

June 13, 1994

Shell Oil Company
P.O. Box 5278
Concord, CA 94520-9998

Attn: Lynn Walker

SITE:
Shell WIC #204-1381-0407
2724 Castro Valley Blvd.
Castro Valley, California

QUARTER:
2nd quarter of 1994

QUARTERLY GROUNDWATER SAMPLING REPORT 940526-L-1

This report contains data collected during routine inspection, gauging and sampling of groundwater monitoring wells performed by Blaine Tech Services, Inc. in response to the request of the consultant who is overseeing work at this site on behalf of our mutual client, Shell Oil Company. Data collected in the course of our field work is presented in a **TABLE OF WELL GAUGING DATA**. The field information was collected during our preliminary gauging and inspection of the wells, the subsequent evacuation of each well prior to sampling, and at the time of sampling.

Measurements taken include the total depth of the well and the depth to water. The surface of water was further inspected for the presence of immiscibles which may be present as a thin film (a sheen on the surface of the water) or as a measurable free product zone (FPZ). At intervals during the evacuation phase, the purge water was monitored with instruments that measure electrical conductivity (EC), potential hydrogen (pH), temperature (degrees Fahrenheit), and turbidity (NTU). In the interest of simplicity, fundamental information is tabulated here, while the bulk of the information is turned over directly to the consultant who is making professional interpretations and evaluations of the conditions at the site.

STANDARD PROCEDURES

Evacuation

Groundwater wells are thoroughly purged before sampling to insure that the sample is collected from water that has been newly drawn into the well from the surrounding geologic formation. The selection of equipment to evacuate each well is based on the physical characteristics of the well and what is known about the performance of the formation in which the well has been installed. There are several suitable devices which can be used for evacuation. The most commonly employed devices are air or gas actuated pumps, electric submersible pumps, and hand or mechanically actuated bailers. Our personnel frequently employ USGS/Middleburg positive displacement pumps or similar air actuated pumps which do not agitate the water standing in the well.

Normal evacuation removes three case volumes of water from the well. More than three case volumes of water are removed in cases where more evacuation is needed to achieve stabilization of water parameters and when requested by the local implementing agency. Less water may be obtained in cases where the well dewateres and does not recharge to 80% of its original volume within two hours and any additional time our personnel have reason to remain at the site. In such cases, our personnel return to the site within twenty four hours and collect sample material from the water which has recharged into the well case.

Decontamination

All apparatus is brought to the site in clean and serviceable condition. The equipment is decontaminated after each use and before leaving the site. Effluent water from purging and on-site equipment cleaning is collected and transported to Shell's Martinez Manufacturing Complex in Martinez, California.

Free Product Skimmer

The column headed, VOLUME OF IMMISCIBLES REMOVED (ml) is included in the TABLE OF WELL GAUGING DATA to cover situations where a free product skimming device must be removed from the well prior to gauging. Skimmers are installed in wells with a free product zone on the surface of the water. The skimmer is a free product recovery device which often prevents normal well gauging and free product zone measurements. The 2.0" and 3.0" PetroTraps fall into the category of devices that obstruct normal gauging. In cases where the consultant elects to have our personnel pull the skimmers out of the well and gauge the well, our personnel perform the additional task of draining the accumulated free product out of the PetroTrap before putting it back in the well. This

recovered free product is measured and logged in the VOLUME OF IMMISCIBLES REMOVED column. Gauging at such site is performed in accordance with specific directions from the professional consulting firm overseeing work at the site on Shell's behalf.

Sample Containers

Sample material is collected in specially prepared containers which are provided by the laboratory that performs the analyses.

Sampling

Sample material is collected in stainless steel bailer type devices normally fitted with both a top and a bottom check valve. Water is promptly decanted into new sample containers in a manner which reduces the loss of volatile constituents and follows the applicable EPA standard for handling volatile organic and semi-volatile compounds.

Following collection, samples are promptly placed in an ice chest containing prefrozen blocks of an inert ice substitute such as Blue Ice or Super Ice. The samples are maintained in either an ice chest or a refrigerator until delivered into the custody of the laboratory.

Sample Designations

All sample containers are identified with a site designation and a discrete sample identification number specific to that particular groundwater well. Additional standard notations (e.g. time, date, sampler) are also made on the label.

