



April 17, 1995

Jeff Sharpio
Alameda County Department
of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621-1426

ENVIRONMENTAL
HEALTH DEPARTMENT
MAY 11 PM 2:19

Re: First Quarter 1995
ACDEH STID #1976
Shell Service Station
WIC #204-4380-0303
318 South Livermore Avenue
Livermore, California
WA Job #81-613-105

Dear Mr. Sharpio:

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 265.d. Included below are descriptions and results of activities performed in the first quarter 1995 and proposed work for the second quarter 1995.

First Quarter 1995 Activities:

- 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 and the analytic report for the ground water samples are included as Attachment A.
- Weiss Associates (WA) compiled the ground water elevation and analytic data (Tables 1 and 2) and prepared a ground water elevation contour and benzene concentration in ground water map (Figure 2).

Anticipated Second Quarter 1995 Activities:

As approved in the ACDEH's July 19, 1993¹ letter to Dan Kirk of Shell Oil Company, the monitoring frequency at this site has been reduced to twice annually. The next sampling event will occur in the third quarter of 1995.

Conclusions and Recommendations:

As requested in the ACDEH's August 18, 1994 letter to Dan Kirk of Shell Oil Company¹, the sampling schedule has been shifted to February and August. This letter also stated that the site would be re-evaluated for case closure after the August 1995 sampling. Results of the February 28, 1995 sampling showed concentrations for TPH-G, benzene, ethylbenzene, toluene, and xylene to be below the detection limit in all four monitor wells on site. Water levels at the site have risen 6 to 8 ft. compared to those in June 1994 and have risen 17 to 19 ft. compared to lowest water levels measured at the site during the drought years.

WA will collect samples from the site in August 1995. However, since no benzene or other hydrocarbons have ever been detected over Department of Toxic Substances Control (DTSC) maximum contaminant levels for drinking water (MCLs) in downgradient wells MW-1, MW-2 and MW-4 despite the recent rise in ground water, and since the benzene concentrations detected in source area well MW-3 are consistently near or below DTSC MCLs and do not pose any threat to human health or the environment, we request that the Alameda County Department of Environmental Health grant case closure for this site.

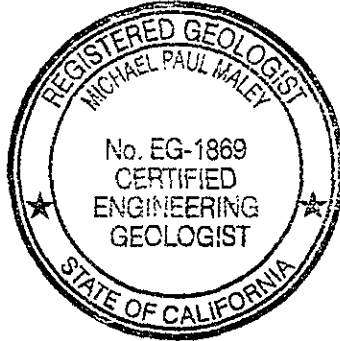
¹ ACDEH, July 26, 1993, Letter from hazardous materials specialist Eva Chu to Shell environmental engineer Dan Kirk regarding the Shell service station at 318 South Livermore Avenue, Livermore, California, 1 pg.

Jeff Sharpio
April 17, 1995

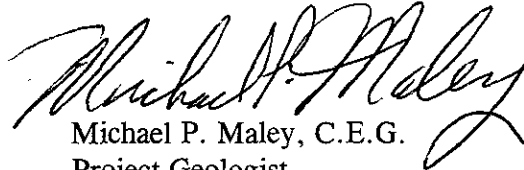
3

Please call if you have any questions.

Sincerely,
Weiss Associates



Grady S. Glasser
Technical Assistant



Michael P. Maley, C.E.G.
Project Geologist

Attachments: A - Ground Water Monitoring Report and Analytic Data

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, CA 94520
Tom Callaghan, Regional Water Quality Control Board, San Francisco Bay Region,
2101 Webster Street, Oakland, CA 94612

