



Chevron U.S.A. Inc.

2410 Camino Ramon, San Ramon, California • Phone (415) 842-9500
Mail Address: PO Box 5004, San Ramon, CA 94583-0804

STID 2047

Marketing Operations

April 4, 1990

D. Moller
Manager, Operations
S. L. Patterson
Area Manager, Operations
C. G. Trimbach
Manager, Engineering

Mr. Gil Wister
Alameda County
Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Re: Chevron Service Station #9-1583
5509 Martin Luther King Way
Oakland, CA

Dear Mr. Wister:

During underground piping modifications performed in December of 1989 soil sampling results indicated the presence of hydrocarbon contamination at the above referenced site. Upon review of our files it was discovered that three groundwater monitoring wells were installed onsite in response to a suspected leak in 1983.

Geraghty & Miller, Inc. was retained to redevelop and sample these existing wells. Enclosed is a copy of their report dated April 2, 1990. As indicated in the report, levels of hydrocarbon contamination were found in the groundwater samples collected from all the wells.

Chevron will instruct Geraghty & Miller to prepare a work plan outlining appropriate next work steps in order to further assess the extent of contamination. We have placed a May 4, 1990 target date for submittal of this work plan to you.

I declare under penalty of perjury that the information contained in the attached report is true and correct, and that any recommended actions are appropriate under the circumstances, to the best of my knowledge.

If you have any questions or comments please do not hesitate to call me at (415) 842 - 9625.

Very truly yours,

C. G. Trimbach

JMR/jmr
Enclosure

By 
John Randall

cc: Mr. Lester Feldman
RWQCB-Bay Area
1800 Harrison Street
Suite # 700
Oakland, CA 94612

Gary Keyes
Geraghty & Miller w/o enclosure - Please prepare work plan with
budget for performing further
assessment. Note deadline for
submittal to ACEHD.

April 2, 1990

KLD APR 3'90

Mr. John Randall
Chevron U.S.A., Inc.
West Central Marketing
2410 Camino Ramon
San Ramon, California 94583

Re: Results of Ground-Water Sampling Activities, Chevron U.S.A., Inc. Service Station #9-1583, 5509 Martin Luther King Way, Oakland, California.
(Project No: RC02601)

Dear Mr. Randall:

This letter presents the results of the ground-water sampling activities performed by Geraghty & Miller, Inc. (Geraghty & Miller) on behalf of Chevron U.S.A., Inc. (Chevron) at the Chevron facility referenced above. The scope of work for this project was presented to Chevron in a previous Geraghty & Miller letter dated March 12, 1990.

BACKGROUND

According to information supplied to Geraghty & Miller by Chevron, product piping was removed from the site on December 14, 1989. A total of seven soil samples were collected by Geotest from the piping trenches and analyzed for total petroleum hydrocarbons (TPH) as gasoline (USEPA Method 8015, modified) and benzene, toluene, xylenes, and ethylbenzene (BTXE) (USEPA Method 8020). The approximate locations of the soil samples are shown in Figure 1 and a summary of the analytical results is presented in Table 1. The location and extent of the trenches was not included in the information supplied to Geraghty & Miller.

The highest concentration of TPH as gasoline (1,700 mg/kg) was detected in soil sample B. The sampler reportedly encountered water before the concentrations of hydrocarbons "attenuated to below levels of concern". Based on these results, the Alameda County Health Care Services Agency, Department of Environmental Health (ACDEH) requested that Chevron install three ground-water monitor wells to assess whether shallow ground water in the vicinity of the former location of the product piping has been impacted by petroleum hydrocarbons. The ACDEH also requested Chevron to submit an unauthorized release form (ACDEH, January 22, 1990).

According to information supplied to Geraghty & Miller by Chevron, three ground-water monitor wells were installed at the project site by Gettler-Ryan, Inc. during December 1983. The exploratory borings were drilled to a total depth of 21 feet below the ground surface and encountered clay and silty clay to the total depth explored. Depth to water ranged from 10.25 feet to 11.58 feet below the ground surface on December 22, 1983, and

phase-separated hydrocarbons were reportedly not observed. Well completion and top of casing elevation data were not available for the wells.

In order to comply with the requests of the ACDEH, Chevron requested that Geraghty & Miller collect ground-water samples from the three monitor wells and assess the direction of ground-water flow.