Chain of Custody

Samples are continuously maintained in an appropriate cooled container while in our custody and until delivered to the laboratory under a standard Shell Oil Company chain of custody. If the samples are taken charge of by a different party (such as another person from our office, a courier, etc.) prior to being delivered to the laboratory, appropriate release and acceptance records are made on the chain of custody (time, date, and signature of the person releasing the samples followed by the time, date and signature of the person accepting custody of the samples).

Hazardous Materials Testing Laboratory

The samples obtained at this site were delivered to Sequoia Analytical Laboratory in Redwood City, California. Sequoia Analytical Laboratory is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #1210.

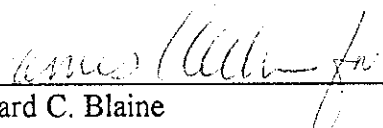
Objective Information Collection

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation 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. performs no consulting and does not become involved in the marketing or installation of remedial systems of any kind. Blaine Tech Services, Inc. is concerned only with the generation of objective information, not with the use of that information to support evaluations and recommendations concerning the environmental condition of the site. Even the straightforward interpretation of objective analytical data is better performed by interested regulatory agencies, and those engineers and geologists who are engaged in the work of providing professional opinions about the site and proposals to perform additional investigation or design remedial systems.

Reportage

Submission of this report and the attached laboratory report to interested regulatory agencies is handled by the consultant in charge of the project. Any professional evaluations or recommendations will be made by the consultant under separate cover.

Please call if we can be of any further assistance.


Richard C. Blaine

RCB/lp

attachments: table of well gauging data
chain of custody
certified analytical report

cc: Pacific Environmental Group, Inc.
2025 Gateway Place, Suite #440
San Jose, CA 95110
ATTN: Rhonda Barrick

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)
MW-1	5/26/94	TOC	--	NONE	--	--	7.56	14.70
MW-2 *	5/26/94	TOC	--	NONE	--	--	8.40	12.00
MW-3	5/26/94	TOC	--	NONE	--	--	8.74	25.24
MW-5	5/26/94	TOC	--	NONE	--	--	8.38	22.08
MW-7	5/26/94	TOC	--	NONE	--	--	6.05	16.00
OMW-6	5/26/94	TOC	--	NONE	--	--	6.89	22.05
OMW-8	5/26/94	TOC	--	NONE	--	--	7.77	19.45
OMW-9	5/26/94	TOC	--	NONE	--	--	9.68	13.88

* Sample DUP was a duplicate sample taken from well MW-2.



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 940526-11

Date: 5/26/94

Page 1 of 2

Silo Address: 2724 Castro Valley Blvd., Castro Valley

Analysis Required

LAB: SEQUOIA

WIC#: 204-1381-0407

Shell Engineer: Lynn Walker
Phone No.: (510) 675-6169
Fax #: 675-6172

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: LAD Bolger

Printed Name: LAD BOLGER

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	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-1	5/26			X		5	X					X						9405H23-01
MW-3				X		5	X					X						-02
MW-5				X		5	X					X						-03
MW-7				X		5	X					X						-04
OMW-6				X		5	X					X						-05
OMW-8				X		5	X					X						-06
OMW-9				X		5	X					X						-07
MW-2	✓			X		5	X					X						-08

Relinquished By (signature): LAD Bolger

Printed Name: LAD BOLGER

Date: 5-27-94
Time: 10:40

Received (signature): [Signature]

Printed Name: Gros Fultcher

Date: 5-27-94
Time: 10:40

Relinquished By (signature): [Signature]

Printed Name: Gros Fultcher

Date: 5-27-94
Time: 11:55

Received (signature): [Signature]

Printed Name: [Name]

Date: 5-27-94
Time: 11:55

Relinquished By (signature): [Signature]

Printed Name: [Name]

Date: 5-27-94
Time: 11:55

Received (signature): [Signature]