GSG/MPM:eac
J:\SHELL\0613\QM\95Q1R.DOC

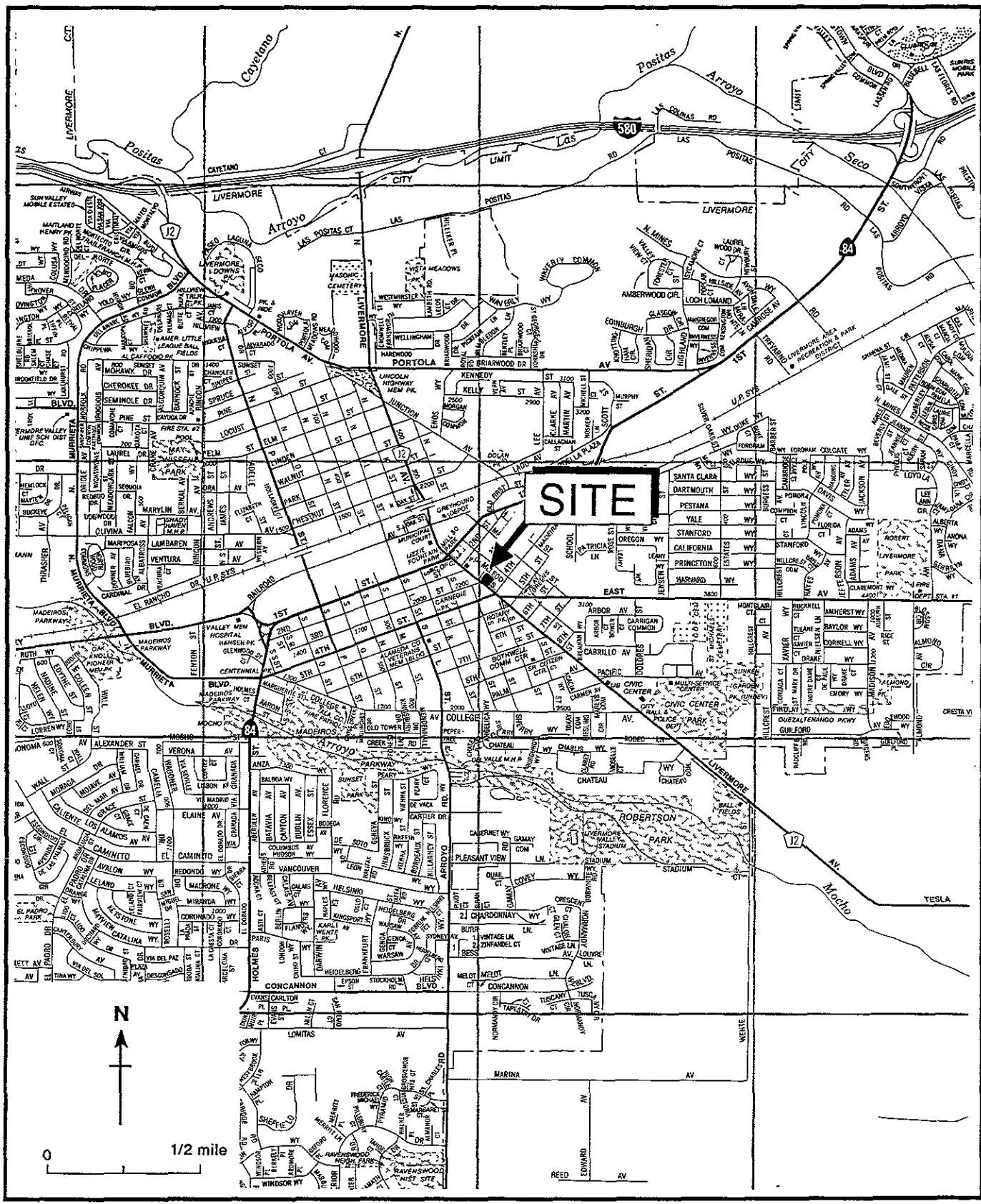
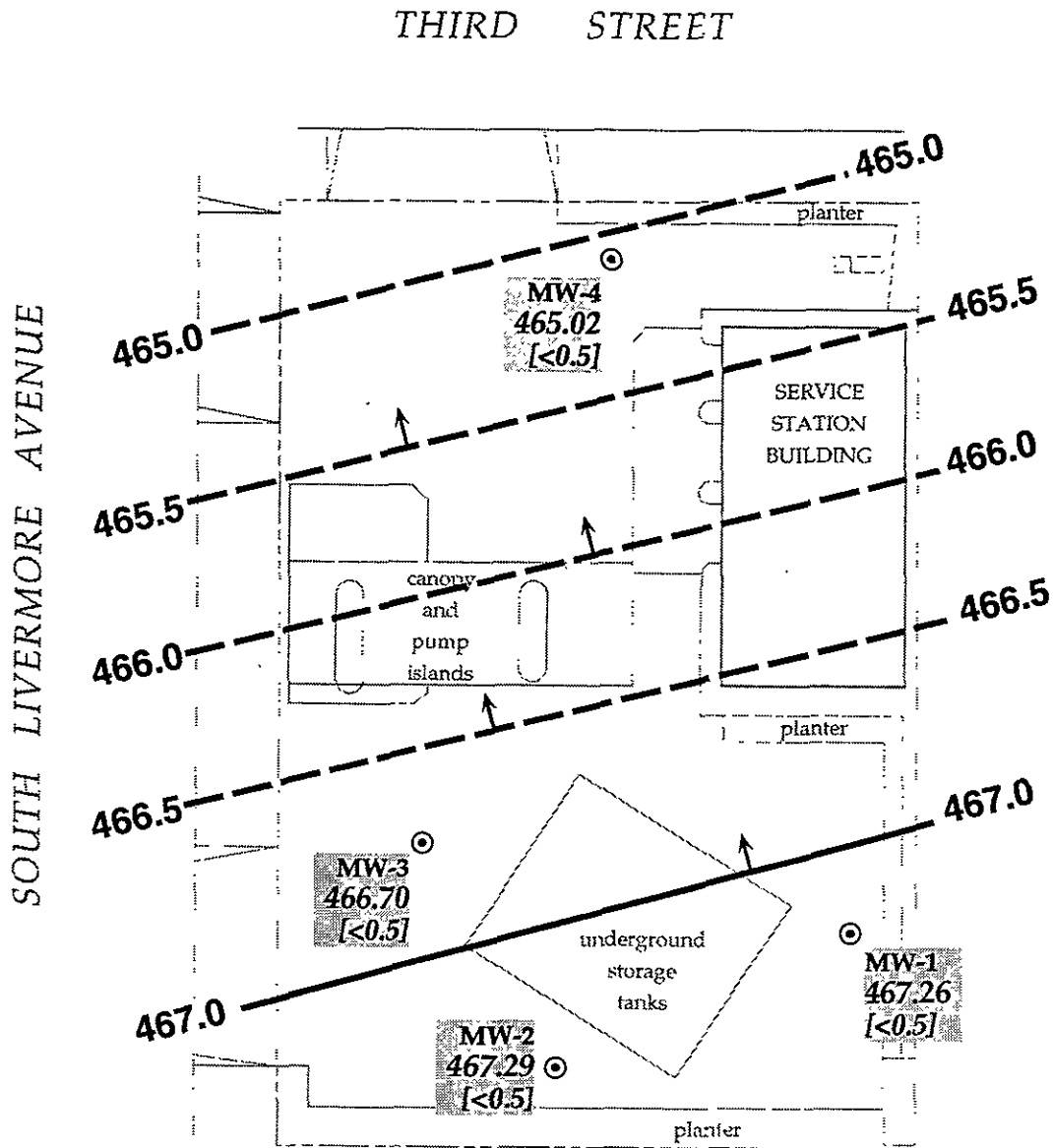


