Weiss Associates *Environmental and Geologic Services*

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

ALCO HAZMAT

94 OCT 19 PM 4:53

October 14, 1994

LOP 368

Susan Hugo
Alameda County Department of
Environmental Health
Hazardous Materials Division
1131 Harbor Bay Parkway,
Suite 250
Alameda, CA 94502-6577

Re: Shell Service Station
WIC #204-5510-0303
5755 Broadway
Oakland, California 94606
WA Job #81-0619-104

Dear Ms. Hugo:

This letter describes recently completed and anticipated activities at the Shell service station referenced above (Figure 1). This status report satisfies the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Chapter 3, Subchapter 16, Article 5, Section 2652.d. Included below are descriptions and results of activities performed in the third quarter 1994 and proposed work for the fourth quarter 1994.

Third Quarter 1994 Activities:

Hydrocarbon and Ground Water Removal Summary		
Type of Fluid	*Hydrocarbon Containing Ground Water Removed this Quarter (Gal)*	*Total Removed (Gal)*
Separate Phase Hydrocarbons	0.0	0.55
Ground Water with dissolved hydrocarbons	0.0	48,838

- Blaine Tech Services, Inc. (BTS) of San Jose, California measured ground water depths and collected ground water samples from the site wells. BTS' report describing these activities and the analytic report for the ground water samples are included as Attachment A.

- Weiss Associates (WA) calculated ground water elevations, compiled the analytic data (Tables 1 and 2) and prepared a ground water elevation contour map (Figure 2).

Anticipated Fourth Quarter 1994 Activities:

- Separate phase hydrocarbons, if detected, will be removed and its mass will be estimated and reported.

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

Please call if you have any questions.

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

Sincerely,
Weiss Associates

John Wolf
Technical Assistant

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

Attachments: A - Blaine Tech's Ground Water Monitoring Report

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998
John Jang, Regional Water Quality Control Board - San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, California 94612