FIELD ACTIVITIES

On March 6, 1990, a representative of Geraghty and Miller visited the site to perform the ground-water sampling. At that time it was found that the well caps needed to be replaced because of corrosion and possible leakage. Water was observed in the Christy box enclosing Monitor Well #1. The water was at approximately the same level as the ruptured brass well cap. Stains were observed on the inside of the PVC casing. The brass well cap for Monitor Well #2 was removed easily by hand twisting and the rubber seal was found to be ruptured. Stains were also observed on the inside of the PVC casing of Monitor Well #2. The brass well cap for Monitor Well #3 was very difficult to remove. A strong hydrocarbon odor was noted upon removal of the well caps. The brass well caps have been replaced with water tight PVC locking well caps secured with Chevron locks.

On March 12, 1990, ground-water samples were collected from Monitor Wells #1 through #3. Depth-to-water and total well depth measurements were obtained from each well. Prior to purging, each well was checked for the presence of phase-separated petroleum hydrocarbons using a clear acrylic bailer which was cleaned between each use. Phase-separated petroleum hydrocarbons were not observed in any of the Monitor Wells.

Prior to sampling, each well was purged of a minimum of three casing volumes of water using a stainless steel bailer. All equipment which entered the well was cleaned in a solution of tri-sodium phosphate and water and triple rinsed with distilled water. A new nylon rope was used to lower the bailers down each well. Purged water was monitored for temperature, pH, and specific conductance. A summary of the field sampling data is presented in Table 2. The purged water was placed in a 55-gallon drum and stored on site for proper disposal by Chevron. Ground-water samples were collected using a disposable polyethylene bailer. The water samples were collected into appropriate USEPA approved containers, placed on ice and transported to GTEL Environmental Laboratories, Inc. located in Concord, California, a Department of Health Services approved laboratory, along with chain-of-custody documentation. A trip blank consisting of laboratory grade water accompanied the sample bottles from the laboratory to the site and back to the laboratory. The water samples were analyzed for TPH as gasoline (USEPA method 8015, modified), and BTXE (USEPA method 8020).

Top of casing elevation and depth-to-water measurements were performed on March 25, 1990. The casing elevations were surveyed relative to City of Oakland Bench Mark #1967 located on the curb at the southwest corner of 55th Street and Martin Luther King Way. The bench mark is reported as 84.457 feet above mean sea level.

RESULTS

A summary of depth-to-water measurements, top of casing elevations and water elevations is presented in Table 3. On March 25, 1990, depth to water ranged from 10.46 feet below the top of casing (Monitor Well #1) to 12.55 feet below the top of casing (Monitor Well

#3). A ground water contour map is presented in Figure 1. Based on these data, the approximate direction of shallow ground-water flow beneath the southern portion of the site is towards the southwest. Based on these results, the three existing monitor wells are located hydraulically downgradient of the fuel dispensing islands. Monitor Well #1 is located downgradient of the underground storage tanks and Well # 2 is located upgradient of the tanks.

TPH as gasoline, and BTXE were detected in the ground-water samples collected from Monitor Wells #1, #2 and #3. A summary of the water sample analysis is presented in Table 4. Copies of the certified laboratory reports are included in Attachment 1. TPH concentrations ranged from 800 µg/l (Well #2) to 50,000 µg/l (Well #1). BTXE concentrations ranged from 18 µg/l (toluene, Well #2) to 18,000 µg/l (xylenes, Well #1). TPH and BTXE were not detected in the trip blank.

If you have any questions regarding this project, please do not hesitate to call.

Sincerely,
GERAGHTY & MILLER, INC.



