

ENVIRONMENTAL  
95 JUN -6 AM 11:23

June 2, 1995

**Mr. Lynn Walker**  
Shell Oil Company  
P.O. Box 4023  
Concord, California 94524

**RE: Quarterly Monitoring Report - Second Quarter 1995**  
Former Shell Service Station  
461 8th Street  
Oakland, California  
WIC #204-5508-6205

Dear Mr. Walker:

This Quarterly Monitoring Report describes the recently completed activities associated with groundwater monitoring and sampling at the referenced site (Plate 1). This report was prepared to meet quarterly reporting guidelines issued by the Regional Water Quality Control Board, San Francisco Bay Region and Alameda County Health Care Services Agency.

### Quarterly Monitoring & Sampling Summary

Groundwater monitoring and sampling for the second quarter of 1995 are summarized below:

- Blaine Tech Services, Inc. (Blaine) of San Jose, California measured groundwater levels in the wells and collected groundwater samples from Wells S-4, S-6, S-8, S-9, and S-10 on April 20, 1995. The samples were transported to National Environmental Testing (NET) of Santa Rosa, California for chemical analysis.
- Enviro, Inc. (Enviros) evaluated water-level measurement data and prepared a groundwater contour map (Plate 3). Groundwater flow direction appears to be southwesterly with an approximate hydraulic gradient of 0.009.
- Groundwater samples collected from Well S-4 were ND for TPH-G and benzene. Groundwater samples collected from Well S-6 contained 56,000 ppb TPH-G and 15,000 ppb benzene. Groundwater samples collected from Well S-8 contained 460 ppb TPH-G and 180 ppb benzene. Groundwater samples collected from Well S-9 contained 1,900 ppb TPH-G and 400 ppb benzene. Groundwater samples collected from Well S-10 contained 820 ppb TPH-G and 49 ppb benzene. A benzene concentration map was prepared and is presented on Plate 4.
- Well S-5 was gauged by Blaine Tech and evacuated by Crosby and Overton on a monthly basis. A total of approximately 200 gallons of groundwater and separate-

phase hydrocarbon mixture were evacuated from this well this quarter. Separate phase hydrocarbon thicknesses ranged from 0.02 to 1.21 feet this quarter (Table 1).

### **Second Quarter Sampling**

Monitoring Wells S-4, S-6, S-8, S-9, and S-10 were sampled and analyzed for Total Petroleum Hydrocarbons calculated as Gasoline (TPH-G) according to EPA Method 8015 (Modified) and Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) according to EPA Method 8020. Additionally, a duplicate sample (from S-6), a trip blank, and a rinsate blank were prepared and analyzed for quality control purposes.

Field monitoring data are summarized in Table 2. The second quarter 1995 chemical analytical data for TPH-G and BTEX have been included in the Historical Groundwater Quality Database (Table 3). The Blaine Quarterly Groundwater Sampling Report is presented in Appendix A.

Quarterly monitoring, sampling, and reporting will continue on the established schedule for the next quarter. Monthly Evacuation of separate-phase petroleum hydrocarbons from Well S-5 will be discontinued. Hydrocarbon absorbent booms will be installed in this well to attempt more efficient collection of separate phase hydrocarbons.

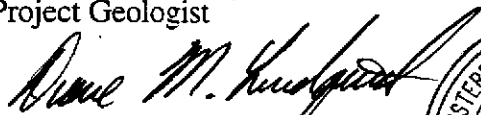
If you have any questions regarding the contents of this document, please call.

Sincerely,

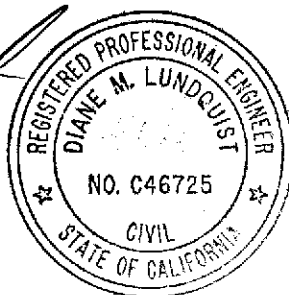
Enviros, Inc.



Joe Neely  
Project Geologist



Diane M. Lundquist, P.E.  
Senior Engineer  
C46725



Attachments:

Table 1. Separate Phase Hydrocarbon Recovery  
Table 2. Field Monitoring Data  
Table 3. Historical Groundwater Quality Database

Plate 1. Vicinity Map  
Plate 2. Site Plan  
Plate 3. Groundwater Contour Map  
Plate 4. Benzene Concentration Map

Appendix A

Blaine - Quarterly Groundwater Sampling Report  
Chain-of-Custody Document  
NET Chemical Analytical Report

cc: Ms. Jennifer Eberle, Alameda County Health Care Services Agency  
Mr. Rory Campbell, Hanson, Bridgett, Marcus, Vlahos & Rudy

**TABLE 1**  
**SEPARATE PHASE HYDROCARBON RECOVERY**

FORMER SHELL SERVICE STATION  
 461 8TH STREET  
 OAKLAND, CALIFORNIA  
 WIC #204-5508-6205

*gasoline  
FP*

WELL NO.	MONT. DATE	PRODUCT THICKNESS (FEET)	VOLUME REMOVED (GAL)	RECOVERY TO DATE (GAL)
S-5	13-May-93	0.27	0	0
	22-Jul-93	0.25	200	200
	20-Oct-93	0.23	200	400
	25-Jan-94	0.18	150	550
	25-Apr-94	0.35	36	586
	26-May-94	0.35	130	716
	16-Jun-94	0.32	50	766
	21-Jul-94	0.47	50	816
	25-Aug-94	0.44	80	896
	22-Sep-94	0.15	45	941
	24-Oct-94	0.56	40	981
	29-Nov-94	1.13	85	1066
	22-Dec-94	0.99	0	1066
	3-Jan-95	1.21	40	1106
	22-Feb-95	0.60	60	1166
	31-Mar-95	0.02	40	1206
	20-Apr-95	0.33	60	1266

Note: "Volume Removed" and "Recovery to Date" refer to a mixture of separate phase hydrocarbon and groundwater.