JW/JWC:jw
J:\SHELL\0619\QM\94Q3R1.DOC

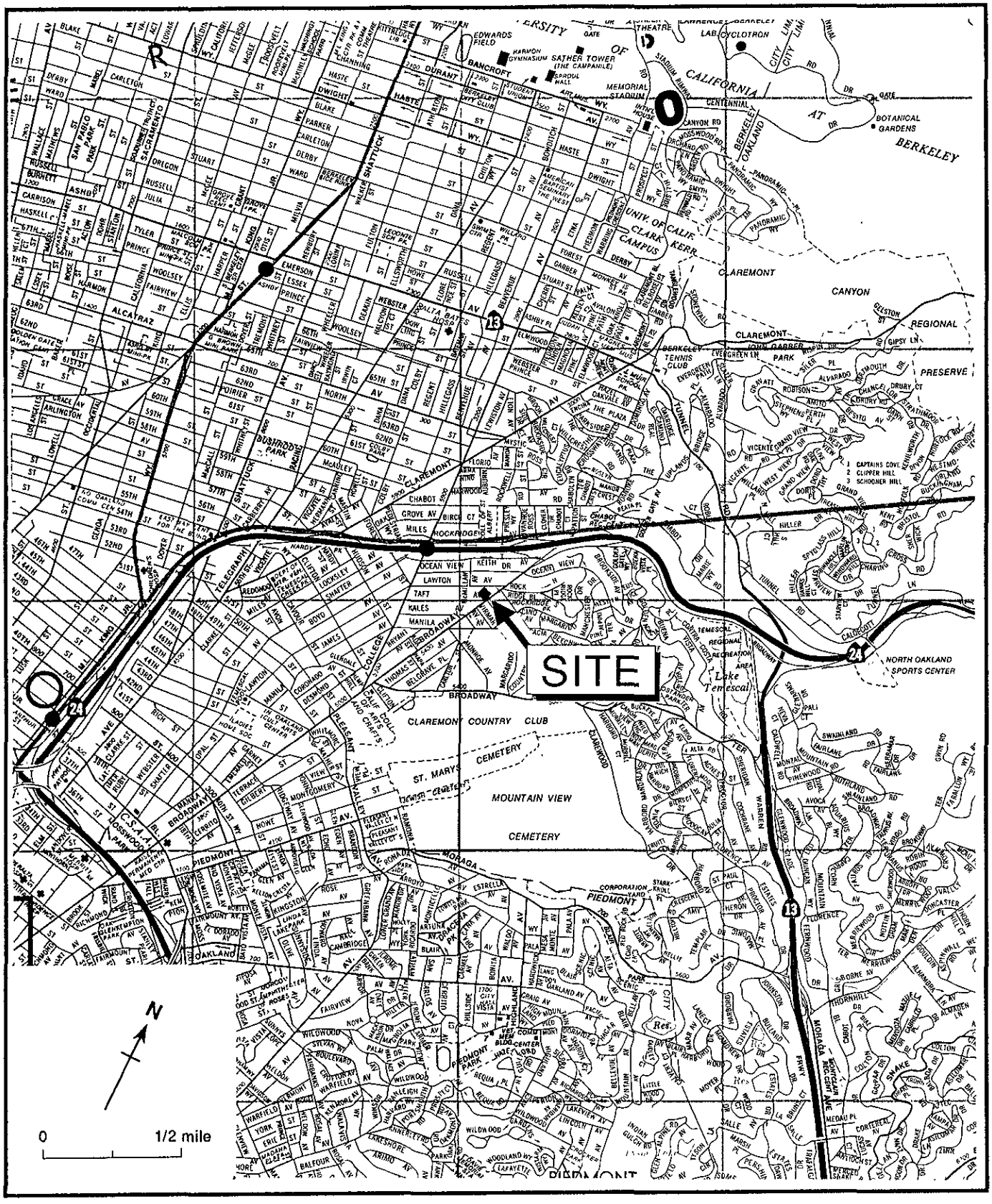

Figure 1. Site Location Map - Shell Service Station WIC #204-5510-0303, 5755 Broadway, Oakland, California

