



January 11, 1996

Madulla Logan
Alameda Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Fourth Quarter 1995
Shell Service Station
WIC #204-5510-0600
4255 MacArthur Blvd.
Oakland, California
WA Job #81-0757-205

Dear Ms. Logan:

This status report satisfies the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Division 3, Chapter 16, Article 5, Section 2652.d.

Fourth Quarter 1995 Activities:

SEPARATE-PHASE HYDROCARBON REMOVAL SUMMARY	
<i>Separate-Phase Hydrocarbons Removed This Quarter (lbs)</i>	<i>Cumulative Pounds Removed</i>
0	6.71

- No separate-phase hydrocarbons (SPH) were removed this quarter because containment drums were absent from the site. Since the Third Quarter 1994, about 6.71 lbs. of SPH have been removed from the wells (Table 1).
- BTS measured depths to ground water and collected ground water samples from the site wells (Figures 1 and 2). The BTS report describing these activities is included as Attachment A.

- In December 1995, Shell began construction activities to upgrade dispensers and product lines at the site. WA will submit a report under separate cover documenting the upgrade activities.
- Weiss Associates (WA) compiled the ground water elevation and analytic data (Tables 2 and 3, respectively) and prepared a ground water elevation contour, and benzene concentrations in ground water map (Figure 2).

Discussion of Quarterly Monitoring Results

Ground water elevations in October 1995 decreased from 1.6 to 2.49 ft in wells MW-2 through MW-4. Ground water flowed westward, and hydrocarbon concentrations remained somewhat stable. A total of 6.71 lbs of separate-phase hydrocarbons have been removed from wells MW-2 and MW-3 since the 3rd quarter of 1994.

Anticipated First Quarter 1996 Activities:

- BTS will remove separate-phase hydrocarbons from the wells as needed.
- WA will submit a report presenting the results of the first quarter 1996 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results, a ground water elevation contour map, a benzene concentration in ground water map and a table presenting separate-phase removal data.

Madulla Logan
January 11, 1996

3

Weiss Associates

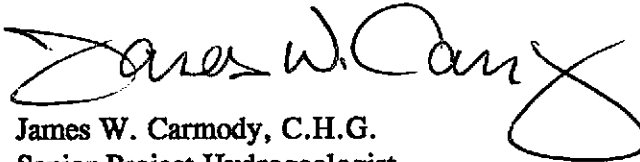


Please call if you have any questions.

Sincerely,
Weiss Associates




Grady S. Glasser
Technical Assistant


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

Attachments: A - Ground Water Monitoring Report and Analytic Report

cc: R. Jeff Granberry, Shell Oil Products Company, P.O. Box 4023, Concord, CA 94524

