CAMBRIA

October 28, 1996

Barney Chan
Alameda County
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

#113

Re: **Third Quarter 1996**
Shell Service Station
WIC #204-5508-3400
4411 Foothill Boulevard
Oakland, California

Dear Mr. Chan:

On behalf of Shell Oil Products Company, Cambria Environmental Technology, Inc. (Cambria) is submitting this quarterly monitoring report for the site referenced above in accordance with the requirements specified in California Administrative Code Title 23 Waters, Division 3, Chapter 16, Article 5, Section 2652.d.

Activities This Quarter

Blaine Tech Services, Inc. (BTS) of San Jose, California measured ground water depths and collected ground water samples from the site wells (Figure 1). The BTS report describing these activities and the analytic report for the ground water samples are included as Attachment A. Cambria Environmental Technology, Inc. (Cambria) calculated ground water elevations (Table 1), compiled the analytic data (Table 2) and prepared a ground water elevation contour map (Figure 1). Although methyl tert-butyl ether (MTBE) was detected using the EPA Method 8020 analyses, no MTBE were detected using EPA Method 8260. Therefore, the MTBE quantified by EPA Method 8020 does not appear to be MTBE.

Anticipated Activities Next Quarter

Cambria will submit a report presenting a summary of activities for the upcoming quarter. We will also reanalyze for MTBE using EPA Method 8260 to assess whether the compound quantified as MTBE by Method 8020 is actually MTBE.

CAMBRIA
ENVIRONMENTAL
TECHNOLOGY, INC.
1144 65TH STREET,
SUITE B
OAKLAND,
CA 94608
PH: (510) 420-0700
FAX: (510) 420-9170

We appreciate this opportunity to work with you on this project. Please call if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

N. Scott MacLeod, R.G.
Principal Geologist

Attachments: A - Blaine Tech Ground Water Monitoring Report

cc: R. Jeff Granberry, Shell Oil Products Company, P.O. Box 4023, Concord, California 94524

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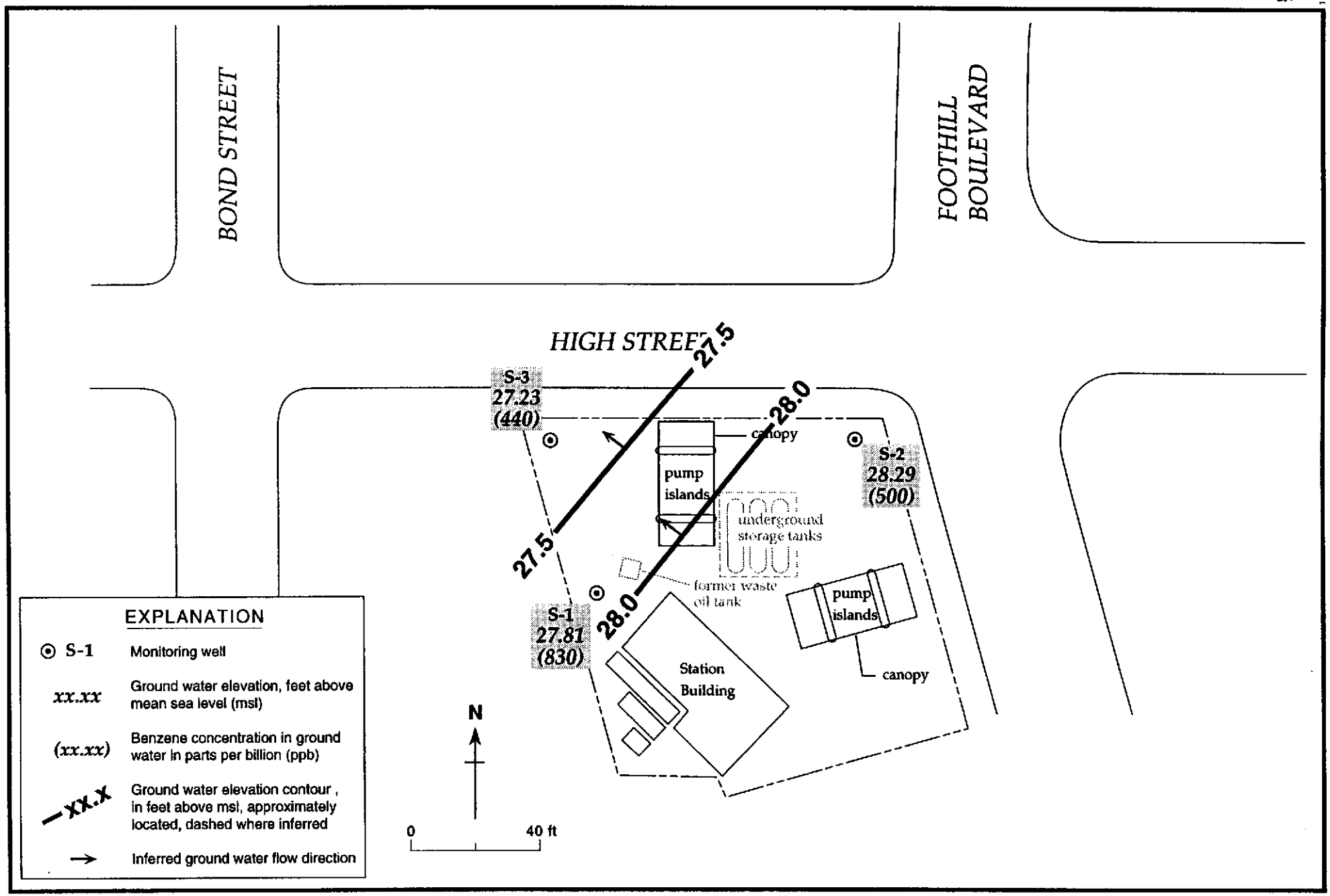