2/28/92

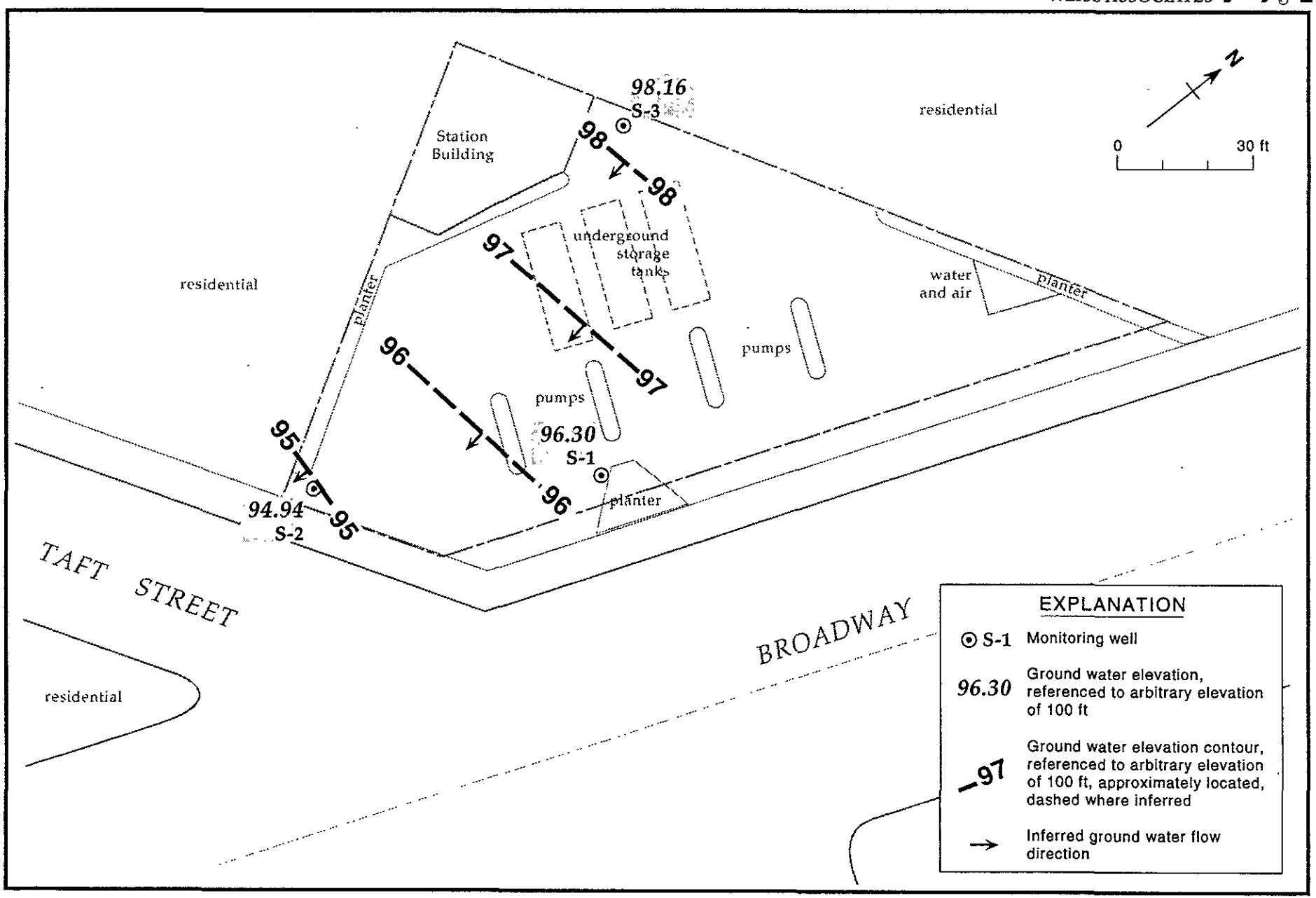

Figure 2. Monitoring Well Locations and Relative Ground Water Elevation Contours - August 18, 1994 - Shell Service Station WIC#204-2004-0204, 5755 Broadway, Oakland, California

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5510-0303, 5755 Broadway, Oakland, California

Well ID	Date	Top-of-Casing Elevation*	Depth to Water (ft)	Ground Water Elevation (ft above msl)
S-1	01/25/91	100.00	3.88	96.12
	06/03/91		3.51	96.49
	08/30/91		4.24	95.76
	11/22/91		4.29	95.71
	03/13/92		2.87	97.13
	05/28/92		3.79	96.21
	08/19/92		4.43	95.57
	11/18/92		4.34	95.66
	02/10/93		4.20	95.80
	06/11/93		3.39	96.61
	08/03/93		3.69	96.31
	11/02/93		4.26	95.74
	12/16/93[a]		2.73	97.27
	02/01/94		3.38	96.62
	05/04/94		3.00	97.00
	08/18/94		**3.70**	**96.30**
S-2	01/25/91	98.92	4.52	94.40
	06/03/91		4.02	94.90
	08/30/91		4.70	94.22
	11/22/91		4.72	94.20
	03/13/92		3.47	95.45
	05/28/92		4.45	94.45
	08/19/92		4.84	94.08
	11/18/92		4.73	94.19
	02/10/93		4.83	94.09
	06/11/93		3.74	95.18
	08/03/93		4.23	94.69
	11/02/93		4.72	94.20
	12/16/93[a]		3.00	95.92
	02/01/94		3.48	95.44
	05/04/94		3.26	95.66
	08/18/94		**3.98**	**94.94**
S-3	01/25/91	101.67	3.84	97.83
	06/03/91		3.25	98.42
	08/03/91		4.73	96.94
	11/22/91		4.81	96.86
	03/13/92		2.29	99.38
	05/28/92		3.62	98.05
	08/19/92		4.66	97.01
	11/18/92		4.51	97.16
	02/10/93		4.36	97.31
	06/11/93		2.91	98.76
	08/03/93		3.70	97.97

--- Table 1 continues on next page ---

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5510-0303, 5755 Broadway, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation*	Depth to Water (ft)	Ground Water Elevation (ft above msl)
	11/02/93[b]		---	---
	12/16/93[a]		2.12	99.55
	02/01/94		2.90	98.77
	05/04/94		2.54	99.13
	08/18/94		**3.51**	**98.16**

Note:
* = Top of casing elevations referenced to arbitrary elevation of 100 ft
a = Depth to water measured by Weiss Associates
b = Well inaccessible
NA = Not available

Table 2. Analytic Results for Ground Water, Shell Service Station, WIC #204-5510-0303, 5755 Broadway, Oakland, California