Figure 1. Site Location Map - Shell Service Station WIC #204-4380-0303, 318 South Livermore Avenue, Livermore, California



EXPLANATION	
⊙ MW-1	Monitoring well
467.26	Ground water elevation, ft above mean sea level
[<0.5]	Benzene concentration in parts per billion (ppb)
- 467.0	Ground water elevation contour, ft above mean sea level, approximately located, dashed where inferred
→	Inferred ground water flow direction

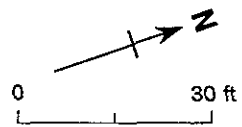


Figure 2. Monitoring Well Locations, Ground Water Elevation Contours, Benzene Concentrations in Ground Water - February 28, 1995 - Shell Service Station WIC #204-4380-0303, 318 South Livermore Avenue, Livermore, California

Table 1. Ground Water Elevations - Shell Service Station WIC #204-4380-0303, 318 South Livermore Avenue, Livermore, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
MW-1	06/21/90	496.08	42.69	453.39
	09/28/90		44.75	451.33
	11/06/90		45.61	450.47
	12/07/90		45.82	450.26
	09/02/92		Dry	Dry
	11/13/92		Dry	Dry
	01/25/93		47.47	448.61
	05/27/93		31.09	464.99
	09/21/93		33.67	462.41
	12/09/93		33.84	462.24
	06/20/94		37.81	458.27
	02/28/95		28.82	467.26
	MW-2		06/21/90	495.49
09/28/90		44.18	451.31	
11/06/90		44.98	450.51	
12/07/90		45.32	450.17	
09/02/92		Dry	Dry	
11/13/92		Dry	Dry	
01/25/93		47.14	448.35	
05/27/93		31.48	464.01	
09/21/93		33.31	462.18	
12/09/93		32.82	462.67	
06/20/94		35.88	459.61	
02/28/95		28.20	467.29	
MW-3		06/21/90	494.80	
	09/28/90	44.15		450.65
	11/06/90	44.93		449.87
	12/07/90	45.56		449.24
	09/02/92	Dry		Dry
	11/13/92	Dry		Dry
	01/25/93	47.02		447.78
	05/27/93	29.58		465.22
	09/21/93	33.79		461.01
	12/09/93	32.85		461.95
	06/16/94	35.81		458.99
	02/28/95	28.10		466.70
	MW-4	06/21/90		494.33
09/28/90		44.27	450.06	
11/06/90		45.12	449.21	
12/07/90		45.97	448.36	

