CAMBRIA

April 22, 1999

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

Re: **Fourth Quarter 1998 Monitoring Report**
Shell-branded Service Station
610 Market Street
Oakland, California
Incident #99895750
Cambria Project# 24-314-498

STID 4017

Dear Mr. Seto:

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

FOURTH QUARTER 1998 ACTIVITIES

Monitoring Well Installation: On November 17, 1998, Cambria supervised the installation of ground water monitoring wells MW-1, MW-2, and MW-3. A summary of well installlation activities is presented in Cambria's April 20, 1999 *Well Installation Report.*

Well Head Elevation Surveying: On December 9, 1998, Virgil Chavez Surveying (Chavez) of Vallejo, California surveyed top-of-casing (TOC) elevations for wells MW-1, MW-2, and MW-3. The survey results are presented as Attachment B.

Ground Water Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, California gauged, developed and sampled wells MW-1, MW-2, and MW-3. Blaine calculated ground water elevations and compiled the analytical data. Cambria prepared a ground water elevation contour map (Figure 1). The Blaine report, presenting the laboratory report, is included as Attachment A.

Oakland, CA
Sonoma, CA
Portland, OR
Seattle, WA

Cambria Environmental Technology, Inc.

1144 65th Street
Suite B
Oakland, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

ANTICIPATED FIRST QUARTER 1999 ACTIVITIES

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

CLOSING

We appreciate the opportunity to work with you on this project. Please call Brian Busch at (510) 420-3312 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc

Brian Busch
Project Environmental Scientist

Ailsa S. Le May, R.G.
Senior Geologist

REGISTERED GEOLOGIST
AILSA S. LE MAY
NO. 6717
STATE OF CALIFORNIA

Figure 1: Ground Water Elevation Contour Map
Attachment: A - Blaine Ground Water Monitoring Report
B - Chavez Survey Results

cc: Karen Petryna, Equiva Services LLC, P.O. Box 6249, Carson, California 90749-6249

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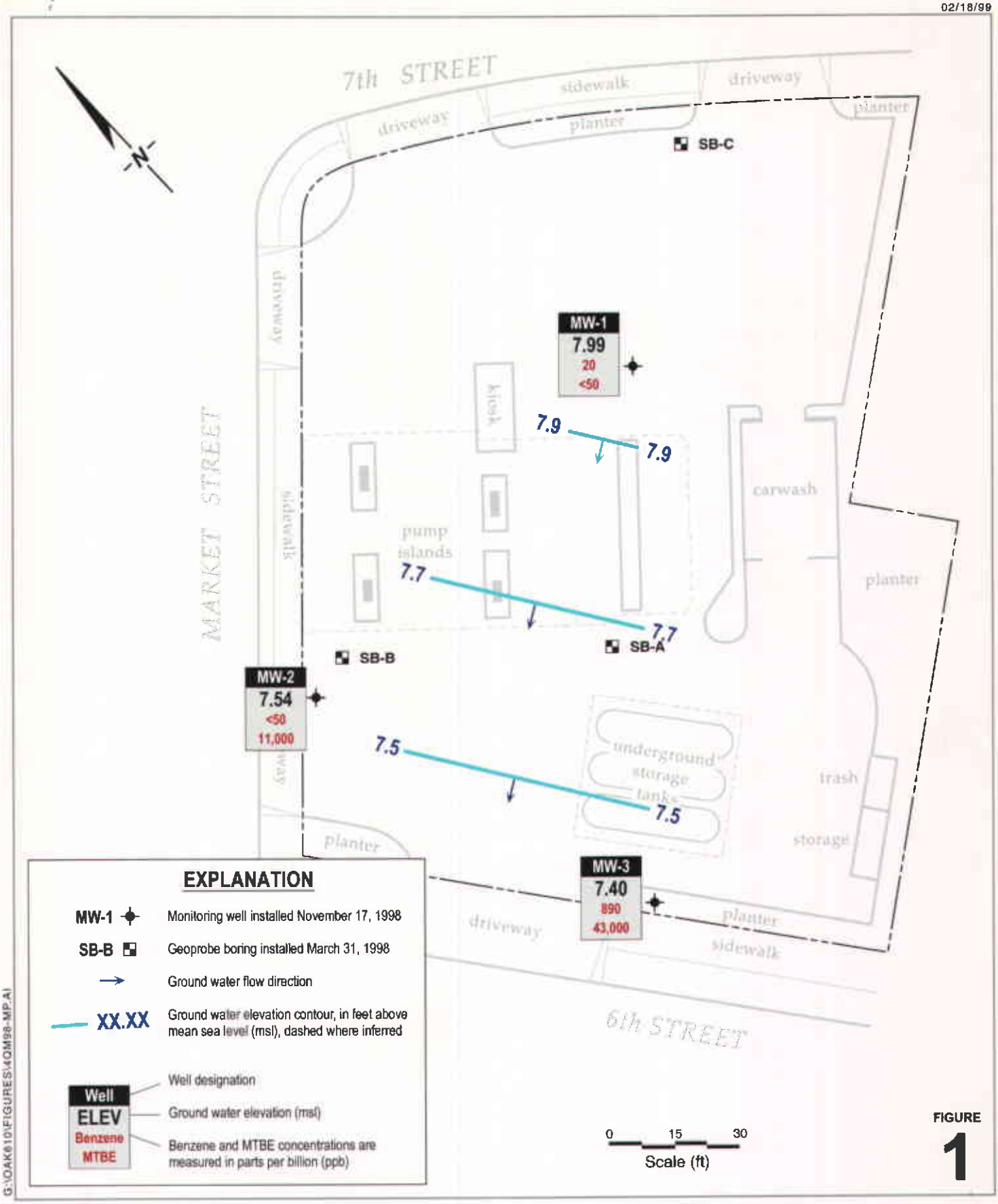
02/18/99