TABLE 2

## HISTORICAL GROUNDWATER QUALITY DATABASE

FORMER SHELL SERVICE STATION

461 8TH STREET

OAKLAND, CALIFORNIA

WIC# 204-5508-6205

GWS

WELL NO.	DATE	CASING DIA. (IN.)	TOTAL WELL DEPTH (FT.)	WELL ELEV. (FT.)	DEPTH TO LIQUID (FT.)	DEPTH TO WATER (FT.)	PRODUCT THICKNESS (FT.)	WATER ELEV. (FT.)	
S-4	14-Feb-89	4	NA	93.51	12.82	12.82	0.00	80.69	
	1-May-89		NA		16.48	16.48	0.00	77.03	
	27-Jul-89		NA		15.84	15.84	0.00	77.67	
	5-Oct-89		NA		15.98	15.98	0.00	77.53	
	9-Jan-90		NA		15.86	15.86	0.00	77.65	
	30-Apr-90		NA		14.48	14.48	0.00	79.03	
	31-Jul-90							Well Dry	
	30-Oct-90							Well Dry	
	6-Mar-91		16.3			15.23	15.23	0.00	78.28
	27-Jun-91		16.2			13.54	13.54	0.00	79.97
	24-Sep-91		16.3			15.85	15.85	0.00	77.66
	7-Nov-91		16.3			15.6	15.60	0.00	77.91
	13-Feb-92		16.2			14.27	14.27	0.00	79.24
	11-May-92								Well Dry
	3-Dec-92								Well Inaccessible
	13-May-93			17.05		14.81	14.81	0.00	78.70
	22-Jul-93			16.52		14.42	14.42	0.00	79.09
	20-Oct-93								Well Inaccessible
	25-Jan-94			16.64		14.6	14.60	0.00	85.98
	25-Apr-94			16.69		14.39	14.39	0.00	86.19
	21-Jul-94			28.64		22.29	22.29	0.00	71.22
	24-Oct-94			28.81		22.72	22.72	0.00	70.79
	22-Dec-94			28.89	25.77	22.25	22.25	0.00	3.52
20-Apr-95			28.90		21.16	21.16	0.00	4.61	
S-5	14-Feb-89	4	NA	99.36	19.87	19.87	0.00	79.49	
	1-May-89		NA		21.23	21.23	sheen	78.13	
	27-Jul-89		NA		20.41	20.41	0.00	78.95	
	5-Oct-89		NA		20.43	20.43	0.01	78.94	
	9-Jan-90		NA		21.16	21.16	0.01	78.21	
	30-Apr-90		NA		20.96	20.96	0.00	78.40	
	30-Jul-90		NA		20.88	20.88	0.00	78.48	
	30-Oct-90		NA		21.96	21.96	0.03	77.42	
	6-Mar-91		NA		23.00	23.00	0.13	76.46	
	27-Jun-91		NA		20.53	20.53	0.03	78.85	
	24-Sep-91		NA		21.40	21.40	0.06	78.01	
	7-Nov-91		21.5			21.33	21.33	0.25	78.23
	13-Feb-92		38.2			22.52	22.52	0.31	77.09
	11-May-92		38.1			22.46	22.46	0.58	77.36

TABLE 2

## HISTORICAL GROUNDWATER QUALITY DATABASE

FORMER SHELL SERVICE STATION  
 461 8TH STREET  
 OAKLAND, CALIFORNIA  
 WIC# 204-5508-6205

WELL NO.	DATE	CASING DIA. (IN.)	TOTAL WELL DEPTH (FT.)	WELL ELEV. (FT.)	DEPTH TO LIQUID (FT.)	DEPTH TO WATER (FT.)	PRODUCT THICKNESS (FT.)	WATER ELEV. (FT.)
S-5	3-Dec-92				Well Inaccessible			
	13-May-93		37.99		22.22	22.22	0.27	77.36
	22-Jul-93		NA		21.68	21.68	0.25	77.68
	20-Oct-93		NA		20.51	20.51	0.23	79.03
	25-Jan-94		NA		21.75	21.93	0.18	77.47
	25-Apr-94		NA		21.62	21.97	0.35	77.46
	21-Jul-94		NA		21.71	22.18	0.47	77.56
	22-Dec-94		NA	22.94	21.89	22.88	0.99	0.85
	20-Apr-95		NA		21.33	21.66	0.33	1.54
S-6	14-Feb-89	4	NA	100.58	20.87	20.87	0.00	79.71
	1-May-89		NA		20.49	20.49	0.00	80.09
	27-Jul-89		NA		21.01	21.01	0.00	79.57
	5-Oct-89		NA		21.24	21.24	0.00	79.34
	9-Jan-90		NA		22.62	22.62	sheen	77.96
	30-Apr-90		NA		22.10	22.10	0.00	78.48
	30-Jul-90		NA		22.00	22.00	0.00	78.58
	30-Oct-90		NA		22.14	22.14	0.00	78.44
	6-Mar-91		38.5		22.40	22.40	0.00	78.18
	27-Jun-91		38.4		21.21	21.21	0.00	79.37
	24-Sep-91		38.3		22.26	22.26	0.00	78.32
	7-Nov-91		38.4		22.35	22.35	0.00	78.23
	13-Feb-92		36.5		22.28	22.28	0.00	78.30
	11-May-92		37.8		22.10	22.10	0.00	78.48
	3-Dec-92		37.1		22.14	22.14	0.00	78.44
	13-May-93		37.18		22.16	22.16	0.00	78.42
	22-Jul-93		36.68		21.64	21.64	0.00	78.94
	20-Oct-93		36.63		21.62	21.62	0.00	78.96
	25-Jan-94		36.79		21.80	21.80	0.00	78.78
	25-Apr-94		36.82		21.68	21.68	0.00	78.90
	21-Jul-94		36.82		21.78	21.78	0.00	78.80
	24-Oct-94		36.74		22.06	22.06	0.00	78.52
	22-Dec-94		36.86	22.08	21.91	21.91	0.00	0.17
	20-Apr-95		36.87		21.38	21.38	0.00	0.70
S-8	22-Dec-94		29.20	27.21	24.87	24.87	0.00	2.34
	20-Apr-95		29.18		23.90	23.90	0.00	3.31

TABLE 2

HISTORICAL GROUNDWATER QUALITY DATABASE

FORMER SHELL SERVICE STATION  
 461 8TH STREET  
 OAKLAND, CALIFORNIA  
 WIC# 204-5508-6205

WELL NO.	DATE	CASING DIA. (IN.)	TOTAL WELL DEPTH (FT.)	WELL ELEV. (FT.)	DEPTH TO LIQUID (FT.)	DEPTH TO WATER (FT.)	PRODUCT THICKNESS (FT.)	WATER ELEV. (FT.)
S-9	22-Dec-94		30.25	26.06	24.37	24.37	0.00	1.69
	20-Apr-95		30.26		23.49	23.49	0.00	2.57
S-10	22-Dec-94		36.70	28.04	25.84	25.84	0.00	2.20
	20-Apr-95		36.69		24.92	24.92	0.00	3.12

NOTES

Prior to December 1994 static water elevations referenced to project site datum.

All wells resurveyed in December 1994. Elevations referenced to Mean Sea Level.

Water elevation corrected to include 80 percent of the floating product thickness measured in the well.