Table 1. Ground Water Elevations - Shell Service Station WIC #204-4380-0303, 318 South Livermore Avenue, Livermore, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
	09/02/92		50.61	443.72
	11/13/92		Dry	Dry
	01/25/93		47.40	446.93
	05/27/93		32.54	461.79
	09/21/93		33.55	460.78
	12/19/93		33.65	460.68
	06/20/94		35.46	458.87
	02/28/95		29.31	465.02

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-4380-0303, 318 South Livermore Avenue, Livermore, California

Well ID & Sampling Frequency	Date	Depth to Water	TPH-G	B	E	T	X	Lead
			←————— parts per billion (µg/L) —————→					
MW-1 (2nd & 4th Quarters)	06/21/90	42.69	<30	<0.3	<0.3	<0.3	<0.3	---
	10/02/90	44.75	<30	<0.3	<0.3	<0.3	<0.3	---
	09/02/92	---	---	---	---	---	---	---
	11/13/92	---	---	---	---	---	---	---
	01/25/93	47.47	<50	<0.5	<0.5	<0.5	<0.5	<3
	05/27/93	31.09	<50	<0.5	<0.5	<0.5	<0.5	---
	05/27/93 ^{dup}	31.09	<50	<0.5	<0.5	<0.5	<0.5	---
	09/21/93	33.67	<50	<0.5	<0.5	<0.5	<0.5	---
	12/09/93	33.84	<50	<0.5	<0.5	<0.5	<0.5	---
	06/20/94	37.81	<50	<0.5	<0.5	<0.5	<0.5	---
	02/28/95	28.82	<50	<0.5	<0.5	<0.5	<0.5	---
MW-2 (2nd & 4th Quarters)	06/21/90	42.15	<30	<0.3	<0.3	<0.3	<0.3	---
	10/02/90	44.18	<30	<0.3	<0.3	<0.3	<0.3	---
	09/02/92	Dry	---	---	---	---	---	---
	11/13/92	Dry	---	---	---	---	---	---
	01/25/93	47.14	<50	<0.5	<0.5	<0.5	<0.5	<3
	05/27/93	31.48	<50	<0.5	<0.5	<0.5	<0.5	---
	09/21/93	33.31	<50	<0.5	<0.5	<0.5	<0.5	---
	12/09/93	32.82	<50	<0.5	<0.5	<0.5	<0.5	---
	06/20/94	35.88	<50	<0.5	<0.5	<0.5	<0.5	---
		02/28/95	28.20	<50	<0.5	<0.5	<0.5	<0.5
MW-3 (2nd & 4th Quarters)	06/21/90	42.07	<30	<0.3	<0.3	<0.3	<0.3	---
	10/02/90	44.15	<30	<0.3	<0.3	<0.3	<0.3	---
	09/02/92	Dry	---	---	---	---	---	---
	11/13/92	Dry	---	---	---	---	---	---
	01/25/93	47.02	<50	<0.5	<0.5	<0.5	<0.5	<3
	05/27/93	29.58	50	6.8	5	1.9	5.7	---

— Table 2 continues on next page —



Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-4380-0303, 318 South Livermore Avenue, Livermore, California (continued)