GSG/JWC:all

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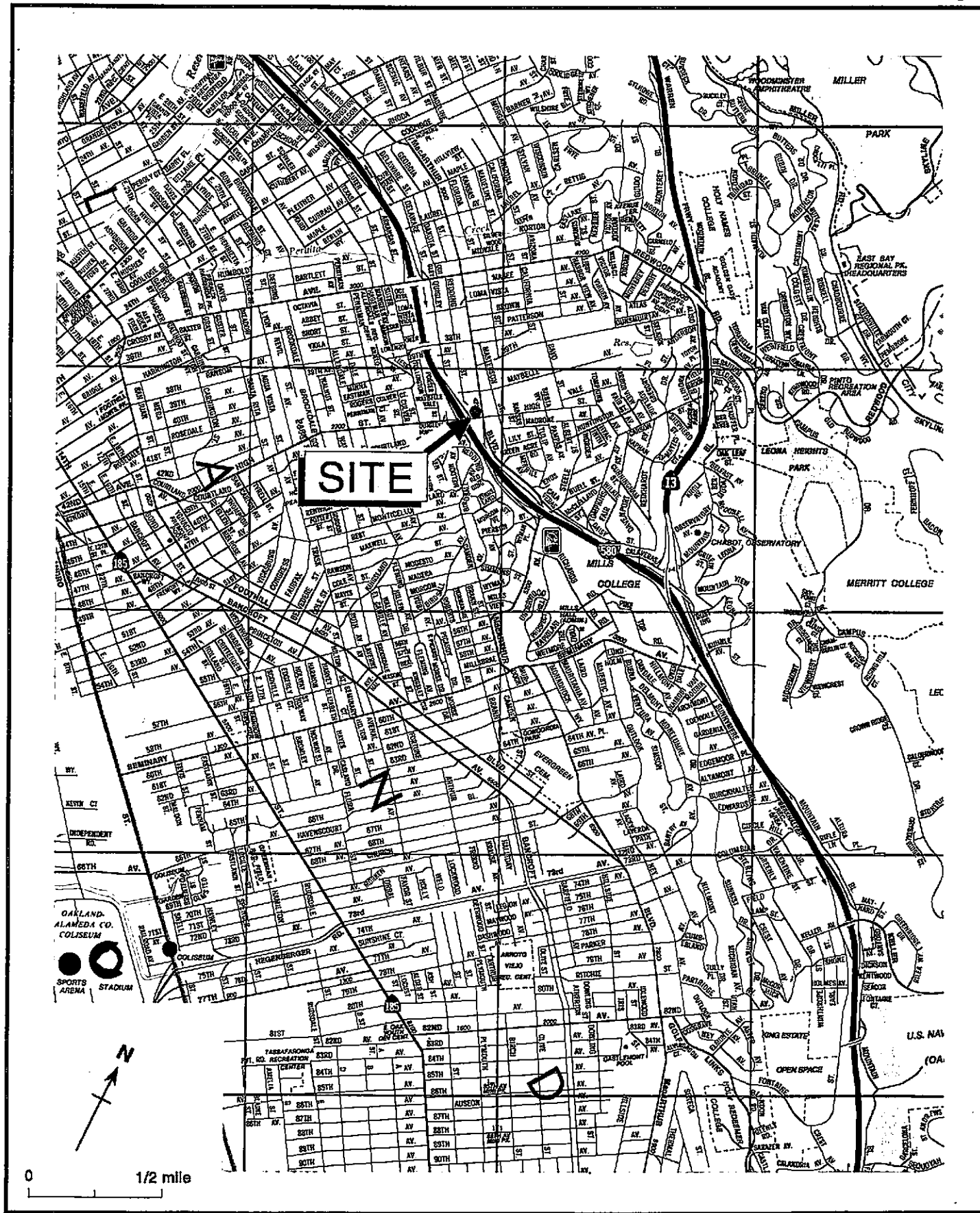
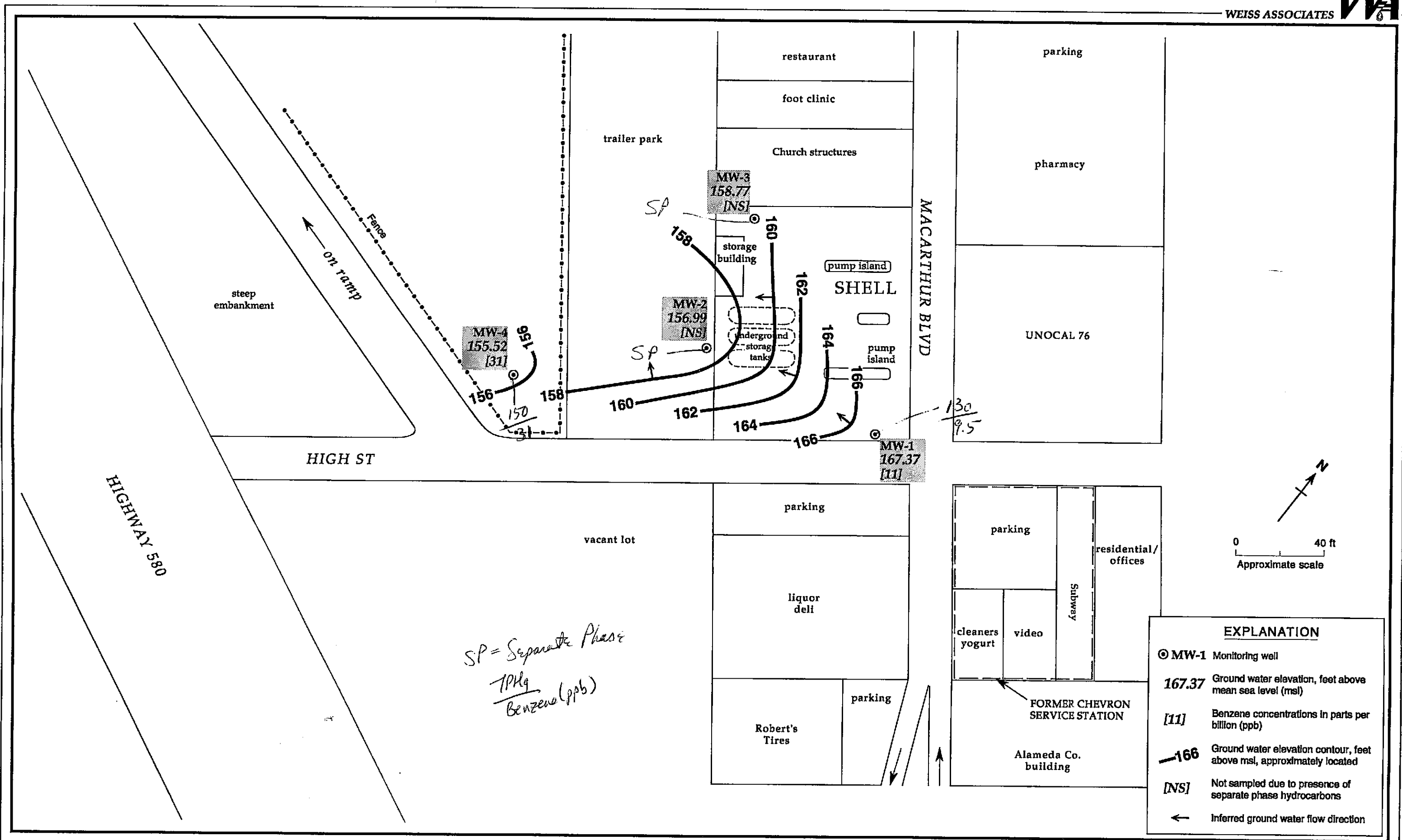