Printed Name: P. HUFANO

Date: 5-27-94
Time: 11:55

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



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 940526-11

Date: 5/26/94
Page 2 of 2

Silo Address: 2724 Castro Valley Blvd., Castro Valley							Analysis Required							LAB: <u>SEQUOIA</u>																							
WIC#: 204-1381-0407							<table border="1"> <tr> <td>TPH (EPA 8015 Mod. Gcs)</td> <td>TPH (EPA 8015 Mod. Diesel)</td> <td>BTEX (EPA 8020/802)</td> <td>Volatile Organics (EPA 8240)</td> <td>Test for Disposal</td> <td>Combination TPH 8015 & BTEX 8020</td> <td>Asbestos</td> <td>Container Size</td> <td>Preparation Used</td> <td>Composite Y/N</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>							TPH (EPA 8015 Mod. Gcs)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/802)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N											CHECK ONE (1) BOX ONLY		CT/DT	TURN AROUND TIME
TPH (EPA 8015 Mod. Gcs)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/802)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos								Container Size	Preparation Used	Composite Y/N																					
Quality Monitoring	<input checked="" type="checkbox"/> 6461	24 hours	<input type="checkbox"/>																																		
Site Investigation	<input type="checkbox"/> 6441	48 hours	<input type="checkbox"/>																																		
Soil Classify/Disposal	<input type="checkbox"/> 6442	15 days	<input checked="" type="checkbox"/> (Normal)																																		
Water Classify/Disposal	<input type="checkbox"/> 6443	Other	<input type="checkbox"/>																																		
Soil/Air Rem. or Sys. O & M	<input type="checkbox"/> 6462	NOTE: Notify lab as soon as possible of 24/48 hr. IAL.																																			
Water Rem. or Sys. O & M	<input type="checkbox"/> 6463																																				
Other	<input type="checkbox"/>																																				

Shell Engineer: Lynn Walker
Phone No.: (510) 675-6169
Fax #: 675-6172

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: LAD Bolner

Printed Name: LAD BOLNER

Sample ID	Date	Sludge	Soil	Water	Air	No. of conds.	TPH (EPA 8015 Mod. Gcs)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/802)	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
DUP.	5/26			X		5	X				X							940526-23-09
E.B.	↓			X		5	X				X							-10
T.B.	↓			X		2					X							-11

Relinquished By (signature): <u>LAD Bolner</u>	Printed Name: <u>LAD BOLNER</u>	Date: <u>5-27-94</u>	Time: <u>10:40</u>	Received (signature): <u>Greg Kuttcher</u>	Printed Name: <u>Greg Kuttcher</u>	Date: <u>5-27-94</u>	Time: <u>10:40</u>
Relinquished By (signature): <u>Jim Keller</u>	Printed Name: <u>Greg Kuttcher</u>	Date: <u>5-27-94</u>	Time: <u>11:55</u>	Received (signature): <u>[Signature]</u>	Printed Name:	Date:	Time:
Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature): <u>[Signature]</u>	Printed Name: <u>P. HUFANO</u>	Date:	Time:



Sequoia Analytical

680 Chesapeake Drive
1900 Bates Avenue, Suite L
819 Striker Avenue, Suite 8

Redwood City, CA 94063
Concord, CA 94520
Sacramento, CA 95834

(415) 364-9600
(510) 686-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 686-9689
FAX (916) 921-0100

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

Project: 940526-L1, Shell, 2724 Castro Valley Bl

Enclosed are the results from 11 water samples received at Sequoia Analytical on May 27, 1994. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
4EH2301	Water, MW-1	5/26/94	EPA 3510/3520/8015 Mod. EPA 5030/8015 Mod./8020
4EH2302	Water, MW-3	5/26/94	EPA 3510/3520/8015 Mod. EPA 5030/8015 Mod./8020
4EH2303	Water, MW-5	5/26/94	EPA 3510/3520/8015 Mod. EPA 5030/8015 Mod./8020
4EH2304	Water, MW-7	5/26/94	EPA 3510/3520/8015 Mod. EPA 5030/8015 Mod./8020
4EH2305	Water, OMW-6	5/26/94	EPA 3510/3520/8015 Mod. EPA 5030/8015 Mod./8020
4EH2306	Water, OMW-8	5/26/94	EPA 3510/3520/8015 Mod. EPA 5030/8015 Mod./8020
4EH2307	Water, OMW-9	5/26/94	EPA 3510/3520/8015 Mod. EPA 5030/8015 Mod./8020
4EH2308	Water, MW-2	5/26/94	EPA 3510/3520/8015 Mod. EPA 5030/8015 Mod./8020
4EH2309	Water, Dup	5/26/94	EPA 3510/3520/8015 Mod. EPA 5030/8015 Mod./8020
4EH2310	Water, E.B.	5/26/94	EPA 3510/3520/8015 Mod. EPA 5030/8015 Mod./8020
4EH2311	Water, TB	5/26/94	EPA 5030/8015 Mod./8020

