enviros®

229

January 29, 1996

Mr. R. Jeff Granberry
Shell Oil Products Company
P.O. Box 4023
Concord, California 94524

RE: **Quarterly Monitoring Report - Fourth Quarter 1995**
Former Shell Service Station
2101 Park Boulevard
Oakland, California
WIC #204-5508-1206

Dear Mr. Granberry:

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.

Quarterly Monitoring & Sampling Summary

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

- Blaine Tech Services Inc. (Blaine Tech) of San Jose, measured groundwater levels and collected groundwater samples from Wells S-1, S-2, and S-3 on December 28, 1995. The samples were transported to National Environmental Testing, Inc. (NET) of Santa Rosa, California for chemical analysis.

- Groundwater level measurement data were evaluated and used to prepare a groundwater contour map (Plate 3). Groundwater flow direction appears to be west at a calculated hydraulic gradient of 0.05.

- The groundwater from Well S-3 contained 13,000 ppb TPH-G and 670 ppb benzene. Wells S-1 and S-2 contained TPH-G concentrations ranging from 70 to 200 ppb and benzene concentrations ranging from 1.1 to 11 ppb. Well S-1 also contained 160 ppb TPH-D.

- Groundwater samples from Well S-1 were reported as ND for Oil and Grease, VOCs, and ICAP 5 metals

Quarterly Sampling

Monitoring Wells S-1, S-2, and S-3 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. Monitoring Well S-1 was also analyzed for Total Petroleum Hydrocarbons calculated as Diesel (TPH-D) according to EPA Method 8015 (Modified), Oil and Grease (O&G) according to ~~ASTM~~ Method 5520 B and B/F, Volatile Organic Compounds (VOCs) according to EPA Method 8010, and ICAP 5 metals. Additionally, a trip blank, a duplicate sample, and a rinsate blank were prepared and analyzed for quality control purposes.

Field monitoring data and chemical analytical data for TPH-G, TPH-D, O&G, and BTEX have been included in the Historical Groundwater Monitoring Database (Table 1). A benzene concentration map is presented as Plate 4. The Blaine Tech groundwater monitoring report is presented in Appendix A.

Quarterly monitoring, sampling, and reporting will continue on the established schedule for the next quarter. Sampling of Well S-1 for Oil and Grease, VOCs, and ICAP 5 Metals will be discontinued since these compounds were not detected in this well.

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

Sincerely,

Enviros, Inc.

Matthew E. Donohue
Project Engineer

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

REGISTERED PROFESSIONAL ENGINEER
DIANE M. LUNDQUIST
NO. C46725
CIVIL
STATE OF CALIFORNIA

Attachments

Table 1. Historical Groundwater Monitoring Database

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

Appendix A

Blaine Tech Services Inc. - Quarterly Groundwater Sampling Report
Chain-of-Custody Document
NET Chemical Analytical Report

cc: Mr. Barney Chan, Alameda County Health Care Services Agency
Mr. Frank J. Schlessinger, Schlessinger & Associates
Mr. Steve Makara, Goodyear Tire & Rubber Company

TABLE 1

HISTORICAL GROUNDWATER MONITORING DATABASE

FORMER SHELL SERVICE STATION
2101 PARK BOULEVARD
OAKLAND, CALIFORNIA
WIC# 204-5508-1206

WELL NUMBER	DATE	TOP OF CASING ELEV. (ft)	DEPTH TO WATER (ft)	GROUND WATER ELEV. (ft)	TPH-G (PPB)	TPH-D (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYL BENZENE (PPB)	XYLENES (PPB)	O&G by 5520 B (PPB)	O&G by 5520 B/F (PPB)
S-1	20-Jun-95	11.93	4.67	7.26	160	-	<0.5	<0.5	<0.5	<0.5	-	-
	12 Sep-95		4.19	7.74	<50	250	3.0	<0.5	<0.5	<0.5	<5000	<5000
	28-Dec-95		5.30	6.63	70	160	1.1	<0.5	<0.5	1.3	<5000	<5000
S-2	20-Jun-95	12.06	5.80	6.26	180	-	1.1	<0.5	<0.5	0.6	-	-
	12-Sep-95		5.78	6.28	190	-	18	<0.5	1.2	0.6	-	-
	28-Dec-95		4.02	8.04	200	-	11	1.0	1.0	4.0	-	-
S-3	20-Jun 95	13.54	4.90	8.64	5500	-	240	34	120	840	-	-
	12-Sep-95		5.37	8.17	5200	-	690	14	290	280	-	-
	28-Dec-95		3.90	9.64	13000	-	670	34	960	1400	-	-
S-3 Dup	20-Jun-95		-	-	6300	-	270	37	120	1100	-	-
	12-Sep-95		-	-	4700	-	620	13	260	240	-	-
	28-Dec-95		-	-	13000	-	800	34	1000	1600	-	-

Abbreviations

ft = Measurements in feet
TPH-G = Total Petroleum Hydrocarbons calculated as Gasoline.
TPH-D = Total Petroleum Hydrocarbons calculated as Diesel
O&G = Oil and Grease
PPB = Parts Per Billion
<x = Not Detected at detection limit of x

Note All wells surveyed to Mean Sea Level

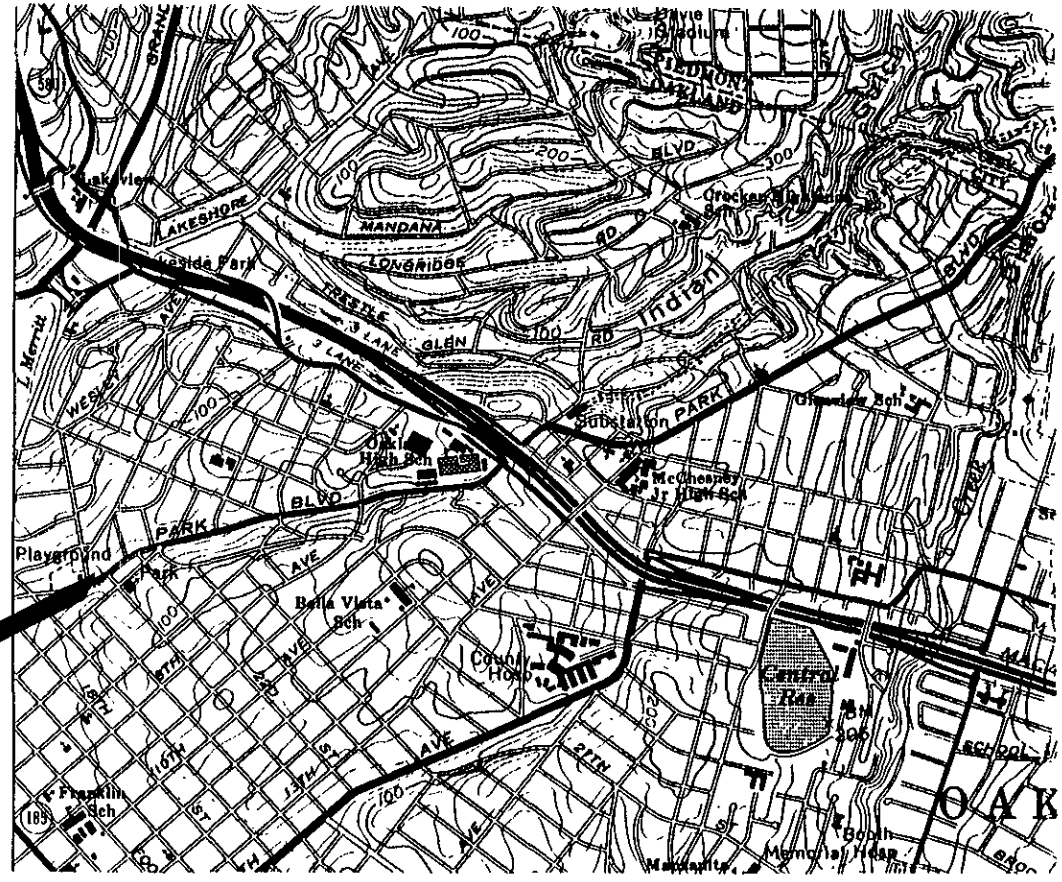


PLATE **1**

VICINITY MAP
Former Shell Service Station
2101 Park Boulevard
Oakland, California

enviros®
E4/95267.01

Drawn By: GLV

Date: 2-24-95

Approved By: [signature] Date: 2-1-96

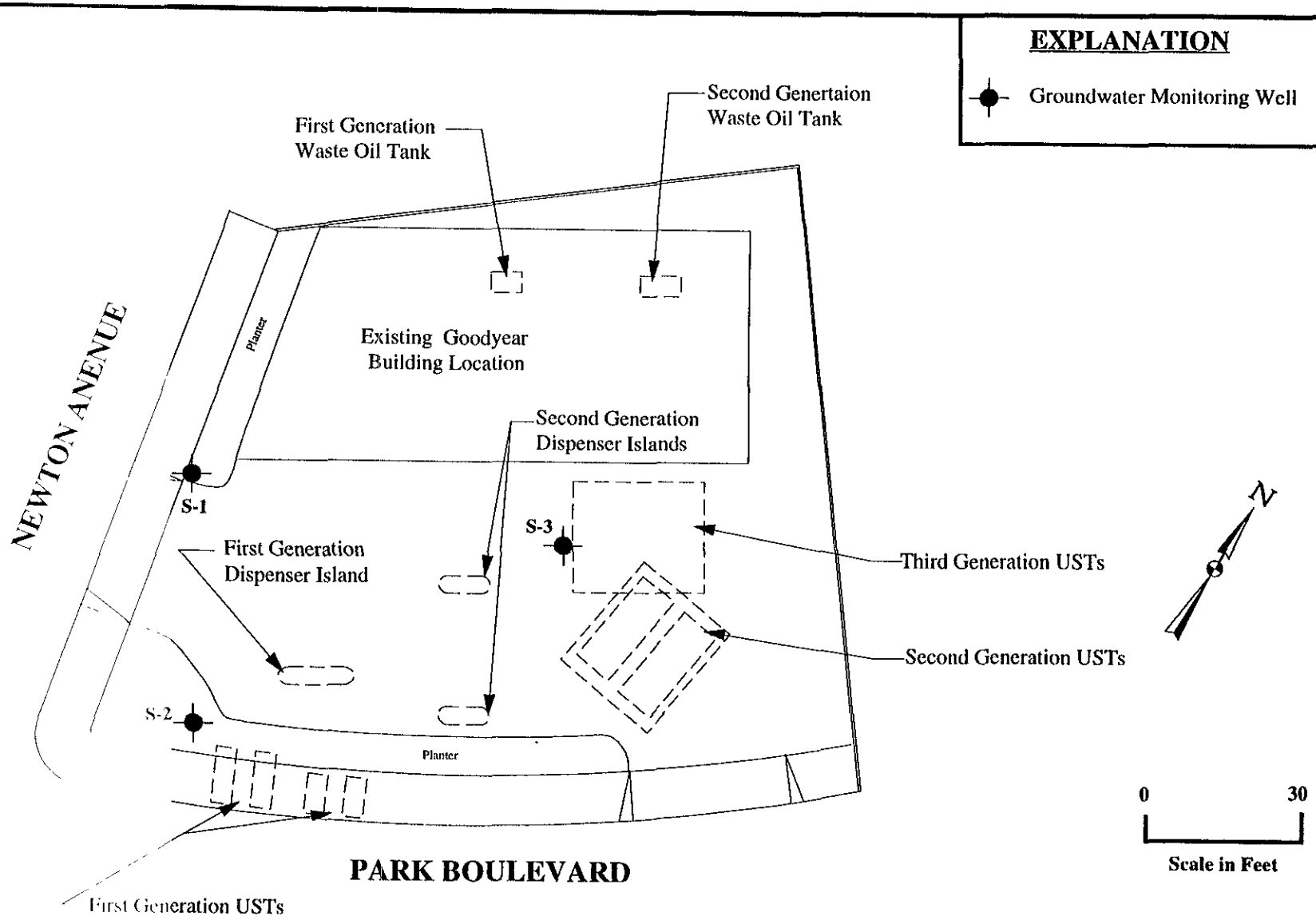
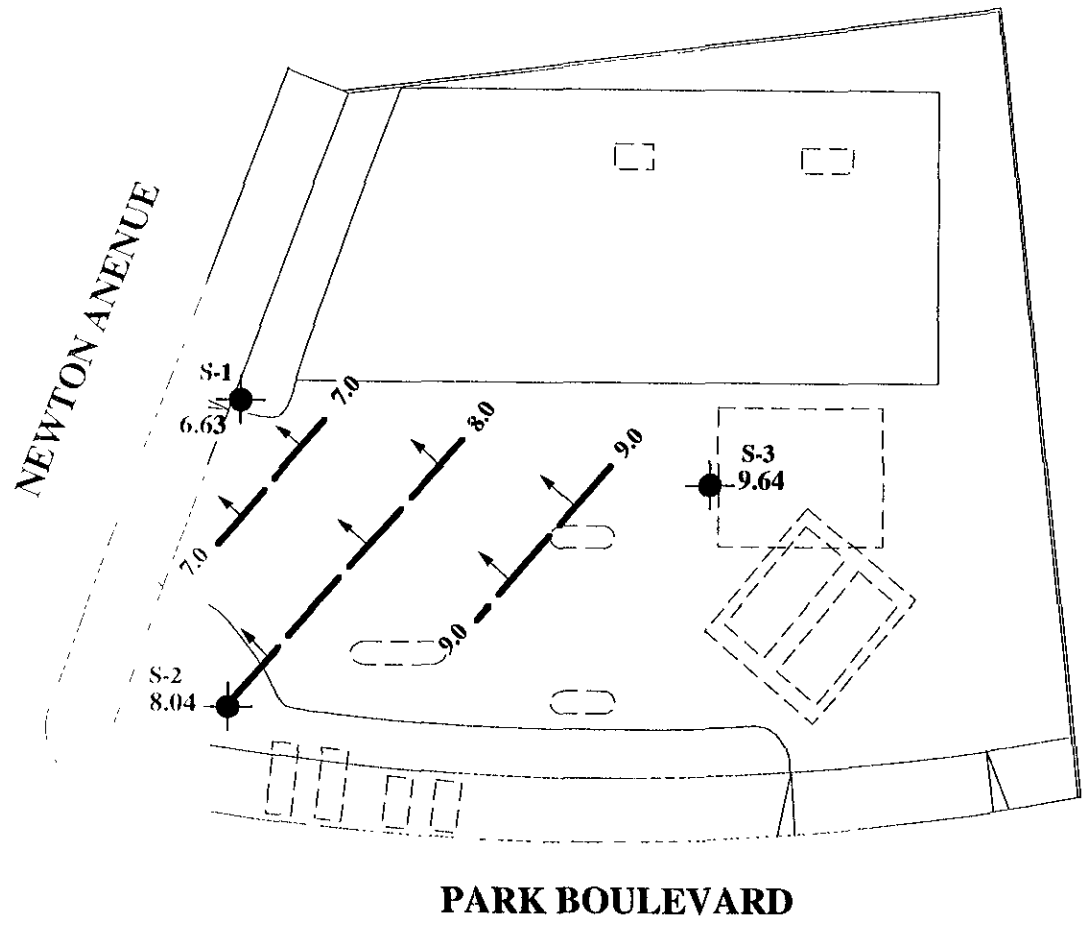


PLATE **2**

SITE PLAN
Former Shell Service Station
2101 Park Boulevard
Oakland, California

enviros®
95267

Drawn By JWN | Date: 7-7-95 | Approved By: MSD | Date: 2-1-96



EXPLANATION

Groundwater Monitoring Well

8.0

Groundwater elevation contour (referenced to Mean Sea Level). Arrows indicate approximate groundwater flow direction.

Approximate hydraulic gradient = 0.05

Note: Water level data collected 12-Sep-95

N

0 30

Scale in Feet

PLATE
3

GROUNDWATER CONTOUR MAP
Former Shell Service Station
2101 Park Boulevard
Oakland, California

enviros®
96267

Drawn By MED

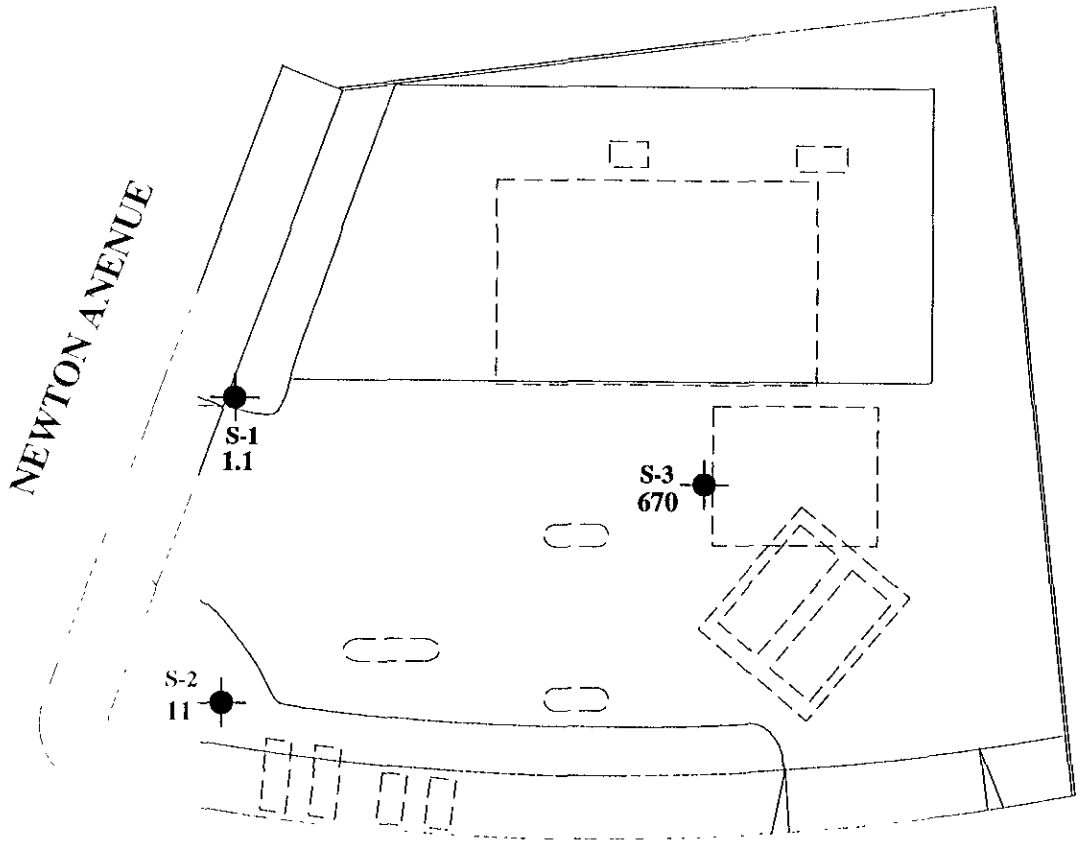
Date: 29-Jan-96

Approved By: TMD Date: 2-1-96

EXPLANATION

- Groundwater Monitoring Well
- **240** Benzene concentration in groundwater in parts per billion.
- **ND** None detected

Note: Water samples collected on 28-Dec-95.



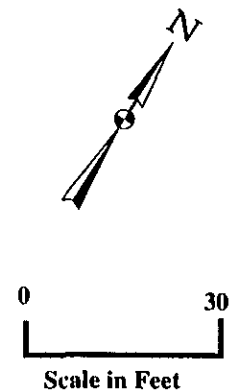


PLATE **4**

BENZENE CONCENTRATION MAP
Former Shell Service Station
2101 Park Boulevard
Oakland, California

enviros®
96267

Drawn By: MED | Date: 29-Jan-96 | Approved By: (MED) | Date: 2-1-96

Appendix A

BLAINE TECH SERVICES INC.
Quarterly Groundwater Sampling Report

Chain-of-Custody Record

National Environmental Testing, Inc.
Certified Chemical Analytical Report

BLAINE
TECH SERVICES INC.

985 TIMOTHY DRIVE
SAN JOSE, CA 9513
(408) 995-553
FAX (408) 293-877

January 18, 1996

RECEIVED

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

Attn: R. Jeff Granberry

Shell WIC #204-5508-1206
2101 Park Blvd.
Oakland, California

4th Quarter 1995

Quarterly Groundwater Monitoring Report 951228-S-2

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 Enviros, Inc
19411 Riverside Dr
P O Box 259
Sonoma, CA 95476-0259
Attn Joe Neely

(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)
S-1	12/28/95	TOC	--	NONE	--	--	5.30	17.40
S-2	12/28/95	TOC	--	NONE	--	--	4.02	17.30
S-3 *	12/28/95	TOC	ODOR	NONE	--	--	3.90	17.30

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

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 9672652

Date: 12-28-95
Page 1 of 1

Address: 2101 Park Blvd., Oakland, CA

SC#: 204-5508-1206

Oil Engineer: Lynn Walker — Phone No.: (510) 675-6169 Fax #:

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

Consultant Contact: Fran Thle — Phone No.: (408) 995-5535, 201 Fax #: 293-8773

Comments:

Sampled by: SHAWN HOLLE

Printed Name: SHAWN HOLLE

LAB: NET

CHECK ONE (1) BOX ONLY		CT/DT
G.W. Monitoring	X	4461
Site Investigation		4441
Soil Classify/Disposal		4442
Water Classify/Disposal		4443
Soil/Air Rem. or Sys. O & M		4452
Water Rem. or Sys. O & M		4453
Other		

TURN AROUND TIME: 24 hours ☐ 48 hours ☐ 15 days X (Normal) Other ☐ ____

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

UST AGENCY: ____

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Lead Organics (EPA 7420/7421)	Combination TPH 8015 & BTEX 8020	TOG	ICAP METALS *	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
S-1-1200	12/28			W		11		X			X	X	X	X						* METALS
S-2 1134						3						X								NOT FILTERED
S-3 1215						3						X								
DUP —						3						X								
TB 1140						3						X								
TB LAB	↓			↓		2						X								

CUSTODY SEALED
Date 12/28/95 Time 1610 Initials [illegible]
SEAL INTACT?
Yes X No ____ Initials [illegible]

Relinquished By (signature)	Printed Name	Date	Time	Received (signature)	Printed Name	Date	Time
[illegible]	SHAWN HOLLE	12-27-95	1545	[illegible]	P. Smart	12/29/95	1515
[illegible]	P. SMART	12-29-95	1610	[illegible]			
				[illegible]	Kim Sidener	12-30-95	0800

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

Shell Oil Co. Chain of Custody

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: 01/15/1996
NET Client Acct. No: 1821
NET Job No: 95.04889
Received: 12/30/1995

Client Reference Information

Shell 2101 Park Blvd., Oakland, CA/951228-S2

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. All positive results have been confirmed as required. 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:

Ginger Brinlee
Project Coordinator

Enclosure(s)

Ref: Shell 2101 Park Blvd., Oakland, CA/951228-S2

SAMPLE DESCRIPTION: S-1
Date Taken: 12/28/1995
Time Taken: 12:00
NET Sample No: 257890

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
Oil & Grease (Total)	ND		5,000	ug/L	5520B		01/03/1996	372
Oil & Grease (Non-Polar)	ND		5,000	ug/L	5520B/F		01/03/1996	354
METHOD 6010 (DISSOLVED)	--						01/11/1996	124
Cadmium (ICP, Dissolved)	ND		20	ug/L	EPA 6010		01/11/1996	122
Chromium (ICP, Dissolved)	ND		20	ug/L	EPA 6010		01/11/1996	574
Lead (GFAA,Dissolved)	ND		2	ug/L	EPA 7421		01/02/1996	587
Nickel (ICP, Dissolved)	ND		50	ug/L	EPA 6010		01/11/1996	574
Zinc (ICP, Dissolved)	ND		50	ug/L	EPA 6010		01/11/1996	745
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						01/03/1996	3449
Purgeable TPH	70		50	ug/L	5030/M8015		01/03/1996	3449
Carbon Range: C6 to C12	--						01/03/1996	3449
METHOD 8020 (GC, Liquid)	--						01/03/1996	3449
Benzene	1.1		0.5	ug/L	8020		01/03/1996	3449
Toluene	ND		0.5	ug/L	8020		01/03/1996	3449
Ethylbenzene	ND		0.5	ug/L	8020		01/03/1996	3449
Xylenes (Total)	1.3		0.5	ug/L	8020		01/03/1996	3449
SURROGATE RESULTS	--						01/03/1996	3449
Bromofluorobenzene (SURR)	99			% Rec.	8020		01/03/1996	3449
METHOD 3510/8015-M (Shell)						01/05/1996		
DILUTION FACTOR*	1						01/08/1996	1146
Extractable TPH	160		50	ug/L	3510/M8015		01/08/1996	1146
Carbon range: C9 to C24	--						01/08/1996	1146

Ref: Shell 2101 Park Blvd., Oakland, CA/951228-S2

SAMPLE DESCRIPTION: S-1
Date Taken: 12/28/1995
Time Taken: 12:00
NET Sample No: 257890

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 8010 (GC,Liquid)								
DILUTION FACTOR*	1						01/09/1996	941
Bromodichloromethane	ND		0.4	ug/L	8010		01/09/1996	941
Bromoform	ND		0.4	ug/L	8010		01/09/1996	941
Bromomethane	ND		0.4	ug/L	8010		01/09/1996	941
Carbon tetrachloride	ND		0.4	ug/L	8010		01/09/1996	941
Chlorobenzene	ND		0.4	ug/L	8010		01/09/1996	941
Chloroethane	ND		0.4	ug/L	8010		01/09/1996	941
2-Chloroethylvinyl ether	ND		1.0	ug/L	8010		01/09/1996	941
Chloroform	ND		0.4	ug/L	8010		01/09/1996	941
Chloromethane	ND		0.4	ug/L	8010		01/09/1996	941
Dibromochloromethane	ND		0.4	ug/L	8010		01/09/1996	941
1,2-Dichlorobenzene	ND		0.4	ug/L	8010		01/09/1996	941
1,3-Dichlorobenzene	ND		0.4	ug/L	8010		01/09/1996	941
1,4-Dichlorobenzene	ND		0.4	ug/L	8010		01/09/1996	941
Dichlorodifluoromethane	ND		0.4	ug/L	8010		01/09/1996	941
1,1-Dichloroethane	ND		0.4	ug/L	8010		01/09/1996	941
1,2-Dichloroethane	ND		0.4	ug/L	8010		01/09/1996	941
1,1-Dichloroethene	ND		0.4	ug/L	8010		01/09/1996	941
cis-1,2-Dichloroethene	ND		0.5	ug/L	8010		01/09/1996	941
trans-1,2-Dichloroethene	ND		0.4	ug/L	8010		01/09/1996	941
1,2-Dichloropropane	ND		0.4	ug/L	8010		01/09/1996	941
cis-1,3-Dichloropropene	ND		0.4	ug/L	8010		01/09/1996	941
trans-1,3-Dichloropropene	ND		0.4	ug/L	8010		01/09/1996	941
Methylene chloride	ND		10	ug/L	8010		01/09/1996	941
1,1,2,2-Tetrachloroethane	ND		0.4	ug/L	8010		01/09/1996	941
Tetrachloroethene	ND		0.4	ug/L	8010		01/09/1996	941
1,1,1-Trichloroethane	ND		0.4	ug/L	8010		01/09/1996	941
1,1,2-Trichloroethane	ND		1	ug/L	8010		01/09/1996	941
Trichloroethene	ND		0.4	ug/L	8010		01/09/1996	941
Trichlorofluoromethane	ND		0.4	ug/L	8010		01/09/1996	941
Vinyl chloride	ND		0.4	ug/L	8010		01/09/1996	941
SURROGATE RESULTS	--						01/09/1996	941
1,4-Difluorobenzene (SURR)	98			% Rec.			01/09/1996	941
1,4-Dichlorobutane (SURR)	88			% Rec.			01/09/1996	941
Bromochloromethane (SURR)	NA			% Rec.			01/09/1996	941

Ref: Shell 2101 Park Blvd., Oakland, CA/951228-S2

SAMPLE DESCRIPTION: S-2
Date Taken: 12/28/1995
Time Taken: 11:34
NET Sample No: 257891

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						01/03/1996	3449
Purgeable TPH	200		50	ug/L	5030/M8015		01/03/1996	3449
Carbon Range: C6 to C12	--						01/03/1996	3449
METHOD 8020 (GC, Liquid)	--						01/03/1996	3449
Benzene	11		0.5	ug/L	8020		01/03/1996	3449
Toluene	1.0		0.5	ug/L	8020		01/03/1996	3449
Ethylbenzene	1.0		0.5	ug/L	8020		01/03/1996	3449
Xylenes (Total)	4.0		0.5	ug/L	8020		01/03/1996	3449
SURROGATE RESULTS	--						01/03/1996	3449
Bromofluorobenzene (SURR)	140	MI		% Rec.	8020		01/03/1996	3449

MI Matrix Interference Suspected

Ref: Shell 2101 Park Blvd., Oakland, CA/951228-S2

SAMPLE DESCRIPTION: S-3
Date Taken: 12/28/1995
Time Taken: 12:15
NET Sample No: 257892

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	10						01/03/1996	3449
Purgeable TPH	13,000		500	ug/L	5030/M8015		01/03/1996	3449
Carbon Range: C6 to C12	--						01/03/1996	3449
METHOD 8020 (GC, Liquid)	--						01/03/1996	3449
Benzene	670	FF	50	ug/L	8020		01/05/1996	3450
Toluene	34		5	ug/L	8020		01/03/1996	3449
Ethylbenzene	960	FF	50	ug/L	8020		01/05/1996	3450
Xylenes (Total)	1,400	FF	50	ug/L	8020		01/05/1996	3450
SURROGATE RESULTS	--						01/03/1996	3449
Bromofluorobenzene (SURR)	90			% Rec.	8020		01/03/1996	3449

FF Compound quantitated at a 100) dilution factor

Ref: Shell 2101 Park Blvd., Oakland, CA/951228-S2

SAMPLE DESCRIPTION: DUP
Date Taken: 12/28/1995
Time Taken:
NET Sample No: 257893

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	10						01/03/1996	3449
Purgeable TPH	13,000		500	ug/L	5030/M8015		01/03/1996	3449
Carbon Range: C6 to C12	--						01/03/1996	3449
METHOD 8020 (GC, Liquid)	--						01/03/1996	3449
Benzene	800	FF	50	ug/L	8020		01/05/1996	3450
Toluene	34		5	ug/L	8020		01/03/1996	3449
Ethylbenzene	1,000	FF	50	ug/L	8020		01/05/1996	3450
Xylenes (Total)	1,600	FF	50	ug/L	8020		01/05/1996	3450
SURROGATE RESULTS	--						01/03/1996	3449
Bromofluorobenzene (SURR)	90			% Rec.	8020		01/03/1996	3449

FF Compound quantitated at a 100% dilution factor

Ref: Shell 2101 Park Blvd., Oakland, CA/951228-S2

SAMPLE DESCRIPTION: EB
Date Taken: 12/28/1995
Time Taken: 11:40
NET Sample No: 257894

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						01/03/1996	3449
Purgeable TPH	ND		50	ug/L	5030/M8015		01/03/1996	3449
Carbon Range: C6 to C12	--						01/03/1996	3449
METHOD 8020 (GC, Liquid)	--						01/03/1996	3449
Benzene	ND		0.5	ug/L	8020		01/03/1996	3449
Toluene	ND		0.5	ug/L	8020		01/03/1996	3449
Ethylbenzene	ND		0.5	ug/L	8020		01/03/1996	3449
Xylenes (Total)	ND		0.5	ug/L	8020		01/03/1996	3449
SURROGATE RESULTS	--						01/03/1996	3449
Bromofluorobenzene (SURR)	83			% Rec.	8020		01/03/1996	3449

Ref: Shell 2101 Park Blvd., Oakland, CA/951228-S2

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials	Run Batch Number
METHOD 6010 (DISSOLVED)	100.0	1	1		01/11/1996	jeo	124
Cadmium (ICP, Dissolved)	96.6	0.9660	1.00	mg/L	01/11/1996	jeo	122
Chromium (ICP, Dissolved)	102.9	1.029	1.00	mg/L	01/11/1996	jeo	574
Lead (GFAA,Dissolved)	103.3	0.02582	0.0250	mg/L	01/02/1996	ket	587
Nickel (ICP, Dissolved)	100.6	1.006	1.00	mg/L	01/11/1996	jeo	574
Zinc (ICP, Dissolved)	98.2	0.9822	1.00	mg/L	01/11/1996	jeo	745
METHOD 5030/8015-M (Shell)							
Purgeable TPH	102.0	0.51	0.50	mg/L	01/03/1996	lss	3449
Benzene	92.0	4.60	5.00	ug/L	01/03/1996	lss	3449
Toluene	92.8	4.64	5.00	ug/L	01/03/1996	lss	3449
Ethylbenzene	97.8	4.89	5.00	ug/L	01/03/1996	lss	3449
Xylenes (Total)	100.7	15.1	15.0	ug/L	01/03/1996	lss	3449
Bromofluorobenzene (SURR)	100.0	100	100	% Rec.	01/03/1996	lss	3449
METHOD 5030/8015-M (Shell)							
Purgeable TPH	102.0	0.51	0.50	mg/L	01/04/1996	aal	3450
Benzene	94.2	4.71	5.00	ug/L	01/04/1996	aal	3450
Toluene	95.8	4.79	5.00	ug/L	01/04/1996	aal	3450
Ethylbenzene	100.0	5.00	5.00	ug/L	01/04/1996	aal	3450
Xylenes (Total)	101.3	15.2	15.0	ug/L	01/04/1996	aal	3450
Bromofluorobenzene (SURR)	97.0	97	100	% Rec.	01/04/1996	aal	3450
METHOD 3510/8015-M (Shell)							
Extractable TPH	102.0	1020	1000	mg/L	01/08/1996	tts	1146

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CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials	Run Batch Number
METHOD 8010 (GC,Liquid)							
Bromodichloromethane	117.0	23.4	20.0	ug/L	01/10/1996	plh	941
Bromoform	121.0	24.2	20.0	ug/L	01/10/1996	plh	941
Bromomethane	106.0	21.2	20.0	ug/L	01/10/1996	plh	941
Carbon tetrachloride	117.0	23.4	20.0	ug/L	01/10/1996	plh	941
Chlorobenzene	113.5	22.7	20.0	ug/L	01/10/1996	plh	941
Chloroethane	93.5	18.7	20.0	ug/L	01/10/1996	plh	941
2-Chloroethylvinyl ether	125.5	25.1	20.0	ug/L	01/10/1996	plh	941
Chloroform	109.5	21.9	20.0	ug/L	01/10/1996	plh	941
Chloromethane	93.5	18.7	20.0	ug/L	01/10/1996	plh	941
Dibromochloromethane	120.5	24.1	20.0	ug/L	01/10/1996	plh	941
1,2-Dichlorobenzene	115.5	23.1	20.0	ug/L	01/10/1996	plh	941
1,3-Dichlorobenzene	118.0	23.6	20.0	ug/L	01/10/1996	plh	941
1,4-Dichlorobenzene	111.5	22.3	20.0	ug/L	01/10/1996	plh	941
Dichlorodifluoromethane	89.0	17.8	20.0	ug/L	01/10/1996	plh	941
1,1-Dichloroethane	109.5	21.9	20.0	ug/L	01/10/1996	plh	941
1,2-Dichloroethane	113.5	22.7	20.0	ug/L	01/10/1996	plh	941
1,1-Dichloroethene	114.5	22.9	20.0	ug/L	01/10/1996	plh	941
cis-1,2-Dichloroethene	112.0	22.4	20.0	ug/L	01/10/1996	plh	941
trans-1,2-Dichloroethene	112.5	22.5	20.0	ug/L	01/10/1996	plh	941
1,2-Dichloropropane	116.0	23.2	20.0	ug/L	01/10/1996	plh	941
cis-1,3-Dichloropropene	117.5	23.5	20.0	ug/L	01/10/1996	plh	941
trans-1,3-Dichloropropene	120.0	24.	20.0	ug/L	01/10/1996	plh	941
Methylene chloride	109.0	21.8	20.0	ug/L	01/10/1996	plh	941
1,1,2,2-Tetrachloroethane	118.5	23.7	20.0	ug/L	01/10/1996	plh	941
Tetrachloroethene	117.0	23.4	20.0	ug/L	01/10/1996	plh	941
1,1,1-Trichloroethane	115.0	23.0	20.0	ug/L	01/10/1996	plh	941
1,1,2-Trichloroethane	114.0	22.8	20.0	ug/L	01/10/1996	plh	941
Trichloroethene	108.5	21.7	20.0	ug/L	01/10/1996	plh	941
Trichlorofluoromethane	106.5	21.3	20.0	ug/L	01/10/1996	plh	941
Vinyl chloride	96.0	19.2	20.0	ug/L	01/10/1996	plh	941
1,4-Difluorobenzene (SURR)	101.0	101	100	% Rec.	01/10/1996	plh	941
1,4-Dichlorobutane (SURR)	112.0	112	100	% Rec.	01/10/1996	plh	941
Bromochloromethane (SURR)		NA	100	% Rec.	01/10/1996	plh	941

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METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials	Run Batch Number
Oil & Grease (Total)	ND	5	mg/L	01/03/1996	ngw	372
Oil & Grease (Non-Polar)	ND	5	mg/L	01/03/1996	ngw	354
METHOD 6010 (DISSOLVED)	--			01/11/1996	jeo	124
Cadmium (ICP, Dissolved)	ND	0.02	mg/L	01/11/1996	jeo	122
Chromium (ICP, Dissolved)	ND	0.02	mg/L	01/11/1996	jeo	574
Lead (GFAA,Dissolved)	ND	0.002	mg/L	01/02/1996	ket	587
Nickel (ICP, Dissolved)	ND	0.05	mg/L	01/11/1996	jeo	574
Zinc (ICP, Dissolved)	ND	0.05	mg/L	01/11/1996	jeo	745
METHOD 5030/8015-M (Shell)						
Purgeable TPH	ND	0.05	mg/L	01/03/1996	lss	3449
Benzene	ND	0.5	ug/L	01/03/1996	lss	3449
Toluene	ND	0.5	ug/L	01/03/1996	lss	3449
Ethylbenzene	ND	0.5	ug/L	01/03/1996	lss	3449
Xylenes (Total)	ND	0.5	ug/L	01/03/1996	lss	3449
Bromofluorobenzene (SURR)	93		% Rec.	01/03/1996	lss	3449
METHOD 5030/8015-M (Shell)						
Purgeable TPH	ND	0.05	mg/L	01/04/1996	aal	3450
Benzene	ND	0.5	ug/L	01/04/1996	aal	3450
Toluene	ND	0.5	ug/L	01/04/1996	aal	3450
Ethylbenzene	ND	0.5	ug/L	01/04/1996	aal	3450
Xylenes (Total)	ND	0.5	ug/L	01/04/1996	aal	3450
Bromofluorobenzene (SURR)	92		% Rec.	01/04/1996	aal	3450
METHOD 3510/8015-M (Shell)						
Extractable TPH	ND	0.05	mg/L	01/08/1996	tts	1146

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METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials	Run Batch Number
METHOD 8010 (GC,Liquid)						
Bromodichloromethane	ND	0.4	ug/L	01/10/1996	plh	941
Bromoform	ND	0.4	ug/L	01/10/1996	plh	941
Bromomethane	ND	0.4	ug/L	01/10/1996	plh	941
Carbon tetrachloride	ND	0.4	ug/L	01/10/1996	plh	941
Chlorobenzene	ND	0.4	ug/L	01/10/1996	plh	941
Chloroethane	ND	0.4	ug/L	01/10/1996	plh	941
2-Chloroethylvinyl ether	ND	1.0	ug/L	01/10/1996	plh	941
Chloroform	ND	0.4	ug/L	01/10/1996	plh	941
Chloromethane	ND	0.4	ug/L	01/10/1996	plh	941
Dibromochloromethane	ND	0.4	ug/L	01/10/1996	plh	941
1,2-Dichlorobenzene	ND	0.4	ug/L	01/10/1996	plh	941
1,3-Dichlorobenzene	ND	0.4	ug/L	01/10/1996	plh	941
1,4-Dichlorobenzene	ND	0.4	ug/L	01/10/1996	plh	941
Dichlorodifluoromethane	ND	0.4	ug/L	01/10/1996	plh	941
1,1-Dichloroethane	ND	0.4	ug/L	01/10/1996	plh	941
1,2-Dichloroethane	ND	0.4	ug/L	01/10/1996	plh	941
1,1-Dichloroethene	ND	0.4	ug/L	01/10/1996	plh	941
cis-1,2-Dichloroethene	ND	0.4	ug/L	01/10/1996	plh	941
trans-1,2-Dichloroethene	ND	0.4	ug/L	01/10/1996	plh	941
1,2-Dichloropropane	ND	0.4	ug/L	01/10/1996	plh	941
cis-1,3-Dichloropropene	ND	0.4	ug/L	01/10/1996	plh	941
trans-1,3-Dichloropropene	ND	0.4	ug/L	01/10/1996	plh	941
Methylene chloride	ND	10	ug/L	01/10/1996	plh	941
1,1,2,2-Tetrachloroethane	ND	0.4	ug/L	01/10/1996	plh	941
Tetrachloroethene	ND	0.4	ug/L	01/10/1996	plh	941
1,1,1-Trichloroethane	ND	0.4	ug/L	01/10/1996	plh	941
1,1,2-Trichloroethane	ND	0.4	ug/L	01/10/1996	plh	941
Trichloroethene	ND	0.4	ug/L	01/10/1996	plh	941
Trichlorofluoromethane	ND	0.4	ug/L	01/10/1996	plh	941
Vinyl chloride	ND	0.4	ug/L	01/10/1996	plh	941
1,4-Difluorobenzene (SURR)	102		% Rec.	01/10/1996	plh	941
1,4-Dichlorobutane (SURR)	91		% Rec.	01/10/1996	plh	941
Bromochloromethane (SURR)	NA		% Rec.	01/10/1996	plh	941

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec	Matrix Spike Dup % Rec	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Run Batch	Sample Spiked
Oil & Grease (Total)	98.0	91.2	7.2	110.5	ND	108.3	115.7	mg/L	01/03/1996	372	257709
Oil & Grease (Total)	95.4	88.5	7.5	137.9	ND	131.6	109.6	mg/L	01/03/1996	372	257934
Oil & Grease (Non-Polar)	97.8	89.0	9.4	110.5	ND	108.1	112.8	mg/L	01/03/1996	354	257709
METHOD 6010 (DISSOLVED)					--				01/11/1996	124	257732
Cadmium (ICP, Dissolved)	102.0	101.9	0.1	1.00	ND	1.020	1.019	mg/L	01/11/1996	122	257732
Chromium (ICP, Dissolved)	106.5	107.1	0.6	1.00	ND	1.065	1.071	mg/L	01/11/1996	574	257732
Lead (GFAA,Dissolved)	98.3	99.6	1.3	0.01036	ND	0.01018	0.0103	mg/L	01/02/1996	587	257890
Nickel (ICP, Dissolved)	106.6	105.4	1.1	1.00	ND	1.066	1.054	mg/L	01/11/1996	574	257732
Zinc (ICP, Dissolved)	102.6	102.3	0.3	1.00	ND	1.026	1.023	mg/L	01/11/1996	745	257732
METHOD 5030/8015-M (Shell)											257891
Purgeable TPH	98.0	98.0	0.0	0.50	0.20	0.69	0.69	mg/L	01/03/1996	3449	257891
Benzene	114.5	112.1	2.1	8.12	11	20.3	20.1	ug/L	01/03/1996	3449	257891
Toluene	100.4	100.4	0.0	23.9	1.0	25.0	25.0	ug/L	01/03/1996	3449	257891
METHOD 5030/8015-M (Shell)											257914
Purgeable TPH	100.0	100.0	0.0	0.5	ND	0.50	0.50	mg/L	01/04/1996	3450	257914
Benzene	81.3	78.9	3.0	7.97	ND	6.48	6.29	ug/L	01/04/1996	3450	257914
Toluene	87.8	87.8	0.0	23.8	ND	20.9	20.9	ug/L	01/04/1996	3450	257914
METHOD 3510/8015-M (Shell)											257888
Extractable TPH	89.8	86.7	3.5	1.96	ND	1.76	1.70	mg/L	01/08/1996	1146	257888

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Run Batch	Sample Spiked
METHOD 8010 (GC,Liquid)											258142
Chlorobenzene	93.5	92.5	1.1	20.0	ND	18.7	18.5	ug/L	01/09/1996	941	258142
1,1-Dichloroethene	43.3	39.1	10.2	20.0	ND	8.66	7.82	ug/L	01/09/1996	941	258142
Trichloroethene	82.0	81.0	1.2	20.0	ND	16.4	16.2	ug/L	01/09/1996	941	258142

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec	Matrix Spike Dup % Rec	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Run Batch	Sample Spiked
METHOD 8010 (GC,Liquid)											
Chlorobenzene	101.0	107.0	5.8	20.0	ND	20.2	21.4	ug/L	01/09/1996	941	258027
1,1-Dichloroethene	89.5	105.5	16.3	20.0	ND	17.9	21.1	ug/L	01/09/1996	941	258027
Trichloroetnene	95.0	103.0	8.0	20.0	ND	19.0	20.6	ug/L	01/09/1996	941	258027

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LABORATORY CONTROL SAMPLE REPORT

Parameter	LCS % Recovery	Duplicate LCS % Recovery	RPD	LCS Amount Found	Duplicate LCS Amount Found	LCS Amount Expected	Units	Date Analyzed	Analyst Initials	Run Batch
Oil & Grease (Total)	95.1			161.9		170.2	mg/L	01/03/1996	ngw	372
Oil & Grease (Total)	93.0			117.0		125.8	mg/L	01/03/1996	ngw	372
Oil & Grease (Non-Polar)	83.4			142.0		170.2	mg/L	01/03/1996	ngw	354
METHOD 6010 (DISSOLVED)								01/11/1996	jeo	124
Cadmium (ICP, Dissolved)	105.1			1.051		1.00	mg/L	01/11/1996	jeo	122
Chromium (ICP, Dissolved)	107.9			1.079		1.00	mg/L	01/11/1996	jeo	574
Lead (GFAA,Dissolved)	102.6			0.02564		0.0250	mg/L	01/02/1996	ket	587
Nickel (ICP, Dissolved)	108.4			1.084		1.00	mg/L	01/11/1996	jeo	574
Zinc (ICP, Dissolved)	105.4			1.054		1.00	mg/L	01/11/1996	jeo	745
METHOD 3510/8015-M (Shell)										
Extractable TPH	79.8			0.798		1.00	mg/L	01/08/1996	tts	1146