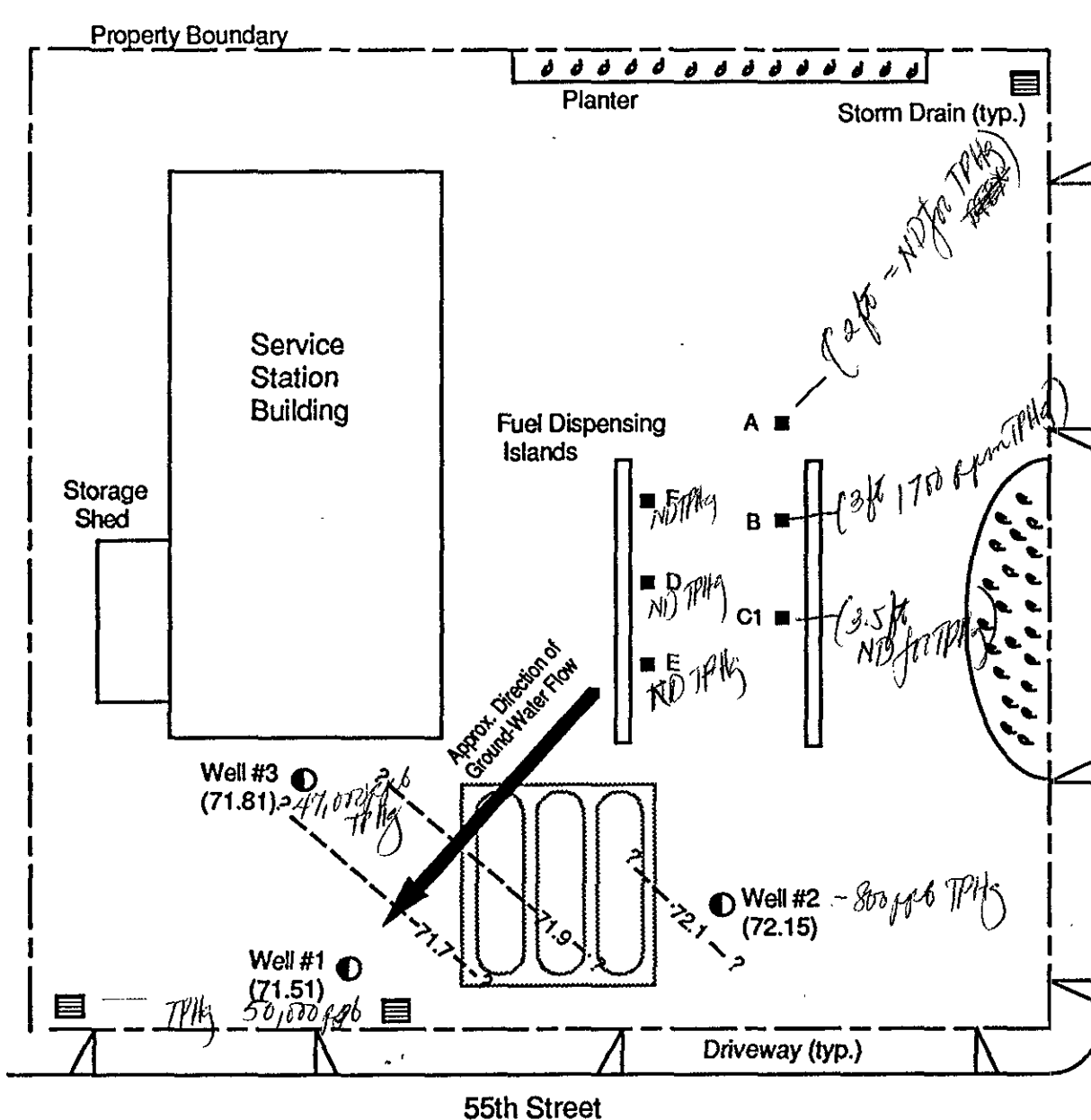
Jeffrey W. Hawkins
for
Kent O'Brien
Geologist

Jeffrey W. Hawkins
Jeffrey W. Hawkins, R.G.
Senior Geologist

Gary Keyes
Gary W. Keyes, P.E.
Principal Engineer

Attachments:

- Table 1 - Analytical Results for Soil Samples
- Table 2 - Summary of Field Sampling Data
- Table 3 - Summary of Depth-to-Water and Water Elevation Data
- Table 4 - Ground-Water Analytical Results
- Figure 1 - Site Plan
- Attachment 1 - Certified Analytical Reports



Martin Luther King Way

LEGEND

- A ■ Soil sample taken by Geotest (12/14/1989)
- Well #1 ● Ground-water monitoring well installed by Gettler-Ryan, Inc. (12/22/1983)
- (71.52) Ground-water elevation (feet-MSL); measured 3/25/1990
- 72.1--- Ground-water elevation contour (feet-MSL); Contour interval equals 0.2 feet



Scale feet

GERAGHTY & MILLER, INC.
Environmental Services

Proj. No. RCO2601 March 30, 1990

SITE PLAN

CHEVRON STATION #9-1583
5509 Martin Luther King Way
Oakland, California

FIGURE

1

Table 1- Analytical Results For Soil Samples.
Chevron Service Station #9-1583, Oakland, California.
(from Geotest, December 14, 1989)