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

Suzanne Chin
Project Manager





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

Client Project ID: 940526-L1, Shell, 2724 Castro Valley
Sample Matrix: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 4EH2301

Sampled: May 26, 1994
Received: May 27, 1994
Reported: Jun 7, 1994

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 4EH2301 MW-1	Sample I.D. 4EH2302 MW-3	Sample I.D. 4EH2303 MW-5	Sample I.D. 4EH2304 MW-7	Sample I.D. 4EH2305 OMW-6	Sample I.D. 4EH2306 OMW-8
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Toluene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromatogram Pattern:		--	--	--	--	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	5/31/94	6/1/94	6/1/94	5/31/94	6/1/94	5/31/94
Instrument Identification:	GCHP-3	GCHP-3	GCHP-2	GCHP-3	GCHP-2	GCHP-3
Surrogate Recovery, %: (QC Limits = 70-130%)	94	107	109	100	103	88

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager





Blaine Tech Services, Inc.	Client Project ID: 940526-L1, Shell, 2724 Castro Valley	Sampled: May 26, 1994
985 Timothy Drive	Sample Matrix: Water	Received: May 27, 1994
San Jose, CA 95133	Analysis Method: EPA 5030/8015 Mod./8020	Reported: Jun 7, 1994
Attention: Jim Keller	First Sample #: 4EH2307	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 4EH2307 OMW-9	Sample I.D. 4EH2308 MW-2	Sample I.D. 4EH2309 Dup	Sample I.D. 4EH2310 E.B.	Sample I.D. 4EH2311 TB
Purgeable Hydrocarbons	50	N.D.	480	460	N.D.	N.D.
Benzene	0.50	N.D.	14	14	N.D.	N.D.
Toluene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	2.1	2.1	N.D.	N.D.
Total Xylenes	0.50	N.D.	3.4	3.3	N.D.	N.D.
Chromatogram Pattern:		--	C6 - C12	C6 - C12	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	5/31/94	5/31/94	5/31/94	5/31/94	5/31/94
Instrument Identification:	GCHP-3	GCHP-3	GCHP-3	GCHP-3	GCHP-3
Surrogate Recovery, %: (QC Limits = 70-130%)	103	92	96	95	94

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Suzanne Chin
Suzanne Chin
Project Manager





Blaine Tech Services, Inc. 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Project ID: 940526-L1, Shell, 2724 Castro Valley Sample Matrix: Water Analysis Method: EPA 3510/3520/8015 Mod. First Sample #: 4EH2301	Sampled: May 26, 1994 Received: May 27, 1994 Reported: Jun 7, 1994
--	--	--

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 4EH2301 MW-1	Sample I.D. 4EH2302 MW-3	Sample I.D. 4EH2303 MW-5	Sample I.D. 4EH2304 MW-7	Sample I.D. 4EH2305 OMW-6	Sample I.D. 4EH2306 OMW-8
Extractable Hydrocarbons	50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromatogram Pattern:		--	--	--	--	--	--

Quality Control Data

Report Limit							
Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Date Extracted:	5/31/94	5/31/94	5/31/94	5/31/94	5/31/94	5/31/94	5/31/94
Date Analyzed:	6/1/94	6/1/94	6/1/94	6/2/94	6/2/94	6/2/94	6/1/94
Instrument Identification:	GCHP-5	GCHP-5	GCHP-5	GCHP-5	GCHP-5	GCHP-5	GCHP-5

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

4EH2301.BLA <3>





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

Client Project ID: 940526-L1, Shell, 2724 Castro Valley
Sample Matrix: Water
Analysis Method: EPA 3510/3520/8015 Mod.
First Sample #: 4EH2307

Sampled: May 26, 1994
Received: May 27, 1994
Reported: Jun 7, 1994

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 4EH2307 OMW-9	Sample I.D. 4EH2308 MW-2	Sample I.D. 4EH2309 Dup	Sample I.D. 4EH2310 E.B.
Extractable Hydrocarbons	50	N.D.	N.D.	60	N.D.
Chromatogram Pattern:		--	--	C11 - C23	--

Quality Control Data

Report Limit				
Multiplication Factor:	1.0	1.0	1.0	1.0
Date Extracted:	5/31/94	5/31/94	5/31/94	5/31/94
Date Analyzed:	6/1/94	6/1/94	6/1/94	6/1/94
Instrument Identification:	GCHP-5	GCHP-5	GCHP-5	GCHP-5