Well ID & Sampling Frequency	Date	Depth to Water	TPH-G	B	E	T	X	Lead
			←————— parts per billion (µg/L) —————→					
	09/21/93	33.79	80	2.3	0.9	1.0	0.9	---
	09/21/93 ^{dup}	33.79	90	2.3	0.9	0.9	4.0	---
	12/09/93	32.85	90	<0.5	<0.5	<0.5	<0.5	---
	12/09/93 ^{dup}	32.85	80	<0.5	<0.5	<0.5	<0.5	---
	06/20/94	35.81	90	7.4	<0.5	<0.5	<0.5	---
	06/20/94 ^{dup}	35.81	90	6.4	0.6	<0.5	1.2	---
	02/28/95	28.10	<50	<0.5	<0.5	<0.5	<0.5	---
	02/28/95^{dup}	28.10	<50	<0.5	<0.5	<0.5	<0.5	---
MW-4 (2nd & 4th Quarters)	06/21/90	42.21	<30	<0.3	<0.3	<0.3	<0.3	---
	10/02/90	44.27	<30	<0.3	<0.3	<0.3	<0.3	---
	09/02/92	50.61	63	<0.5	<0.5	<0.5	<0.5	3.3
	09/02/92 ^{dup}	50.61	67	<0.5	<0.5	<0.5	<0.5	---
	11/13/92	Dry	---	---	---	---	---	---
	01/25/93	47.40	<50	<0.5	<0.5	<0.5	<0.5	<3
	01/25/93 ^{dup}	47.40	<50	<0.5	<0.5	<0.5	<0.5	<3
	05/27/93	32.54	<50	<0.5	<0.5	<0.5	<0.5	---
	09/21/93	33.55	<50	<0.5	<0.5	<0.5	<0.5	---
	12/09/93	33.65	<50	<0.5	<0.5	<0.5	<0.5	---
	06/20/94	35.46	<50	<0.5	<0.5	<0.5	<0.5	---
	02/28/95	29.31	<50	<0.5	<0.5	<0.5	<0.5	---
Trip Blank	09/02/92		<50	<0.5	<0.5	<0.5	<0.5	---
	01/25/93		<50	<0.5	<0.5	<0.5	<0.5	<3
	05/27/93		<50	<0.5	<0.5	<0.5	<0.5	---
	09/21/93		<50	<0.5	<0.5	<0.5	<0.5	---
	12/09/93		<50	<0.5	<0.5	<0.5	<0.5	---
	06/20/94		<50	<0.5	<0.5	<0.5	<0.5	---
	02/28/95		<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 #204-4380-0303, 318 South Livermore Avenue, Livermore, California (continued)

Well ID & Sampling Frequency	Date	Depth to Water	TPH-G	B	E	T	X	Lead
			←————— parts per billion (µg/L) —————→					
DTSC MCLs			NE	1	680	100 ^a	1,750	50

Abbreviations:

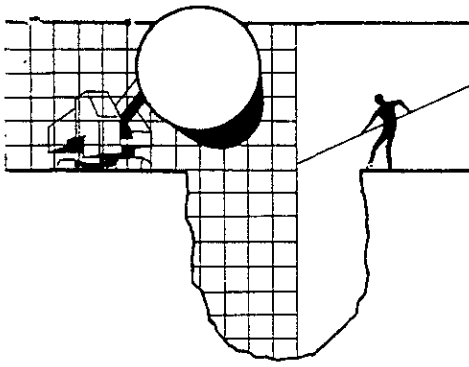
TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
 B = Benzene by EPA Method 8020
 E = Ethylbenzene by EPA Method 8020
 T = Toluene by EPA Method 8020
 X = Xylenes by EPA Method 8020
 Lead = Lead by EPA Method 7421
 NE = Not established
 --- = Not analyzed
 <n = Not detected at detection limits of n ppb
 DTSC MCLs = California Department of Toxic Substances Control maximum
 contaminant levels for drinking water
 dup = Duplicate sample

Notes:

a = DTSC recommended action level; MCL not established

ATTACHMENT A

GROUND WATER MONITORING REPORT AND ANALYTIC REPORT



March 22, 1995

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

Attn: Daniel T. Kirk

SITE:
Shell WIC #204-4380-0303
318 S. Livermore Avenue
Livermore, California

QUARTER:
1st quarter of 1995

QUARTERLY GROUNDWATER SAMPLING REPORT 950228-L-1

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

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

STANDARD PROCEDURES

Evacuation

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

Normal evacuation removes three case volumes of water from the well. More than three case volumes of water are removed in cases where more evacuation is needed to achieve stabilization of water parameters and when requested by the local implementing agency. Less water may be removed 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 #178.