Sample	Depth (Feet)	Date	TPH(A) (mg/kg)	Benzene (B) (mg/kg)	Toluene (B) (mg/kg)	Xylenes (B) (mg/kg)	Ethylbenzene (B) (mg/kg)	Laboratory
A	2	14-Dec-89	ND (<10)	NA	NA	NA	NA	Geotest
B	3	14-Dec-89	1,700	NA	NA	NA	NA	Geotest
C1	3.5	14-Dec-89	ND (<10)	NA	NA	NA	NA	Geotest
D	4.5	14-Dec-89	ND (<10)	NA	NA	NA	NA	Geotest
E	4.5	14-Dec-89	ND (<10)	NA	NA	NA	NA	Geotest
F	3.5	14-Dec-89	ND (<10)	NA	NA	NA	NA	Geotest
SS-1 (C)	—	15-Dec-89	670	0.70	1.20	1.50	0.96	Superior

Notes:

(A) Total petroleum hydrocarbons as gasoline. Analyzed by USEPA 8015, Modified.

(B) Analyzed USEPA Method 8020.

(C) Sample location and depth not reported.

NA - Not analyzed.

ND - Not detected.

(<10) - Reported detection limit.

Project No. RC02601

Table 2 - Summary of Field Sampling Data
Chevron Service Station #9-1583, Oakland, California

Well	Date	Calculated Purge Volume (B) (gallons)	Actual Purge Volume (gallons)	pH	Stabilized SC (ms/cm)	Temperature (F)	Depth to Water (A) (feet)	Measured Depth of Well (A) (feet)	Casing Diameter (inches)
Well #1	12-Mar-90	10.83	13	6.61	62	73.4	10.08	19.13	3
Well #2	12-Mar-90	9.58	13	6.28	51	74.4	11.02	19.02	3
Well #3	12-Mar-90	8.45	13	6.48	75	75.6	12.14	19.20	3

Notes:

(A) Measured from top of PVC casing.

(B) Based on three casing volumes.

SC = Specific conductance.

Table 3 - Summary of Depth-to-Water and Water Elevation Data
Chevron Service Station #9-1583, Oakland, California

Well	Date	Depth to Water (1) (feet)	Measured Depth of Well (1) (feet)	Casing Diameter (inches)	Top of Casing Elevation (feet)	Water Level Elevation (feet)
Well #1	12-Mar-90	10.08	19.13	3	81.97	71.89
	25-Mar-90	10.46	19.41			71.51
Well #2	12-Mar-90	11.02	19.02	3	83.48	72.46
	25-Mar-90	11.33	18.99			72.15
Well #3	12-Mar-90	12.14	19.20	3	84.36	72.22
	25-Mar-90	12.55	19.77			71.81

Notes:

(1) Measured from top of casing.

Elevations are reported in feet above mean sea level.

Elevations were measured relative to City of Oakland Bench Mark #1967 located on the curb at the southwest corner of 55th Street and Martin Luther King Way. Reported elevation of bench mark is 84.457 feet above mean sea level.

Table 4 - Ground-Water Analytical Results
Chevron Service Station #9-1583, Oakland, California.

Sample	Date	TPH (A) µg/l	Benzene (B) µg/l	Toluene (B) µg/l	Xylenes (B) µg/l	Ethylbenzene (B) µg/l
Well #1	12-Mar-90	50,000	3,000	7,300	18,000	1,900
Well #2	12-Mar-90	800	400	22	55	18
Well #3	12-Mar-90	47,000	1,000	9,900	9,800	1,700
Trip Blank	12-Mar-90	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.6)	ND(<0.3)

Notes:

(A) TPH - Total petroleum hydrocarbons as gasoline. Analyzed by USEPA 8015

(B) BTXE analyzed by USEPA 8020.

ND - Not detected within the method detection limit.