Figure 1. Monitoring Well Locations, Ground Water Elevation Contours, and Benzene Concentrations in Ground Water - September 6, 1996 - Shell Service Station WIC# 204-5508-3400 - 4411 Foothill Boulevard, Oakland, California

CAMBRIA

ATTACHMENT A

Blaine Tech Ground Water Monitoring Report

Table 1. Ground Water Elevation and Analytic Data - Shell Service Station #204-5508-3400, 4411 Foothill Boulevard, Oakland, California

Well ID and Elevation (ft-msl)	Date	Depth to Water (feet)	Ground Water Elevation (ft-msl)	TPHg (8015) (ppb)	Benzene (8020) (ppb)	Toluene (8020) (ppb)	Ethylbenzene (8020) (ppb)	Xylenes (8020) (ppb)	TEPH (8015) (ppb)	Motor Oil (8015) (ppb)	MTBE (8260) (ppb)	Notes
S-1	12/18/92	9.06	---	41,000	3,100	1,100	1,200	8,700	---	9,400	---	a
38.31	05/26/93	---	---	39,000	1,300	4,700	1,500	7,800	6,000	370	---	
	05/28/93	12.13	26.18	---	---	---	---	---	---	---	---	
	06/03/93	8.89	29.42	---	---	---	---	---	---	---	---	
	06/08/93	8.80	29.51	---	---	---	---	---	---	---	---	
	09/21/93	10.40	27.91	34,000	480	5,000	3,800	18,000	5,900	ND	---	
	12/14/93	9.66	28.65	25,000	1,100	5,000	2,200	11,000	13,000	ND	---	
	03/17/94	8.20	30.11	57,000	1,300	5,400	2,100	11,000	1,600	2,300	---	
	06/16/94	9.41	28.90	57,000	1,600	6,000	2,000	13,000	3,000	210	---	
	09/22/94	11.13	27.18	39,000	1,300	2,100	1,500	7,100	ND	ND	---	
	12/15/94	7.15	31.16	30,000	1,100	4,700	1,600	10,000	3,100	ND	---	b
	03/30/95	6.09	32.22	30,000	1,400	4,000	1,500	11,000	3,100	ND	---	b, c
	06/20/95	7.30	31.01	28,000	1,100	2,300	1,100	8,300	2,100	NC	---	
	09/20/95	10.02	28.29	40,000	840	3,600	1,300	8,600	2,600	NC	---	
	12/06/95	11.64	26.67	38,000	920	3,200	1,500	9,400	6,400	ND	---	b
	03/21/96	6.87	31.44	48,000	700	4,200	1,100	8,600	---	---	---	
	09/06/96	10.50	27.81	41,000	830	2,600	2,100	12,000	4,100	<1,000	<250	
S-2	05/28/93	9.51	29.28	---	---	---	---	---	---	---	---	
38.79	06/03/93	9.51	29.28	---	---	---	---	---	---	---	---	
	06/08/93	9.57	29.22	---	---	---	---	---	---	---	---	
	06/29/93	---	---	1,300	290	35	38	130	---	---	---	
	09/21/93	10.54	28.25	3,300	870	24	190	120	---	---	---	
	12/14/93	9.76	29.03	1,300	400	16	36	27	---	---	---	
	03/17/94	9.92	28.87	4,500	610	27	92	110	---	---	---	
	03/17/94	9.92	28.87	4,000	610	26	93	120	---	---	---	duplicate
	06/16/94	10.11	28.68	2,800	690	45	97	140	---	---	---	
	09/22/94	10.51	28.28	4,000	630	94	64	230	---	---	---	
	12/15/94	9.12	29.67	1,600	450	300	67	130	---	---	---	
	03/30/95	7.86	30.93	8,200	2,800	190	240	700	---	---	---	c
	06/20/95	9.51	29.28	9,600	2,600	160	170	500	---	---	---	
	09/20/95	10.06	28.73	4,200	920	45	98	140	---	NC	---	