Figure 1. Site Location Map - Shell Service Station WIC# 204-5510-0600, 4255 MacArthur Boulevard, Oakland, California



EXPLANATION

- ⊙ MW-1 Monitoring well
- 167.37 Ground water elevation, feet above mean sea level (msl)
- [11] Benzene concentrations in parts per billion (ppb)
- 166 Ground water elevation contour, feet above msl, approximately located
- [NS] Not sampled due to presence of separate phase hydrocarbons
- ← Inferred ground water flow direction

Figure 2. Monitoring Well Locations, Ground Water Elevation Contours, and Benzene Concentrations in Ground Water - November 28, 1995 - Shell Service Station WIC #204-5510-0600, 4255 MacArthur Boulevard, Oakland, California



Table 1. Separate-Phase Hydrocarbon Removal - Shell Service Station WIC #204-5510-0600, 4255 MacArthur Blvd., Oakland, California

Well ID	Date	Separate-Phase Hydrocarbon Thickness (Ft)	Mass of Separate-Phase Hydrocarbons Removed (lbs) ^a	Cumulative Mass of Hydrocarbons Removed (lbs)
MW-2	11/17/93	0.0	0.0	0.0
	01/20/94	0.0	0.0	0.0
	04/25/94	0.0	0.0	0.0
	07/07/94	0.0	0.0	0.0
	01/13/95	0.0	0.0	0.0
	04/12/95	0.0	0.0	0.0
	08/10/95	0.52	5.98	5.98
	10/18/95	0.13	0.0	5.98
MW-3	11/17/93	0.0	0.0	0.0
	01/20/94	0.0	0.0	0.0
	04/25/94	0.0	0.0	0.0
	07/07/94	0.0	0.0	0.0
	01/13/95	---	0.02	0.02
	04/12/95	---	0.02	0.04
	08/10/95	0.06	0.69	0.73
	10/18/95	0.05	0.0	0.73
TOTAL HYDROCARBONS REMOVED				6.71

Notes:

--- = not measured

a = Mass of SPH in 10" boring and 4" well estimated by following factor: 1 ft of SPH = 11.5 lbs of SPH.

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

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Separate-phase Hydrocarbons	Ground Water Elevation (ft above msl)
MW-1	11/17/93	175.79	8.59	---	167.20
	01/20/94		8.22	---	167.57
	04/25/94		7.63	---	168.16
	07/07/94		8.31	---	167.48
	10/27/94		8.84	---	166.95
	11/17/94		7.60	---	168.19
	11/28/94		7.56	---	168.23
	01/13/95		7.11	---	168.68
	04/12/95		7.08	---	168.71
	07/25/95		7.73	---	168.06
	10/18/95		8.42	---	167.37
MW-2	11/17/93	170.91	12.31	---	158.60
	01/20/94		11.48	---	159.43
	04/25/94		10.84	---	160.07
	07/07/94		11.89	---	159.02
	10/27/94		12.89	---	158.02
	11/17/94		9.11	---	161.80
	11/28/94		9.22	---	161.69
	01/13/95		8.10	---	162.81
	04/12/95		10.12	---	160.79
	07/25/95		11.53	0.52	159.80
	10/18/95		14.02	0.13	156.99
MW-3	11/17/93	174.61	15.40	---	159.21
	01/20/94		14.61	---	160.00
	04/25/94		13.12	---	161.49
	07/07/94		14.54	0.02	160.07
	10/27/94		15.62	0.05	159.03
	11/17/94		13.83	---	160.78
	11/28/94		14.02	---	160.59
	01/13/95		12.13	---	162.48
	04/12/95		12.96	---	161.65
	07/25/95		14.28	0.06	160.38
	10/18/95		15.88	0.05	158.77
MW-4	11/17/94	164.06	6.62	---	157.44
	11/28/94		6.11	---	157.95
	01/13/95		6.05	---	158.01

Table 2. Ground Water Elevations - Shell Service Station WIC #204-5510-0600, 4255 MacArthur Blvd., Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Separate-phase Hydrocarbons	Ground Water Elevation (ft above msl)
	04/12/95		6.31	---	157.75
	07/25/95		7.36	---	156.70
	10/18/95		8.54	---	155.52

Notes:

- a = When separate-phase hydrocarbons are present, ground water elevation corrected by adding 80% of the separate-phase hydrocarbon thickness measured in the well
- = Data not available

Table 3. Analytic Results for Ground Water, Shell Service Station WIC #204-5510-0600, 4255 MacArthur Blvd., Oakland, California

Well ID	Date Sampled	Depth to Water (ft)	parts per billion (µg/L)				
			TPH-G	B	E	T	X
MW-1	11/17/93	8.59	410	21	7.9	11	47
	01/20/94	8.22	1,200	180	48	19	47
	04/25/94	7.63	3,100	610	130	<10	27
	07/07/94	8.31	2,400	1,000	250	10	20
	10/27/94	8.84	2,200	500	72	3.1	1.8
	01/13/95	7.11	570	75	6.7	2.5	11
	04/12/95	7.08	1,800	480	79	<5.0	<5.0
	07/25/95	7.73	120	15	2.1	1.1	2.9
	07/25/95 ^{dup}	7.73	300	88	11	2.4	6.5
	10/18/95	8.42	130	9.5	1.3	0.8	1.7
	10/18/95 ^{dup}	8.42	120	11	1.4	0.8	1.8
MW-2	11/17/93	12.31	31,000	9,400	1,000	4,600	3,900
	01/20/94	11.48	40,000	6,900	780	5,600	4,100
	01/20/94 ^{dup}	11.48	41,000	7,200	900	6,200	4,800
	04/25/94	10.84	60,000	9,300	1,400	6,100	6,200
	07/07/94	11.89	280,000 ^a	40,000	8,100	26,000	32,000
	07/07/94 ^{dup}	11.89	53,000	13,000	2,000	6,600	8,400
	10/27/94	12.89	130,000	14,000	2,400	12,000	13,000
	10/27/94 ^{dup}	12.89	390,000	8,800	1,700	7,000	11,000
	01/13/95	8.10	75,000	5,900	3,100	12,000	17,000
	04/12/95	10.12	100,000	8,500	2,400	11,000	12,000
	04/12/95 ^{dup}	10.12	80,000	4,200	2,500	9,300	12,000
	08/10/95 ^{SPH}	11.53	---	---	---	---	---
	10/18/95 ^{SPH}	14.02	---	---	---	---	---
	MW-3	11/17/93	15.40	18,000	5,400	720	660
01/20/94		14.61	55,000	13,000	2,200	2,600	6,500
04/25/94		13.12	96,000	11,000	3,100	1,600	9,900
04/25/94 ^{dup}		13.12	78,000	12,000	2,600	1,900	7,300
07/07/94 ^{SPH}		14.54	---	---	---	---	---
10/27/94 ^{SPH}		15.62	---	---	---	---	---
01/13/95		12.13	180,000	3,200	1,700	2,700	5,200
01/13/95 ^{dup}		12.13	23,000	4,000	960	690	3,000

