Weiss Associates Environmental and Geologic Services

5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: 510-450-6000

ST ID 3769
STS

April 7, 1994

Lester Feldman
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

94 APR 18 PM 1:03
ALCO HAZMAT

Re: Shell Service Station
WIC #204-5510-0600
4255 MacArthur Blvd.
Oakland, California
WA Job #81-757-104

619

Dear Mr. Feldlman:

This letter describes the first quarterly monitoring event conducted at the Shell service station referenced above (Figure 1) following the subsurface investigation reported in March, 1994[1]. This status report satisfies the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Chapter 3, Subchapter 16, Article 5, Section 265.d. Included below are descriptions and results of activities performed in the first quarter 1994 and proposed work for the second quarter 1994.

First Quarter 1994 Activities:

- Weiss Associates (WA) reported the results of a subsurface investigation conducted at the site. Three ground water wells were installed as part of this investigation.
- Blaine Tech Services, Inc. (BTS) of San Jose, California measured depths to ground water and collected ground water samples from the site wells. BTS' report describing these activities are included as Attachment A.
- WA compiled the ground water elevation and analytic data (Tables 1 and 2) and prepared a ground water elevation contour map (Figure 2).

[1] Weiss Associates, March 15, 1994, consultant's letter report describing a soil and ground water investigation at the Shell Service Station located at 4255 MacArthur Boulevard in Oakland, 7 pages, 6 figures, 3 tables and 3 attachments.

Anticipated Second Quarter 1994 Activities:

WA will submit a report presenting the results of the second quarter 1994 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results and a ground water elevation contour map.

Please call if you have any questions.

Sincerely,
Weiss Associates

REGISTERED GEOLOGIST
JAMES W. CARMODY
No. EG 1576
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

J. Michael Asport
Technical Assistant

James W. Carmody, C.E.G.
Senior Project Hydrogeologist

JMA/JWC:jma

J:\SHELL\700\757QMMA4.WP

Attachments: A - BTS' Ground Water Monitoring Report

cc: Dan Kirk, Shell Oil Company, P.O.Box 5278, Concord, CA 94520
Thomas Peacock, Alameda County Health Care Services Department of Environmental Health, 80 Swan Way, Room 200, Oakland, CA 94621