G:\OAK610\FIGURES\4QM98-MP.AI

FIGURE
1

Shell-branded Service Station
610 Market Street
Oakland, California
Incident #98995750

CAMBRIA

Ground Water Elevation Contour Map

December 17, 1998

ATTACHMENT A

Blaine Ground Water Monitoring Report

BLAINE
TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CA 95112-1105
(408) 573-7771 FAX
(408) 573-0555 PHONE

February 8, 1999

Karen Petryna
Equiva Services LLC
P.O. Box 6249
Carson, CA 90749-6249

Fourth Quarter 1998 Groundwater Monitoring at
SHELL -branded Service Station
610 Market Street
Oakland, CA

Monitoring performed on December 17, 1998

Groundwater Monitoring Report **981217-Z-2**

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, apprioriate 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 Shell Martinez Manufacturing Complex.

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. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. concentrates on objective data collection and does not participate in the interpretation of analytical results, the definition of geological or hydrological conditions, the formulation of recommendations, or the marketing of remedial systems.

Please call if you have any questions.

Yours truly,

Deidre Kerwin
Operations Manager

DK/mt

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

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

WELL CONCENTRATIONS
Shell-branded Service Station
610 Market Street
Oakland, California

Well ID	Date	TPHg (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)
MW-1	12/17/1998	2200	20	<10	110	420	<50	NA	21.70	13.71	7.99
MW-2	12/17/1998	<5000	<50	<50	<50	<50	11,000	NA	19.61	12.07	7.54
MW-3	12/17/1998	30,000	890	110	2100	4300	42,000	43,000	19.05	11.65	7.40

Abbreviations:
TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
BTEX = benzene, toluene, ethylbenzene, xylenes by EPA Method 8020
MTBE = methyl-tertiary-butyl ether by EPA Method 8020
TOC = Top of Casing Elevation
GW = Groundwater
ug/L = parts per billion
msl = Mean sea level
ft = Feet
<n = Below detection limit

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112
Attention: Francis Thie

Project: Shell 610 Market St.