Sample ID	Date	Depth to Water (ft)	TPH-G	B	E	T	X
			<----------parts per billion (µg/L)---------->				
S-1	01/25/91	3.88	<30	<0.3	<0.3	<0.3	<0.3
	06/03/91	3.51	<30	<0.3	<0.3	<0.3	<0.3
	08/30/91	4.24	<30	<0.3	<0.3	<0.3	<0.3
	11/22/91	4.29	<30	2.3	0.3	<0.46	<0.65
	03/13/92	2.87	<30	<0.52	<0.3	<0.3	<0.3
	05/28/92	3.79	<50	<0.5	<0.5	<0.5	<0.5
	08/19/92	4.43	<50	<0.5	<0.5	<0.5	<0.5
	11/18/92	4.34	<50	<0.5	<0.5	<0.5	<0.5
	02/10/93	4.20	51	1.4	<0.5	<0.5	<0.5
	02/10/93[dup]	4.20	<50	1.2	<0.5	<0.5	<0.5
	06/11/93	3.39	<50	<0.5	<0.5	<0.5	<0.5
	08/03/93	3.69	<50	<0.5	<0.5	<0.5	<0.5
	11/02/93	4.26	70[a]	<0.5	<0.5	<0.5	<0.5
	02/01/94	3.38	60[a]	<0.5	<0.5	<0.5	<0.5
	05/04/94	3.00	<50	1.1	<0.5	<0.5	<0.5
	08/18/94	**3.70**	**<50**	**0.6**	**<0.5**	**<0.5**	**<0.5**
	08/18/94[dup]	**3.70**	**60[b]**	**0.5**	**<0.5**	**<0.5**	**<0.5**
S-2	01/25/91	4.52	450	140	6.2	1.8	15
	06/03/91	4.02	490	150	8.2	2.7	7
	08/30/91	4.70	70	0.37	<0.3	<0.3	<0.3
	11/22/91	4.72	1,600	110	29	9.3	150
	03/13/92	3.47	1,300	210	34	5.7	79
	05/28/92	4.45	100	28	<0.5	<0.5	<0.5
	08/19/92	4.84	470	42	8.3	<0.5	4.0
	11/18/92	4.73	490	43	17	39	29
	02/10/93	4.83	19,000	710	80	760	370
	06/11/93	3.74	33,000	3,100	370	1,600	1,100

--- Table 2 continues on next page ---

Table 2. Analytic Results for Ground Water, Shell Service Station, WIC #204-5510-0303, 5755 Broadway, Oakland, California

Sample ID	Date	Depth to Water (ft)	TPH-G	B	E	T	X
			<----------parts per billion (µg/L)---------->				
	08/03/93	4.23	18,000	1,400	81	130	130
	08/03/93[dup]	4.23	19,000	1,400	86	140	150
	11/02/93	4.72	12,000[a]	470	31	47	92
	11/02/93[dup]	4.72	13,000[a]	530	35	47	96
	02/01/94	3.48	31,000[a]	430	50	46	130
	02/01/94[dup]	3.48	31,000[a]	300	30	33	100
	05/04/94	3.26	3,900	1,200	53	31	71
	05/04/94[dup]	3.26	4,500	1,200	57	37	110
	08/18/94	**3.98**	**24,000**	**600**	**15**	**8.3**	**27**
S-3	01/25/91	NA	<30	<0.3	<0.3	<0.3	<0.3
	06/03/91	3.25	<30	<0.3	0.3	0.3	0.3
	08/30/91	4.73	<30	<0.3	<0.3	<0.3	<0.3
	11/22/91	4.81	<30	<0.3	<0.3	<0.3	<0.3
	03/13/92	2.29	<30	<0.3	0.3	0.3	0.3
	05/28/92	3.62	<50	<0.5	<0.5	<0.5	<0.5
	08/19/92	4.66	<50	<0.5	<0.5	<0.5	0.5
	11/18/92	4.51	<50	<0.5	<0.5	<0.5	<0.5
	02/10/93	4.36	30	1.9	2.4	3.2	5.6
	06/11/93	2.91	<50	<0.5	<0.5	<0.5	<0.5
	06/11/93[dup]	2.91	<50	<0.5	<0.5	<0.5	<0.5
	08/03/93	3.70	<50	<0.5	<0.5	<0.5	<0.5
	11/02/93[c]	---	---	---	---	---	---
	02/01/94	2.90	<50	<0.5	<0.5	<0.5	<0.5
	05/04/94	2.54	<50	<0.5	<0.5	<0.5	<0.5
	08/18/94	**3.51**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**