TABLE 3

## HISTORICAL GROUNDWATER QUALITY DATABASE

Comes

FORMER SHELL SERVICE STATION  
 461 EIGHTH STREET  
 OAKLAND, CALIFORNIA  
 WIC 204-5508-6205

WELL ID	SAMPLE DATE	DEPTH TO WATER (FT.)	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
S-4	26-Oct-88		130	3.8	13	4	30
(Quarterly)	14-Feb-89	12.82	<50	0.5	<1	<1	3
	1-May-89	16.48			Dry		
	27-Jul-89	15.84			Dry		
	5-Oct-89	15.98			Dry		
	9-Jan-90	15.86			Dry		
	30-Apr-90	14.48	<50	<0.5	<0.5	<5	<1
	31-Jul-90				Dry		
	30-Oct-90				Dry		
	6-May-91	15.23			Dry		
	27-Jun-91	13.54	<50	<0.5	<0.5	<0.5	<0.5
	24-Sep-91	15.85			Dry		
	7-Nov-91	15.60			Dry		
	13-Feb-92	14.27	<50	<0.5	<0.5	<0.5	3
	11-May-92				Dry		
	3-Dec-92				Inaccessible		
	13-May-93	14.81			Inaccessible		
	22-Jul-93	14.42			Inaccessible		
	20-Oct-93				Inaccessible		
	25-Jan-94	14.60			Inaccessible		
	25-Apr-94	14.39			Inaccessible		
	21-Jul-94	22.29	<50	<0.5	<0.5	<0.5	<0.5
	24-Oct-94	22.72	<500	<0.3	<0.3	<0.3	<0.6
	22-Dec-94	22.25	<50	<0.5	<0.5	<0.5	<0.5
	20-Apr-95	21.16	<50	<0.5	<0.5	<0.5	<0.5
S-5	16-Apr-87		130,000	15,000	16,000	--	14,000
(Quarterly)	26-Oct-88		110,000	20,000	25,000	2,300	10,000
	14-Feb-89	19.87	94,000	16,000	21,000	1,800	10,000
	1-May-89	21.23	120,000	29,000	35,000	3,100	15,000
	27-Jul-89	20.41	110,000	20,000	29,000	2,400	14,000
	5-Oct-89	20.43			Floating Product 0.01 ft		
	9-Jan-90	21.16			Floating Product 0.01 ft		
	30-Apr-90	20.96	100,000	13,000	22,000	2,100	11,000
	31-Jul-90	20.88	53,000	8,300	14,000	1,200	7,400
	30-Oct-90	21.96			Floating Product 0.03 ft		
	6-May-91	23.00			Floating Product 0.13 ft		
	27-Jun-91	20.53			Floating Product 0.03 ft		
	24-Sep-91	21.40			Floating Product 0.06 ft		
	7-Nov-91	21.33			Floating Product 0.25 ft		
	13-Feb-92	22.52			Floating Product 0.31 ft		



**TABLE 3**  
**HISTORICAL GROUNDWATER QUALITY DATABASE**

**FORMER SHELL SERVICE STATION**  
**461 EIGHTH STREET**  
**OAKLAND, CALIFORNIA**  
**WIC 204-5508-6205**

WELL ID	SAMPLE DATE	DEPTH TO WATER (FT.)	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
S-5	11-May-92	22.46				Floating Product 0.58 ft	
	3-Dec-92					Inaccessible	
	13-May-93	22.22				Floating Product 0.27 ft	
	22-Jul-93	21.68				Floating Product 0.25 ft	
	20-Oct-93	20.51				Floating Product 0.23 ft	
	25-Jan-94	21.93				Floating Product 0.18 ft	
	25-Apr-94	21.97				Floating Product 0.35 ft	
	26-May-94	22.18				Floating Product 0.35 ft	
	10-Jun-94					Floating Product 0.32 ft	
	21-Jul-94	22.18				Floating Product 0.47 ft	
	25-Aug-94					Floating Product 0.44 ft	
	22-Sep-94					Floating Product 0.15 ft	
	24-Oct-94					Floating Product 0.56 ft	
	22-Dec-94	22.88				Floating Product 0.99 ft	
	20-Apr-95	21.66				Floating Product 0.39 ft	
S-6 (Quarterly)	16-Apr-87		81,000	16,000	9,000	---	6,400
	26-Oct-88		110,000	29,000	18,000	2,500	8,200
	14-Feb-89	20.87	54,000	18,000	4,500	1,400	4,000
	1-May-89	20.49	93,000	43,000	9,900	3,000	8,000
	27-Jul-89	21.01	52,000	20,000	3,200	1,700	5,500
	5-Oct-89	21.24	55,000	20,000	2,900	1,600	5,500
	9-Jan-90	22.62	76,000	35,000	9,100	2,300	8,600
	30-Apr-90	22.10	39,000	13,000	2,300	900	2,800
	31-Jul-90	22.00	48,000	20,000	4,600	1,500	4,900
	30-Oct-90	22.14	27,000	7,400	900	600	1,400
	6-May-91	22.40	35,000	3,900	2,700	2,300	3,500
	27-Jun-91	21.21	51,000	19,000	5,600	1,700	6,300
	24-Sep-91	22.26	42,000	14,000	4,300	1,200	4,000
	7-Nov-91	22.35	39,000	11,000	2,000	800	2,300
	13-Feb-92	22.28	64,000	21,000	6,200	1,600	5,100
	11-May-92	22.10	57,000	22,000	7,600	2,200	7,700
	3-Dec-92	22.14	110,000	26,000	9,400	2,100	8,700
	13-May-93	22.16	58,000	21,000	6,800	2,500	9,800
	22-Jul-93	21.64	70,000	31,000	14,000	3,000	13,000
	20-Oct-93	21.62	48,000	28,000	9,800	3,200	12,000
25-Jan-94	21.80	70,000	23,000	7,500	2,500	8,000	
25-Apr-94	21.68	61,000	16,000	4,000	1,800	5,100	
21-Jul-94	21.78	44,000	8,200	3,600	1,400	3,900	
24-Oct-94	22.06	2,936	1,184	440.6	163.4	648.4	

**TABLE 3**  
**HISTORICAL GROUNDWATER QUALITY DATABASE**

**FORMER SHELL SERVICE STATION**  
**461 EIGHTH STREET**  
**OAKLAND, CALIFORNIA**  
**WIC 204-5508-6205**

WELL ID	SAMPLE DATE	DEPTH TO WATER (FT.)	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
S-6	22-Dec-94	21.91	32,000	7,000	2900	790	2400
	20-Apr-95	21.38	56,000	15,000	3800	1900	4900
S-6 DUP	21-Jul-94	21.78	32,000	7,800	3,400	1,300	3,700
	24-Oct-94	22.06	2,968	770.8	325.3	144.1	622
	22-Dec-94	21.91	32,000	8,000	3,800	1,100	3,400
	20-Apr-95	21.38	49,000	13000	3500	1800	4700
S-8 (Quarterly)	22-Dec-94	24.87	600	120	32	5.2	34
	20-Apr-95	23.90	460	180	23	5.2	21
S-9 (Quarterly)	22-Dec-94	24.37	2,600	400	150	42	310
	20-Apr-95	23.49	1,900	400	130	51	200
S-10 (Quarterly)	22-Dec-94	25.84	420	27	8.0	18	45
	20-Apr-95	24.92	620	49	3.7	97	52