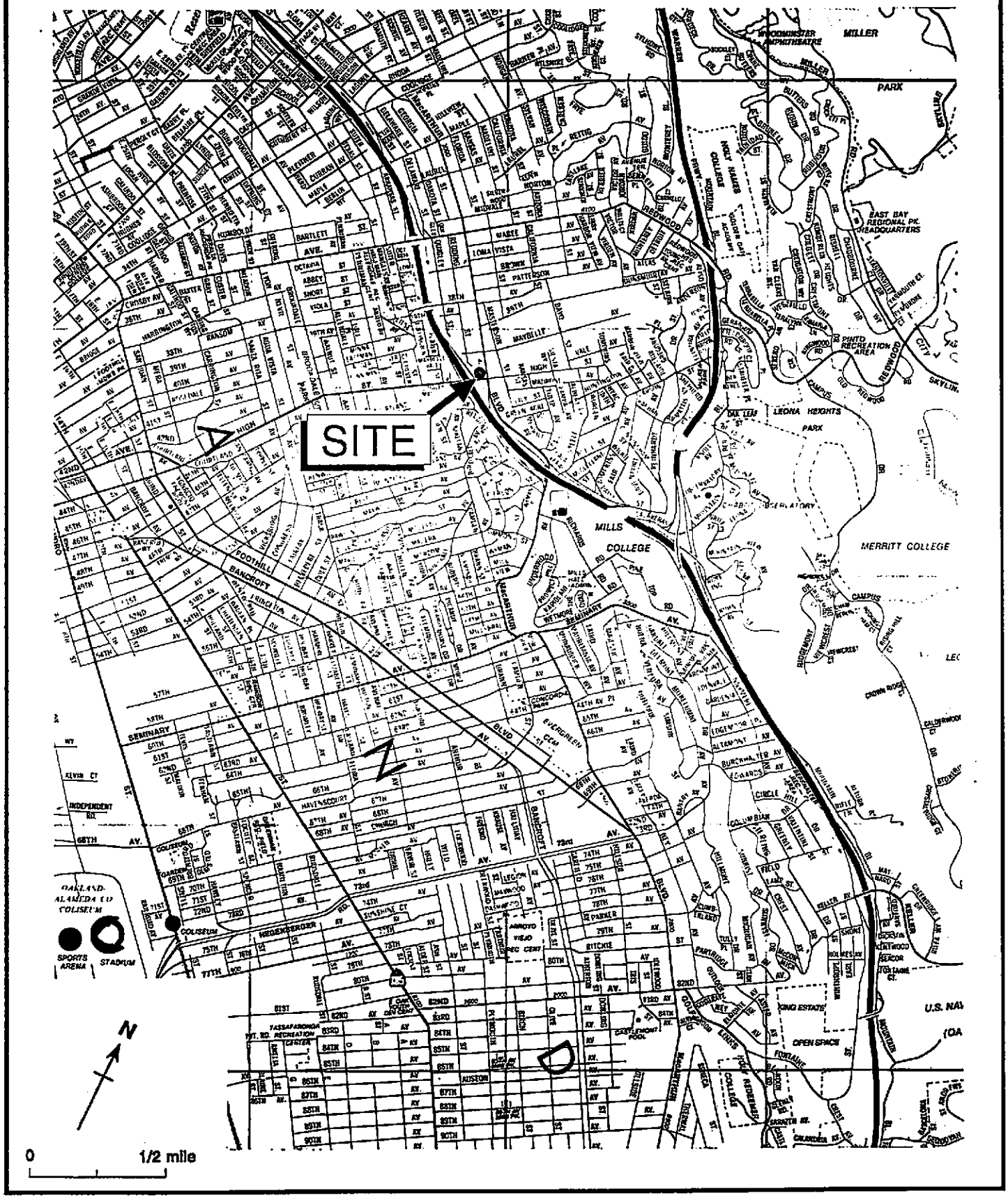

Figure 1. Site Location Map - Shell Service Station WIC# 204-5510-0600, 4255 MacArthur Boulevard, Oakland, California