Table 1. Ground Water Elevation and Analytic Data - Shell Service Station #204-5508-3400, 4411 Foothill Boulevard, Oakland, California

Well ID and Elevation (ft-msl)	Date	Depth to Water (feet)	Ground Water Elevation (ft-msl)	TPHg (8015) (ppb)	Benzene (8020) (ppb)	Toluene (8020) (ppb)	Ethylbenzene (8020) (ppb)	Xylenes (8020) (ppb)	TEPH (8015) (ppb)	Motor Oil (8015) (ppb)	MTBE (8260) (ppb)	Notes
	12/06/95	10.52	28.27	ND	790	67	64	130	---	---	---	d
	03/21/96	8.60	30.19	3,700	850	45	96	170	---	---	---	
	09/06/96	10.50	28.29	2,400	500	33	39	84	---	---	490	
S-3	05/28/93	8.45	28.88	---	---	---	---	---	---	---	---	
37.33	06/03/93	8.36	28.97	---	---	---	---	---	---	---	---	
	06/08/93	8.41	28.92	---	---	---	---	---	---	---	---	
	06/29/93	---	---	29,000	1,500	1,800	950	6,200	---	---	---	
	09/21/93	10.08	27.25	15,000	900	2,200	2,600	11,000	---	---	---	
	12/94/93	8.80	28.53	20,000	1,100	2,400	1,800	8,500	---	---	---	
	03/17/94	8.34	28.99	14,000	580	190	750	1,700	---	---	---	
	06/16/94	9.12	28.21	20,000	700	690	1,400	4,100	---	---	---	
	06/16/94	---	---	19,000	680	560	1,300	3,700	---	---	---	duplicate
	09/22/94	10.27	27.06	24,000	630	1,100	1,400	5,700	---	---	---	
	09/22/94	---	---	25,000	720	1,100	1,500	6,100	---	---	---	duplicate
	12/15/94	7.81	29.52	18,000	520	800	1,100	4,200	---	---	---	
	12/15/94	---	---	23,000	1,000	1,900	2,000	8,600	---	---	---	duplicate
	03/30/95	7.06	30.27	8,800	360	730	700	3,700	---	---	---	c
	03/30/95	---	---	7,600	330	570	600	2,600	---	---	---	e, duplicate
	06/20/95	8.15	29.18	9,600	510	170	960	1,700	---	---	---	
	06/20/95	---	---	9,800	500	170	950	1,700	---	---	---	duplicate
	09/20/95	9.32	28.01	21,000	400	560	1,300	4,600	---	---	---	
	12/06/95	10.53	26.80	24,000	630	1,400	1,400	6,000	---	---	---	
	12/06/95	---	---	22,000	630	1,200	1,400	5,500	---	---	---	duplicate
	03/21/96	7.32	30.01	9,100	290	110	490	1,600	---	---	---	
	03/21/96	---	---	11,000	310	250	540	2,100	---	---	---	duplicate
	09/06/96	10.10	27.23	15,000	440	300	1,100	3,000	---	---	500	e
	09/06/96	---	---	11,000	490	170	820	1,500	---	---	700	e, duplicate