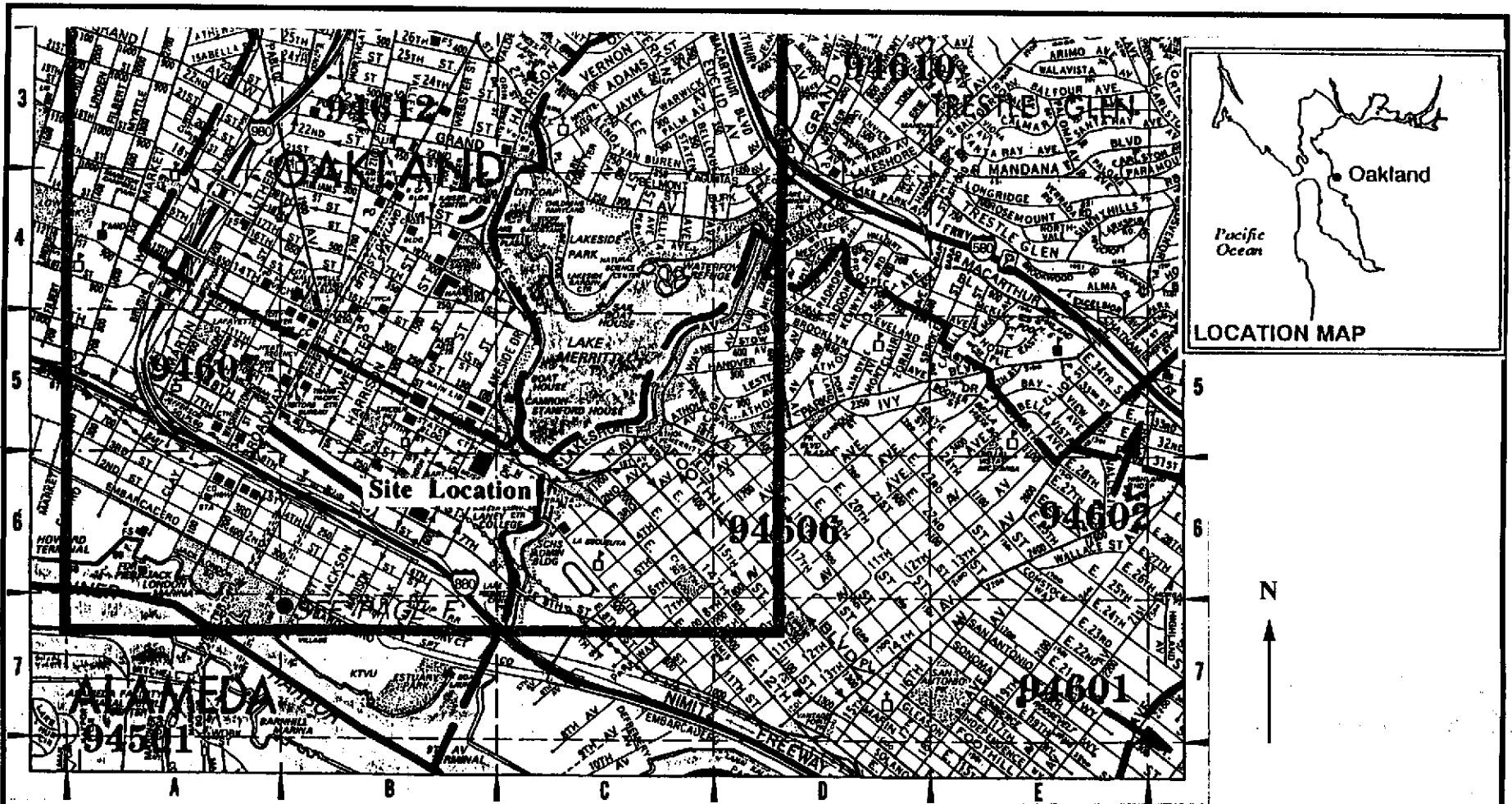
Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015