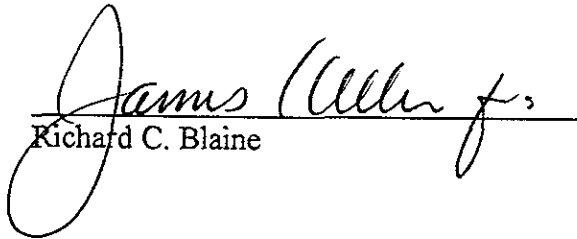
Objective Information Collection

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: Grady Glasser

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	2/28/95	TOC	--	NONE	--	--	28.82	54.43
MW-2	2/28/95	TOC	--	NONE	--	--	28.20	52.48
MW-3 *	2/28/95	TOC	--	NONE	--	--	28.10	51.73
MW-4	2/28/95	TOC	--	NONE	--	--	29.31	54.84

* Sample DUP was a duplicate sample taken from well MW-3.



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

5787

Silo Address: 318 S. Livermore Ave., Livermore

Serial No: 950228-L1

Date: 2-28-95

WIC#: 204-4380-0303

Analysis Required

LAB: NET

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: JAD BOWEN

Printed Name: LAD B OWEN

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	Preparation Used	Composite Y/N	CHECK ONE (1) BOX ONLY		TURN AROUND TIME
																	C1/D1		
MW-1	2/28			X		3						X						Quantity Monitoring <input checked="" type="checkbox"/> 441	24 hours <input type="checkbox"/>
MW-2				X		3						X						Site Investigation <input type="checkbox"/> 441	48 hours <input type="checkbox"/>
MW-3				X		3						X						Soil Clarity/Disposal <input type="checkbox"/> 442	14 days <input checked="" type="checkbox"/> (Normal)
MW-4				X		3						X						Water Clarity/Disposal <input type="checkbox"/> 443	Other <input type="checkbox"/>
DUP				X		3						X						Soil/Air Rem. of Syst. O & M <input type="checkbox"/> 442	
EB				X		3						X						Water Rem. of Syst. O & M <input type="checkbox"/> 443	
TB				X		2						X						Other <input type="checkbox"/>	

(3/1/95 JAD)
Seal intact
S.L.

Relinquished By (signature): <u>JAD Bowen</u>	Printed Name: <u>LAD B OWEN</u>	Date: <u>3/1/95</u>	Time: <u>10:55</u>	Received (signature): <u>J. LeBaudour</u>	Printed Name: <u>J. LeBaudour</u>	Date: <u>3/1</u>	Time: <u>10:58</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>[Name]</u>	Date: <u>3/1</u>	Time: <u>1:00</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>[Name]</u>	Date: <u>3/2/95</u>	Time: <u>07:00</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>[Name]</u>	Date: <u>[Date]</u>	Time: <u>[Time]</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>[Name]</u>	Date: <u>[Date]</u>	Time: <u>[Time]</u>



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

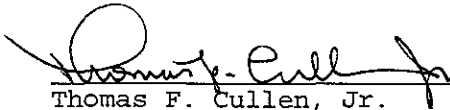
Date: 03/13/1995
NET Client Acct. No: 1821
NET Pacific Job No: 95.00966
Received: 03/02/1995


Client Reference Information

SHELL, 318 S. Livermore Ave., Livermore, Job No. 950228-L1

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


Jennifer L. Roseberry
Project Manager

Enclosure(s)





Client Name: Blaine Tech Services
Client Acct: 1821
NET Job No: 95.00966

Date: 03/13/1995
ELAP Cert: 1386
Page: 2

Ref: SHELL, 318 S. Livermore Ave., Livermore, Job No. 950228-L1

SAMPLE DESCRIPTION: MW-1

Date Taken: 02/28/1995

Time Taken:

NET Sample No: 237242

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						03/08/1995	2659
DILUTION FACTOR*	1						03/08/1995	2659
as Gasoline	ND		50	ug/L	5030		03/08/1995	2659
Carbon Range:	--						03/08/1995	2659
METHOD 8020 (GC,Liquid)	--						03/08/1995	2659
Benzene	ND		0.5	ug/L	8020		03/08/1995	2659
Toluene	ND		0.5	ug/L	8020		03/08/1995	2659
Ethylbenzene	ND		0.5	ug/L	8020		03/08/1995	2659
Xylenes (Total)	ND		0.5	ug/L	8020		03/08/1995	2659
SURROGATE RESULTS	--						03/08/1995	2659
Bromofluorobenzene (SURR)	76			% Rec.	5030		03/08/1995	2659