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager





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

Client Project ID: 940526-L1, Shell, 2724 Castro Valley Bl
Matrix: Liquid

QC Sample Group: 4EH2301, 04, 06-11

Reported: Jun 7, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel

MS/MSD

Batch#: 4EG3203 4EG3203 4EG3203 4EG3203

Date Prepared: - - - -
Date Analyzed: 5/31/94 5/31/94 5/31/94 5/31/94
Instrument I.D.#: GCHP-3 GCHP-3 GCHP-3 GCHP-3
Conc. Spiked: 10 µg/L 10 µg/L 10 µg/L 30 µg/L

Matrix Spike

% Recovery: 94 95 98 97

Matrix Spike Duplicate %

Recovery: 96 97 98 100

Relative %

Difference: 2.1 2.1 0.0 3.0

LCS Batch#: - - - -

Date Prepared: - - - -
Date Analyzed: - - - -
Instrument I.D.#: - - - -

LCS %

Recovery: - - - -

% Recovery Control Limits:	71-133	72-128	72-130	71-120
----------------------------	--------	--------	--------	--------

SEQUOIA ANALYTICAL

Suzanne Chin
Suzanne Chin
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.





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

Client Project ID: 940526-L1, Shell, 2724 Castro Valley Bl
Matrix: Liquid

QC Sample Group: 4EH2302

Reported: Jun 7, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel

MS/MSD

Batch#: 4EH2502 4EH2502 4EH2502 4EH2502

Date Prepared: - - - -
Date Analyzed: 6/1/94 6/1/94 6/1/94 6/1/94
Instrument I.D.#: GCHP-3 GCHP-3 GCHP-3 GCHP-3
Conc. Spiked: 10 µg/L 10 µg/L 10 µg/L 30 µg/L

Matrix Spike
% Recovery: 110 110 110 110

Matrix Spike
Duplicate %
Recovery: 110 110 110 110

Relative %
Difference: 0.0 0.0 0.0 0.0

LCS Batch#: - - - -

Date Prepared: - - - -
Date Analyzed: - - - -
Instrument I.D.#: - - - -

LCS %
Recovery: - - - -

% Recovery Control Limits:	71-133	72-128	72-130	71-120
-------------------------------	--------	--------	--------	--------

SEQUOIA ANALYTICAL

Suzanne Chin
Suzanne Chin
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.





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

Client Project ID: 940526-L1, Shell, 2724 Castro Valley Bl
Matrix: Liquid

QC Sample Group: 4EH2303, 05

Reported: Jun 7, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel

MS/MSD

Batch#: 4EH2502 4EH2502 4EH2502 4EH2502

Date Prepared: - - - -
Date Analyzed: 6/1/94 6/1/94 6/1/94 6/1/94
Instrument I.D.#: GCHP-2 GCHP-2 GCHP-2 GCHP-2
Conc. Spiked: 10 µg/L 10 µg/L 10 µg/L 30 µg/L

Matrix Spike % Recovery: 98 97 97 97

Matrix Spike Duplicate % Recovery: 100 100 100 103

Relative % Difference: 2.0 3.0 3.0 6.0

LCS Batch#: - - - -
Date Prepared: - - - -
Date Analyzed: - - - -
Instrument I.D.#: - - - -
LCS % Recovery: - - - -

% Recovery Control Limits:	71-133	72-128	72-130	71-120
----------------------------	--------	--------	--------	--------

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.

SEQUOIA ANALYTICAL

Suzanne Chin
Suzanne Chin
Project Manager





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

Client Project ID: 940526-L1, Shell, 2724 Castro Valley Bl
Matrix: Liquid

QC Sample Group: 4EH2301-10

Reported: Jun 7, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Diesel
Method:	EPA 8015
Analyst:	A. Nagra

MS/MSD

Batch#: 4EH2310

Date Prepared: 5/31/94
Date Analyzed: 6/1/94
Instrument I.D.#: GCHP-5
Conc. Spiked: 600 µg/L

Matrix Spike
% Recovery: 53

Matrix Spike
Duplicate %
Recovery: 60

Relative %
Difference: 12

LCS Batch#: -
Date Prepared: -
Date Analyzed: -
Instrument I.D.#: -
LCS %
Recovery: -

% Recovery Control Limits:	28-122
---------------------------------------	--------

SEQUOIA ANALYTICAL

Suzanne Chin
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.