Table 3. Analytic Results for Ground Water, Shell Service Station WIC #204-5510-0600, 4255 MacArthur Boulevard, Oakland, California (continued)

Well ID	Date Sampled	Depth to Water (ft)	parts per billion (µg/L)				
			TPH-G	B	E	T	X
	04/12/95	12.96	56,000	8,700	2,100	1,500	6,300
	08/10/95 ^{SPH}	14.28	---	---	---	---	---
	10/18/95 ^{SPH}	15.88	---	---	---	---	---
MW-4	11/28/94	6.11	2,900	200	76	17	260
	01/13/95	6.05	1,900	130	13	5.6	40
	04/14/95	6.31	680	150	10	<2.0	13
	07/25/95	7.36	340	100	8.8	0.8	3.0
	10/18/95	8.54	150	31	3.5	<0.5	0.8
Trip	01/20/94		<50	<0.5	<0.5	<0.5	<0.5
Blank	04/25/94		<50	<0.5	<0.5	<0.5	<0.5
	07/07/94		<50	<0.5	<0.5	<0.5	<0.5
	10/27/94		<50	<0.5	<0.5	<0.5	<0.5
	01/13/95		<50	<0.5	<0.5	<0.5	<0.5
	04/12/95		<50	<0.5	<0.5	<0.5	0.89
	07/25/95		<50	<0.5	<0.5	<0.5	<0.5
	10/18/95		<50	<0.5	<0.5	<0.5	<0.5
DTSC MCLs			NE	1	680	100 ^b	1,750

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
 TPH-D = Total petroleum hydrocarbons as diesel by Modified EPA Method 8015
 B = Benzene by EPA Method 8020
 E = Ethylbenzene by EPA Method 8020
 T = Toluene by EPA Method 8020
 X = Xylenes by EPA Method 8020
 POG = Non-polar Petroleum oil and grease by APHA Method 5520 B/F
 SPH = Separate-phase hydrocarbons present, well not sampled
 NE = Not established
 DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water

Abbreviations (continued):

--- = Not analyzed
 <n = Not detected at detection limits of n ppb
 dup = Duplicate sample

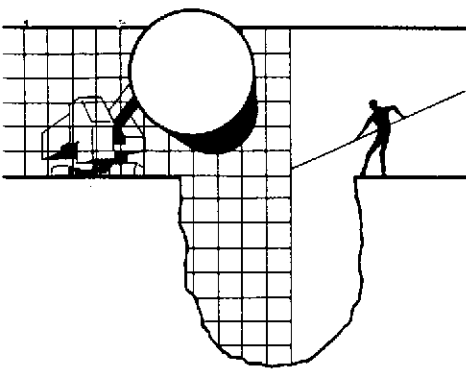
Notes:

a = Ground water surface had a sheen when sampled.
 b = DTSC recommended action level; MCL not established



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

November 6, 1995

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

Attn: R. Jeff Granberry

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

4th Quarter 1995

Quarterly Groundwater Monitoring Report 951018-K-1

Blaine Tech Services, Inc. performs environmental sampling and documentation as an independent third party. Copies of our Sampling Report along with the laboratory's Certified Analytical Report are forwarded to the consultant overseeing work at this site. Submission of the assembled documents to interested regulatory agencies will be made by the designated consultant.

Groundwater monitoring at this site was performed in accordance with Standard Operating Procedures provided to the interested regulatory agencies. If you have any questions about the work performed at this site please call me at (408) 995-5535 ext. 201.

Yours truly,

Francis Thie

attachments: Table of Well Gauging Data
Chain of Custody
Field Data Sheets
Certified Analytical Report

cc: Weiss Associates
5500 Shellmound Street
Emeryville, CA 94608-2411
Attn: Grady Glasser

(Any professional evaluations or recommendations will be made by the consultant under separate cover.)