Table 1. Ground Water Elevation and Analytic Data - Shell Service Station #204-5508-3400, 4411 Foothill Boulevard, Oakland, California

Well ID and Elevation (ft-msl)	Date	Depth to Water (feet)	Ground Water Elevation (ft-msl)	TPHg (8015) (ppb)	Benzene (8020) (ppb)	Toluene (8020) (ppb)	Ethylbenzene (8020) (ppb)	Xylenes (8020) (ppb)	TEPH (8015) (ppb)	Motor Oil (8015) (ppb)	MTBE (8260) (ppb)	Notes

Abbreviations:

NA = Information not available.
TPHg = Total petroleum hydrocarbons as gasoline
TEPH = Total extractable petroleum hydrocarbons
ppb = Parts per billion
--- = Not measured and/or analyzed
ND = Not detected
NC = Not calculated, TPH as motor oil included with TEPH analysis.
8015 = EPA Method 8015M
8020 = EPA Method 8020
8260 = EPA Method 8260

a. Phenolic and napthalene compounds detected in Sample S-1 by semi-volatile organics (
b. Laboratory noted that concentrations appears to be a lighter hydrocarbon than diesel.
c. National Environmental Testing, Inc., analyzed within hold time but further dilutions were analyzed out of hold time. NET suggests that these should be considered minimum con
d. Sample result is ND, but laboratory reporting limit for this analysis is 5,000 ppb.
e. MTBE not detected on EPA Method 8260 confirmation analysis, therefore, MTBE may n be in ground water.

BLAINE
TECH SERVICES INC.

985 TIMOTHY DRIVE
SAN JOSE, CA 9513
(408) 995-553
FAX (408) 293-877

October 4, 1996

Shell Oil Company
P.O. Box 4023
Concord, CA 94524

Attn: R. Jeff Granberry

Shell WIC #204-5508-3400
4411 Foothill Blvd.
Oakland, California

3rd Quarter 1996

Quarterly Groundwater Monitoring Report 960906-K-2

Blaine Tech Services, Inc. performs environmental sampling and documentation as an independent third party. Copies of our Sampling Report along with the laboratory's Certified Analytical Report are forwarded to the consultant overseeing work at this site. Submission of the assembled documents to interested regulatory agencies will be made by the designated consultant.

Groundwater monitoring at this site was performed in accordance with Standard Operating Procedures provided to the interested regulatory agencies. If you have any questions about the work performed at this site please call me at (408) 995-5535 ext. 201.

Yours truly,

Francis Thie

attachments: Table of Well Gauging Data
Chain of Custody
Field Data Sheets
Certified Analytical Report

cc: Cambria Environmental Technology, Inc.
1144 65th Street, Suite C
Oakland, CA 94608
Attn: Scott MacLeod

(Any professional evaluations or recommendations will be made by the consultant under separate cover.)

TABLE OF WELL GAUGING DATA

WELL I.D.	DATA COLLECTION DATE	MEASUREMENT REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLES LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLES LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
S-1	9/6/96	TOB	ODOR	--	--	--	10.50	24.13
S-2	9/6/96	TOB	ODOR	--	--	--	10.50	22.43
S-3 *	9/6/96	TOB	ODOR	--	--	--	10.10	20.60

* Sample DUP was a duplicate sample taken from well S-3.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 960908-K2

Date: 9/6
Page 1 of 1

Site Address: 4411 Foothill Blvd., Oakland

WIC#: 204-5508-3400

Shell Engineer: R. Jeff Granberry
Phone No.: (510) 675-6168
Fax #: 675-6160

Consultant Name & Address: Blaine Tech Services, Inc.
985 Timothy Drive San Jose, CA 95133

Consultant Contact: Jim Keller
Phone No.: (408) 995-5535
Fax #: 293-8773

Comments:

Sampled by: KCB
Printed Name: Keith Brown

LAB: Severn

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	MTBE	Motor Oil	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
A-E S-1	9/6					5		X				X	X	X					Confirm Highest	
A-C S-2	↓					3						X	X						MTBE Hit by 8260	
S-3						↓						X	X							
DUP												X	X							
EB	↓					↓						X	X						9609379	

Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:
	Keith Brown	9-9-96	1015	Michael Mesa	M. Mesa	9-9-96	1015
Relinquished By (signature): Michael Mesa	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:
Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature): A. Abad	Printed Name: A. Abad	Date: 9/9/96	Time: 12:06

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

CHECK ONE (1) BOX ONLY	CT/DI	TURN AROUND TIME
Quarterly Monitoring	X 6441	24 hours ☐
Site Investigation	☐ 6441	48 hours ☐
Soil Closure/Disposal	☐ 6442	15 days X (Normal)
Water Closure/Disposal	☐ 6443	Other ☐
Soil/Air Rem. or Sys. O & M	☐ 6462	NOTE: Notify Lab as soon as Possible of 24/48 hr. TAT.
Water Rem. or Sys. O & M	☐ 6463	
Other	☐	

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Technical Services
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Project: Shell Oakland/960906-K2

Enclosed are the results from samples received at Sequoia Analytical on September 9, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9609379 -01	LIQUID, S-1	09/06/96	TPGBMW Purgeable TPH/BTEX
9609379 -01	LIQUID, S-1	09/06/96	TPHD_W Extractable TPH
9609379 -01	LIQUID, S-1	09/06/96	TPHMOW Fuel Fingerprint/Mo
9609379 -02	LIQUID, S-2	09/06/96	TPGBMW Purgeable TPH/BTEX
9609379 -03	LIQUID, S-3	09/06/96	TPGBMW Purgeable TPH/BTEX
9609379 -04	LIQUID, DUP	09/06/96	MTBEMW Methyl t-Butyl Ethe
9609379 -04	LIQUID, DUP	09/06/96	TPGBMW Purgeable TPH/BTEX
9609379 -05	LIQUID, EB	09/06/96	TPGBMW Purgeable TPH/BTEX

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Technical Services
985 Timothy Drive
San Jose, CA 95133

Attention: Jim Keller

Client Proj. ID: Shell Oakland/960906-K2
Sample Descript: S-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9609379-01

Sampled: 09/06/96
Received: 09/09/96

Analyzed: 09/16/96
Reported: 09/22/96

QC Batch Number: GC091696BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**5000**	**41000**
Methyl t-Butyl Ether	250	N.D.
Benzene	**50**	**830**
Toluene	**50**	**2600**
Ethyl Benzene	**50**	**2100**
Xylenes (Total)	**50**	**12000**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	112

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Technical Services	Client Proj. ID: Shell Oakland/960906-K2	Sampled: 09/06/96
985 Timothy Drive	Sample Descript: S-1	Received: 09/09/96
San Jose, CA 95133	Matrix: LIQUID	Extracted: 09/12/96
	Analysis Method: EPA 8015 Mod	Analyzed: 09/18/96
Attention: Jim Keller	Lab Number: 9609379-01	Reported: 09/22/96

QC Batch Number: GC0912960HBPEXB
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	**100**	**4100**
Chromatogram Pattern:		**C9-C24**

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	125

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Technical Services	Client Proj. ID: Shell Oakland/960906-K2	Sampled: 09/06/96
985 Timothy Drive	Sample Descript: S-1	Received: 09/09/96
San Jose, CA 95133	Matrix: LIQUID	Extracted: 09/12/96
	Analysis Method: EPA 8015 Mod	Analyzed: 09/18/96
Attention: Jim Keller	Lab Number: 9609379-01	Reported: 09/22/96

QC Batch Number: GC0912960HBPEXB
Instrument ID: GCHP4B

Fuel Fingerprint : Motor Oil

Analyte	Detection Limit ug/L	Sample Results ug/L
Extractable HC as Motor Oil	1000	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	125

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Technical Services	Client Proj. ID: Shell Oakland/960906-K2	Sampled: 09/06/96
985 Timothy Drive	Sample Descript: S-2	Received: 09/09/96
San Jose, CA 95133	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/17/96
Attention: Jim Keller	Lab Number: 9609379-02	Reported: 09/22/96

QC Batch Number: GC091796BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	2400
Methyl t-Butyl Ether	50	490
Benzene	10	500
Toluene	10	33
Ethyl Benzene	10	39
Xylenes (Total)	10	84
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	83

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Technical Services	Client Proj. ID: Shell Oakland/960906-K2	Sampled: 09/06/96
985 Timothy Drive	Sample Descript: S-3	Received: 09/09/96
San Jose, CA 95133	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/17/96
Attention: Jim Keller	Lab Number: 9609379-03	Reported: 09/22/96

QC Batch Number: GC091796BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**1250**	**15000**
Methyl t-Butyl Ether	**62**	**500**
Benzene	**12**	**440**
Toluene	**12**	**300**
Ethyl Benzene	**12**	**1100**
Xylenes (Total)	**12**	**3000**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	105

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Technical Services	Client Proj. ID: Shell Oakland/960906-K2	Sampled: 09/06/96
985 Timothy Drive	Sample Descript: DUP	Received: 09/09/96
San Jose, CA 95133	Matrix: LIQUID	
	Analysis Method: EPA 8260	Analyzed: 09/19/96
Attention: Jim Keller	Lab Number: 9609379-04	Reported: 09/22/96

QC Batch Number: MS091996MTBEF3A
Instrument ID: F3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	20	N.D.

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	105

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Technical Services	Client Proj. ID: Shell Oakland/960906-K2	Sampled: 09/06/96
985 Timothy Drive	Sample Descript: DUP	Received: 09/09/96
San Jose, CA 95133	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/17/96
Attention: Jim Keller	Lab Number: 9609379-04	Reported: 09/22/96

QC Batch Number: GC091796BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1250	11000
Methyl t-Butyl Ether	62	700
Benzene	12	490
Toluene	12	170
Ethyl Benzene	12	820
Xylenes (Total)	12	1500
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	139 Q

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

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Blaine Technical Services	Client Proj. ID: Shell Oakland/960906-K2	Sampled: 09/06/96
985 Timothy Drive	Sample Descript: EB	Received: 09/09/96
San Jose, CA 95133	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/16/96
Attention: Jim Keller	Lab Number: 9609379-05	Reported: 09/22/96

QC Batch Number: GC091696BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

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Blaine Technical Services	Client Proj. ID: Shell Oakland/960906-K2	Received: 09/09/96
985 Timothy Drive		
San Jose, CA 95133	Lab Proj. ID: 9609379	Reported: 09/22/96
Attention: Jim Keller		

LABORATORY NARRATIVE

Please note: MTBE did not confirm by EPA method 8260 therefore all MTBE results at this site should be considered suspect. The 8260 analysis was shortened after MTBE was determained not to be present in the sample therefore some of the surrogates associated with the 8260 analysis were not quantitated.

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell, Oakland / 960906-K2
Matrix: Liquid
Work Order #: 9609379 -01, 05

Reported: Sep 26, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC091696BTEX02A	GC091696BTEX02A	GC091696BTEX02A	GC091696BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	R. Burton	R. Burton	R. Burton	R. Burton
MS/MSD #:	960909602	960909602	960909602	960909602
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/16/96	9/16/96	9/16/96	9/16/96
Analyzed Date:	9/16/96	9/16/96	9/16/96	9/16/96
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	10	9.6	32
MS % Recovery:	110	100	96	107
Dup. Result:	12	11	10	34
MSD % Recov.:	120	110	100	113
RPD:	8.7	9.5	4.1	6.1
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	BLK091696	BLK091696	BLK091696	BLK091696
Prepared Date:	9/16/96	9/16/96	9/16/96	9/16/96
Analyzed Date:	9/16/96	9/16/96	9/16/96	9/16/96
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	10	9.3	8.8	29
LCS % Recov.:	100	93	88	97
MS/MSD Control Limits	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

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Blaine Tech Services, Inc.	Client Project ID:	Shell, Oakland / 960906-K2	
985 Timothy Drive	Matrix:	Liquid	
San Jose, CA 95133			
Attention: Jim Keller	Work Order #:	9609379-02-04	Reported: Sep 26, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC091796BTEX03A	GC091796BTEX03A	GC091796BTEX03A	GC091796BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	G. Fish	G. Fish	G. Fish	G. Fish
MS/MSD #:	960940408	960940408	960940408	960940408
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/17/96	9/17/96	9/17/96	9/17/96
Analyzed Date:	9/17/96	9/17/96	9/17/96	9/17/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.7	8.9	8.8	28
MS % Recovery:	97	89	88	93
Dup. Result:	9.7	9.0	8.7	28
MSD % Recov.:	97	90	87	93
RPD:	0.0	1.1	1.1	0.0
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK091796	BLK091796	BLK091796	BLK091796
Prepared Date:	9/17/96	9/17/96	9/17/96	9/17/96
Analyzed Date:	9/17/96	9/17/96	9/17/96	9/17/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.8	9.3	8.8	29
LCS % Recov.:	98	93	88	97

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

Please Note:
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** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

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Blaine Tech Services, Inc.	Client Project ID:	Shell, Oakland / 960906-K2	
985 Timothy Drive	Matrix:	Liquid	
San Jose, CA 95133			
Attention: Jim Keller	Work Order #:	9609379-01	Reported: Sep 26, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Diesel
QC Batch#:	GC0912960HBPEXB
Analy. Method:	EPA 8015M
Prep. Method:	EPA 3510
Analyst:	B. Sullivan
MS/MSD #:	BLK091296
Sample Conc.:	N.D.
Prepared Date:	9/12/96
Analyzed Date:	9/18/96
Instrument I.D.#:	GCHP4
Conc. Spiked:	1000 µg/L
Result:	1100
MS % Recovery:	110
Dup. Result:	1100
MSD % Recov.:	110
RPD:	0.0
RPD Limit:	0-50

LCS #:	-
Prepared Date:	-
Analyzed Date:	-
Instrument I.D.#:	-
Conc. Spiked:	-
LCS Result:	-
LCS % Recov.:	-

MS/MSD	50-150
LCS	60-140
Control Limits	

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

Please Note:
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Tech Services, Inc.	Client Project ID:	Shell, Oakland / 960906-K2	
985 Timothy Drive	Matrix:	Liquid	
San Jose, CA 95133			
Attention: Jim Keller	Work Order #:	9609379-04	Reported: Sep 26, 1996

QUALITY CONTROL DATA REPORT

Analyte:	MTBE
QC Batch#:	MS0919968260F3A
Analy. Method:	EPA 8260
Prep. Method:	N/A
Analyst:	L. Zhu
MS/MSD #:	960935702
Sample Conc.:	410
Prepared Date:	-
Analyzed Date:	9/19/96
Instrument I.D.#:	F3
Conc. Spiked:	50 µg/L
Result:	57
MS % Recovery:	106
Dup. Result:	56
MSD % Recov.:	104
RPD:	1.8
RPD Limit:	0-25

LCS #:	VDB091996
Prepared Date:	-
Analyzed Date:	9/19/96
Instrument I.D.#:	F3
Conc. Spiked:	50 µg/L
LCS Result:	52
LCS % Recov.:	104

MS/MSD	60-140
LCS	70-130
Control Limits	

SEQUOIA ANALYTICAL

Reggy Penner
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

WELL GAUGING DATA

Project # 980908-162 Date 9/6 Client Shell

Site 4411 Foothill Blvd, Oakland

Well I.D.	Well Size (in.)	Sheen/ Odor	Depth to Immiscible Liquid (feet)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to Water (feet)	Depth to Well Bottom (feet)	Survey Point: TOB or TOC
S-1	4	odor				1050	2413	TOB
S-2	4					1050	2843	
S-3	4					1010	2060	