--- Table 2 continues on next page ---

Table 2. Analytic Results for Ground Water, Shell Service Station, WIC #204-5510-0303, 5755 Broadway, Oakland, California

Sample ID	Date	Depth to Water (ft)	TPH-G	B	E	T	X
			<----------parts per billion (µg/L)---------->				
Bailer Blank	08/19/92		<50	<0.5	<0.5	<0.5	<0.5
	11/22/91		<50	<0.5	<0.5	<0.5	<0.5
Trip Blank	03/13/92		<50	<0.3	<0.3	<0.3	<0.3
	05/28/92		<50	<0.5	<0.5	<0.5	<0.5
	08/19/92		<50	<0.5	<0.5	<0.5	<0.5
	11/18/92		<50	<0.5	<0.5	<0.5	<0.5
	02/10/93		<50	<0.5	<0.5	<0.5	<0.5
	08/03/93		<50	<0.5	<0.5	<0.5	<0.5
	11/02/93		<50	<0.5	<0.5	<0.5	<0.5
	02/01/94		<50	<0.5	<0.5	<0.5	<0.5
	05/04/94		<50	<0.5	<0.5	<0.5	<0.5
DTSC MCLs			NE	1	680	100[d]	1750

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline 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 602 or 8020
--- = Not analyzed
DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water
NA = Not available
NE = Not established
<n = Not detected at detection limits of n ppb
dup = Duplicate sample

Notes:

a = Concentrations reported as gasoline are primarily due to presence of a discrete peak not indicative of gasoline.
b = This positive result has an atypical pattern for gasoline
c = Wells inaccessible.
d = DTSC recommended action level for drinking water; MCL not established

Table 3. Separate Phase Hydrocarbon Removal - Shell Service Station WIC #204-5510-0303, 5755 Broadway, Oakland, California

Well ID	Date	Separate Phase Hydrocarbon Thickness (ft)	Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)
T-1	02/10/93	<0.01	0.01	0.01
	06/11/93	<0.01	0.01	0.02
	08/03/93	0.01	0.01	0.03
	11/02/93	0.02	0.03	0.06
	02/01/94	0.00	0.01	0.07
	05/04/94	0.00	0.00	0.07
	08/18/94	**0.00**	**0.00**	**0.07**
T-2	02/10/93	0.43	0.40	0.40
	06/11/93	<0.01	0.01	0.41
	08/03/93	0.01	0.01	0.41
	11/02/93	0.02	0.02	0.43
	02/01/94	0.00	0.01	0.44
	05/04/94	0.00	0.00	0.44
	08/18/94	**0.00**	**0.00**	**0.44**
T-3	08/03/93	0.03	0.02	0.02
	11/02/93	0.02	0.01	0.03
	02/01/94	0.03	0.01	0.04
	05/04/94	0.00	0.00	0.04
	08/18/94	**0.00**	**0.00**	**0.04**
			Total Volume of Hydrocarbons Removed:	0.55

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

August 31, 1994

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

Attn: Daniel T. Kirk

SITE:
Shell WIC #204-5510-0303
5755 Broadway
Oakland, California

QUARTER:
3rd quarter of 1994

QUARTERLY GROUNDWATER SAMPLING REPORT 940818-F-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 in cases where more evacuation is needed to achieve stabilization of water parameters 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 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 National Environmental Testing, Inc. in Santa Rosa, California. NET is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #178.

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: Michael Asport

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 *	8/18/94	TOC	ODOR	NONE	–	–	3.70	11.78
S-2	8/18/94	TOC	ODOR	NONE	–	–	3.98	9.42
S-3	8/18/94	TOC	–	NONE	–	–	3.51	9.50
T-1	8/18/94	TOC	SHEEN	–	–	–	2.62	13.44
T-2	8/18/94	TOC	SHEEN	–	–	–	1.48	12.98
T-3	8/18/94	TOC	SHEEN	–	–	–	0.31	9.51

* Sample DUP was a duplicate sample taken from well S-1.