Enclosed are the results from samples received at Sequoia Analytical on December 18, 1998. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9812C60 -01	LIQUID, MW-1	12/17/98	TPPH/BTEX/MTBE (Concord)
9812C60 -02	LIQUID, MW-2	12/17/98	TPPH/BTEX/MTBE (Concord)
9812C60 -03	LIQUID, MW-3	12/17/98	TPPH/BTEX/MTBE (Concord)
9812C60 -03	LIQUID, MW-3	12/17/98	CMTBMW Methyl t-Butyl Ethe

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, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
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Blaine Tech Services	Client Proj. ID: Shell 610 Market St.	Sampled: 12/17/98
1680 Rogers Avenue	Sample Descript: MW-1	Received: 12/18/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/29/98
Attention: Francis Thie	Lab Number: 9812C60-01	Reported: 01/05/99

QC Batch Number: GC122998BTEX09A
nstrument ID: GCHP9

Total Purgeable Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**1000**	**2200**
Methyl t-Butyl Ether	50	N.D.
Benzene	**10**	**20**
Toluene	10	N.D.
Ethyl Benzene	**10**	**110**
Xylenes (Total)	**10**	**420**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93

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

SEQUOIA ANALYTICAL - ELAP #1271

'eggy Penner
'roject Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services	Client Proj. ID: Shell 610 Market St.	Sampled: 12/17/98
1680 Rogers Avenue	Sample Descript: MW-2	Received: 12/18/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/29/98
Attention: Francis Thie	Lab Number: 9812C60-02	Reported: 01/05/99

QC Batch Number: GC122998BTEX09A
Instrument ID: GCHP9

Total Purgeable Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	5000	N.D.
Methyl t-Butyl Ether	**250**	**11000**
Benzene	50	N.D.
Toluene	50	N.D.
Ethyl Benzene	50	N.D.
Xylenes (Total)	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 #1271

Peggy Penner
Project Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services	Client Proj. ID: Shell 610 Market St.	Sampled: 12/17/98
1680 Rogers Avenue	Sample Descript: MW-3	Received: 12/18/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/29/98
Attention: Francis Thie	Lab Number: 9812C60-03	Reported: 01/05/99

QC Batch Number: GC122998BTEX09A
nstrument ID: GCHP9

Total Purgeable Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**30000**
Methyl t-Butyl Ether	**2.5**	**42000**
Benzene	**0.50**	**890**
Toluene	**0.50**	**110**
Ethyl Benzene	**0.50**	**2100**
Xylenes (Total)	**0.50**	**4300**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	96

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

SEQUOIA ANALYTICAL - ELAP #1271

Peggy Penner
Project Manager

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services	Client Proj. ID: Shell 610 Market St.	Sampled: 12/17/98
1680 Rogers Avenue	Sample Descript: MW-3	Received: 12/18/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: EPA 8260	Analyzed: 12/31/98
Attention: Francis Thie	Lab Number: 9812C60-03	Reported: 01/05/99

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	**2.0**	**43000**

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	Q
Toluene-d8	88	110	Q
4-Bromofluorobenzene	86	115	99

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

SEQUOIA ANALYTICAL - ELAP #1271

Peggy Penner
Project Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services, Inc.
1680 Rogers Ave.
San Jose, CA 95112
Attention: Francis Thie

Client Project ID: Shell 610 Market St.
Matrix: Liquid
Work Order #: 9812C60 -01-03
Reported: Jan 6, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	BTEX as TPH
QC Batch#:	GC122998802009A	GC122998802009A	GC122998802009A	GC122998802009A	GC122998802009A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater	C. Westwater
MS/MSD #:	8121721	8121721	8121721	8121721	8121721
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98
Analyzed Date:	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98
Instrument I.D.#:	HP9	HP9	HP9	HP9	HP9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	340 µg/L
Result:	21	22	22	69	420
MS % Recovery:	105	110	110	115	124
Dup. Result:	21	22	22	69	410
MSD % Recov.:	105	110	110	115	121
RPD:	0.0	0.0	0.0	0.0	2.4
RPD Limit:	0-20	0-20	0-20	0-20	0-50

LCS #:	LCS122998	LCS122998	LCS122998	LCS122998	LCS122998
Prepared Date:	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98
Analyzed Date:	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98
Instrument I.D.#:	HP9	HP9	HP9	HP9	HP9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	340 µg/L
LCS Result:	20	21	21	66	310
LCS % Recov.:	100	105	105	110	91
MS/MSD Control Limits	60-140	60-140	60-140	60-140	50-150
LCS Control Limits	70-130	70-130	70-130	70-130	

SEQUOIA ANALYTICAL
Elap #1271

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

Sequoia Analytical

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Blaine Tech Services, Inc.	Client Project ID:	Shell 610 Market St.	
1680 Rogers Ave.	Matrix:	Liquid	
San Jose, CA 95112			
Attention: Francis Thie	Work Order #:	9812C60-01	Reported: Jan 6, 1999