SHELL WELL MONITORING DATA SHEET

Project #: <u>940526-L1</u>	Wic # <u>204 1381 0407</u>
Sampler: <u>LAD</u>	Date Sampled: <u>5/26/94</u>
Well I.D.: <u>MW-1</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>14.70</u> After	Depth to Water: Before <u>7.56</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u>	Grade Other --

Volume Conversion Factor (VCF):
 $VCF = (C^2/A) \times \pi / 2.31$
 where
 C = in./ft
 A = diameter (in.)
 π = 3.1416
 2.31 = ft/gal

Well dia.	VCF
2"	0.26
3"	0.37
4"	0.48
6"	1.07
8"	1.98
10"	2.99
12"	4.17

<u>4.6</u>	<u>x</u>	<u>3</u>	<u>=</u>	<u>13.8</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer Middleburg Electric Submersible Suction Pump Type of Installed Pump _____

Sampling: Bailer Middleburg Electric Submersible Suction Pump Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>1215</u>	<u>60.2</u>	<u>7.0</u>	<u>2000.</u>	<u>105</u>	<u>5.</u>	
<u>1217</u>	<u>60.4</u>	<u>7.0</u>	<u>2100.</u>	<u>>200.</u>	<u>10.</u>	
<u>1220</u>	<u>60.6</u>	<u>7.0</u>	<u>2000.</u>	<u>61.</u>	<u>14.</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 14.

Sampling Time: 1225

Sample I.D.: MW-1 Laboratory: SEQUOIA

Analyzed for: TPH6, BTEX, TPHD

Duplicate I.D.: _____ Cleaning Blank I.D.: _____

Analyzed for: _____

Shipping Notations: _____

Additional Notations: _____

SHELL WELL MONITORING DATA SHEET

Project #: <u>940526-L1</u>	Wic # <u>20413810407</u>
Sampler: <u>LAD</u>	Date Sampled: <u>5/26/94</u>
Well I.D.: <u>MW-2</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>12.00</u> After	Depth to Water: Before <u>8.40</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u>	Grade Other --

Volume Conversion Factor (VCF):

$$VCF = (C^2/D^4) \times \pi / 2.31$$
 where
 C = in./ft.
 D = diameter (in.)
 π = 3.1416
 2.31 = in./ft.

Well dia.	VCF
2"	0.24
3"	0.37
4"	0.65
6"	1.47
8"	3.08
12"	6.87

<u>2.3</u>	<u>x</u>	<u>3</u>	<u>=</u>	<u>6.9</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer <input checked="" type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input type="checkbox"/> Suction Pump <input type="checkbox"/> Type of Installed Pump _____	Sampling: Bailer <input checked="" type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input type="checkbox"/> Suction Pump <input type="checkbox"/> Installed Pump <input type="checkbox"/>
--	--

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>1410</u>	<u>59.8</u>	<u>7.1</u>	<u>800.</u>	<u>>200.</u>	<u>3.</u>	
<u>1413</u>	<u>60.4</u>	<u>7.0</u>	<u>760</u>	<u>>200.</u>	<u>5.</u>	
<u>1416</u>	<u>60.2</u>	<u>7.0</u>	<u>820.</u>	<u>>200.</u>	<u>7.</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 7.

Sampling Time: 1420

Sample I.D.: MW-2 Laboratory: SEQUOIA

Analyzed for: TPHG, BTEX, TPHD

Duplicate I.D.: DVP Cleaning Blank I.D.:

Analyzed for: TPHG, BTEX, TPHD

Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: <u>940526-L1</u>	Wic # <u>204 1381 0407</u>
Sampler: <u>LAD</u>	Date Sampled: <u>5/26/94</u>
Well I.D.: <u>MW-3</u>	Well Diameter: (circle one) 2 3 4 6
Total Well Depth: Before <u>25.42</u> After	Depth to Water: Before <u>8.74</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: FVC	Grade Other --

Volume Conversion Factor (VCF):
 $(12 \times (d^2/4) \times \pi) / 231$
 where
 12 = in./ft
 d = diameter (in.)
 π = 3.1416
 231 = in.³/gal

Well dia.	VCF
2"	0.24
3"	0.27
4"	0.45
6"	1.47
8"	4.08
12"	1.87

<u>10.8</u>	x	<u>3</u>	=	<u>32.4</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer Middleburg Electric Submersible Suction Pump Type of Installed Pump _____

Sampling: Bailer Middleburg Electric Submersible Suction Pump Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>1325</u>	<u>63.0</u>	<u>7.0</u>	<u>3800.</u>	<u>88.</u>	<u>11.</u>	
<u>1327</u>	<u>62.2</u>	<u>7.0</u>	<u>1800.</u>	<u>103.</u>	<u>22.</u>	
<u>1330</u>	<u>63.4</u>	<u>7.0</u>	<u>2900.</u>	<u>125</u>	<u>33.</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 33.