Benzene, Toluene, Ethylbenzene, and Xylenes analyzed by EPA Method 8020

--- = Ethylbenzene and Xylenes were combined prior to May 1987

<x = Not detected at detection limit of x



Base Map: 1993 Thomas Guide

**Plate 1**      **VICINITY MAP**  
 Former Shell Service Station  
 461 Eighth Street  
 Oakland, California

**enviros**<sup>®</sup>  
 E494216.03

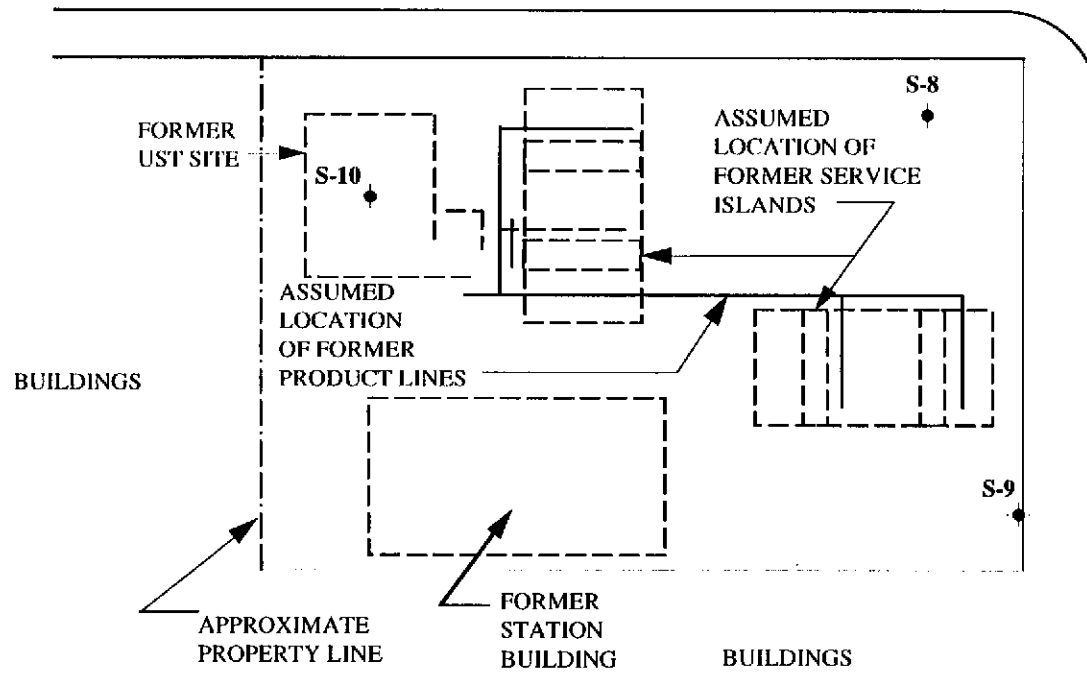
Drawn By: JWN      Date: 10/3/94

Approved By: *Jm*      Date: 2-Jun-95

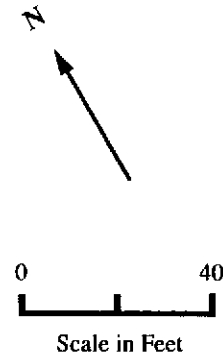
**EXPLANATION**

● Monitoring Well Location

**EIGHTH STREET**



**BROADWAY**



Base Map: GeoStrategies, Inc. Site Plan 9/93

PLATE

**2**

**SITE PLAN**  
Former Shell Service Station  
461 Eighth Street  
Oakland, California

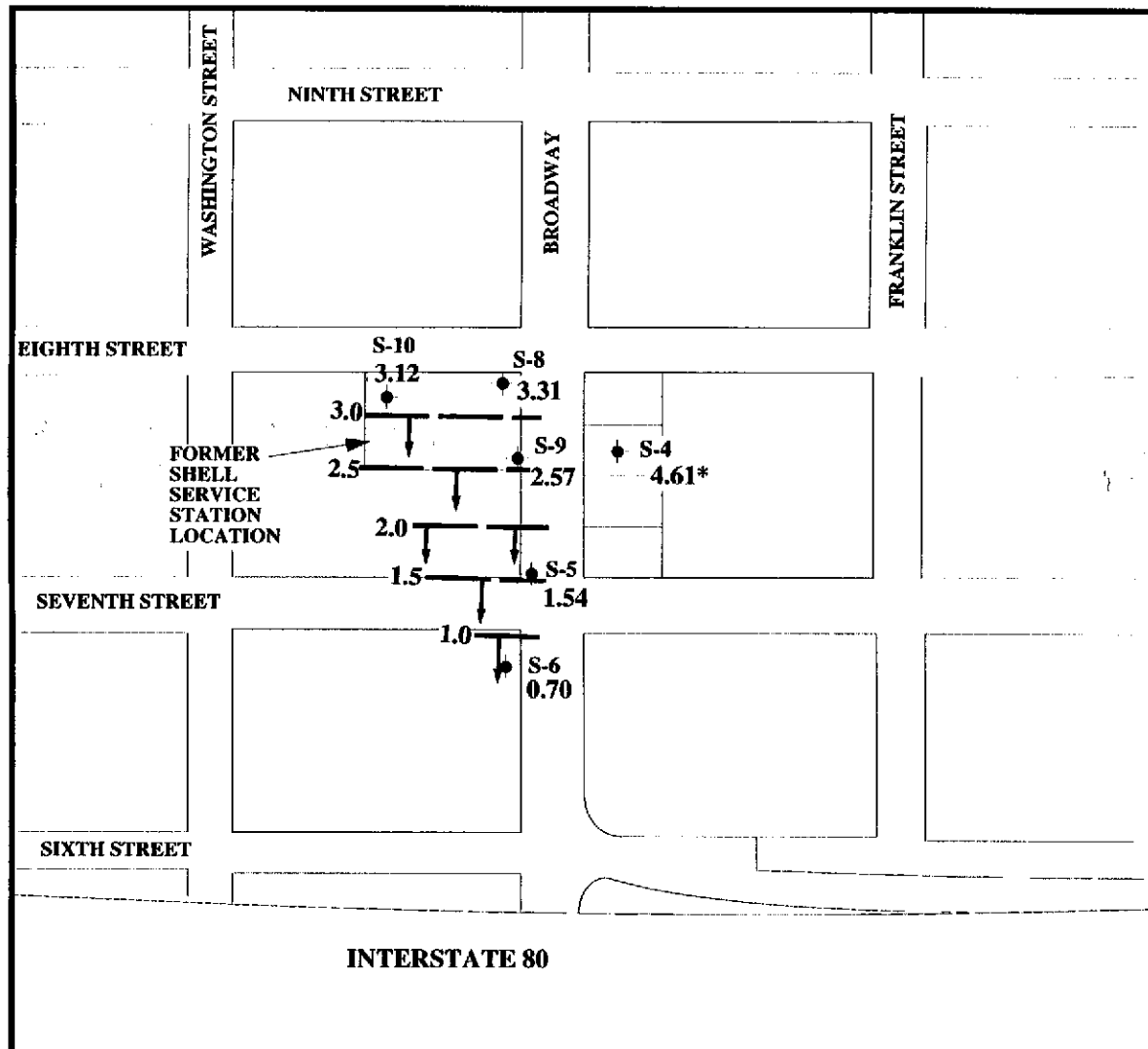
**enviros**<sup>®</sup>  
95 216

Drawn By: JWN

Date: 25-May-95

Approved By: *JM*

Date: *2-Jan-95*



**EXPLANATION**

- ◆ Groundwater Monitoring Well
- 2.34 Groundwater Elevation in feet Referenced to Mean Sea Level
- 0.50 — Groundwater Elevation Contour
- Approximate Hydraulic Gradient = 0.009
- \* Well S-4 not used for contouring

Note: Water level collected 20-Apr-95



Note: Base Map taken from GeoStrategies Inc. Report dated 10-4-93.

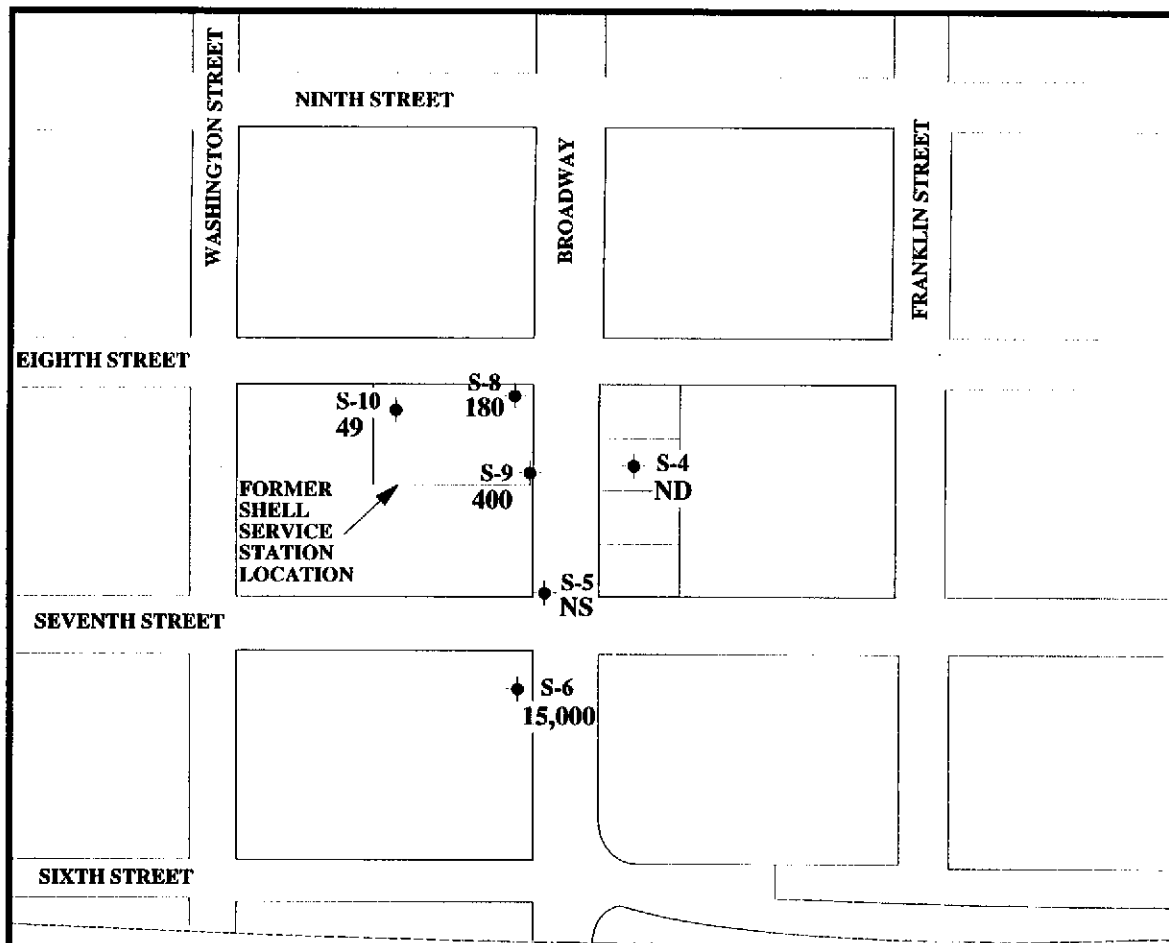
PLATE  
**3**

**GROUNDWATER CONTOUR MAP**  
Former Shell Service Station  
461 Eighth Street  
Oakland, California

**enviros**<sup>®</sup>  
95 216

Drawn By: JWN Date: 25-May-95

Approved By: *JW* Date: 2-Jul-95



EXPLANATION	
•	Groundwater Monitoring Well
120	Benzene Concentration in Groundwater in Parts Per Billion
ND	Not Detected
NS	Not Sampled
Note: Groundwater sampled 20-Apr-95	



Note: Base Map taken from GeoStrategies Inc. Report dated 10-4-93.