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 *	10/18/95	TOC	ODOR	NONE	—	—	8.42	23.32
MW-2	10/18/95	TOC	FREE PRODUCT	13.89	0.13	—	14.02	—
MW-3	10/18/95	TOC	FREE PRODUCT	15.83	0.05	—	15.88	—
MW-4	10/18/95	TOC	—	NONE	—	—	8.54	30.48

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



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 951028-101

Date: 10/18
Page 1 of 1

Site Address: 4255 MacArthur Blvd., Oakland

WIC#: 204-5510-0600

Shell Engineer: Daniel T. Kirk
Phone No.: (510) 675-6168
Fax #: 675-6160

Consultant Name & Address: Blaine Tech Services
985 Timothy Dr.
San Jose, CA 95133

Consultant Contact: Jim Keller
Phone No.: (408) 995-5535
Fax #: 293-8773

Comments:

Sampled by: KCB

Printed Name: Keith Brown

Analysis Required

TPH (EPA 8015 Mod. Gcs)	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/Dkposal <input type="checkbox"/> 6442		15 days <input checked="" type="checkbox"/> (Normal)
Water Classfy/Dkposal <input type="checkbox"/> 6443		Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/> 6462		
Water Rem. or Sys. O & M <input type="checkbox"/> 6463		
Other <input type="checkbox"/>		

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

Sample ID	Date	Sludge	Soil	Water	Air	No. of conls.	Analysis Required										MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
							TPH (EPA 8015 Mod. Gcs)	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		
MW1	10/18			X		3												
MW4	↓			↓		↓												
DUP	↓			↓		↓												
FB	↓			↓		2												

Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>Keith Brown</u>	Date: <u>10/20/95</u> Time: <u>1100</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>Phyllis Smart</u>	Date: <u>10/20/95</u> Time: <u>1245</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>Phyllis Smart</u>	Date: <u>10/20/95</u> Time: <u>1245</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>PAM GREENE</u>	Date: <u>10/20/95</u> Time: <u>1245</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>PAM GREENE</u>	Date: <u>10/20/95</u> Time: <u>1350</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>YAIL FROSSER</u>	Date: <u>10/20/95</u> Time: <u>1350</u>

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



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: 11/01/1995
NET Client Acct. No: 1821
NET Job No: 95.04137
Received: 10/20/1995

Client Reference Information

Shell 4255 MacArthur Blvd., Oakland, CA/951018-K1

Sample analysis in support of the project referenced above has been completed and results are presented on the 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 free to call me at (707) 541-2305.

Submitted by:

A handwritten signature in cursive script that reads "Ginger Brindlee".

Ginger Brindlee
Project Coordinator

Enclosure (s)





Client Name: Blaine Tech Services
Client Acct: 1821
NET Job No: 95.04137

Date: 11/01/1995
ELAP Cert: 1386
Page: 2

Ref: Shell 4255 MacArthur Blvd., Oakland, CA/951018-K1

SAMPLE DESCRIPTION: MW1

Date Taken: 10/18/1995

Time Taken:

NET Sample No: 254160

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						10/28/1995	3304
Purgeable TPH	130		50	ug/L	5030/M8015		10/28/1995	3304
Carbon Range: C6 to C12	--						10/28/1995	3304
METHOD 8020 (GC, Liquid)	--						10/28/1995	3304
Benzene	9.5		0.5	ug/L	8020		10/28/1995	3304
Toluene	0.8		0.5	ug/L	8020		10/28/1995	3304
Ethylbenzene	1.3		0.5	ug/L	8020		10/28/1995	3304
Xylenes (Total)	1.7		0.5	ug/L	8020		10/28/1995	3304
SURROGATE RESULTS	--						10/28/1995	3304
Bromofluorobenzene (SURR)	98			% Rec.	8020		10/28/1995	3304

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: 95.04137

Date: 11/01/1995
ELAP Cert: 1386
Page: 3

Ref: Shell 4255 MacArthur Blvd., Oakland, CA/951018-K1

SAMPLE DESCRIPTION: MW4

Date Taken: 10/18/1995

Time Taken:

NET Sample No: 254161

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						10/28/1995	3304
Purgeable TPH	150		50	ug/L	5030/M8015		10/28/1995	3304
Carbon Range: C6 to C12	--						10/28/1995	3304
METHOD 8020 (GC, Liquid)	--						10/28/1995	3304
Benzene	31		0.5	ug/L	8020		10/28/1995	3304
Toluene	ND		0.5	ug/L	8020		10/28/1995	3304
Ethylbenzene	3.5		0.5	ug/L	8020		10/28/1995	3304
Xylenes (Total)	0.8		0.5	ug/L	8020		10/28/1995	3304
SURROGATE RESULTS	--						10/28/1995	3304
Bromofluorobenzene (SURR)	78			% Rec.	8020		10/28/1995	3304