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: 95.00966

Date: 03/13/1995
ELAP Cert: 1386
Page: 3

Ref: SHELL, 318 S. Lavermore Ave., Livermore, Job No. 950228-L1

SAMPLE DESCRIPTION: MW-2

Date Taken: 02/28/1995

Time Taken:

NET Sample No: 237243

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						03/08/1995	2659
DILUTION FACTOR*	1						03/08/1995	2659
as Gasoline	ND		50	ug/L	5030		03/08/1995	2659
Carbon Range:	--						03/08/1995	2659
METHOD 8020 (GC,Liquid)	--						03/08/1995	2659
Benzene	ND		0.5	ug/L	8020		03/08/1995	2659
Toluene	ND		0.5	ug/L	8020		03/08/1995	2659
Ethylbenzene	ND		0.5	ug/L	8020		03/08/1995	2659
Xylenes (Total)	ND		0.5	ug/L	8020		03/08/1995	2659
SURROGATE RESULTS	--						03/08/1995	2659
Bromofluorobenzene (SURR)	94			% Rec.	5030		03/08/1995	2659

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: 95.00966

Date: 03/13/1995
ELAP Cert: 1386
Page: 4

Ref: SHELL, 318 S. Livermore Ave., Livermore, Job No. 950228-L1

SAMPLE DESCRIPTION: MW-3
Date Taken: 02/28/1995
Time Taken:
NET Sample No: 237244

Parameter	Results	Flags	Reporting			Date	Date	Run
			Limit	Units	Method	Extracted	Analyzed	Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						03/08/1995	2659
DILUTION FACTOR*	1						03/08/1995	2659
as Gasoline	ND		50	ug/L	5030		03/08/1995	2659
Carbon Range:	--						03/08/1995	2659
METHOD 8020 (GC,Liquid)	--						03/08/1995	2659
Benzene	ND		0.5	ug/L	8020		03/08/1995	2659
Toluene	ND		0.5	ug/L	8020		03/08/1995	2659
Ethylbenzene	ND		0.5	ug/L	8020		03/08/1995	2659
Xylenes (Total)	ND		0.5	ug/L	8020		03/08/1995	2659
SURROGATE RESULTS	--						03/08/1995	2659
Bromofluorobenzene (SURRE)	102			% Rec.	5030		03/08/1995	2659

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



Client Name: Blaine Tech Services

Date: 03/13/1995

Client Acct: 1821

ELAP Cert: 1386

NET Job No: 95.00966

Page: 5

Ref: SHELL, 318 S. Livermore Ave., Livermore, Job No. 950228-L1

SAMPLE DESCRIPTION: MW-4

Date Taken: 02/28/1995

Time Taken:

NET Sample No: 237245

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						03/08/1995	2659
DILUTION FACTOR*	1						03/08/1995	2659
as Gasoline	ND		50	ug/L	5030		03/08/1995	2659
Carbon Range:	--						03/08/1995	2659
METHOD 8020 (GC,Liquid)	--						03/08/1995	2659
Benzene	ND		0.5	ug/L	8020		03/08/1995	2659
Toluene	ND		0.5	ug/L	8020		03/08/1995	2659
Ethylbenzene	ND		0.5	ug/L	8020		03/08/1995	2659
Xylenes (Total)	ND		0.5	ug/L	8020		03/08/1995	2659
SURROGATE RESULTS	--						03/08/1995	2659
Bromofluorobenzene (SURRE)	97			% Rec.	5030		03/08/1995	2659

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: 95.00966

Date: 03/13/1995
ELAP Cert: 1386
Page: 6

Ref: SHELL, 318 S. Livermore Ave., Livermore, Job No. 950228-L1

SAMPLE DESCRIPTION: DUP

Date Taken: 02/28/1995

Time Taken:

NET Sample No: 237246

Parameter	Results	Flags	Reporting			Date	Date	Run
			Limit	Units	Method	Extracted	Analyzed	Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						03/08/1995	2659
DILUTION FACTOR*	1						03/08/1995	2659
as Gasoline	ND		50	ug/L	5030		03/08/1995	2659
Carbon Range:	--						03/08/1995	2659
METHOD 8020 (GC,Liquid)	--						03/08/1995	2659
Benzene	ND		0.5	ug/L	8020		03/08/1995	2659
Toluene	ND		0.5	ug/L	8020		03/08/1995	2659
Ethylbenzene	ND		0.5	ug/L	8020		03/08/1995	2659
Xylenes (Total)	ND		0.5	ug/L	8020		03/08/1995	2659
SURROGATE RESULTS	--						03/08/1995	2659
Bromofluorobenzene (SURR)	103			% Rec.	5030		03/08/1995	2659