PLATE **4** **BENZENE CONCENTRATION MAP**  
Former Shell Service Station  
461 Eighth Street  
Oakland, California



Drawn By: JWN Date: 25-May-95

Approved By: *JW* Date: *2 Jun 95*

**Appendix A**

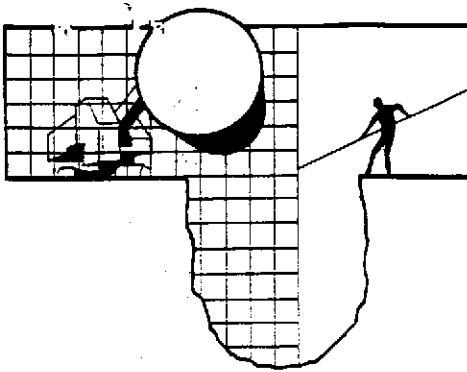
**BLAINE  
Quarterly Groundwater Sampling Report**

**Chain-of-Custody Record**

**NET  
Certified Chemical Analytical Report**

# BLAINE TECH SERVICES INC.

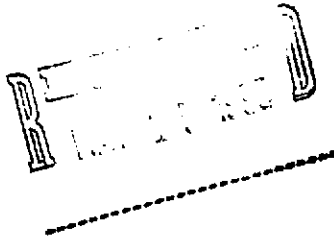
985 TIMOTHY DRIVE  
SAN JOSE, CA 95133  
(408) 995-5535  
FAX (408) 293-8773



May 12, 1995

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

Attn: Lynn Walker



SITE:  
Shell WIC #204-5508-6200  
461 8th Street  
Oakland, California

QUARTER:  
2nd quarter of 1995

## QUARTERLY GROUNDWATER SAMPLING REPORT 950420-J-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 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 #1386.

### 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: Enviro, Inc.  
P.O. Box 259  
Sonoma, CA 95476-0259  
ATTN: Diane Lundquist

## 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-4	4/20/95	TOB	--	NONE	--	--	21.16	28.90
S-5	1/3/95	TOB	FREE PRODUCT	21.73	1.21	40 **	22.94	--
	2/22/95	TOB	FREE PRODUCT	21.42	0.60	60 **	22.02	--
	3/31/95	TOB	FREE PRODUCT	21.31	0.02	40 **	21.33	--
	4/20/95	TOB	FREE PRODUCT	21.33	0.33	60 **	21.66	--
S-6 *	4/20/95	TOB	ODOR	NONE	--	--	21.38	36.87
S-8	4/20/95	TOB	--	NONE	--	--	23.90	29.18
S-9	4/20/95	TOB	ODOR	NONE	--	--	23.49	30.26
S-10	4/20/95	TOB	--	NONE	--	--	24.92	36.69

\* Sample DUP was a duplicate sample taken from well S-6.

\*\* Free product/water removed by Crosby Overton.

#687



**SHELL OIL COMPANY**  
RETAIL ENVIRONMENTAL ENGINEERING - WEST

**CHAIN OF CUSTODY RECORD**  
Serial No: 9504201

Date: 4/20/95  
Page 1 of 1

Site Address: 461 8th Street, Oakland

WIC#: 204-5508-6200

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: Jean Gattineau  
Printed Name: JEAN GATTINEAU

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.
S-10	4/20			X		3
E.I.B.						
S-8						
S-9						
S-6						
DUP						
S-4						2
T.I.B.						

**Analysis Required**

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
-------------------------	----------------------------	---------------------	------------------------------	-------------------	----------------------------------	----------	----------------	------------------	---------------

LAB: NET

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
Quarterly Monitoring <input checked="" type="checkbox"/>	6441	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	6441	48 hours <input type="checkbox"/>
Soil Classfy/Disposal <input type="checkbox"/>	6442	16 days <input checked="" type="checkbox"/> (Normal)
Water Classfy/Disposal <input type="checkbox"/>	6443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	6482	
Water Rem. or Sys. O & M <input type="checkbox"/>	6483	
Other <input type="checkbox"/>		

MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS

Relinquished By (signature): Jean Gattineau  
Relinquished By (signature): Jean Gattineau  
Relinquished By (signature):

Printed Name: JEAN GATTINEAU  
Printed Name: JEAN GATTINEAU  
Printed Name:

Date: 4/21  
Time: 3:35  
Date: 4/21  
Time: 16:00  
Date:  
Time:

Received (signature): [Signature]  
Received (signature): [Signature]  
Received (signature):

Printed Name: JEAN GATTINEAU  
Printed Name: JEAN GATTINEAU  
Printed Name: THE PROSER  
Date: 4/21  
Time: 1335  
Date: 4/22/95  
Time: 0700  
Date:  
Time:



NATIONAL  
ENVIRONMENTAL  
TESTING, INC.

Santa Rosa Division  
3636 North Laughlin Road  
Suite 110  
Santa Rosa, CA 95403-8226  
Tel: (707) 526-7200  
Fax: (707) 541-2333

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

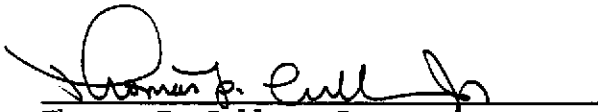
Date: 05/03/1995  
NET Client Acct. No: 1821  
NET Pacific Job No: 95.01654  
Received: 04/22/1995

Client Reference Information

Shell 461 8th Street, Oakland, CA/950420-J1

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:

  
Thomas F. Cullen, Jr.  
Division Manager

  
Linda DeMartino  
Project Coordinator

Enclosure(s)





Client Name: Blaine Tech Services  
Client Acct: 1821  
NET Job No: 95.01654

Date: 05/03/1995  
ELAP Cert: 1386  
Page: 2

Ref: Shell 461 8th Street, Oakland, CA/950420-J1

SAMPLE DESCRIPTION: S-10  
Date Taken: 04/20/1995  
Time Taken:  
NET Sample No: 240596

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						04/27/1995	2793
DILUTION FACTOR*	1						04/27/1995	2793
as Gasoline	820		50	ug/L	5030		04/27/1995	2793
Carbon Range:	C6-C12						04/27/1995	2793
METHOD 8020 (GC,Liquid)	--						04/27/1995	2793
Benzene	49	FC	0.5	ug/L	8020		04/29/1995	2800
Toluene	3.7		0.5	ug/L	8020		04/27/1995	2793
Ethylbenzene	97	FC	0.5	ug/L	8020		04/29/1995	2800
Xylenes (Total)	52		0.5	ug/L	8020		04/27/1995	2793
SURROGATE RESULTS	--						04/29/1995	2800
Bromofluorobenzene (SURR)	77			% Rec.	5030		04/29/1995	2800

FC : Compound quantitated at a 10X dilution factor.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



Client Name: Elaine Tech Services

Date: 05/03/1995

Client Acct: 1821

ELAP Cert: 1386

NET Job No: 95.01654

Page: 3

Ref: Shell 461 8th Street, Oakland, CA/950420-J1

SAMPLE DESCRIPTION: E.B.