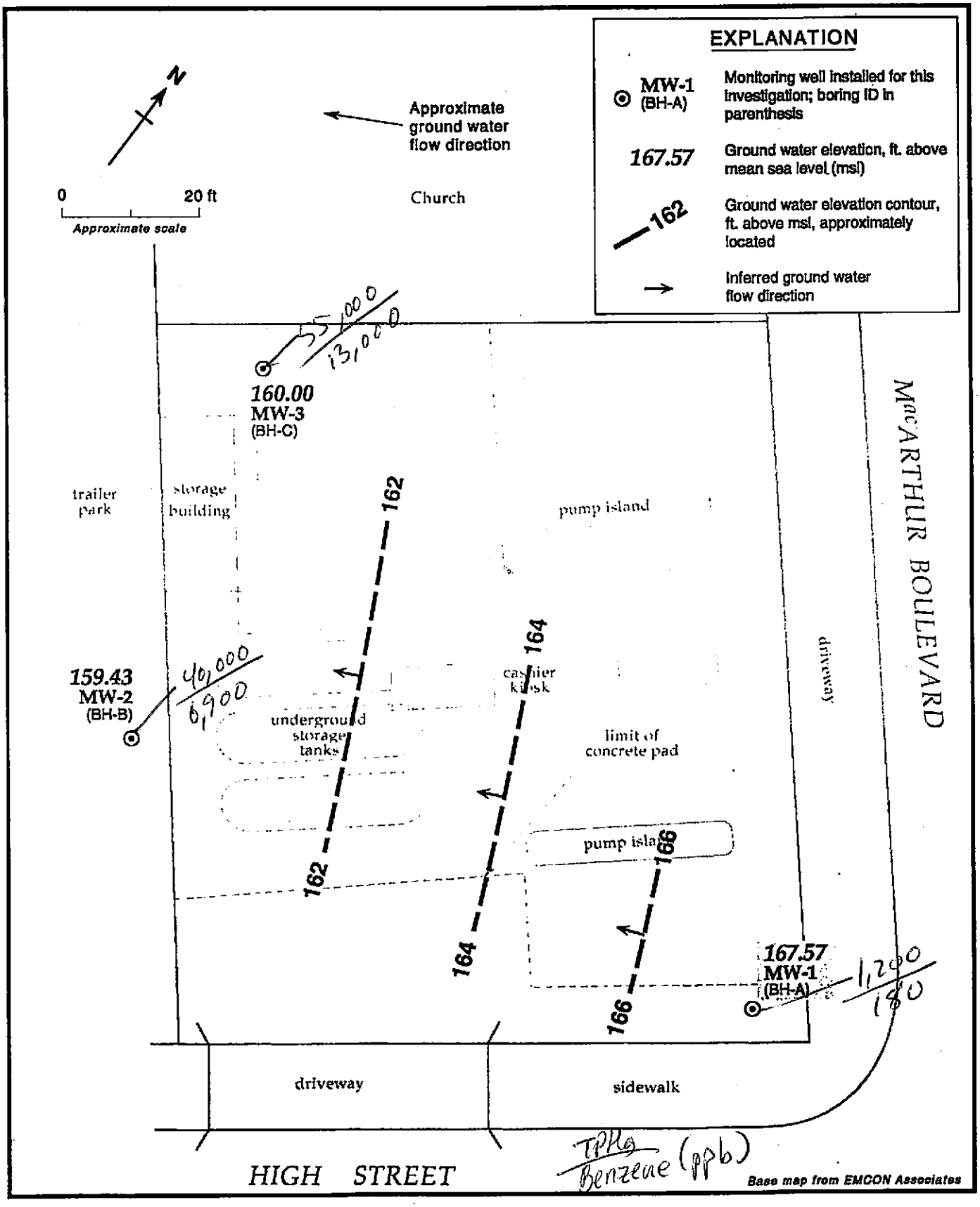

Figure 2. Monitoring Well Locations and Ground Water Elevations - January 20, 1994 - Shell Service Station WIC #204-5510-0600, 4255 MacArthur Boulevard, Oakland, California

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5510-0600, 4255 MacArthur Blvd., Oakland, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
MW-1	11/17/93	175.79	8.59	167.20
	01/20/94		**8.22**	**167.57**
MW-2	11/17/93	170.91	12.31	158.60
	01/20/94		**11.48**	**159.43**
MW-3	11/17/93	174.61	15.40	159.21
	01/20/94		**14.61**	**160.00**

Table 2. Analytic Results for Ground Water, Shell Service Station WIC #204-5510-0600, 4255 MacArthur Blvd., Oakland, California

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	B	E	T	X
			<----------parts per billion (µg/L)---------->				
MW-1	11/17/93	8.59	410	21	7.9	11	47
	01/20/94	8.22	1,200	180	48	19	47
MW-2	11/17/93	12.31	31,000	9,400	1,000	4,600	3,900
	01/20/94	11.48	40,000	6,900	780	5,600	4,100
	01/20/94[dup]	11.48	41,000	7,200	900	6,200	4,800
MW-3	11/17/93	15.40	18,000	5,400	720	660	2,200
	01/20/94	14.61	55,000	13,000	2,200	2,600	6,500
Trip Blank	01/20/94		<50	<0.5	<0.5	<0.5	<0.5
DTSC MCLs			NE	1	680	100[a]	1,750

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
TPH-D = Total petroleum hydrocarbons as diesel by Modified EPA Method 8015
B = Benzene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
T = Toluene by EPA Method 8020
X = Xylenes by EPA Method 8020
NE = Not established
DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water
--- = Not analyzed
<n = Not detected at detection limits of n ppb
dup = Duplicate sample

Notes:

a = DTSC recommended action level; MCL not established

Weiss Associates

ATTACHMENT A
GROUND WATER MONITORING REPORT AND ANALYTIC REPORT

BLAINE
TECH SERVICES INC.

985 TIMOTHY DRIVE
SAN JOSE, CA 95133
(408) 995-5535
FAX (408) 293-8773

February 14, 1994

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

Attn: Daniel Kirk

RECEIVED
FEB 23 1994

SITE:
Shell WIC #204-5510-0600
4255 MacArthur Blvd.
Oakland, California

QUARTER:
1st quarter of 1994

QUARTERLY GROUNDWATER SAMPLING REPORT 940120-A-2

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 removed in cases where the well dewaters 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 sites 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: Weiss Associates
5500 Shellmound Street
Emeryville, CA 94608-2411
ATTN: Janet MacDonald

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	1/20/94	TOC	--	NONE	--	--	8.22	23.30
MW-2 *	1/20/94	TOC	ODOR	NONE	--	--	11.48	19.66
MW-3	1/20/94	TOC	--	NONE	--	--	14.61	21.95

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

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 9107204

Date: 1-20-94
Page 1 of 1

Site Address: 4255 MacARTHUR, OAK

WIC #: 204 5510 0600

Shell Engineer: Daniel Kirk — Phone No.: 510 — Fax #: 675 6165

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: Jeff Curtis

Printed Name: Jeff Curtis

LAB: Sequoia

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of cont.	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	Preservation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW 1	1/20			W		3						X							Ground water	9401814-01
MW 2	1/20			W		3						X								-02
MW 3	1/20			W		3						X								-03
FB	1/20			W		3						X								-04
DUP	1/20			W		3						X								-05
TRIP	1/20			W		2						X								-06

CHECK ONE (1) BOX ONLY — C1/01

- Quarterly Monitoring — X — 6411
- Site Investigation — 6421
- Soil Closure/Disposal — 6422
- Water Closure/Disposal — 6423
- Soil/Air Rem. or Sys. O & M — 6412
- Water Rem. or Sys. O & M — 6413
- Other

TURN AROUND TIME

- 24 hours
- 48 hours
- 10 days — X (Normal)
- Other

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

Relinquished By (Signature)	Printed Name	Date	Time	Received (Signature)	Printed Name	Date	Time
[signature]	Jeff Curtis	1/21	1545	[signature]	C. Hiroto	1/21	0945
[signature]	C. Hiroto	1/21	1657				