SHELL WELL MONITORING DATA SHEET

Project #: 960906-1C2	WIC #: 204-5508-3402
Sampler: KCB	Date: 9/6
Well I.D.: S-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 24.13	Depth to Water: 10.50
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
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius² * 0.163

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

Sampling Method: Bailer / Extraction Port / Other: ___

8.9 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 26.7 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1121	70.0	6.8	800	28.2	9.0	very strong
1122	71.4	6.6	770	104.8	18.0	gas odor
1124	70.8	6.6	790	91.2	27.0	

Did well dewater? Yes (No) Gallons actually evacuated: 27.0

Sampling Time: 1130 Sampling Date: 9/6

Sample I.D.: S-1 Laboratory: (Sequoia) Crosby

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

Equipment Blank I.D.: @ Time Duplicate I.D.:

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

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

SHELL WELL MONITORING DATA SHEET

Project #: 96906-K2	WIC #: 204-5508-3400
Sampler: KCB	Date: 9/6
Well I.D.: S-2	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 22.43	Depth to Water: 10.50
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (TOC) Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius² * 0.163

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

Sampling Method: Bailer / Extraction Port / Other: ___

7.8 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 23.4 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1048	73.8	6.7	1200	45.2	8.0	strong gas odor
1049	73.4	6.5	1000	34.8	16.0	
1051	73.0	6.5	1000	71.8	24.0	grayish

Did well dewater? Yes (No) Gallons actually evacuated: 24.0

Sampling Time: 1055 Sampling Date: 9/6

Sample I.D.: S-2 Laboratory: (Sequoia) Crosby

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

Equipment Blank I.D.: @ Time Duplicate I.D.:

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

D.O. (if req'd): Pre-purge: ___ mg/L Post-purge: ___ mg/L

SHELL WELL MONITORING DATA SHEET

Project #: 960906-K2	WIC #: 204-5508-3400
Sampler: KCB	Date: 9/6
Well I.D.: S-3	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 20.60	Depth to Water: 10.10
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
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius² * 0.163

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

Sampling Method: Bailer / Extraction Port / Other: ___

6.8 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 20.4 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1004	72.2	6.6	900	80.2	7.0	strong gas
1105	72.8	6.6	840	74.2	14.0	odor
1107	72.4	6.6	820	102.3	21.0	

Did well dewater? Yes (No)	Gallons actually evacuated: 21.0
Sampling Time: 1110	Sampling Date: 9/6
Sample I.D.: S-3	Laboratory: (Sequoia) Crosby
Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D	Other:
Equipment Blank I.D.: EB @ 1100 Time	Duplicate I.D.: DUP
Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D	Other:
D.O. (if req'd): Pre-purge: ___ mg/L	Post-purge: ___ mg/L

WELL HEAD INSPECTION CHECKLIST AND REPAIR ORDER

Client Shell Site # 204-5508-3400 Inspection date: 9/6

Site address 4411 Foothill Blvd Inspected by: KGB

Oakland BTS Event # 960906-K2

1. Lid on the box? Yes No	5. Water standing in the well box?	7. Can cap be pulled loose?
2. Lid whole?	5a. Standing above well top?	8. Can cap seal out water?
3. Lid secure?	5b. Standing below well top?	9. Padlock present?
4. Lid seal intact?	5c. Water even with top of well cap?	10. Padlock found locked?
	6. Well cap/plug present?	11. Padlock functional?

☐ Check box if *no deficiences* were found. Note below deficiencies you were able to correct.

Well I.D.	Deficiency	Corrective Action Taken

Note below all deficiences that could not be corrected and *still need to be corrected.*

Well I.D.	Persisting Deficiency

BTS Office assigns or defers Correction to:	Date assigned	Date corrected

Office review and assignments made by _____ date _____

Blaine Tech Services, Inc. File WELLCHK.s