Date Taken: 04/20/1995

Time Taken:

NET Sample No: 240597

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						04/27/1995	2793
DILUTION FACTOR*	1						04/27/1995	2793
as Gasoline	ND		50	ug/L	5030		04/27/1995	2793
Carbon Range:	--						04/27/1995	2793
METHOD 8020 (GC,Liquid)	--						04/27/1995	2793
Benzene	ND		0.5	ug/L	8020		04/27/1995	2793
Toluene	ND		0.5	ug/L	8020		04/27/1995	2793
Ethylbenzene	ND		0.5	ug/L	8020		04/27/1995	2793
Xylenes (Total)	ND		0.5	ug/L	8020		04/27/1995	2793
SURROGATE RESULTS	--						04/27/1995	2793
Bromofluorobenzene (SURR)	97			% Rec.	5030		04/27/1995	2793

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.





Client Name: Blaine Tech Services  
Client Acct: 1821  
NET Job No: 95.01654

Date: 05/03/1995  
ELAP Cert: 1386  
Page: 4

Ref: Shell 461 8th Street, Oakland, CA/950420-J1

SAMPLE DESCRIPTION: S-8  
Date Taken: 04/20/1995  
Time Taken:  
NET Sample No: 240598

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTEX, Liquid)								
METHOD 5030/M8015	--						04/29/1995	2800
DILUTION FACTOR*	1						04/29/1995	2800
as Gasoline	460		50	ug/L	5030		04/29/1995	2800
Carbon Range:	C6-C12						04/29/1995	2800
METHOD 8020 (GC, Liquid)	--						04/29/1995	2800
Benzene	180	FC	0.5	ug/L	8020		05/01/1995	2804
Toluene	23		0.5	ug/L	8020		04/29/1995	2800
Ethylbenzene	5.2		0.5	ug/L	8020		04/29/1995	2800
Xylenes (Total)	21		0.5	ug/L	8020		04/29/1995	2800
SURROGATE RESULTS	--						04/29/1995	2800
Bromofluorobenzene (SURR)	86			% Rec.	5030		04/29/1995	2800

FC : Compound quantitated at a 10X dilution factor.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



Client Name: Blaine Tech Services

Date: 05/03/1995

Client Acct: 1821

ELAP Cert: 1386

NET Job No: 95.01654

Page: 5

Ref: Shell 461 8th Street, Oakland, CA/950420-J1

SAMPLE DESCRIPTION: S-9

Date Taken: 04/20/1995

Time Taken:

NET Sample No: 240599

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTEX, Liquid)								
METHOD 5030/M8015	--						04/28/1995	2795
DILUTION FACTOR*	1						04/28/1995	2795
as Gasoline	1,900		50	ug/L	5030		04/28/1995	2795
Carbon Range:	C6-C12						04/28/1995	2795
METHOD 8020 (GC, Liquid)	--						04/29/1995	2800
Benzene	400	FE	0.5	ug/L	8020		04/29/1995	2800
Toluene	130	FE	0.5	ug/L	8020		04/29/1995	2800
Ethylbenzene	51	FE	0.5	ug/L	8020		04/29/1995	2800
Xylenes (Total)	200	FE	0.5	ug/L	8020		04/29/1995	2800
SURROGATE RESULTS	--						04/28/1995	2795
Bromofluorobenzene (SURR)	103			† Rec.	5030		04/28/1995	2795

FE : Compound quantitated at a 50X dilution factor.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



Client Name: Blaine Tech Services  
 Client Acct: 1821  
 © NET Job No: 95.01654

Date: 05/03/1995  
 ELAP Cert: 1386  
 Page: 6

Ref: Shell 461 8th Street, Oakland, CA/950420-J1

SAMPLE DESCRIPTION: S-6  
 Date Taken: 04/20/1995  
 Time Taken:  
 NET Sample No: 240600

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						04/29/1995	2800
DILUTION FACTOR*	500						04/29/1995	2800
as Gasoline	56,000		20,000	ug/L	5030		04/29/1995	2800
Carbon Range:	C6-C12						04/29/1995	2800
METHOD 8020 (GC,Liquid)	--						04/29/1995	2800
Benzene	15,000		200	ug/L	8020		04/29/1995	2800
Toluene	3,800		200	ug/L	8020		04/29/1995	2800
Ethylbenzene	1,900		200	ug/L	8020		04/29/1995	2800
Xylenes (Total)	4,900		200	ug/L	8020		04/29/1995	2800
SURROGATE RESULTS	--						04/29/1995	2800
Bromofluorobenzene (SURR)	76			µ Rec.	5030		04/29/1995	2800

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



Client Name: Blaine Tech Services  
Client Acct: 1821  
NET Job No: 95.01654

Date: 05/03/1995  
ELAP Cert: 1386  
Page: 7

Ref: Shell 461 8th Street, Oakland, CA/950420-J1

SAMPLE DESCRIPTION: DUP

Date Taken: 04/20/1995

Time Taken:

NET Sample No: 240601

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTEX, Liquid)								
METHOD 5030/M8015	--						04/29/1995	2800
DILUTION FACTOR*	250						04/29/1995	2800
as Gasoline	49,000		10,000	ug/L	5030		04/29/1995	2800
Carbon Range:	C6-C12						04/29/1995	2800
METHOD 8020 (GC, Liquid)	--						04/29/1995	2800
Benzene	13,000		100	ug/L	8020		04/29/1995	2795
Toluene	3,500		100	ug/L	8020		04/29/1995	2800
Ethylbenzene	1,800		100	ug/L	8020		04/29/1995	2800
Xylenes (Total)	4,700		100	ug/L	8020		04/29/1995	2800
SURROGATE RESULTS	--						04/29/1995	2800
Bromofluorobenzene (SURR)	77			% Rec.	5030		04/29/1995	2800

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



Client Name: Elaine Tech Services  
Client Acct: 1821  
NET Job No: 95.01654

Date: 05/03/1995  
ELAP Cert: 1386  
Page: 8

Ref: Shell 461 8th Street, Oakland, CA/950420-J1

SAMPLE DESCRIPTION: S-4  
Date Taken: 04/20/1995  
Time Taken:  
NET Sample No: 240602

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTEX, Liquid)								
METHOD 5030/M8015	--						04/28/1995	2795
DILUTION FACTOR*	1						04/28/1995	2795
as Gasoline	ND		50	ug/L	5030		04/28/1995	2795
Carbon Range:	--						04/28/1995	2795
METHOD 8020 (GC, Liquid)	--						04/28/1995	2795
Benzene	ND		0.5	ug/L	8020		04/28/1995	2795
Toluene	ND		0.5	ug/L	8020		04/28/1995	2795
Ethylbenzene	ND		0.5	ug/L	8020		04/28/1995	2795
Xylenes (Total)	ND		0.5	ug/L	8020		04/28/1995	2795
SURROGATE RESULTS	--						04/28/1995	2795
Bromofluorobenzene (SURR)	84			% Rec.	5030		04/28/1995	2795

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



Client Name: Blaine Tech Services  
Client Acct: 1821  
NET Job No: 95.01654

Date: 05/03/1995  
ELAP Cert: 1386  
Page: 9

Ref: Shell 461 8th Street, Oakland, CA/950420-J1

SAMPLE DESCRIPTION: T.B.