(<0.3) - Detection Limit

Project No. RC02601

ATTACHMENT 1

CERTIFIED ANALYTICAL REPORTS



Western Region
4080-C Pike Ln., Concord, CA 94520
(415) 685-7852
In CA: (800) 544-3422
Outside CA: (800) 423-7143

Project Number: SFB-175-0204.72
Consultant Project Number: RC02601
Contract Number: N46CWC0244-9-X
Facility Number: 1583
Work Order Number: D003332
Report Issue Date: March 21, 1990

Jeff Hawkins
Geraghty and Miller, Inc.
1050 Marina Way South
Richmond, CA 94804

Dear Mr. Hawkins:

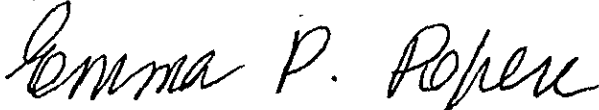
Enclosed please find the analytical results report prepared by GTEL for samples received on 03/13/90.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project was performed in strict adherence to our QA/QC program to ensure sample integrity and to meet quality control criteria.

If you have any questions concerning this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.


Emma P. Popek
Laboratory Director

Project Number: SFB-175-0204.72
 Consultant Project Number: RC02601
 Contract Number: N46CWC0244-9-X
 Facility Number: 1583
 Work Order Number: D003332
 Report Issue Date: March 21, 1990

Table 1

ANALYTICAL RESULTS

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015¹

GTEL Sample Number		01	02	03	04
Client Identification		Well #1	Well #2	Well #3	Trip Blank
Date Sampled		03/12/90	03/12/90	03/12/90	03/12/90
Date Analyzed		03/15/90	03/15/90	03/15/90	03/15/90
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	3000	400	1000	<0.3
Toluene	0.3	7300	22	9900	<0.3
Ethylbenzene	0.3	1900	18	1700	<0.3
Xylene (total)	0.6	18000	55	9800	<0.6
TPH as Gasoline	50	50000	800	47000	<50

¹ = Extraction by EPA Method 5030

Project Number: SFB-175-0204.72
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Work Order Number: D003332
Report Issue Date: March 21, 1990

QA Conformance Summary

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015

- 1.0 Blanks
Five of 5 target compounds were below detection limits in the reagent blank as shown in Table 2.
- 2.0 Independent QC Check Sample
The control limits were met for 4 out of 4 QC check compounds as shown in Table 3.
- 3.0 Surrogate Compound Recoveries
Percent recovery limits were met for the surrogate compound (naphthalene) for all samples as shown in Table 4.
- 4.0 Matrix Spike (MS) Accuracy
Percent recovery limits were met for 4 of 4 compounds in the MS as shown in Table 5.
- 5.0 Reagent Water Spike (WS) and Reagent Water Spike (WSD) Duplicate Precision
Relative percent difference (RPD) criteria was met for 4 of 4 analytes in the WS and WSD as shown in Table 6.
- 6.0 Sample Handling
6.1 Sample handling and holding time criteria were met for all samples.
6.2 There were exceptional conditions requiring dilution of samples.

Project Number: SFB-175-0204.72
Consultant Project Number: RC02601
Contract Number: N46CWC0244-9-X
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Report Issue Date: March 21, 1990

Table 2

REAGENT BLANK DATA

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015

Date of Analysis: 03/15/90

Analyte	Concentration, ug/L
Benzene	<0.3
Toluene	<0.3
Ethylbenzene	<0.3
Xylene (total)	<0.6
Gasoline	<50

<# = Not detected at the indicated detection limit.

Project Number: SFB-175-0204.72
 Consultant Project Number: RC02601
 Contract Number: N46CWC0244-9-X
 Facility Number: 1583
 Work Order Number: D003332
 Report Issue Date: March 21, 1990

Table 3

INDEPENDENT QC CHECK SAMPLE RESULTS

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015

Date of Analysis: 03/15/90

Analyte	Expected Result, ug/L	Observed Result, ug/L	Recovery, %	Acceptability Limits, %
Benzene	50	51	102	85 - 115
Toluene	50	47	94	85 - 115
Ethylbenzene	50	47	94	85 - 115
Xylene (total)	150	143	95	85 - 115

Table 3a

INDEPENDENT QC CHECK SAMPLE SOURCE

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015

Analyte	Lot Number	Source
Benzene	LA18042	Supelco
Toluene	LA18042	Supelco
Ethylbenzene	LA18042	Supelco
Xylene (total)	LA18042	Supelco

Project Number: SFB-175-0204.72
 Consultant Project Number: RC02601
 Contract Number: W46CWC0244-9-X
 Facility Number: 1583
 Work Order Number: D003332
 Report Issue Date: March 27, 1990

Table 4
 SURROGATE COMPOUND RECOVERY

Naphthalene

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015

Acceptability Limits¹: 70 - 130 %

GTEL No.	Expected Result, ug/L	Surrogate Result, ug/L	Surrogate Recovery, %
Blank	200	190	95
01	200	223	111
02	200	164	82
03	200	174	87
04	200	192	96
MS	200	179	90
WS	200	162	81
WSD	200	158	79

MS = Matrix Spike
 WS = Reagent Water Spike
 WSD = Reagent Water Spike Duplicate
 1 = Acceptability limits are derived from the 99% confidence interval of all samples during the previous quarter.

Project Number: SFB-175-0204.72
 Consultant Project Number: RC02601
 Contract Number: N46CWC0244-9-X
 Facility Number: 1583
 Work Order Number: D003332
 Report Issue Date: March 21, 1990

Table 5

MATRIX SPIKE (MS) RECOVERY REPORT

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015

Date of Analysis: 03/15/90
 Sample Spiked: D003306-02

Units: ug/L

Analyte	Sample Result	Concentration Added	Concentration Recovered	MS Result	MS, % Recovery	Acceptability Limits ¹ , %
Benzene	<0.3	25	23	23	92	71 - 123
Toluene	<0.3	25	21.6	21.6	86	69 - 120
Ethylbenzene	<0.3	25	22.2	22.2	89	72 - 121
Xylene (total)	<0.6	75	73	73	97	75 - 123

<# = Not detected at the indicated detection limit.

¹ = Acceptability limits are derived from the 99% confidence interval of all samples during the previous quarter.

Project Number: SFB-175-0204.72
 Consultant Project Number: RC02601
 Contract Number: N46CWC0244-9-X
 Facility Number: 1583
 Work Order Number: D003332
 Report Issue Date: March 21, 1990

Table 6

REAGENT WATER SPIKE (WS) AND REAGENT WATER SPIKE DUPLICATE (WSD)
 RECOVERY AND RELATIVE PERCENT DIFFERENCE (RPD) REPORT

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015

Date of Analysis: 03/15/90

Units: ug/L

Analyte	Concentration Added	WS Result	WS, % Recovery	WSD Result	WSD, % Recovery
Benzene	25	23.6	94	23.6	94
Toluene	25	21.3	85	21.6	86
Ethylbenzene	25	22.9	92	23.2	93
Xylene (total)	75	74.5	99	75.2	100

Analyte	RPD, %	Maximum RPD, %	Acceptability Limits ¹ % Recovery
Benzene	0	30	77 - 118
Toluene	1	30	76 - 113
Ethylbenzene	1	30	81 - 119
Xylene (total)	1	30	86 - 124

¹ = Acceptability limits are derived from the 99% confidence interval of all samples during the previous quarter.

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

Chevron Facility Number Chevron Station #1583
Consultant Geoghty and Miller, Inc.
Release Number 3118900 Project Number RCD2601
Address 1050 Marina Way South, Rich.
Fax Number (415) 233-3264
Project Contact (Name) Jeff Hawkins
(Phone) (415) 233 3200

Chevron Contact (Name) Ed Sterling II
(Phone) (415) 658-5985
Laboratory Name GTEL 1 800 544-3422
Contract Number 1460WLC0244-9-X
Samples Collected by (Name) Wells # 1, 2, 3, and Trip Blank
Collection Date 3/13/90
Signature [Signature] (Kent O'Brien)

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Analyses To Be Performed							Remarks		
								Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803			
Well #1		2	W	G	3:50	HCl	yes	X				X					note any heavy compounds Remarks Analyze only one
Well #2		2	W	G	4:05	HCl	yes	X				X					
Well #3		2	W	G	4:45	HCl	yes	X				X					
Trip Blank		2	W	G	-	-	yes	X				X					

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>GM Inc.</u>	Date/Time <u>3/13/90 10:37</u>	Received By (Signature) <u>[Signature]</u>	Organization <u>Concedance</u>	Date/Time <u>3/13 10:37</u>	Turn Around Time (Circle Choice) 24 Hrs 48 Hrs 5 Days 10 Days
Relinquished By (Signature) <u>[Signature]</u>	Organization <u>Concedance</u>	Date/Time <u>3/13 11:55</u>	Received By (Signature) <u>[Signature]</u>	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>[Signature]</u>		Date/Time <u>3/13 2:30pm</u>	

3/13/90
 11:55
 2:30pm