QUALITY CONTROL DATA REPORT

Analyte:	MTBE
QC Batch#:	MS1230988260S2A
Analy. Method:	EPA 8260
Prep. Method:	EPA 5030
Analyst:	N. Nelson
MS/MSD #:	8121903
Sample Conc.:	8.5
Prepared Date:	12/31/98
Analyzed Date:	12/31/98
Instrument I.D.#:	GCMS2
Conc. Spiked:	50 µg/L
Result:	132
MS % Recovery:	94
Dup. Result:	135
MSD % Recov.:	100
RPD:	2.2
RPD Limit:	0-25

LCS #:	LCS123098
Prepared Date:	12/30/98
Analyzed Date:	12/30/98
Instrument I.D.#:	GCMS2
Conc. Spiked:	50 µg/L
LCS Result:	51
LCS % Recov.:	102

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

SEQUOIA ANALYTICAL
Elap #1271

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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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Francis Thie	Client Proj. ID: Shell 610 Market St. Lab Proj. ID: 9812C60	Received: 12/18/98 Reported: 01/05/99

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 7 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 98217-22

Date:
Page 1 of 1

Site Address: 610 Market St., Oakland CA

WIC#: 204-5508-5702

Shell Engineer: Karen Petryna
Phone No.:
Fax #:

Consultant Name & Address: Blaine Tech Services, Inc, 1680 Rogers Ave., San Jose, CA 95112

Consultant Contact: Francis Thie
Phone No.: (408) 573-0555
Fax #: 573-7771

Comments: 98217-22

Sampled by: Jeremy

Printed Name:

Analysis Required 9812 C60

LAB: Sequoia

CHECK ONE (1) BOX ONLY	CT/DT
G.W. Monitoring	4461
Site Investigation	4441
Soil Classify/Disposal	4442
Water Classify/Disposal	4443
Soil/Air Rem. or Sys. O & M	4452
Water Rem. or Sys. O & M	4453
Other	

TURN AROUND TIME: 24 hours ☐ 48 hours ☐ 15 days ☐ (Normal) Other ☐ ____

NOTE: Notify Lab as soon as Possible of 24/48 hr. TAT.

UST AGENCY: BTS

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602) / MTBE	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW1 01	12/17			W		3	X		X								* Confirm	highest
MW2 02	"			"		"	X		X								MTBE	hit DE 18 1 42
MW3 03	"			"		"	X		X								by 8260	

Relinquished by (signature):	Printed Name:	Date: 12-18-98 Time: 12:30	Received (signature):	Printed Name: CHARLES ARMSTRONG	Date: 12-18-98 Time: 12:30
Relinquished by (signature):	Printed Name: CHARLES ARMSTRONG	Date: 12-18-98 Time:	Received (signature):	Printed Name:	Date: Time:
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):	Printed Name: MIKE JONG	Date: 12/18/98 Time: 1242

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

End Of One of Copies

ATTACHMENT B

Chavez Survey Results

Virgil Chavez Land Surveying

312 Georgia Street, Suite 200
Vallejo, California 94590
(707) 553-2476 • Fax (707) 553-8698

December 11, 1998
Project No. 1603-30

Brian Busch
Cambria Environmental
1144 65th Street, Suite C
Oakland, Ca. 94608

Subject: Monitoring Well Survey
Shell Service Station
610 Market Street
Oakland, Ca.

Dear Brian:

This is to confirm that we have proceeded at your request to survey the new ground water monitoring wells located at the above referenced location. The survey was performed on December 09, 1998. Our findings are shown in the table below. The elevations are based on Mean Sea Level, as per information provided by the City of Oaklnd.

Monitoring Well No.	Rim Elevation	Top of Casing Elevation
MW - 1	22.02′	21.70′
MW - 2	19.93′	19.61′
MW - 3	19.53′	19.05′

LICENSED LAND SURVEYOR
VIRGIL D. CHAVEZ
No. 6323
Exp. 12-31-02
STATE OF CALIFORNIA

Sincerely,

Virgil D. Chavez

Virgil D. Chavez, P.L.S. 6323