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: 95.00966

Date: 03/13/1995
ELAP Cert: 1386
Page: 7

Ref: SHELL, 318 S. Livermore Ave., Livermore, Job No. 950228-L1

SAMPLE DESCRIPTION: TB
Date Taken: 02/28/1995
Time Taken:
NET Sample No: 237247

Parameter	Results	Flags	Reporting			Date	Date	Run
			Limit	Units	Method	Extracted	Analyzed	Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						03/08/1995	2659
DILUTION FACTOR*	1						03/08/1995	2659
as Gasoline	ND		50	ug/L	5030		03/08/1995	2659
Carbon Range:	--						03/08/1995	2659
METHOD 8020 (GC,Liquid)	--						03/08/1995	2659
Benzene	ND		0.5	ug/L	8020		03/08/1995	2659
Toluene	ND		0.5	ug/L	8020		03/08/1995	2659
Ethylbenzene	ND		0.5	ug/L	8020		03/08/1995	2659
Xylenes (Total)	ND		0.5	ug/L	8020		03/08/1995	2659
SURROGATE RESULTS	--						03/08/1995	2659
Bromofluorobenzene (SURR)	92			% Rec.	5030		03/08/1995	2659

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: 95.00966

Date: 03/13/1995
ELAP Cert: 1386
Page: 8

Ref: SHELL, 318 S. Livermore Ave., Livermore, Job No. 950228-L1

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV	CCV	CCV	Units	Date Analyzed	Run	
	Standard	Standard	Standard			Analyst	Batch
	% Recovery	Amount Found	Amount Expected			Initials	Number
TPH (Gas/BTXE, Liquid)							
as Gasoline	93.0	0.93	1.00	mg/L	03/08/1995	tts	2659
Benzene	105.0	5.25	5.00	ug/L	03/08/1995	tts	2659
Toluene	107.4	5.37	5.00	ug/L	03/08/1995	tts	2659
Ethylbenzene	93.4	4.67	5.00	ug/L	03/08/1995	tts	2659
Xylenes (Total)	111.3	16.7	15.0	ug/L	03/08/1995	tts	2659
Bromofluorobenzene (SURR)	100.0	100	100	% Rec.	03/08/1995	tts	2659

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: 95.00966

Date: 03/13/1995
ELAP Cert: 1386
Page: 9

Ref: SHELL, 318 S. Livermore Ave., Livermore, Job No. 950228-L1

METHOD BLANK REPORT

Parameter	Method	Reporting			Date	Analyst	Run
	Blank	Amount	Limit	Units	Analyzed	Initials	Batch
TPH (Gas/BTXE,Liquid)							
as Gasoline	ND	0.05		mg/L	03/08/1995	tts	2659
Benzene	ND	0.5		ug/L	03/08/1995	tts	2659
Toluene	ND	0.5		ug/L	03/08/1995	tts	2659
Ethylbenzene	ND	0.5		ug/L	03/08/1995	tts	2659
Xylenes (Total)	ND	0.5		ug/L	03/08/1995	tts	2659
Bromofluorobenzene (SURR)	96			% Rec.	03/08/1995	tts	2659

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: 95.00966

Date: 03/13/1995
ELAP Cert: 1386
Page: 10

Ref: SHELL, 318 S. Livermore Ave., Livermore, Job No. 950228-L1

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike			Spike Amount	Sample Conc.	Matrix Spike Dup.		Units	Date Analyzed	Run Batch	Sample Spiked
	% Rec.	% Rec.	RPD			Conc.	Conc.				
TPH (Gas/BTEX,Liquid)											237242
as Gasoline	108.0	109.0	0.9	1.00	ND	1.08	1.09	mg/L	03/08/1995	2659	237242
Benzene	113.8	114.4	0.5	18.8	ND	21.4	21.5	ug/L	03/08/1995	2659	237242
Toluene	109.0	109.2	0.2	75.8	ND	82.6	82.8	ug/L	03/08/1995	2659	237242

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, $100 \frac{|\text{Value 1} - \text{Value 2}|}{\text{mean value}}$.
- 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: 950228-11 Log No: 5787
Cooler received on: 2/95 and checked on 2/95 by Shil [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 -0.4°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 #
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____