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: 95.04137

Date: 11/01/1995
ELAP Cert: 1386
Page: 4

Ref: Shell 4255 MacArthur Blvd., Oakland, CA/951018-K1

SAMPLE DESCRIPTION: DUP

Date Taken: 10/18/1995

Time Taken:

NET Sample No: 254162

Parameter	Results	Flags	Reporting		Method	Date	Date	Run Batch No.
			Limit	Units		Extracted	Analyzed	
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						10/28/1995	3304
Purgeable TPH	120		50	ug/L	5030/M8015		10/28/1995	3304
Carbon Range: C6 to C12	--						10/28/1995	3304
METHOD 8020 (GC, Liquid)	--						10/28/1995	3304
Benzene	11		0.5	ug/L	8020		10/28/1995	3304
Toluene	0.8		0.5	ug/L	8020		10/28/1995	3304
Ethylbenzene	1.4		0.5	ug/L	8020		10/28/1995	3304
Xylenes (Total)	1.8		0.5	ug/L	8020		10/28/1995	3304
SURROGATE RESULTS	--						10/28/1995	3304
Bromofluorobenzene (SURR)	88.			% Rec.	8020		10/28/1995	3304

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: 95.04137

Date: 11/01/1995
ELAP Cert: 1386
Page: 5

Ref: Shell 4255 MacArthur Blvd., Oakland, CA/951018-K1

SAMPLE DESCRIPTION: TB
Date Taken: 10/18/1995
Time Taken:
NET Sample No: 254163

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						10/28/1995	3304
Purgeable TPH	ND		50	ug/L	5030/M8015		10/28/1995	3304
Carbon Range: C6 to C12	--						10/28/1995	3304
METHOD 8020 (GC, Liquid)	--						10/28/1995	3304
Benzene	ND		0.5	ug/L	8020		10/28/1995	3304
Toluene	ND		0.5	ug/L	8020		10/28/1995	3304
Ethylbenzene	ND		0.5	ug/L	8020		10/28/1995	3304
Xylenes (Total)	ND		0.5	ug/L	8020		10/28/1995	3304
SURROGATE RESULTS	--						10/28/1995	3304
Bromofluorobenzene (SURR)	73			% Rec.	8020		10/28/1995	3304

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



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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				
METHOD 5030/8015-M (Shell)							
Purgeable TPH	106.0	0.53	0.50	mg/L	10/28/1995	dat3	3304
Benzene	109.2	5.46	5.00	ug/L	10/28/1995	dat3	3304
Toluene	106.6	5.33	5.00	ug/L	10/28/1995	dat3	3304
Ethylbenzene	109.2	5.46	5.00	ug/L	10/28/1995	dat3	3304
Xylenes (Total)	110.0	16.5	15.0	ug/L	10/28/1995	dat3	3304
Bromofluorobenzene (SURR)	108.0	108	100	% Rec.	10/28/1995	dat3	3304

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METHOD BLANK REPORT

Parameter	Method	Reporting	Units	Date	Analyst	Run
	Blank					
	Found					Number
METHOD 5030/8015-M (Shell)						
Purgeable TPH	ND	0.05	mg/L	10/28/1995	dat3	3304
Benzene	ND	0.5	ug/L	10/28/1995	dat3	3304
Toluene	ND	0.5	ug/L	10/28/1995	dat3	3304
Ethylbenzene	ND	0.5	ug/L	10/28/1995	dat3	3304
Xylenes (Total)	ND	0.5	ug/L	10/28/1995	dat3	3304
Bromofluorobenzene (SURR)	109		% Rec.	10/28/1995	dat3	3304

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



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MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike			Spike Amount	Sample Conc.	Matrix Spike Dup.			Date Analyzed	Run Batch	Sample Spiked
	% Rec.	% Rec.	RPD			Conc.	Conc.	Units			
METHOD 5030/8015-M (Shell)											
Purgeable TPH	102.0	102.0	0.0	0.50	ND	0.51	0.51	mg/L	10/28/1995	3304	254006
Benzene	94.8	92.8	2.1	5.82	0.6 C	6.12	6.00	ug/L	10/28/1995	3304	254006
Toluene	93.6	91.3	2.5	29.9	ND	28.0	27.3	ug/L	10/28/1995	3304	254006

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

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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, $100 \text{ [Value 1 - Value 2]}/\text{mean value}$.
- 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: 951018-K1 Log No: 8915
Cooler received on: 10/20/96 and checked on 10/20/96 by Shirley Lyssen
(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. 6 °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)