Date Taken: 04/20/1995

Time Taken:

NET Sample No: 240603

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						04/28/1995	2795
DILUTION FACTOR*	1						04/28/1995	2795
as Gasoline	ND		50	ug/L	5030		04/28/1995	2795
Carbon Range:	--						04/28/1995	2795
METHOD 8020 (GC,Liquid)	--						04/28/1995	2795
Benzene	ND		0.5	ug/L	8020		04/28/1995	2795
Toluene	ND		0.5	ug/L	8020		04/28/1995	2795
Ethylbenzene	ND		0.5	ug/L	8020		04/28/1995	2795
Xylenes (Total)	ND		0.5	ug/L	8020		04/28/1995	2795
SURROGATE RESULTS	--						04/28/1995	2795
Bromofluorobenzene (SURR)	87			% Rec.	5030		04/28/1995	2795

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



Client Name: Blaine Tech Services

Client Acct: 1821

NET Job No: 95.01654

Date: 05/03/1995

ELAP Cert: 1386

Page: 10

Ref: Shell 461 8th Street, Oakland, CA/950420-J1

### CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV	CCV	CCV	Units	Date Analyzed	Analyst Initials	Run Batch Number
	Standard % Recovery	Standard Amount Found	Standard Amount Expected				
TPH (Gas/BTEXE, Liquid)							
as Gasoline	98.6	0.493	0.50	mg/L	04/27/1995	caf	2793
Benzene	101.8	5.09	5.00	ug/L	04/27/1995	caf	2793
Toluene	101.0	5.05	5.00	ug/L	04/27/1995	caf	2793
Ethylbenzene	100.8	5.04	5.00	ug/L	04/27/1995	caf	2793
Xylenes (Total)	99.9	14.98	15.0	ug/L	04/27/1995	caf	2793
Bromofluorobenzene (SURR)	96.0	96	100	% Rec.	04/27/1995	caf	2793
TPH (Gas/BTEXE, Liquid)							
as Gasoline	106.8	0.534	0.50	mg/L	04/28/1995	caf	2795
Benzene	98.0	4.90	5.00	ug/L	04/28/1995	caf	2795
Toluene	101.0	5.05	5.00	ug/L	04/28/1995	caf	2795
Ethylbenzene	100.4	5.02	5.00	ug/L	04/28/1995	caf	2795
Xylenes (Total)	100.1	15.02	15.0	ug/L	04/28/1995	caf	2795
Bromofluorobenzene (SURR)	72.0	72	100	% Rec.	04/28/1995	caf	2795
TPH (Gas/BTEXE, Liquid)							
as Gasoline	95.6	0.478	0.50	mg/L	04/29/1995	lss	2800
Benzene	101.2	5.06	5.00	ug/L	04/29/1995	lss	2800
Toluene	90.4	4.52	5.00	ug/L	04/29/1995	lss	2800
Ethylbenzene	99.4	4.97	5.00	ug/L	04/29/1995	lss	2800
Xylenes (Total)	92.0	13.8	15.0	ug/L	04/29/1995	lss	2800
Bromofluorobenzene (SURR)	83.0	83	100	% Rec.	04/29/1995	lss	2800

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



Client Name: Blaine Tech Services  
Client Acct: 1821  
NET Job No: 95.01654

Date: 05/03/1995  
ELAP Cert: 1386  
Page: 11

Ref: Shell 461 8th Street, Oakland, CA/950420-J1

## METHOD BLANK REPORT

Parameter	Method			Date Analyzed	Analyst Initials	Run Batch Number
	Blank	Reporting	Units			
	Amount Found	Limit				
TPH (Gas/BTXE,Liquid)						
as Gasoline	ND	0.05	mg/L	04/27/1995	caf	2793
Benzene	ND	0.5	ug/L	04/27/1995	caf	2793
Toluene	ND	0.5	ug/L	04/27/1995	caf	2793
Ethylbenzene	ND	0.5	ug/L	04/27/1995	caf	2793
Xylenes (Total)	ND	0.5	ug/L	04/27/1995	caf	2793
Bromofluorobenzene (SURR)	88		% Rec.	04/27/1995	caf	2793
TPH (Gas/BTXE,Liquid)						
as Gasoline	ND	0.05	mg/L	04/28/1995	caf	2795
Benzene	ND	0.5	ug/L	04/28/1995	caf	2795
Toluene	ND	0.5	ug/L	04/28/1995	caf	2795
Ethylbenzene	ND	0.5	ug/L	04/28/1995	caf	2795
Xylenes (Total)	ND	0.5	ug/L	04/28/1995	caf	2795
Bromofluorobenzene (SURR)	86		% Rec.	04/28/1995	caf	2795
TPH (Gas/BTXE,Liquid)						
as Gasoline	ND	0.05	mg/L	04/29/1995	lss	2800
Benzene	ND	0.5	ug/L	04/29/1995	lss	2800
Toluene	ND	0.5	ug/L	04/29/1995	lss	2800
Ethylbenzene	ND	0.5	ug/L	04/29/1995	lss	2800
Xylenes (Total)	ND	0.5	ug/L	04/29/1995	lss	2800
Bromofluorobenzene (SURR)	85		% Rec.	04/29/1995	lss	2800

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.





Client Name: Blaine Tech Services  
 Client Acct: 1821  
 NET Job No: 95.01654

Date: 05/03/1995  
 ELAP Cert: 1386  
 Page: 12

Ref: Shell 461 8th Street, Oakland, CA/950420-J1

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike				Sample Conc.	Matrix Spike			Date Analyzed	Run Batch	Sample Spiked
	Spike % Rec.	Dup % Rec.	RPD	Spike Amount		Spike Conc.	Dup. Conc.	Units			
TPH (Gas/BTXE,Liquid)											240590
as Gasoline	96.6	99.0	2.5	0.50	ND	0.483	0.495	mg/L	04/27/1995	2793	240590
Benzene	104.0	109.2	4.9	17.3	ND	18.0	18.9	ug/L	04/27/1995	2793	240590
Toluene	94.2	94.8	0.6	34.5	ND	32.5	32.7	ug/L	04/27/1995	2793	240590
TPH (Gas/BTXE,Liquid)											240602
as Gasoline	94.2	94.6	0.4	0.50	ND	0.471	0.473	mg/L	04/28/1995	2795	240602
Benzene	117.4	118.9	1.3	16.11	ND	18.92	19.16	ug/L	04/28/1995	2795	240602
Toluene	105.7	105.2	0.5	31.44	ND	33.24	33.07	ug/L	04/28/1995	2795	240602
TPH (Gas/BTXE,Liquid)											240753
as Gasoline	96.4	94.6	1.9	0.50	ND	0.482	0.473	mg/L	04/29/1995	2800	240753
Benzene	98.8	98.1	0.7	8.04	ND	7.94	7.89	ug/L	04/29/1995	2800	240753
Toluene	98.9	98.2	0.7	27.6	ND	27.3	27.1	ug/L	04/29/1995	2800	240753

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



## 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. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
- ICVS : Initial Calibration Verification Standard (External Standard).
- 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 applicable listed reporting limit.
- NTU : Nephelometric turbidity units.
- RPD : Relative percent difference,  $100 \text{ [Value 1 - Value 2] / mean value}$ .
- 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.

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

COOLER RECEIPT FORM

Project: 950A20 J1

Log No: 6487

Cooler received on: 4/22/95 and checked on 4/22/95 by \_\_\_\_\_

[Signature]  
(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 TEMP.: 0.20c
  - 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)