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH ITS ANALYTICAL RESULTS

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

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

Project: Shell, 4255 MacArthur, Oakland

Enclosed are the results from 6 water samples received at Sequoia Analytical on January 21,1994. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
4AB1401	Water, MW-1	1/20/94	EPA 5030/8015 Mod./8020
4AB1402	Water, MW-2	1/20/94	EPA 5030/8015 Mod./8020
4AB1403	Water, MW-3	1/20/94	EPA 5030/8015 Mod./8020
4AB1404	Water, EB	1/20/94	EPA 5030/8015 Mod./8020
4AB1405	Water, DUP	1/20/94	EPA 5030/8015 Mod./8020
4AB1406	Water, TRIP	1/20/94	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

Peggy A. Penner
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Blaine Tech Services, Inc.	Client Project ID:	Shell, 4255 MacArthur, Oakland	Sampled:	Jan 20, 1994
985 Timothy Drive	Sample Matrix:	Water	Received:	Jan 21, 1994
San Jose, CA 95133	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Feb 2, 1994
Attention: Jim Keller	First Sample #:	4AB1401		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 4AB1401 MW-1	Sample I.D. 4AB1402 MW-2	Sample I.D. 4AB1403 MW-3	Sample I.D. 4AB1404 EB	Sample I.D. 4AB1405 DUP	Sample I.D. 4AB1406 TRIP
Purgeable Hydrocarbons	50	1,200	40,000	55,000	N.D.	41,000	N.D.
Benzene	0.50	180	6,900	13,000	N.D.	7,200	N.D.
Toluene	0.50	19	5,600	2,600	N.D.	6,200	N.D.
Ethyl Benzene	0.50	48	780	2,200	N.D.	900	N.D.
Total Xylenes	0.50	47	4,100	6,500	N.D.	4,800	N.D.
Chromatogram Pattern:		Gas	Gas	Gas	--	Gas	--

Quality Control Data

Report Limit Multiplication Factor:	5.0	200	200	1.0	100	1.0
Date Analyzed:	1/24/94	1/25/94	1/25/94	1/25/94	1/25/94	1/25/94
Instrument Identification:	GCHP-3	GCHP-3	GCHP-3	GCHP-2	GCHP-3	GCHP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	81	99	106	98	101	77

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

SEQUOIA ANALYTICAL

Peggy A. Penner
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Blaine Tech Services, Inc.	Client Project ID:	Shell, 4255 MacArthur, Oakland
985 Timothy Drive	Matrix:	Water
San Jose, CA 95133		
Attention: Jim Keller	QC Sample Group: 4AB1401	Reported: Feb 2, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Nipp	M. Nipp	M. Nipp	M. Nipp
MS/MSD Batch#:	4A68902	4A68902	4A68902	4A68902
Date Prepared:	-	-	-	-
Date Analyzed:	1/25 94	1/25/94	1/25/94	1/25/94
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:	99	100	100	107
Matrix Spike Duplicate % Recovery:	100	100	100	107
Relative % Difference:	1.0	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

Peggy A. 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.

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Blaine Tech Services, Inc.	Client Project ID:	Shell, 4255 MacArthur, Oakland	
985 Timothy Drive	Matrix:	Water	
San Jose, CA 95133			
Attention: Jim Keller	QC Sample Group:	4AB1404, 06	Reported: Feb 2, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Nipp	M. Nipp	M. Nipp	M. Nipp
MS/MSD Batch#:	4A68902	4A68902	4A68902	4A68902
Date Prepared:	-	-	-	-
Date Analyzed:	1/25/94	1/25/94	1/25/94	1/25/94
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	99	99	100
Matrix Spike Duplicate % Recovery:	98	98	99	100
Relative % Difference:	0.0	1.0	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

Peggy A. 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.

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Blaine Tech Services, Inc.	Client Project ID:	Shell, 4255 MacArthur, Oakland
985 Timothy Drive	Matrix:	Water
San Jose, CA 95133		
Attention: Jim Keller	QC Sample Group: 4AB1402-03, 05	Reported: Feb 2, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Nipp	M. Nipp	M. Nipp	M. Nipp
MS/MSD Batch#:	4A68901	4A68901	4A68901	4A68901
Date Prepared:	-	-	-	-
Date Analyzed:	1/24/94	1/24/94	1/24/94	1/24/94
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:	100	100	100	100
Matrix Spike Duplicate % Recovery:	110	100	110	107
Relative % Difference:	9.5	0.0	9.5	6.8
LCS Batch#:	-	-	-	-
Date Prepared:	-	-	-	-
Date Analyzed:	-	-	-	-
Instrument I.D.#:	-	-	-	-
LCS % Recovery:	-	-	-	-
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL

Peggy A. 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.