Sampling Time: 1335

Sample I.D.: MW-3 Laboratory: SEQUOIA

Analyzed for: TPHG, BTEX, TPHD

Duplicate I.D.: _____ Cleaning Blank I.D.: _____

Analyzed for: _____

Shipping Notations: _____

Additional Notations: _____

SHELL WELL MONITORING DATA SHEET

Project #: <u>940526-L1</u>	Wic # <u>204 1381 0407</u>
Sampler: <u>LAD</u>	Date Sampled: <u>5/26/94</u>
Well I.D.: <u>MW-5</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>22.08</u> After	Depth to Water: Before <u>8.38</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u>	Grade Other --

Volume Conversion Factor (VCF):

$$VCF = (d^2/4) \times \pi / 2.31$$
 Where:
 d = dia./feet
 d = diameter (in.)
 π = 3.1416
 2.31 = ft./gal

Well dia.	VCF
2"	0.16
2 1/2"	0.27
3"	0.48
4"	0.79
4 1/2"	1.07
6"	1.57
8"	2.55
10"	3.80
12"	5.10

<u>8.9</u>	<u>x</u>	<u>3</u>	<u>=</u>	<u>26.7</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer Middleburg Electric Submersible Suction Pump Type of Installed Pump _____

Sampling: Bailer Middleburg Electric Submersible Suction Pump Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>1305</u>	<u>61.2</u>	<u>7.0</u>	<u>1800.</u>	<u>>200.</u>	<u>9.</u>	
<u>1307</u>	<u>61.2</u>	<u>7.0</u>	<u>1600.</u>	<u>>200.</u>	<u>18</u>	
<u>1310</u>	<u>61.8</u>	<u>7.0</u>	<u>1800.</u>	<u>>200.</u>	<u>27.</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 27.

Sampling Time: 1315

Sample I.D.: MW-5- Laboratory: SEQUOIA

Analyzed for: TPH6, BTEX, TPH11

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: <u>940526-L1</u>	Wic # <u>20413810407</u>
Sampler: <u>LAD</u>	Date Sampled: <u>5/26/94</u>
Well I.D.: <u>OMW-6</u>	Well Diameter: (circle one) 2 3 <u>(4)</u> 6
Total Well Depth: Before <u>22.05</u> After	Depth to Water: Before <u>6.89</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u>	Grade Other --

Volume Conversion Factor (VCF):
 $(12 * (d^2/4) * pi) / 231$
 where:
 d = dia./feet
 pi = 3.1416
 231 = in³/gal

Well dia.	VCF
2"	0.14
3"	0.32
4"	0.45
6"	1.07
8"	1.69
10"	2.54
12"	3.70

<u>9.9</u>	x	<u>3</u>	=	<u>29.7</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer <input type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input checked="" type="checkbox"/> Suction Pump <input type="checkbox"/> Type of Installed Pump _____	Sampling: Bailer <input checked="" type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input type="checkbox"/> Suction Pump <input type="checkbox"/> Installed Pump <input type="checkbox"/>
--	--

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1044	62.0	6.9	2900.	40.	10.	
1046	62.0	7.0	3200.	16.	20.	
1048	62.8	7.0	3700.	30.	30.	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 30.

