02
TPH as Gasoline	**< 500**	500	ug/L	EPA 8260B	12/19/02
Toluene - d8 (Surr)	99.6		% Recovery	EPA 8260B	12/19/02
4-Bromofluorobenzene (Surr)	100		% Recovery	EPA 8260B	12/19/02

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 30385
Date : 12/24/02

Project Name : **540 Hegenberger Road, Oakland**
Project Number : **021212-RH1**

Sample : **BW-B** Matrix : Water Lab Number : 30385-07
Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 5.0**	5.0	ug/L	EPA 8260B	12/20/02
Toluene	**< 5.0**	5.0	ug/L	EPA 8260B	12/20/02
Ethylbenzene	**< 5.0**	5.0	ug/L	EPA 8260B	12/20/02
Total Xylenes	**< 5.0**	5.0	ug/L	EPA 8260B	12/20/02
Methyl-t-butyl ether (MTBE)	**1700**	50	ug/L	EPA 8260B	12/20/02
TPH as Gasoline	**< 500**	500	ug/L	EPA 8260B	12/20/02
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	12/20/02
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	12/20/02

Sample : **BW-C** Matrix : Water Lab Number : 30385-08
Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 20**	20	ug/L	EPA 8260B	12/20/02
Toluene	**< 20**	20	ug/L	EPA 8260B	12/20/02
Ethylbenzene	**< 20**	20	ug/L	EPA 8260B	12/20/02
Total Xylenes	**< 20**	20	ug/L	EPA 8260B	12/20/02
Methyl-t-butyl ether (MTBE)	**8000**	200	ug/L	EPA 8260B	12/20/02
TPH as Gasoline	**< 2000**	2000	ug/L	EPA 8260B	12/20/02
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	12/20/02
4-Bromofluorobenzene (Surr)	95.7		% Recovery	EPA 8260B	12/20/02

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 30385
Date : 12/24/02

Project Name : **540 Hegenberger Road, Oakland**
Project Number : **021212-RH1**

Sample : **BW-D** Matrix : Water Lab Number : 30385-09
Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 50**	50	ug/L	EPA 8260B	12/20/02
Toluene	**< 50**	50	ug/L	EPA 8260B	12/20/02
Ethylbenzene	**< 50**	50	ug/L	EPA 8260B	12/20/02
Total Xylenes	**< 50**	50	ug/L	EPA 8260B	12/20/02
Methyl-t-butyl ether (MTBE)	**16000**	500	ug/L	EPA 8260B	12/20/02
TPH as Gasoline	**< 5000**	5000	ug/L	EPA 8260B	12/20/02
Toluene - d8 (Surr)	95.3		% Recovery	EPA 8260B	12/20/02
4-Bromofluorobenzene (Surr)	94.4		% Recovery	EPA 8260B	12/20/02

Sample : **C-1** Matrix : Water Lab Number : 30385-10
Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	12/16/02
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	12/16/02
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	12/16/02
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	12/16/02
Methyl-t-butyl ether (MTBE)	**< 5.0**	5.0	ug/L	EPA 8260B	12/16/02
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	12/16/02
Toluene - d8 (Surr)	98.7		% Recovery	EPA 8260B	12/16/02
4-Bromofluorobenzene (Surr)	97.7		% Recovery	EPA 8260B	12/16/02

Approved By: Joel Kiff

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

Report Number : 30385

Date : 12/24/02

QC Report : Method Blank Data

Project Name : **540 Hegenberger Road, Oakland**

Project Number : **021212-RH1**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/18/02
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/18/02
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/18/02
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/18/02
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	12/18/02
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	12/18/02
Toluene - d8 (Surr)	99.8		%	EPA 8260B	12/18/02
4-Bromofluorobenzene (Surr)	109		%	EPA 8260B	12/18/02
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/16/02
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/16/02
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/16/02
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/16/02
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	12/16/02
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	12/16/02
Toluene - d8 (Surr)	101		%	EPA 8260B	12/16/02
4-Bromofluorobenzene (Surr)	97.1		%	EPA 8260B	12/16/02

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 : 30385

Date : 12/24/02

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **540 Hegenberger Road,**

Project Number : **021212-RH1**

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
Benzene	30383-03	<0.50	39.9	39.9	36.9	36.2	ug/L	EPA 8260B	12/18/02	92.4	90.8	1.86	70-130	25
Toluene	30383-03	<0.50	39.9	39.9	36.0	35.1	ug/L	EPA 8260B	12/18/02	90.2	88.0	2.52	70-130	25
Tert-Butanol	30383-03	<5.0	200	200	187	185	ug/L	EPA 8260B	12/18/02	93.7	92.9	0.900	70-130	25
Methyl-t-Butyl Ether	30383-03	1.1	39.9	39.9	39.2	39.9	ug/L	EPA 8260B	12/18/02	95.6	97.1	1.58	70-130	25
Benzene	30385-02	<0.50	40.0	40.0	39.5	39.1	ug/L	EPA 8260B	12/16/02	98.8	97.8	0.992	70-130	25
Toluene	30385-02	<0.50	40.0	40.0	38.1	38.0	ug/L	EPA 8260B	12/16/02	95.4	94.9	0.499	70-130	25
Tert-Butanol	30385-02	16	200	200	212	216	ug/L	EPA 8260B	12/16/02	98.0	99.9	1.91	70-130	25
Methyl-t-Butyl Ether	30385-02	170	40.0	40.0	218	217	ug/L	EPA 8260B	12/16/02	109	107	2.01	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 30385

QC Report : Laboratory Control Sample (LCS)

Date : 12/24/02

Project Name : **540 Hegenberger Road,**

Project Number : **021212-RH1**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	12/18/02	97.6	70-130
Toluene	40.0	ug/L	EPA 8260B	12/18/02	95.5	70-130
Tert-Butanol	200	ug/L	EPA 8260B	12/18/02	93.5	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	12/18/02	99.4	70-130
Benzene	40.0	ug/L	EPA 8260B	12/16/02	101	70-130
Toluene	40.0	ug/L	EPA 8260B	12/16/02	97.9	70-130
Tert-Butanol	200	ug/L	EPA 8260B	12/16/02	98.0	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	12/16/02	96.8	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

30385

INCIDENT NUMBER (S&E ONLY): 98995752

SAP or CRMT NUMBER (TS/CRMT):

DATE: 12/12/02

PAGE: 1 of 1

SAMPLING COMPANY:	LOG CODE:	SITE ADDRESS (Street and City):	GLOBAL ID NO.:
Blaine Tech Services	BTSS	540 Hegenberger Road, Oakland	T0600102123

ADDRESS:	EDF DELIVERABLE TO (Responsible Party or Designee):	PHONE NO.:	E-MAIL:	CONSULTANT PROJECT NO.:
1680 Rogers Avenue, San Jose, CA 95112	Anni Kreml	(510)420-3335	ShellOaklandEDF@cambria-env.com	BTS # 021212-RH1

PROJECT CONTACT (Hardcopy or PDF Report to):	TELEPHONE:	FAX:	E-MAIL:	SAMPLER NAME(S) (Print):
Leon Gearhart	408-573-0555	408-573-7771	lgearhart@blainetech.com	Ryan Hamstedt

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)									TEMPERATURE ON RECEIPT C°
	MW-1	12/12/02	1143	GW	3	X	X	X																	-01
	MW-2		1112			X	X	X																	-02
	MW-3		1220			X	X	X																	-03
	MW-4		831			X	X	X																	-04
	MW-5		1203			X	X	X																	-05
	BW-A		925			X	X	X																	-06
	BW-B		1010			X	X	X																	-07
	BW-C		1027			X	X	X																	-08
	BW-D		951			X	X	X																	-09
	C-1		1233			X	X	X																	-10

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

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]			
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) John Cuttle / Kiff Analytical	Date: 121302	Time: 1107

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

10/16/00 Revision

Q&Q Graphic (714) 998-9702

WELL GAUGING DATA

Project # 030102-SS1 Date 1/2/03 Client SHELL

Site 540 HEGENBERGER RD. OAKLAND

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	2					7.95	23.63	↓	
MW-3	2					5.90	19.57		
GAUGED W/ STINGER IN WELL									

SHELL WELL MONITORING DATA SHEET

BTS #: 030102-SS1	Site: SHELL 540 HEBERBERGER.
Sampler: SCOTT	Date: 1/2/03
Well I.D.: MW-1	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 23.63	Depth to Water (DTW): 7.45
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]: 10.69	

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

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

2.6 (Gals.) X	3	=	7.8 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. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
837	64.8	7.1	2957	>200	2.6	GAS ODOR
840	64.9	7.2	3218	>200	5.2	" "
843	65.0	7.2	3821	>200	8.0	" "

Did well dewater? Yes (No) Gallons actually evacuated: 8

Sampling Date: 1/2/03 Sampling Time: 900 Depth to Water: 10.66

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

Analyzed for: TPH-G BTEX MTBE TPH-D Other: EPA 8260 FULL SUITE + CAM 17 METALS BY 200.7

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 #: 030102-SS1	Site: SHELL 540 HEGENBERGER.
Sampler: SCOTT	Date: 1/2/03
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 19.57	Depth to Water (DTW): 5.90
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]: 8.63	

Purge Method: (Bailer) / ~~Disposable Bailer~~ / Middleburg / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other_____

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

2.2 (Gals.) X 3 = 6.6 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. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
908	64.9	6.5	3959	>200	2.2	TURBID GAS ODOR
910	65.5	6.6	4468	>200	4.4	" "
912	65.8	6.6	4828	>200	6.6	" GAS ODOR

Did well dewater? Yes (No) Gallons actually evacuated: 6.6

Sampling Date: 1/2/03 Sampling Time: 917 Depth to Water: 10.87 @ SITE DEPART.

Sample I.D.: MW-3 Laboratory: (Kiff) SPL Other_____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: EPA 8260 FULL SUITE + CAM 17 METALS BY 200.7

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 # 021212-RH1 Date 12/12/02 Client Shell

Site 540 Hegenberger Rd., Oakland

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	2					8.41	23.63		
MW-2	2					7.33	19.57		
MW-3	2					6.97	19.46		
MW-4	4					8.08	18.53		
MW-5	4					8.49	19.57		
BW-A	12					6.40	12.88		
BW-B	4					7.46	11.74		
BW-C	4					7.57	12.96		
BW-D	12					6.21	12.52		
C-1			SAWAC SAMPLE			0.64	—		
SD-1			Storm drain was dry			dry	—		
SD-2			Storm drain was dry			dry	—		
	* Gauged w/ stinger in well, removed to purge and sample								

SHELL WELL MONITORING DATA SHEET

BTS #: 021212-RH1	Site: 540 Hegenberger Rd. Oakland
Sampler: Ryan Hansteadt	Date: 12/12/02
Well I.D.: MW-1	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 23.63	Depth to Water (DTW): 8.41
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]: 11.45	

Purge Method: Bailer, Disposable Bailer, ~~Middleburg~~, Electric Submersible, Waterra, Peristaltic, Extraction Pump, Other_____

Sampling Method: (Bailer), Disposable Bailer, Extraction Port, Dedicated Tubing, Other:_____

2.4 (Gals.) X 3 = 7.2 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

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1125	64.1	7.2	17.34	34.2	2.4	clear w/ brown tint
1129	65.7	7.2	16.49	52.6	4.8	" " " "
1133	65.4	7.1	17.46	26.5	7.2	" " " "

Did well dewater? Yes (No) Gallons actually evacuated: 7.2

Sampling Date: 12/12/02 Sampling Time: 1143 Depth to Water: 11.40

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 #: 021212-RH1	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan Hansfeldt	Date: 12/12/02
Well I.D.: mw-2	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 19.57	Depth to Water (DTW): 7.33
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]: 9.78	

Purge Method: Bailer, Disposable Bailer, (Middleburg), Electric Submersible, Waterra, Peristaltic, Extraction Pump, Other_____

Sampling Method: (Bailer), Disposable Bailer, Extraction Port, Dedicated Tubing, Other:_____

2.0 (Gals.) X 3 = 6.0 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
1057	66.5	7.2	1555	73.8	2.0	clear
1100	67.4	7.2	1483	41.3	4.0	"
1104	67.4	7.4	1569	36.7	6.0	"

Did well dewater? Yes (No) Gallons actually evacuated: 6.0

Sampling Date: 12/12/02 Sampling Time: 1112 Depth to Water: 9.75

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 #: 021212-RH1	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan Hansfeldt	Date: 12/12/02
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 19.46	Depth to Water (DTW): 6.97
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]: 9.47	

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. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1156	66.0	7.2	11.73	43.9	2.0	clear
1201	66.9	7.3	8851 µS	43.6	4.0	"
1206	66.9	7.3	10.23	26.5	6.0	"

Did well dewater? Yes (No) Gallons actually evacuated: 6.0

Sampling Date: 12/12/02 Sampling Time: 1220 Depth to Water: 9.40

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 #: 021212-RH1	Site: 540 Hegenberger Rd. Oakland
Sampler: Ryan Hansteadt	Date: 12/12/02
Well I.D.: MW-4	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth (TD): 18.53	Depth to Water (DTW): 8.08
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (TVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 10.17	

Purge Method: Bailer, Disposable Bailer, Middleburg, (Electric Submersible), Waterra, Peristaltic, Extraction Pump, Other____

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

6.8 (Gals.) X 3 = 20.4 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
824	65.0	7.0	5388	>200	6.8	cloudy, odor
825	67.0	7.0	5160	>200	13.6	clearing
826	67.7	7.0	5135	89.3	20.4	turbid

Did well dewater? Yes (No) Gallons actually evacuated: 20.4

Sampling Date: 12/12/02 Sampling Time: 831 Depth to Water: 8.86

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 #: 021212-RH1	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan Hanstedt	Date: 12/12/02
Well I.D.: MW-5	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 19.57	Depth to Water (DTW): 8.49
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]: 10.71	

Purge Method: Bailer, Disposable Bailer, Middleburg, (Electric Submersible), Waterra, Peristaltic, Extraction Pump, Other_____

Sampling Method: (Bailer), Disposable Bailer, Extraction Port, Dedicated Tubing, Other:_____

7.2 (Gals.) X 3 = 21.6 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. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1035	70.1	6.9	10.65	50.3	7.2	clear
1036	70.6	7.3	3803 µS	58.6	14.4	"
1038	70.0	7.0	12.56	>200	21.6	"

Did well dewater? Yes (No) Gallons actually evacuated: ~~21.6~~ 21.6

Sampling Date: 12/12/02 Sampling Time: 1203 Depth to Water: 10.70

Sample I.D.: MW-5 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 #: 021212-RH1	Site: 540 Hegenberger Rd. Oakland
Sampler: Ryan Harstedt	Date: 12/12/02
Well I.D.: BW-A	Well Diameter: 2 3 4 6 8 (12)
Total Well Depth (TD): 12.88	Depth to Water (DTW): 6.40
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]: 7.69	

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

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

38.0 (Gals.) X 3 = 114 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

$12^{11} \approx 5.86$

Time	Temp (°F)	pH	Cond. (mS or (uS))	Turbidity (NTUs)	Gals. Removed	Observations
859	65.5	6.6	1167	7.0	38.0	clear
907	67.0	6.6	985	~~3.0~~ 3.2	76.0	"
915	66.7	6.6	968	1.9	~~38~~ 114.0	"

Did well dewater? Yes (No) Gallons actually evacuated: 114.0

Sampling Date: 12/12/02 Sampling Time: 925 Depth to Water: 6.45

Sample I.D.: DW-A 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 #: 021212-RH1	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan Hansfeldt	Date: 12/12/02
Well I.D.: Bw-B	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 11.74	Depth to Water (DTW): 7.46
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]: 8.32	

Purge Method: Bailer, Disposable Bailer, Middleburg, ~~Electric Submersible~~, Waterra, Peristaltic, Extraction Pump, Other_____

Sampling Method: (Bailer), Disposable Bailer, Extraction Port, Dedicated Tubing, Other:_____

1 Case Volume	Specified Volumes	Calculated Volume
2.8 (Gals.) X	3	= 8.4 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
1002	68.4	6.7	1172	~~27~~ 27.6	2.8	clear
1003	69.6	6.7	1179	13.2	5.6	"
1004	69.5	6.7	1185	4.8	8.4	"

Did well dewater? Yes (No) Gallons actually evacuated: 8.4

Sampling Date: 12/12/02 Sampling Time: 1010 Depth to Water: 7.68

Sample I.D.: Bw-B 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 #: 021212-RH1	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan Hansfeldt	Date: 12/12/02
Well I.D.: BW-C	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 12.96	Depth to Water (DTW): 7.57
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]: 8.65	

Purge Method: Bailer, Disposable Bailer, Middleburg, (Electric Submersible), Waterra, Peristaltic, Extraction Pump, Other_____

Sampling Method: (Bailer), Disposable Bailer, Extraction Port, Dedicated Tubing, Other:_____

3.5 (Gals.) X 3 = 10.5 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. (mS or (uS))	Turbidity (NTUs)	Gals. Removed	Observations
1020	69.2	6.7	1143	39.2	3.5	clear
1021	70.2	6.8	1151	9.1	7.0	"
1022	70.6	6.8	1157	3.0	10.5	"

Did well dewater? Yes (No) Gallons actually evacuated: 10.5

Sampling Date: 12/12/02 Sampling Time: 1027 Depth to Water: 7.71

Sample I.D.: BW-C 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 #: 021212-RH1	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan Harstedt	Date: 12/12/02
Well I.D.: BW-D	Well Diameter: 2 3 4 6 8 (12)
Total Well Depth (TD): 12.52	Depth to Water (DTW): 6.21
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]: 7.47	

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

Sampling Method: (Bailer), Disposable Bailer, Extraction Port, Dedicated Tubing, Other:_____

37 (Gals.) X 3 = 111 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 = 5.86

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
937	67.1	6.7	1009	3.5	37.0	clear
945	69.0	6.7	1010	90.3	~~74.0~~	"
952	69.0	6.8	1011	10.7	111.0	"

Did well dewater? Yes (No) Gallons actually evacuated: 111.0

Sampling Date: 12/12/02 Sampling Time: 957 Depth to Water: 6.42

Sample I.D.: BW-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 #: 021212-RH1	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan Hanstedt	Date: 12/12/02
Well I.D.: C-1	Well Diameter: 2 3 4 6 8 ____
Total Well Depth (TD):	Depth to Water (DTW): 0.64
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]:	

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

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

____ (Gals.) X 3 = ____ 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)	Turbidity (NTUs)	Gals. Removed	Observations
1233	59.4	7.2	32.87	>200	0	blackish

Did well dewater? Yes No Gallons actually evacuated: 0

Sampling Date: 12/12/02 Sampling Time: 1233 Depth to Water: 0.64

Sample I.D.: C-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 #: 021212-RH1	Site: 540 Hegenberger
Sampler: Ryan	Date: 12-12-02
Well I.D.: SD-1	Well Diameter: 2 3 4 6 8 ____
Total Well Depth (TD):	Depth to Water (DTW): Dry
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]:	

Purge Method: Bailer, Disposable Bailer, Middleburg, Electric Submersible, Waterra, Peristaltic, Extraction Pump, Other________

Sampling Method: Bailer, Disposable Bailer, Extraction Port, Dedicated Tubing, Other: ________

________(Gals.) X ________ = ________ 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
		Storm	Drain	Dry		
			No Sam	pled		

Did well dewater? Yes No	Gallons actually evacuated:
Sampling Date: Sampling Time:	Depth to Water:
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 #: 021212-RH1	Site: 540 HOGAN BERSON
Sampler: RYAN	Date: 12-12-02
Well I.D.: SP-2	Well Diameter: 2 3 4 6 8 ____
Total Well Depth (TD):	Depth to Water (DTW):
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]:	

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

Sampling Method: Bailer, Disposable Bailer, Extraction Port, Dedicated Tubing, Other_____

_____(Gals.) X _____ = _____ 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
		STORM DRAIN DRY				
			NO SAMPLE			

Did well dewater? Yes No Gallons actually evacuated:

Sampling Date: Sampling Time: Depth to Water:

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

ATTACHMENT B

Arco Groundwater Data

Table 1
Groundwater Elevation and Analytical Data

ARCO Service Station #4494
566 Hegenberger Road
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
MW-1	06/20/00	106.10	7.02	99.08	ND<1,000	ND<10	ND<10	ND<10	ND<20	14,000/15,000[a]
	09/28/00		7.07	99.03	ND<500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	13000/18,800[a]
	12/17/00		6.95	99.15	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	10,600
	03/28/01		6.88	99.22	ND<500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	16,900
	06/21/01		7.18	98.92	ND<1,000	ND<10	ND<10	ND<10	ND<10	3,400
	09/23/01		7.11	98.99	ND<1,000	ND<10	ND<10	ND<10	ND<10	2200/1800[a]
	12/31/01		6.91	99.19	ND<5,000	ND<50	ND<50	ND<50	ND<50	14,000
	03/14/02		6.85	99.25	ND<5,000	ND<50	ND<50	ND<50	ND<50	6,200
	04/17/02		5.89	100.21	ND<5,000	ND<50	ND<50	ND<50	ND<50	4,500
	08/08/02		7.19	98.91	230[b]	ND<2.0	ND<2.0	ND<2.0	ND<2.0	660/440[a]
	12/12/02		**7.28**	**98.82**	**630[d]**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**1300/830[a]**
MW-3	06/20/00	106.29	9.18	97.11	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	27/27[a]
	09/28/00		9.33	96.96	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	4.3/ND<2.0[a]
	12/17/00		9.31	96.98	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	03/28/01		9.23	97.06	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	7.42
	06/21/01		9.58	96.71	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	09/23/01		9.76	96.53	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	12/31/01		8.78	97.51	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	03/14/02		9.25	97.04	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	4
	04/17/02		8.44	97.85	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	08/08/02		9.63	96.66	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	12/12/02		**9.51**	**96.78**	**ND<50[d]**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<2.5**

Table 1
Groundwater Elevation and Analytical Data

ARCO Service Station #4494
566 Hegenberger Road
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
MW-4	06/20/00	107.40	8.49	98.91	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<10
	09/28/00		8.70	98.70	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<2.5
	12/17/00		8.53	98.87	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	03/28/01		8.59	98.81	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	06/21/01		8.79	98.61	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	09/23/01		8.67	98.73	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	12/31/01		8.03	99.37	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	03/14/02		8.48	98.92	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	04/17/02		7.79	99.61	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	5.6
	08/08/02		8.90	98.50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	12/12/02		**9.07**	**98.33**	**ND<50[d]**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<2.5**
MW-5	06/20/00	105.19	7.65	97.54	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<10
	09/28/00		6.82	98.37	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<2.5
	12/17/00		6.50	98.69	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	03/28/01		6.34	98.85	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	06/21/01		7.88	97.31	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	09/23/01		6.98	98.21	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	12/31/01		5.01	100.18	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	03/14/02		5.93	99.26	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	04/17/02		5.37	99.82	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	8.5
	08/08/02		6.85	98.34	ND<50[b]	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	12/12/02		**6.53**	**98.66**	**ND<50[d]**	**2.2**	**4.7**	**1.3**	**6.8**	**ND<2.5**

Table 1
Groundwater Elevation and Analytical Data

ARCO Service Station #4494
566 Hegenberger Road
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
MW-6	06/20/00	105.07	6.24	98.83	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<10
	09/28/00		6.45	98.62	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<2.5
	12/17/00		6.26	98.81	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	03/28/01		6.10	98.97	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	06/21/01		7.68	97.39	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	09/23/01		6.72	98.35	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	12/23/01		4.68	100.39	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	03/14/02		5.55	99.52	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	04/17/02		4.96	100.11	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	7
	08/08/02		6.46	98.61	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	12/12/02		**6.18**	**98.89**	**65[d]**	**3.3**	**8.4**	**2.7**	**14**	**ND<2.5**
MW-7	06/20/00	105.52	8.65	96.87	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	13/13[a]
	09/28/00		8.75	96.77	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	136/261[a]
	12/17/00		8.62	96.90	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	27.1
	03/28/01		8.66	96.86	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	51.5
	06/21/01		8.84	96.68	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	53
	09/23/01		8.75	96.77	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	35/21[a]
	12/23/01		7.79	97.73	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	440
	03/14/02		8.30	97.22	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	18
	04/17/02		7.43	98.09	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	67
	08/08/02		8.61	96.91	55[b]	ND<0.5	ND<0.5	ND<0.5	ND<0.5	130/100[a]
	12/12/02	**	**8.55**	--	**75[d]**	**ND< 0.5**	**ND< 0.5**	**ND< 0.5**	**ND< 0.5**	**160/130[a]**

Table 1
Groundwater Elevation and Analytical Data

ARCO Service Station #4494
566 Hegenberger Road
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
RW-1	06/20/00	NE	8.21	NC	ND<50	ND<0.5	1.1	ND<0.5	ND<1.0	ND<10
	09/28/00		8.28	NC	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<2.5
	12/17/00		8.29	NC	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	03/28/01		8.16	NC	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	06/21/01		9.37	NC	160	5.1	ND<0.5	1.1	3.2	ND<2.5
	09/23/01		8.75	NC	57	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5
	12/31/01		6.80	NC	520	3.1	ND<0.5	6.4	4.7	ND<2.5
	03/14/02		7.86	NC	240	3.7	ND<0.5	0.7	2.8	ND<2.5
	04/17/02		7.13	NC	ND<50	ND<0.5	1.6	ND<0.5	0.72	ND<2.5
	08/08/02		8.48	NC	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3.7/<ND0.5[a,c]
	12/12/02		**8.63**	**NC**	**ND<50**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<2.5**

TPH = Total Petroleum Hydrocarbons
MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8021B unless otherwise noted
µg/L = Micrograms per liter
NC = Not calculated
NE = Not surveyed/No elevation
ND< = Not detected at or above specifed laboratory detection limit.
a =Analyzed by EPA Method 8260
b = Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
c = This sample was analyzed beyond the EPA recommended holding time. The results may still be useful for their intended purpose.
d =Analyzed by EPA Method 8215B/8021B for Gasoline Range Organics
** = Top of casing was found shattered on December 12, 2002. Top of Casing (TOC) unknown.

Source: The data within this table collected prior to August 2002 was provided to URS by Group Environmental Management Company and their previous consultants. URS has not verified the accuracy of this information.

Table 2
Groundwater Flow Direction and Gradient

ARCO Service Station #4494
566 Hegenberger Road
Oakland, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
06/20/00	North-Northeast	0.015
09/28/00	North	0.018
12/17/00	North-Northwest	0.013
03/28/01	Northwest	0.011
06/21/01	North	0.017
09/23/01	North	0.020
12/31/01	North-Northwest	0.023
03/14/02	North-Northwest	0.017
04/14/02	Northwest	0.007
08/08/02	North-Northwest	0.022
12/12/02	**North-Northwest**	**0.017**

Note:
The data within this table collected prior to August 2002 was provided to URS by Group Environmental Management Company and their previous consultants. URS has not verified the accuracy of this information.

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

10 January, 2003

Scott Robinson
URS Corporation
500 12th Street, Suite 100
Oakland, CA 94607

RE: ARCO #4494, Oakland, Ca
Sequoia Work Order: MLL0548

Enclosed are the results of analyses for samples received by the laboratory on 12/13/02 16:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Latonya K. Pelt

Latonya Pelt
Project Manager

CA ELAP Certificate #1210

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #4494, Oakland, Ca	MLL0548
500 12th Street, Suite 100	Project Number: ARCO #4494, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	01/10/03 11:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MLL0548-01	Water	12/12/02 15:45	12/13/02 16:40
MW-3	MLL0548-02	Water	12/12/02 13:15	12/13/02 16:40
MW-4	MLL0548-03	Water	12/12/02 12:45	12/13/02 16:40
MW-5	MLL0548-04	Water	12/12/02 14:35	12/13/02 16:40
MW-6	MLL0548-05	Water	12/12/02 15:00	12/13/02 16:40
MW-7	MLL0548-06	Water	12/12/02 14:00	12/13/02 16:40
RW-1	MLL0548-07	Water	12/12/02 15:25	12/13/02 16:40

There were no custody seals that were received with this project.

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #4494, Oakland, Ca	MLL0548
500 12th Street, Suite 100	Project Number: ARCO #4494, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	01/10/03 11:51

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MLL0548-01) Water Sampled: 12/12/02 15:45 Received: 12/13/02 16:40									
Gasoline Range Organics	**630**	500	ug/l	10	2120741	12/26/02	12/26/02	EPA 8015B/8021B	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	**1300**	25	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*95 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*82 %*	*65-135*		"	"	"	"	
MW-3 (MLL0548-02) Water Sampled: 12/12/02 13:15 Received: 12/13/02 16:40									
Gasoline Range Organics	ND	50	ug/l	1	2120741	12/26/02	12/26/02	EPA 8015B/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*97 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*83 %*	*65-135*		"	"	"	"	
MW-4 (MLL0548-03) Water Sampled: 12/12/02 12:45 Received: 12/13/02 16:40									
Gasoline Range Organics	ND	50	ug/l	1	2120741	12/26/02	12/26/02	EPA 8015B/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*94 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*81 %*	*65-135*		"	"	"	"	

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #4494, Oakland, Ca	MLL0548
500 12th Street, Suite 100	Project Number: ARCO #4494, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	01/10/03 11:51

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (MLL0548-04) Water Sampled: 12/12/02 14:35 Received: 12/13/02 16:40									
Gasoline Range Organics	ND	50	ug/l	1	2120741	12/26/02	12/26/02	EPA 8015B/8021B	
Benzene	**2.2**	0.50	"	"	"	"	"	"	
Toluene	**4.7**	0.50	"	"	"	"	"	"	
Ethylbenzene	**1.3**	0.50	"	"	"	"	"	"	
Xylenes (total)	**6.8**	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*78 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*80 %*	*65-135*		"	"	"	"	
MW-6 (MLL0548-05) Water Sampled: 12/12/02 15:00 Received: 12/13/02 16:40									
Gasoline Range Organics	**65**	50	ug/l	1	2120759	12/26/02	12/26/02	EPA 8015B/8021B	
Benzene	**3.3**	0.50	"	"	"	"	"	"	
Toluene	**8.4**	0.50	"	"	"	"	"	"	
Ethylbenzene	**2.7**	0.50	"	"	"	"	"	"	
Xylenes (total)	**14**	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*93 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93 %*	*65-135*		"	"	"	"	
MW-7 (MLL0548-06) Water Sampled: 12/12/02 14:00 Received: 12/13/02 16:40									
Gasoline Range Organics	**75**	50	ug/l	1	2120759	12/26/02	12/26/02	EPA 8015B/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	**160**	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*94 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*83 %*	*65-135*		"	"	"	"	

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #4494, Oakland, Ca	MLL0548
500 12th Street, Suite 100	Project Number: ARCO #4494, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	01/10/03 11:51

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RW-1 (MLL0548-07) Water Sampled: 12/12/02 15:25 Received: 12/13/02 16:40									
Gasoline Range Organics	ND	50	ug/l	1	2120759	12/26/02	12/26/02	EPA 8015B/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*91 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*58 %*		*65-135*	"	"	"	"	*S-LIM*
RW-1 (MLL0548-07RE1) Water Sampled: 12/12/02 15:25 Received: 12/13/02 16:40									**HT-04**
Gasoline Range Organics	ND	50	ug/l	1	2120772	12/27/02	12/27/02	EPA 8015B/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*93 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*		*65-135*	"	"	"	"	

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #4494, Oakland, Ca	MLL0548
500 12th Street, Suite 100	Project Number: ARCO #4494, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	01/10/03 11:51

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MLL0548-01) Water Sampled: 12/12/02 15:45 Received: 12/13/02 16:40									**HT-04**
Methyl tert-butyl ether	**870**	25	ug/l	50	3010045	01/03/03	01/03/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*102 %*		*84-122*	"	"	"	"	
MW-7 (MLL0548-06) Water Sampled: 12/12/02 14:00 Received: 12/13/02 16:40									**HT-04**
Methyl tert-butyl ether	**130**	5.0	ug/l	10	3010045	01/03/03	01/03/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*78 %*		*84-122*	"	"	"	"	*S-LIM*

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #4494, Oakland, Ca	MLL0548
500 12th Street, Suite 100	Project Number: ARCO #4494, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	01/10/03 11:51

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2120741 - EPA 5030, waters										
Blank (2120741-BLK1)				Prepared & Analyzed: 12/26/02						
Gasoline Range Organics	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*302*		"	*300*		*101*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*246*		"	*300*		*82*	*65-135*			
Laboratory Control Sample (2120741-BS1)				Prepared & Analyzed: 12/26/02						
Gasoline Range Organics	2500	50	ug/l	2750		91	65-135			
Benzene	42.6	0.50	"	34.0		125	65-135			
Toluene	212	0.50	"	208		102	65-135			
Ethylbenzene	47.8	0.50	"	49.0		98	65-135			
Xylenes (total)	229	0.50	"	241		95	65-135			
Methyl tert-butyl ether	69.9	2.5	"	56.0		125	65-135			
Surrogate: a,a,a-Trifluorotoluene	*324*		"	*300*		*108*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*269*		"	*300*		*90*	*65-135*			
Matrix Spike (2120741-MS1)	**Source: P212486-06**			Prepared: 12/26/02 Analyzed: 12/27/02						**HT-04**
Gasoline Range Organics	2360	50	ug/l	2750	32	85	65-135			
Benzene	41.5	0.50	"	34.0	ND	122	65-135			
Toluene	211	0.50	"	208	0.15	101	65-135			
Ethylbenzene	47.9	0.50	"	49.0	ND	98	65-135			
Xylenes (total)	231	0.50	"	241	0.30	96	65-135			
Methyl tert-butyl ether	95.4	2.5	"	56.0	34	110	65-135			
Surrogate: a,a,a-Trifluorotoluene	*261*		"	*300*		*87*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*244*		"	*300*		*81*	*65-135*			

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #4494, Oakland, Ca	MLL0548
500 12th Street, Suite 100	Project Number: ARCO #4494, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	01/10/03 11:51

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2120741 - EPA 5030, waters										
Matrix Spike Dup (2120741-MSD1)	**Source: P212486-06**			Prepared: 12/26/02	Analyzed: 12/27/02					**HT-04**
Gasoline Range Organics	2320	50	ug/l	2750	32	83	65-135	2	20	
Benzene	41.1	0.50	"	34.0	ND	121	65-135	1	20	
Toluene	209	0.50	"	208	0.15	100	65-135	1	20	
Ethylbenzene	47.6	0.50	"	49.0	ND	97	65-135	0.6	20	
Xylenes (total)	231	0.50	"	241	0.30	96	65-135	0	20	
Methyl tert-butyl ether	95.0	2.5	"	56.0	34	109	65-135	0.4	20	
Surrogate: a,a,a-Trifluorotoluene	*258*		"	*300*		*86*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*241*		"	*300*		*80*	*65-135*			
Batch 2120759 - EPA 5030, waters										
Blank (2120759-BLK1)				Prepared & Analyzed: 12/26/02						
Gasoline Range Organics	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*282*		"	*300*		*94*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*275*		"	*300*		*92*	*65-135*			
Laboratory Control Sample (2120759-BS1)				Prepared & Analyzed: 12/26/02						
Gasoline Range Organics	2350	50	ug/l	2750		85	65-135			
Benzene	40.3	0.50	"	34.0		119	65-135			
Toluene	205	0.50	"	208		99	65-135			
Ethylbenzene	43.6	0.50	"	49.0		89	65-135			
Xylenes (total)	222	0.50	"	241		92	65-135			
Methyl tert-butyl ether	73.4	2.5	"	56.0		131	65-135			
Surrogate: a,a,a-Trifluorotoluene	*324*		"	*300*		*108*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*287*		"	*300*		*96*	*65-135*			

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #4494, Oakland, Ca	MLL0548
500 12th Street, Suite 100	Project Number: ARCO #4494, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	01/10/03 11:51

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2120759 - EPA 5030, waters										
Matrix Spike (2120759-MS1)	**Source: P212489-05**			Prepared & Analyzed: 12/26/02						
Gasoline Range Organics	2330	50	ug/l	2750	19	84	65-135			
Benzene	40.1	0.50	"	34.0	ND	118	65-135			
Toluene	210	0.50	"	208	0.16	101	65-135			
Ethylbenzene	45.2	0.50	"	49.0	ND	92	65-135			
Xylenes (total)	223	0.50	"	241	ND	93	65-135			
Methyl tert-butyl ether	63.7	2.5	"	56.0	ND	114	65-135			
Surrogate: a,a,a-Trifluorotoluene	*261*		"	*300*		*87*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*269*		"	*300*		*90*	*65-135*			
Matrix Spike Dup (2120759-MSD1)	**Source: P212489-05**			Prepared: 12/26/02 Analyzed: 12/27/02						**HT-04**
Gasoline Range Organics	2170	50	ug/l	2750	19	78	65-135	7	20	
Benzene	38.3	0.50	"	34.0	ND	113	65-135	5	20	
Toluene	202	0.50	"	208	0.16	97	65-135	4	20	
Ethylbenzene	43.7	0.50	"	49.0	ND	89	65-135	3	20	
Xylenes (total)	219	0.50	"	241	ND	91	65-135	2	20	
Methyl tert-butyl ether	61.6	2.5	"	56.0	ND	110	65-135	3	20	
Surrogate: a,a,a-Trifluorotoluene	*250*		"	*300*		*83*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*262*		"	*300*		*87*	*65-135*			
Batch 2120772 - EPA 5030, waters										
Blank (2120772-BLK1)				Prepared & Analyzed: 12/27/02						
Gasoline Range Organics	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*283*		"	*300*		*94*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*298*		"	*300*		*99*	*65-135*			

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #4494, Oakland, Ca	MLL0548
500 12th Street, Suite 100	Project Number: ARCO #4494, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	01/10/03 11:51

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2120772 - EPA 5030, waters										
Laboratory Control Sample (2120772-BS1)				Prepared & Analyzed: 12/27/02						
Gasoline Range Organics	2570	50	ug/l	2750		93	65-135			
Benzene	40.9	0.50	"	34.0		120	65-135			
Toluene	208	0.50	"	208		100	65-135			
Ethylbenzene	43.4	0.50	"	49.0		89	65-135			
Xylenes (total)	221	0.50	"	241		92	65-135			
Methyl tert-butyl ether	53.3	2.5	"	56.0		95	65-135			
Surrogate: a,a,a-Trifluorotoluene	*319*		"	*300*		*106*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*325*		"	*300*		*108*	*65-135*			
Matrix Spike (2120772-MS1)	**Source: P212485-08**			Prepared & Analyzed: 12/27/02						
Gasoline Range Organics	2500	50	ug/l	2750	120	87	65-135			
Benzene	40.6	0.50	"	34.0	ND	119	65-135			
Toluene	205	0.50	"	208	0.44	98	65-135			
Ethylbenzene	43.4	0.50	"	49.0	0.94	87	65-135			
Xylenes (total)	219	0.50	"	241	0.52	91	65-135			
Methyl tert-butyl ether	222	2.5	"	56.0	140	146	65-135			QM-07
Surrogate: a,a,a-Trifluorotoluene	*329*		"	*300*		*110*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*301*		"	*300*		*100*	*65-135*			
Matrix Spike Dup (2120772-MSD1)	**Source: P212485-08**			Prepared & Analyzed: 12/27/02						
Gasoline Range Organics	2620	50	ug/l	2750	120	91	65-135	5	20	
Benzene	40.4	0.50	"	34.0	ND	119	65-135	0.5	20	
Toluene	207	0.50	"	208	0.44	99	65-135	1	20	
Ethylbenzene	43.6	0.50	"	49.0	0.94	87	65-135	0.5	20	
Xylenes (total)	221	0.50	"	241	0.52	91	65-135	0.9	20	
Methyl tert-butyl ether	213	2.5	"	56.0	140	130	65-135	4	20	
Surrogate: a,a,a-Trifluorotoluene	*324*		"	*300*		*108*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*328*		"	*300*		*109*	*65-135*			

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #4494, Oakland, Ca	MLL0548
500 12th Street, Suite 100	Project Number: ARCO #4494, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	01/10/03 11:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3010045 - EPA 5030 waters										
Blank (3010045-BLK1)				Prepared & Analyzed: 01/03/03						
Methyl tert-butyl ether	ND	0.50	ug/l							
Surrogate: Dibromofluoromethane	*5.39*		"	*5.80*		*93*	*84-122*			
Laboratory Control Sample (3010045-BS1)				Prepared & Analyzed: 01/03/03						
Methyl tert-butyl ether	0.987	0.50	ug/l	1.00		99	79-118			
Surrogate: Dibromofluoromethane	*5.15*		"	*5.80*		*89*	*84-122*			
Matrix Spike (3010045-MS1)		**Source: P212511-02**		Prepared & Analyzed: 01/03/03						
Methyl tert-butyl ether	0.940	0.50	ug/l	1.00	ND	94	79-118			
Surrogate: Dibromofluoromethane	*5.44*		"	*5.80*		*94*	*84-122*			
Matrix Spike Dup (3010045-MSD1)		**Source: P212511-02**		Prepared & Analyzed: 01/03/03						
Methyl tert-butyl ether	0.949	0.50	ug/l	1.00	ND	95	79-118	1	20	
Surrogate: Dibromofluoromethane	*5.48*		"	*5.80*		*94*	*84-122*			

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #4494, Oakland, Ca	MLL0548
500 12th Street, Suite 100	Project Number: ARCO #4494, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	01/10/03 11:51

Notes and Definitions

HT-04	This sample was analyzed beyond the EPA recommended holding time. The results may still be useful for their intended purpose.
QM-07	The spike recovery was outside control limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
S-LIM	The surrogate recovery was outside control limits. The result may still be useful for its intended purpose.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Chain of Custody Record

bp

Project Name
BP BU/GEM CO Portfolio:
BP Laboratory Contract Number:

Date: 12/12/02

Requested Due Date (mm/dd/yy) Standard

ML10548

On-site Time:	Temp:
Off- site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Send To:	BP/GEM Facility No.:	Consultant/Contractor: URS
Lab Name: SEQUOIA	BP/GEM Facility Address: 566 HEGENBERGER, OAKLAND, CA	Address: 500 12th St., Ste. 200
Lab Address: 885 Jarvis Dr.	Site ID No. ARCO 4494	Oakland, CA 94609-4014
Morgan Hill, CA 95037	Site Lat/Long:	e-mail: EDD: syed_rehan@urscorp.com
	California Global ID #: T0600100104	Consultant/Contractor Project No.: 15-00004494.01 00427
Lab PM: Latonya Pelt	BP/GEM PM Contact: PAUL SUPPLE	Consultant Tele/Fax: 510-874-1735/510-874-3268
Tele/Fax: 408-776-9600 / 408-782-6308	Address:	Consultant/Contractor PM: Scott Robinson
Report Type & QC Level: Send EDF Reports		Invoice to: Consultant/Contractor or BP/GEM (Circle one)
BP/GEM Account No.:	Tele/Fax:	BP/GEM Work Release No: INTRIM -50443

Lab Bottle Order No:

Item No.	Sample Description	Time	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Sediments	Matrix: Air	Laboratory No.	No. of containers	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl	Requested Analysis: TPH-G / BTEX (8015 / 8021)	Requested Analysis: TPH D (8015)	Requested Analysis: MTBE (8021)	Requested Analysis: MTBE, TAME, ETBE, DIPE, TBA (8260)	Requested Analysis: 1,2-DCA & EDB (8260)	Sample Point Lat/Long and Comments
1	MW-1 ✓	1545		X			01	6				X	X		X			
2	MW-3 ✓	1315		X			02	6				X	X		X			
3	MW-4 ✓	1245		X			03	6				X	X		X			
4	MW-5 ✓	1435		X			04	6				X	X		X			
5	MW-6 ✓	1500		X			05	6				X	X		X			
6	MW-7 ✓	1400		X			06	6				X	X		X			
7	RW-1 ✓	1585		X			07	6				X	X		X			
8																		
9																		
10																		

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: Brian Brewer						
Sampler's Company: Brewer Tech Services		12/13/02	1012		12/13/02	1012
Shipment Date:		12/13/02			12/13/02	1645
Shipment Method:						
Shipment Tracking No:						

Special Instructions: Address Invoice to BP/GEM but send to URS for approval Confirm All MTBE Hits by 8260

Custody Seals In Place Yes ___ No ✓ Temperature Blank Yes ___ No ✓ Cooler Temperature on Receipt: 3 °F(C) Trip Blank Yes ___ No ✓

Distribution: White Copy - Laboratory / Yellow Copy - BP/GEM / Pink Copy - Consultant/Contractor

BP COC Rev. 1 2/5/02

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: URS
REC. BY (PRINT): HT
WORKORDER: 412654 8

DATE Received at Lab: 12/13/02
TIME Received at Lab: 1640
LOG IN DATE: 12-17-02

Drinking water for regulatory purposes: YES / (NO)
Wastewater for regulatory purposes: YES / (NO)

CIRCLE THE APPROPRIATE RESPONSE:		LAB SAMPLE #	#	CLIENT ID	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s)	Present / (Absent) Intact / Broken*			MW 1	6 voa (HCl)	W	12/13	Lot# 22180SD
2. Chain-of-Custody	(Present) / Absent*			3				
3. Traffic Reports or Packing List:	Present / (Absent)			4				
4. Airbill:	Airbill / Sticker Present / (Absent)			5				
5. Airbill #:				6				
6. Sample Labels:	(Present) / Absent			7				
7. Sample IDs:	(Listed) / Not Listed on Chain-of-Custody			RW1				
8. Sample Condition:	(Intact) / Broken* / Leaking*							
9. Does information on custody reports, traffic reports and sample labels agree?	(Yes) / No*							
10. Sample received within hold time:	(Yes) / No*							
11. Proper Preservatives used:	(Yes) / No*							
12. Temp Rec. at Lab: 3°C (Acceptance range for samples requiring thermal pres.: 4+/-2°C)	(Yes) / No**							
**Exception (if any):								

*If Circled, contact Project Manager and attach record of resolution.

Sample Receipt Log
Revision 2.2 (04/11/02)
Replaces Revision 2.1 (11/10/00)

WELL GAUGING DATA

Project # 021212-BA2 Date 12/12/02 Client ARCO 4494

Site 566 HEGENBERGER RD., OAKLAND

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					7.28	23.04	TOC	
MW-3	4					9.51	17.85		NP@7'
MW-4	4					9.07	16.62		NP@7'
MW-5	2					6.53	16.82		
MW-6	2					6.18	18.07		
MW-7	4					8.55*	13.49		
RW-1	2					8.63	11.30		
* Casing shattered at top - TOC unknown									

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 021212-BA2	Station # 4494
Sampler: Brian Allcorn	Date: 12/12/02
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 23.04	Depth to Water: 7.28
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

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

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

Top of Screen: ____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

10.2 (1 Case Volume (Gals.)) X 3 (Specified Volumes) = 30.6 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1535	70.0	7.6	7695	10.0	clear strong odor / light sheen
1537	Well Dewatered			@ 18.0	DTW 21.27
1545	70.1	7.6	7781	—	clear strong odor / light sheen

Did well dewater? (Yes) No Gallons actually evacuated: 18

Sampling Time: 1545 Sampling Date: 12/12/02

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

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

D.O. (if req'd):	Pre-purge:	mg/L	(Post-purge)	4.9	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 021212-BA2	Station # 4494
Sampler: Brian Allcorn	Date: 12/12/02
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 17.85	Depth to Water: 9.51
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

Purge Method: Bailer / ~~Disposable Bailer~~ / Middleburg / ~~Electric Submersible~~ / ~~Extraction Pump~~ / Other: ___

Sampling Method: Bailer / (Disposable Bailer) / Extraction Port / Other: ___

Top of Screen: 7'

If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

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

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1315	70.2	6.8	1465	—	clear w/debris particles

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

Sampling Time: 1315 Sampling Date: 12/12/02

Sample I.D.: MW-3 Laboratory: Pace (Sequoia) Other ___

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

D.O. (if req'd):	Pre-purge:	mg/L	(Post-purge):	3.0 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 021212-BA2	Station # 4494
Sampler: Brian Alcorn	Date: 12/12/02
Well I.D.: MW-4	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 16.62	Depth to Water: 9.07
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

Purge Method: Bailer / Disposable Bailer / ~~Middleburg~~ / ~~Electric Submersible~~ / ~~Extraction Pump~~ / Other: ____

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

Top of Screen: 7'

If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

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

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1245	67.0	6.2	1319	—	clear

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

Sampling Time: 1245 Sampling Date: 12/12/02

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

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

D.O. (if req'd):	Pre-purge:	mg/L	(Post-purge:) 5.6	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 021212-BA2	Station # 4494
Sampler: Brian Alcorn	Date: 12/12/02
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 16.82	Depth to Water: 6.53
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

Purge Method: Bailer / Disposable Bailer / (Middleburg) / Electric Submersible / Extraction Pump / Other: ___

Sampling Method: Bailer / (Disposable Bailer) / Extraction Port / Other: ___

Top of Screen: ___ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

1.6 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 4.8 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1427	67.2	7.0	15.5	1.5	semi-cloudy gray very mild odor
1429	67.6	7.0	12.8	3.0	clear mild odor
1430	67.8	7.0	12.1	4.5	" DTW 6.83

Did well dewater? Yes (No) Gallons actually evacuated: 5

Sampling Time: 1435 Sampling Date: 12/12/02

Sample I.D.: MW-5 Laboratory: Pace (Sequoia) Other ___

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

D.O. (if req'd):	Pre-purge:	mg/L	(Post-purge):	1.3 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 021212-BA2	Station # 4494
Sampler: Brian Allcorn	Date: 12/12/02
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 18.07	Depth to Water: 6.18
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

Purge Method: Bailer / Disposable Bailer / (Middleburg) / Electric Submersible / Extraction Pump / Other: ___

Sampling Method: Bailer / (Disposable Bailer) / Extraction Port / Other: ___

Top of Screen: ___

If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

1.9 (1 Case Volume (Gals.)) X 3 (Specified Volumes) = 5.7 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1451	69.0	7.0	7007	2.0	cloudy gray mild odor
1454	69.7	6.9	6696	4.0	"
1456	69.7	6.9	6554	6.0	" DTW 6.28

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

Sampling Time: 1500 Sampling Date: 12/12/02

Sample I.D.: MW-6 Laboratory: Pace (Sequoia) Other ___

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

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

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 021212-BA2	Station # 4494
Sampler: Brian Allord	Date: 12/12/02
Well I.D.: MW-7	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 13.49	Depth to Water: 8.55
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

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

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

Top of Screen: ____

If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

3.0 (1 Case Volume (Gals.)) X 3 (Specified Volumes) = 9.0 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1346	69.4	6.9	4219	3.0	dark yellow – clear * no odor
1352	69.5	6.9	7026	6.0	" less yellow
1356	69.4	7.0	8263	9.0	" DTW 9.98

* Dark yellow water floating near top of column w/ no clear interface w/ clear layer beneath

Did well dewater? Yes (No)		Gallons actually evacuated: 9	
Sampling Time: 1400		Sampling Date: 12/12/02	
Sample I.D.: MW-7		Laboratory: Pace (Sequoia) Other ____	
Analyzed for: (TPH-G BTEX MTBE) TPH-D Other:			
D.O. (if req'd): Pre-purge:	mg/L	(Post-purge:)	1.2 mg/L
O.R.P. (if req'd): Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 021212-BA2	Station # 4494
Sampler: Brian Allcorn	Date: 12/12/02
Well I.D.: RW-1	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 11.30	Depth to Water: 8.63
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

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

Sampling Method: Bailer (Disposable Bailer) Extraction Port Other: ____

Top of Screen: — If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

0.4 (1 Case Volume (Gals.)) X 3 (Specified Volumes) = 1.2 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1516	62.8	7.0	26.9	0.5	clear
1518	62.9	6.9	28.5	1.0	"
1519	62.9	6.9	29.2	1.5	"

Did well dewater? Yes (No) Gallons actually evacuated: 2

Sampling Time: 1525 Sampling Date: 12/12/02

Sample I.D.: RW-1 Laboratory: Pace (Sequoia) Other ____

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

D.O. (if req'd):	Pre-purge:	mg/L	(Post-purge):	1.9	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

Chain of Custody Record

Page 1 of 1

Project Name

BP BU/GEM CO Portfolio:

BP Laboratory Contract Number:

Date: 12/12/02

Requested Due Date (mm/dd/yy) Standard

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Send To:

Lab Name: SEQUOIA

Lab Address: 885 Jarvis Dr.
Morgan Hill, CA 95037

Lab PM: Latonya Pelt

Tele/Fax: 408-776-9600 / 408-782-6308

Report Type & QC Level: Send EDF Reports

BP/GEM Account No.:

Lab Bottle Order No:

BP/GEM Facility No.:

BP/GEM Facility Address: 566 HEGENBERGER, OAKLAND, CA

Site ID No. ARCO 4494

Site Lat/Long:

California Global ID #: T0600100104

BP/GEM PM Contact: PAUL SUPPLE

Address:

Tele/Fax:

Consultant/Contractor: URS

Address: 500 12th St., Ste. 200
Oakland, CA 94609-4014

e-mail EDD: syed_rehan@urscorp.com

Consultant/Contractor Project No.: 15-00004494.01 00427

Consultant Tele/Fax: 510-874-1735/510-874-3268

Consultant/Contractor PM: Scott Robinson

Invoice to: Consultant/Contractor or (BP/GEM) (circle one)

BP/GEM Work Release No: INTRIM -50443

Item No.	Sample Description	Time	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Sediments	Matrix: Air	Laboratory No.	No. of containers	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl	Requested Analysis: TPH-G / BTEX (8015 / 8021)	Requested Analysis: TPH-D (8015)	Requested Analysis: MTBE (8021)	Requested Analysis: MTBE, TAME, ETBE DIPE, TBA (8260)	Requested Analysis: 1,2-DCA & EDB (8260)	Sample Point Lat/Long and Comments
1	MW-1 ✓	1545		X														
2	MW-3 ✓	1315		X				6				X	X	X				
3	MW-4 ✓	1245		X				6				X	X	X				
4	MW-5 ✓	1435		X				6				X	X	X				
5	MW-6 ✓	1500		X				6				X	X	X				
6	MW-7 ✓	1400		X				6				X	X	X				
7	RW-1 ✓	1525		X				6				X	X	X				
8								6				X	X	X				
9																		
10																		

Sampler's Name: Brad Nelson

Sampler's Company: Blaine Tech Services

Shipment Date:

Shipment Method:

Shipment Tracking No:

Special Instructions: Address Invoice to BP/GEM but send to URS for approval — Confirm All MTBE Hits By 8260

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
	12/13/02	1012		12/13/02	1012
	12/13/02				

Custody Seals In Place Yes ___ No ✓ Temperature Blank Yes ___ No ✓ Cooler Temperature on Receipt 2 °C

Distribution: White Copy - Laboratory / Yellow Copy - BP/GEM

WELLHEAD INSPECTION CHECKLIST

Client ARCO 4494 Date 12/12/02

Site Address 566 HEGENBERGER RD, OAKLAND

Job Number 021212-BA2 Technician BRIAN ALLORD

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-1				X	X			
MW-3				X	X			X
MW-4				X	X			
MW-5				X	X			X
MW-6				X	X			
MW-7	X							X
RW-1				X	X			X

NOTES:

BP GEM OIL COMPANY TYPE **A** BILL OF LADING

SOURCE RECORD **BILL OF LADING** FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT BP GEM OIL COMPANY FACILITIES IN THE STATE OF CALIFORNIA. THE NON-HAZARDOUS PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS IS COLLECTED BY THE CONTRACTOR, MADE UP INTO LOADS OF APPROPRIATE SIZE AND HAULED BY DILLARD ENVIRONMENTAL TO THE ALTAMONT LANDFILL AND RESOURCE RECOVERY FACILITY IN LIVERMORE, CALIFORNIA.

The contractor performing this work is BLAINE TECH SERVICES, INC. (BTS), 1680 Rogers Avenue, San Jose, CA 95112 (phone [408] 573-0555). Blaine Tech Services, Inc. is authorized by BP GEM OIL COMPANY to recover, collect, apportion into loads the Non-Hazardous Well Purgewater that is drawn from wells at the BP GEM Oil Company facility indicated below and deliver that purgewater to BTS. Transport routing of the Non-Hazardous Well Purgewater may be direct from one BP GEM facility to the designated destination point; from one BP GEM facility to the designated destination point via another BP GEM facility; from a BP GEM facility to the designated destination point via the contractor's facility, or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of BP GEM Oil Company.

This **Source Record BILL OF LADING** was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the BP GEM Oil Company facility described below:

4494

Station #

566 HEGENBERGER RD, OAKLAND

Station Address

Total Gallons Collected From Groundwater Monitoring Wells:

40

added equip. rinse water 10

any other adjustments

TOTAL GALS. RECOVERED 50

loaded onto BTS vehicle # 14

BTS event #	time	date
021212-BA2	1600	12/12/02

signature

* *

REC'D AT	time	date
		/ /

unloaded by signature