2061

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 740818F2

Date: 8/18/94
Page 1 of 1

Site Address: 5755 Broadway, Oakland

WIC#: 204-5510-0303

Shell Engineer: Dan Kirk — 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: [signature]

Printed Name: [signature] Tom Flory

LAB: NET

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
S-1 1336	8/18/94			X		3						X								
S-2 1355				X								X								
S-3 1315				X								X								
DUP —				X								X								
EB 1320				X		↓						X							CUSTODY SEALED 8/19/94 GT Lumbre Seals intact-AL	
TB LAB	↓			1		2						X								

CHECK ONE (1) BOX ONLY — C1/D1

		TURN AROUND TIME	
Quarterly Monitoring	X 6411	24 hours	☐
Site Investigation	☐ 6411	48 hours	☐
Soil Closure/Disposal	☐ 6412	16 days	X (Normal)
Water Closure/Disposal	☐ 6413	Other	☐ ____
Soil/Air Rem. or Sys. O & M	☐ 6452		
Water Rem. or Sys. O & M	☐ 6453		
Other	☐		

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

Relinquished By (signature)	Printed Name	Date / Time	Received (signature)	Printed Name	Date / Time
[signature]	Tom Flory	8/19 10:45	[signature]	GT Lumbre	8/19 10:40
[signature]	GT Lumbre	8/19 16:01			
			[signature] via NCS	Anny Lopez	8/20/94 08:30

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

NATIONAL ENVIRONMENTAL TESTING, INC.

Santa Rosa Division
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Jim Keller
Blaine Tech Services
985 Timothy Dr.
San Jose, CA 95133

Date: 09/02/1994
NET Client Acct. No: 1821
NET Pacific Job No: 94.03715
Received: 08/20/1994

Client Reference Information

SHELL, 5755 Broadway, Oakland, 940818-F2

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Judy Ridley
Project Coordinator

Jim Hoch
Operations Manager

Enclosure(s)

Ref: SHELL, 5755 Broadway, Oakland, 940818-F2

SAMPLE DESCRIPTION: S-1
Date Taken: 08/18/1994
Time Taken: 13:36
NET Sample No: 212430

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/30/1994
DILUTION FACTOR*	1						08/30/1994
as Gasoline	ND		50	ug/L	5030		08/30/1994
Carbon Range:	--						08/30/1994
METHOD 8020 (GC,Liquid)	--						08/30/1994
Benzene	0.6	C	0.5	ug/L	8020		08/30/1994
Toluene	ND		0.5	ug/L	8020		08/30/1994
Ethylbenzene	ND		0.5	ug/L	8020		08/30/1994
Xylenes (Total)	ND		0.5	ug/L	8020		08/30/1994
SURROGATE RESULTS	--						08/30/1994
Bromofluorobenzene (SURR)	96			% Rec.	5030		08/30/1994

C : Positive result confirmed by secondary column or GC/MS analysis.

Ref: SHELL, 5755 Broadway, Oakland, 940818-F2

SAMPLE DESCRIPTION: S-2
Date Taken: 08/18/1994
Time Taken: 13:55
NET Sample No: 212431

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/31/1994
DILUTION FACTOR*	1						08/30/1994
as Gasoline	24,000	FF	50	ug/L	5030		08/28/1994
Carbon Range:	C5-C15						08/30/1994
METHOD 8020 (GC,Liquid)	--						08/28/1994
Benzene	600	FF	0.5	ug/L	8020		08/28/1994
Toluene	8.3	FC	0.5	ug/L	8020		08/30/1994
Ethylbenzene	15	FC	0.5	ug/L	8020		08/30/1994
Xylenes (Total)	27		0.5	ug/L	8020		08/31/1994
SURROGATE RESULTS	--						08/28/1994
Bromofluorobenzene (SURR)	88			% Rec.	5030		08/28/1994

FC : Compound quantitated at a 10X dilution factor.
FF : Compound quantitated at a 100X dilution factor.