Sampling Time: 1055

Sample I.D.: OMW-6 Laboratory: SEQUOIA

Analyzed for: TPH6, BTEX, TPHD

Duplicate I.D.: Cleaning Blank I.D.: EB AT 1040

Analyzed for: TPH6, BTEX, TPHD AFTER OMW-8

Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: <u>940526-41</u>	Wic # <u>20413810407</u>
Sampler: <u>LAD</u>	Date Sampled: <u>5/26/94</u>
Well I.D.: <u>MW-7</u>	Well Diameter: (circle one) <u>(2)</u> 3 4 6
Total Well Depth: Before <u>16.00</u> After	Depth to Water: Before <u>6.05</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>FVC</u>	Grade Other --

Volume Conversion Factor (VCF):

$$VCF = \frac{(2.31 \times d^2) \times \pi}{231}$$
 where:
 2.31 = ft./in.²
 d = diameter (in.)
 π = 3.1416
 231 = in.³/gal

Well dia.	VCF
2"	0.24
3"	0.57
4"	0.88
6"	2.47
8"	4.04
12"	11.17

<u>1.6</u>	x	<u>3</u>	=	<u>4.8</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer
 Middleburg
 Electric Submersible
 Suction Pump
 Type of Installed Pump _____

Sampling: Bailer
 Middleburg
 Electric Submersible
 Suction Pump
 Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>1350</u>	<u>59.4</u>	<u>7.0</u>	<u>800</u>	<u>7200</u>	<u>2.</u>	
<u>1353</u>	<u>59.0</u>	<u>7.0</u>	<u>740</u>	<u>>200</u>	<u>4.</u>	
<u>1358</u>	<u>59.4</u>	<u>7.0</u>	<u>800</u>	<u>7200</u>	<u>5.</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 5.

Sampling Time: 1405

Sample I.D.: MW-7 Laboratory: SEQUOIA

Analyzed for: TPHG, BTEX, TPHD

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 940526-41	Wic # 204 1381 0407
Sampler: LAD	Date Sampled: 5/26/84
Well I.D.: OMW-8	Well Diameter: (circle one) 2 3 4 6
Total Well Depth: Before 19.45 After	Depth to Water: Before 7.77 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: PVC _{TOC} Grade Other --	

Volume Conversion Factor (VCF):
 $VCF = (C^2/4) \times \pi / 2.31$
 where
 C = diameter (in.)
 n = 2.31 ft
 2.31 = ft.2/gal

Well dia.	VCF
2"	0.14
3"	0.33
4"	0.45
5"	0.77
6"	1.10
8"	1.47
10"	2.31
12"	3.49

<u>7.6</u>	x	<u>3</u>	=	<u>22.8</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer Middleburg Electric Submersible Suction Pump Type of Installed Pump _____

Sampling: Bailer Middleburg Electric Submersible Suction Pump Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1014	63.2	6.8	2600.	24.	8.	
1016	63.4	6.8	2500.	48.	16.	
1023	62.2	6.8	2700.	61.	23.	

Did Well Dewater? **NO** If yes, gals. Gallons Actually Evacuated: **23.**

Sampling Time: **1030**

Sample I.D.: **OMW-8** Laboratory: **SEQRVOIA**

Analyzed for: **TPHG, BTEX, TPHD**

Duplicate I.D.: _____ Cleaning Blank I.D.: _____

Analyzed for: _____

Shipping Notations: _____

Additional Notations: _____

SHELL WELL MONITORING DATA SHEET

Project #: 940526-L1	Wic # 20413810407
Sampler: LAD	Date Sampled: 5/26/94
Well I.D.: OMW-9	Well Diameter: (circle one) 2 3 4 6
Total Well Depth: Before 13.88 After	Depth to Water: Before 9.68 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: PVC	Grade Other --

Volume Conversion Factor (VCF):
 $VCF = (C^2/11) \times n / 2.31$
 where
 C = ft./feet
 C = diameter (in.)
 n = 3.1416
 2.31 = ft./lb

Well dia.	VCF
2"	0.14
3"	0.37
4"	0.48
6"	1.47
8"	4.04
12"	11.07

1.6	x	3	=	4.8
1 Case Volume		Specified Volumes		gallons

Purging: Bailer <input type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input checked="" type="checkbox"/> Suction Pump <input type="checkbox"/> Type of Installed Pump _____	Sampling: Bailer <input checked="" type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input type="checkbox"/> Suction Pump <input type="checkbox"/> Installed Pump <input type="checkbox"/>
--	--

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1136	62.2	7.1	3100.	>200.	2.	
1138	62.6	7.1	2800.	>200.	4.	
1140	62.6	7.0	3000.	>200.	5	

Did Well Dewater? **NO** If yes, gals. Gallons Actually Evacuated: **5**

Sampling Time: **1145**

Sample I.D.: **OMW-9** Laboratory: **SEQUOIA**

Analyzed for: **TPH6, BTEX, TPHD**

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations: