Chevron

93 OCT 21 PM 2:29

Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583
P.O. Box 5004
San Ramon, CA 94583-0804

Marketing Department
Phone 510 842 9500

October 15, 1993

Ms. Susan Hugo
Alameda County Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re : Chevron Service Station No. 9-1740
6550 Moraga Avenue, Oakland, CA 94611

Dear Ms. Hugo :

Enclosed is the October 11, 1993 Sierra Environmental Services (SES) quarterly monitoring and sampling report.

Monitoring well C-3 was below the detection limit for total petroleum hydrocarbon as gasoline (TPH-g), benzene, toluene, ethylbenzene, and xylenes. The remaining wells have 51 and 630 ppb TPH-g and 18 and 97 ppb benzene.

For additional information, please refer to the enclosed report. If you have any questions or comments, please feel free to call me at (510) 842-8752.

Sincerely,

Chevron U.S.A. Products Co.

Kenneth Kan
Engineer

LKAN/MacFile 9-1740R11

Enclosure

cc : Mr. Eddy So
RWQCB-S.F.Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

Mr. Steve Willer
Chevron U.S.A. Products Co.

OCT 15 '93 J.M.M.

SIERRA
Environmental Services

October 11, 1993

Kenneth Kan
Chevron USA Products Company
P.O. Box 5004
San Ramon, CA 94583

Re: Chevron Service Station #9-1740
6550 Moraga Avenue
Oakland, California
SES Project #1-221-04

Dear Mr. Kan:

This report presents the results of the quarterly ground water sampling at Chevron Service Station #9-1740, located at 6550 Moraga Avenue in Oakland, California. Three wells, C-2 through C-4 were sampled (Figure 1).

On September 2, 1993, SES personnel visited the site. Water level measurements were collected in all site wells and all wells were checked for the presence of free-phase hydrocarbons. Free-phase hydrocarbons were not present in any site wells. Water level data are shown in Table 1 and ground water elevation contours are included on Figure 1.

Ground water samples were collected on September 2, 1993 in accordance with SES Standard Operating Procedure - Ground Water Sampling (attached). All analyses were performed by Superior Precision Analytical, Inc. of Martinez, California. Analytic results for ground water are presented in Table 2. The chain of custody document and laboratory analytic reports are attached. SES is not responsible for laboratory omissions or errors.

Thank you for allowing us to provide services to Chevron USA. Please call if you have any questions.

REGISTERED PROFESSIONAL ENGINEER
CHRIS J. BRAMER
C 048846
9/96
CIVIL
STATE OF CALIFORNIA

Sincerely,
Sierra Environmental Services

for

Argy Mena
Staff Geologist

Chris J. Bramer
Professional Engineer #C48846

AJM/CJB/cb
22104QM.OC3

Attachments: Figure
Tables
SES Standard Operating Procedure
Chain of Custody Document and Laboratory Analytic Reports

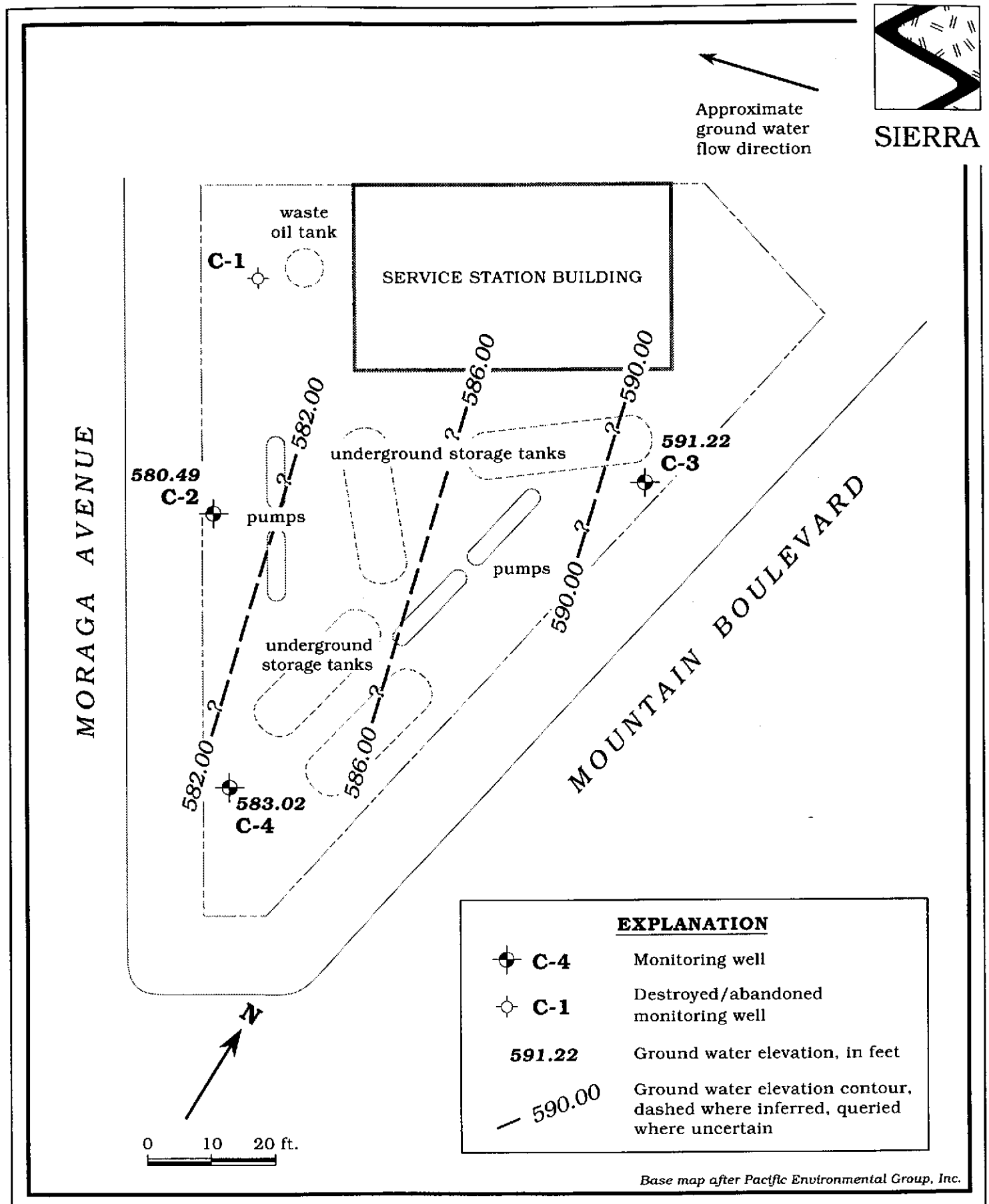

Figure 1. Monitoring Well Locations and Ground Water Elevation Contour Map - September 2, 1993 - Chevron Service Station #9-1740, 6550 Moraga Avenue, Oakland, California

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Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-1740, 6550 Moraga Avenue, Oakland, California

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness* (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						<----------feet below grade---------->		
C-1	3/25/91	3.28	595.82	592.54	0	5 - 25	4 - 25	0 - 4
	7/1/91	3.43		592.39	0			
	9/25/91	4.15		591.67	0			
	12/23/91	3.71		592.11	0			
	3/24/92	3.02		592.80	0			
	6/23/92	3.76		592.06	0			
	9/30/92[2]	---		---	---			
C-2	3/25/91	22.89	594.57	571.68	0	5 - 25	4 - 25	0 - 4
	7/1/91	7.37		587.20	0			
	9/25/91	6.98		587.59	0			
	12/23/91	5.01		589.56	0			
	3/24/92	17.27		577.30	0			
	6/23/92	3.82		590.75	0			
	9/30/92	14.01		580.56	0			
	12/16/92	14.52		580.05	0			
	3/30/93	11.08		583.49	0			
	6/10/93	11.49		583.08	0			
	9/2/93	**14.08**		**580.49**	**0**			
C-3	3/25/91	5.16	597.14	591.98	0	5 - 25	4 - 25	0 - 4
	7/1/91	5.84		591.30	0			
	9/25/91	5.94		591.20	0			
	12/23/91	5.94		591.20	0			
	3/24/92	4.77		592.37	0			
	6/23/92	5.67		591.47	0			
	9/30/92	6.30		590.84	0			
	12/16/92	5.57		591.57	0			
	3/30/93	5.06		592.08	0			
	6/10/93	5.29		591.85	0			
	9/2/93	**5.92**		**591.22**	**0**			
C-4	3/25/91	4.45	593.10	588.65	0	5 - 25	4 - 25	0 - 4
	7/1/91	5.33		587.77	0			
	9/25/91	5.50		587.60	0			
	12/23/91	4.92		588.18	0			
	3/24/92	4.19		589.06[1]	0.19			
	6/23/92	4.91		588.43[1]	0.30			

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Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-1740, 6550 Moraga Avenue, Oakland, California (continued)

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness* (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						<----------feet below grade---------->		
C-4 (cont)	9/30/92	8.66		584.44	0			
	12/16/92	9.80		583.30	0			
	3/30/93	10.00		583.20[1]	0.12			
	6/10/93	9.64		583.46	0			
	9/2/93	**10.08**		**583.02**	**0**			

EXPLANATION:

DTW = Depth to water
TOC = Top of casing elevation
GWE = Ground water elevation
msl = Measurements referenced relative to mean sea level
--- = Not applicable/not available

NOTES:

Depth to water measurements prior to July 1, 1991, top of casing elevations, and well construction details were compiled from the Soil and Groundwater Investigation Report prepared for this service station by Pacific Environmental Group, Inc. dated June 13, 1991.

* Product thickness measurements prior to July 1, 1991 were measured with a clear teflon bailer. Measurements made since July 1, 1991 used an MMC flexi-dip interface probe.

1 GWE corrected for presence of free-phase hydrocarbons using the formula: [TOC - DTW] + product thickness x 0.80 (assumed specific gravity of free-phase hydrocarbons).

2 Monitoring well abandoned during excavation activities.

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Table 2. Analytic Results for Ground Water - Chevron Service Station #9-1740, 6550 Moraga Avenue, Oakland, California

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	TPH(D)	O&G	B	T	E	X
				<----------ppb---------->						
C-1	3/25/91	SAL	8015/8020/503E	54	<50	<5,000	0.7	<0.5	<0.5	2
	7/1/91	SAL	8015/8020	730	---	---	250	3.0	16	4.8
	9/25/91	SAL	8015/8020	160	---	---	68	1.3	6.1	1.3
	12/23/91	SPA	8015/8020	170	---	---	70	1.6	3.5	2.4
	3/24/92	SPA	8015/8020	60	---	---	39	4.4	3.9	9.1
	6/23/92	SPA	8015/8020	60	---	---	19	1.1	1.1	1.0
	9/30/92[1]									
C-2	3/25/91	SAL	8015/8020	<50	<50	---	1	<0.5	<0.5	2
	7/1/91	SAL	8015/8020	660	---	---	190	2.5	28	22
	9/25/91	SAL	8015/8020	110	---	---	200	1.9	21	1.7
	12/23/91	SPA	8015/8020	<50	---	---	1.2	1.2	<0.5	1.8
	3/24/92	SPA	8015/8020	100	---	---	5.9	7.9	4	14
	6/23/92	SPA	8015/8020	190	---	---	45	4.5	9.5	10
	9/30/92	SPA	8015/8020	240	---	---	99	2.3	11	6.1
	12/16/92	SPA	8015/8020	280	---	---	160	6.2	7.4	5.0
	3/30/93	SPA	8015/8020	110[2]	---	---	21	<0.5	0.8	<1.5
	6/10/93	SPA	8015/8020	180	---	---	53	2.6	8.0	5.8
	9/2/93	**SPA**	**8015/8020**	**51**	**---**	**---**	**18**	**0.8**	**4.4**	**<1.5**
C-3	3/25/91	SAL	8015/8020	<50	<50	---	<0.5	<0.5	<0.5	0.5
	7/1/91	SAL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	9/25/91	SAL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	12/23/91	SPA	8015/8020	<50	---	---	1.0	<0.5	<0.5	1.5
	3/24/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	6/23/92	SPA	8015/8020	<50	---	---	0.9	1.1	0.5	1.6
	9/30/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	12/16/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	3/30/93	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<1.5
	6/10/93	SPA	8015/8020	<50	---	---	0.6	1.9	0.6	3.5
	9/2/93	**SPA**	**8015/8020**	**<50**	**---**	**---**	**<0.5**	**<0.5**	**<0.5**	**<1.5**
C-4	3/25/91	SAL	8015/8020	2,700	<50	---	240	16	<0.5	350
	7/1/91	SAL	8015/8020	7,900	---	---	1,500	230	340	350
	9/25/91	SAL	8015/8020	3,200	---	---	850	160	150	220
	12/23/91	SPA	8015/8020	4,100	---	---	390	52	42	340
	3/24/92*	---	---	---	---	---	---	---	---	---
	6/23/92*	---	---	---	---	---	---	---	---	---
	9/30/92	SPA	8015/8020	450	---	---	97	14	12	29
	12/16/92	SPA	8015/8020	590	---	---	130	18	5.6	29
	3/30/93*	---	---	---	---	---	---	---	---	---
	6/10/93	SPA	8015/8020	1,300	---	---	290	36	17	73
	9/2/93	**SPA**	**8015/8020**	**630**	**---**	**---**	**97**	**12**	**6.6**	**21**

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Table 2. Analytic Results for Ground Water - Chevron Service Station #9-1740, 6550 Moraga Avenue, Oakland, California (continued)

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	TPH(D)	O&G	B	T	E	X
				<----------ppb---------->						
Trip Blank	3/25/91	SAL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
(AA)	7/1/91	SAL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	9/25/91	SAL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	12/23/91	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	3/24/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
TB-LB	6/23/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	9/30/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	12/16/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	3/30/93	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<1.5
	6/10/93	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<1.5
	9/2/93	**SPA**	**8015/8020**	**<50**	---	---	**<0.5**	**<0.5**	**<0.5**	**<1.5**
Bailer Blank	3/25/91	SAL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
(BB)	7/1/91	SAL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	9/25/91	SAL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	12/23/91	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	3/24/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	6/23/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	9/30/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	12/16/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	3/30/93	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<1.5
	6/10/93	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<1.5
	9/2/93	**SPA**	**8015/8020**	**<50**	---	---	**<0.5**	**<0.5**	**<0.5**	**<1.5**

Table 2. Analytic Results for Ground Water - Chevron Service Station #9-1740, 6550 Moraga Avenue, Oakland, California (continued)

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EXPLANATION:

TPPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline
TPH(D) = Total Petroleum Hydrocarbons as Diesel
O&G = Oil and Grease
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
ppb = Parts per billion
--- = Not analyzed/Not applicable

ANALYTIC METHODS:

8015 = EPA Method 8015/5030 for TPPH(G)
8015 = Modified EPA Method 8015 for TPH(D)
8020 = EPA Method 8020 for BTEX
503E = Standard Methods Method 503E for O&G

ANALYTIC LABORATORIES:

SAL = Superior Analytic Laboratory of Martinez, California
SPA = Superior Precision Analytical, Inc. of Martinez, California

NOTE:

Analytic data prior to July 1, 1991 were compiled from the Soil and Groundwater Investigation Report prepared for this service station by Pacific Environmental Group, Inc. dated June 13, 1991.

* Free-phase hydrocarbons were measured in this well, therefore the well was not sampled.

[1] Monitoring well abandoned during excavation activities.

[2] Gasoline range concentration reported. The chromatogram shows only a single peak in the gasoline range.

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SES STANDARD OPERATING PROCEDURE
GROUND WATER SAMPLING

The following describes sampling procedures used by SES field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination of the sample, and to preserve the sample for subsequent analysis. Wells will be sampled no less than 24 hours after well development. Collection methods specific to ground water sampling are presented below.

Prior to sampling, each well is checked for the presence of free-phase hydrocarbons using an MMC flexi-dip interface probe. Product thickness (measured to the nearest 0.01 foot) is noted on the sampling form. Water level measurements are also made using either a water level meter or the interface probe. The water level measurements are also noted on the sampling form.

Prior to sampling, each well is purged of a minimum of three well casing volumes of water using a steam-cleaned PVC bailer, or a pre-cleaned pump. Temperature, pH and electrical conductivity are measured at least three times during purging. Purging is continued until these parameters have stabilized (i.e., changes in temperature, pH or conductivity do not exceed ±0.5°F, 0.1 or 5%, respectively).

The purge water is taken to Chevron's Richmond Refinery for disposal.

Ground water samples are collected from the wells with steam-cleaned Teflon bailers. The water samples are decanted into the appropriate container for the analysis to be performed. Pre-preserved sample containers may be used or the analytic laboratory may add preservative to the sample upon arrival. Duplicate samples are collected from each well as a back-up sample and/or to provide quality control. The samples are labeled to include the project number, sample ID, date, preservative, and the field person's initials. The samples are placed in polyethylene bags and in an ice chest (maintained at 4°C) for transport under chain of custody to the laboratory.

The chain of custody form includes the project number, analysis requested, sample ID, date analysis and the SES field person's name. The form is signed and dated (with the transfer time) by each person who yields or receives the samples beginning with the field personnel and ending with the laboratory personnel.

A trip blank and bailer blank accompanies each sampling set, or 5% trip blanks and 5% bailer blanks are included for sets of greater than 20 samples. The bailer blank is prepared by pouring previously boiled water into a steam-cleaned Teflon bailer prior to sampling a well. The trip and bailer blanks are analyzed for some or all of the same compounds as the ground water samples.

Fax copy of Lab Report and COC to Chevron Contact: ☐ Yes ☐ No

(-1060)

Chain-of-Custody-Record

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number: 9-1740
Facility Address: 1550 Moraga Ave., Oakland
Consultant Project Number: 1-221-04
Consultant Name: Sierra Environmental Services
Address: P.O. Box 2546, Martinez, CA 94553
Project Contact (Name): Argy Mena
(Phone) 370-1280 (Fax Number) 370-7959

Chevron Contact (Name): Kenneth Kan
(Phone) 842-8752
Laboratory Name: Superior Precision Analytical
Laboratory Release Number: 4600980
Samples Collected by (Name): Carol Eaton
Collection Date: 9/2/93
Signature: Carol Eaton

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)					
								Analyses To Be Performed												
TB-LB		3	W	G	9:40	HCl	Y	✓												
BB					10:35			✓												
C-3					10:50			✓												
C-2					10:45			✓												
C-4					10:40			✓												

Please Initial:
Samples Stored in ice. yes
Appropriate containers
Samples preserved
VOA's without headspace
Comments:

Note:
Do Not Bill
TB-LB Samples

Remarks
Analyze in Order

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Carol Eaton	STS	9/2/93 5:10 pm			
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			R. Vanegas		9-2-93 2:40pm

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted

9/2/93

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

Sierra Environmental
Attn: ARGY MENA

Project 1-221-04
Reported 09/10/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
89865- 1	TB-LB	09/02/93	09/08/93	Water
89865- 2	BB	09/02/93	09/02/93	Water
89865- 3	C-3	09/02/93	09/02/93	Water
89865- 4	C-2	09/02/93	09/02/93	Water
89865- 5	C-4	09/02/93	09/02/93	Water

RESULTS OF ANALYSIS

Laboratory Number:	89865- 1	89865- 2	89865- 3	89865- 4	89865- 5
Gasoline:	ND<50	ND<50	ND<50	51	630
Benzene:	ND<0.5	ND<0.5	ND<0.5	18	97
Toluene:	ND<0.5	ND<0.5	ND<0.5	0.8	12
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	4.4	6.6
Total Xylenes:	ND<1.5	ND<1.5	ND<1.5	ND<1.5	21
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 ▪ Martinez, California 94553 ▪ (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 89865

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/L = parts per billion (ppb)

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	102/101	1%	70-130
Benzene:	102/122	18%	70-130
Toluene:	116/114	2%	70-130
Ethyl Benzene:	110/110	0%	70-130
Total Xylenes:	120/117	3%	70-130

9/10/93

Senior Chemist