Ref: SHELL, 5755 Broadway, Oakland, 940818-F2

SAMPLE DESCRIPTION: S-3
Date Taken: 08/18/1994
Time Taken: 13:15
NET Sample No: 212432

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/28/1994
DILUTION FACTOR*	1						08/28/1994
as Gasoline	ND		50	ug/L	5030		08/28/1994
Carbon Range:	--						08/28/1994
METHOD 8020 (GC,Liquid)	--						08/28/1994
Benzene	ND		0.5	ug/L	8020		08/28/1994
Toluene	ND		0.5	ug/L	8020		08/28/1994
Ethylbenzene	ND		0.5	ug/L	8020		08/28/1994
Xylenes (Total)	ND		0.5	ug/L	8020		08/28/1994
SURROGATE RESULTS	--						08/28/1994
Bromofluorobenzene (SURR)	91			% Rec.	5030		08/28/1994

Ref: SHELL, 5755 Broadway, Oakland, 940818-F2

SAMPLE DESCRIPTION: DUP
Date Taken: 08/18/1994
Time Taken:
NET Sample No: 212433

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/28/1994
DILUTION FACTOR*	1						08/28/1994
as Gasoline	60	G-	50	ug/L	5030		08/28/1994
Carbon Range:	C4-C6						08/28/1994
METHOD 8020 (GC,Liquid)	--						08/28/1994
Benzene	0.5		0.5	ug/L	8020		08/28/1994
Toluene	ND		0.5	ug/L	8020		08/28/1994
Ethylbenzene	ND		0.5	ug/L	8020		08/28/1994
Xylenes (Total)	ND		0.5	ug/L	8020		08/28/1994
SURROGATE RESULTS	--						08/28/1994
Bromofluorobenzene (SURR)	100			% Rec.	5030		08/28/1994

G- : The positive result has an atypical pattern for Gasoline analysis.

Ref. SHELL, 5755 Broadway, Oakland, 940818-F2

SAMPLE DESCRIPTION: EB
Date Taken: 08/18/1994
Time Taken: 13:20
NET Sample No: 212434

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/28/1994
DILUTION FACTOR*	1						08/28/1994
as Gasoline	ND		50	ug/L	5030		08/28/1994
Carbon Range:	--						08/28/1994
METHOD 8020 (GC,Liquid)	--						08/28/1994
Benzene	ND		0.5	ug/L	8020		08/28/1994
Toluene	ND		0.5	ug/L	8020		08/28/1994
Ethylbenzene	ND		0.5	ug/L	8020		08/28/1994
Xylenes (Total)	ND		0.5	ug/L	8020		08/28/1994
SURROGATE RESULTS	--						08/28/1994
Bromofluorobenzene (SURR)	97			% Rec.	5030		08/28/1994

Ref: SHELL, 5755 Broadway, Oakland, 940818-F2

SAMPLE DESCRIPTION: TB
Date Taken: 08/18/1994
Time Taken:
NET Sample No: 212435

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/28/1994
DILUTION FACTOR*	1						08/28/1994
as Gasoline	ND		50	ug/L	5030		08/28/1994
Carbon Range:	--						08/28/1994
METHOD 8020 (GC,Liquid)	--						08/28/1994
Benzene	ND		0.5	ug/L	8020		08/28/1994
Toluene	ND		0.5	ug/L	8020		08/28/1994
Ethylbenzene	ND		0.5	ug/L	8020		08/28/1994
Xylenes (Total)	ND		0.5	ug/L	8020		08/28/1994
SURROGATE RESULTS	--						08/28/1994
Bromofluorobenzene (SURR)	98			% Rec.	5030		08/28/1994

Ref: SHELL, 5755 Broadway, Oakland, 940818-F2

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials
TPH (Gas/BTXE,Liquid)						
as Gasoline	100.0	1.00	1.00	mg/L	08/28/1994	lss
Benzene	93.2	4.66	5.00	ug/L	08/28/1994	lss
Toluene	92.6	4.63	5.00	ug/L	08/28/1994	lss
Ethylbenzene	92.4	4.62	5.00	ug/L	08/28/1994	lss
Xylenes (Total)	92.0	13.8	15.0	ug/L	08/28/1994	lss
Bromofluorobenzene (SURR)	97.0	97	100	% Rec.	08/28/1994	lss
TPH (Gas/BTXE,Liquid)						
as Gasoline	100.0	1.00	1.00	mg/L	08/31/1994	aal
Benzene	99.2	4.96	5.00	ug/L	08/31/1994	aal
Toluene	94.8	4.74	5.00	ug/L	08/31/1994	aal
Ethylbenzene	95.6	4.78	5.00	ug/L	08/31/1994	aal
Xylenes (Total)	96.0	14.4	15.0	ug/L	08/31/1994	aal
Bromofluorobenzene (SURR)	94.0	94	100	% Rec.	08/31/1994	aal

Ref: SHELL, 5755 Broadway, Oakland, 940818-F2

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials
TPH (Gas/BTXE,Liquid)					
as Gasoline	ND		mg/L	08/28/1994	lss
Benzene	ND	0.05	ug/L	08/28/1994	lss
Toluene	ND		ug/L	08/28/1994	lss
Ethylbenzene	ND		ug/L	08/28/1994	lss
Xylenes (Total)	ND	0.5	ug/L	08/28/1994	lss
Bromofluorobenzene (SURR)	105	0.5	% Rec.	08/28/1994	lss
TPH (Gas/BTXE,Liquid)					
as Gasoline	ND		mg/L	08/31/1994	aal
Benzene	ND	0.05	ug/L	08/31/1994	aal
Toluene	ND		ug/L	08/31/1994	aal
Ethylbenzene	ND		ug/L	08/31/1994	aal
Xylenes (Total)	ND	0.5	ug/L	08/31/1994	aal
Bromofluorobenzene (SURR)	97	0.5	% Rec.	08/31/1994	aal

Ref: SHELL, 5755 Broadway, Oakland, 940818-F2

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Analyst Initials
TPH (Gas/BTXE,Liquid)										
as Gasoline	100.0	98.0	1.9	1.00	ND	1.0	0.98	mg/L	08/28/1994	lss
Benzene	96.5	97.9	1.4	34.0	ND	32.8	33.3	ug/L	08/28/1994	lss
Toluene	98.9	98.0	0.9	101	ND	99.9	99.0	ug/L	08/28/1994	lss
TPH (Gas/BTXE,Liquid)										
as Gasoline	104.0	100.0	3.9	1.00	ND	1.04	1.00	mg/L	08/31/1994	aal
Benzene	103.4	98.2	5.1	32.8	ND	33.9	32.2	ug/L	08/31/1994	aal
Toluene	104.2	101.3	2.8	93.8	ND	97.7	95.0	ug/L	08/31/1994	aal
TPH (Gas/BTXE,Liquid)										
as Gasoline	111.0	118.0	6.1	1.00	ND	1.11	1.18	mg/L	08/31/1994	aal
Benzene	105.4	112.3	6.3	36.7	ND	38.7	41.2	ug/L	08/31/1994	aal
Toluene	103.8	115.1	10.3	106	ND	110	122	ug/L	08/31/1994	aal
TPH (Gas/BTXE,Liquid)										

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. Actual reporting limits and results have been multiplied by the listed dilution factor. **Do not** multiply the reporting limits or reported values by the dilution factor.
dw	:	Result expressed as dry weight.
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than the applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, Rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, Rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986., Rev. 1, December 1987.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

Revised September, 1993
abb.93

COOLER RECEIPT FORM

Project: shell, 5755 Broadway, Oakland Log No: _____
Cooler received on: 8/20/94 and checked on 8/20/94 by A Lope
A Lope
(signature)

Were custody papers present?.....(YES) NO

Were custody papers properly filled out?.....(YES) NO

Were the custody papers signed?.....(YES) NO

Was sufficient ice used?.....(YES) NO -0.5°C

Did all bottles arrive in good condition (unbroken)?.....(YES) NO

Did bottle labels match COC?.....(YES) NO

Were proper bottles used for analysis indicated?.....(YES) NO

Correct preservatives used?.....(YES) NO

VOA vials checked for headspace bubbles?.....(YES) NO
Note which voas (if any) had bubbles:*

Sample descriptor:	Number of vials:

*All VOAs with headspace bubbles have been set aside so they will not be used for analysis.....YES NO

List here all other jobs received in the same cooler:

Client Job #	NET log #

(coolerrec)