

# GROUNDWATER TECHNOLOGY, INC.

4057 Port Chicago Highway, Concord, CA 94520 (415) 671-2387

FAX: (415) 685-9148

December 2, 1992

Job No. 020302227

DEC 03 '92 JST

Mr. Mark Miller  
Chevron U.S.A. Products Company  
2410 Camino Ramon  
San Ramon, CA 94583-0804

**SUBJECT: GROUNDWATER MONITORING AND SAMPLING ACTIVITIES  
CHEVRON SERVICE STATION NO. 9-0076  
4625 FOOTHILL BLVD., OAKLAND, CALIFORNIA**

Dear Mr. Miller:


Groundwater Technology, Inc. presents the attached quarterly groundwater monitoring and sampling data collected on October 8, 1992. Seven of the eight groundwater monitoring wells at this site were gauged to determine depth to groundwater (DTW) and to check for separate-phase hydrocarbons. Separate-phase hydrocarbons were not detected in the groundwater monitoring wells. Monitoring well C-2 was not monitored or sampled because a pump is located in the well. A potentiometric surface map (Figure 1) and a summary of groundwater monitoring data (Table 1) are presented in Attachments A and B, respectively. After measuring the DTW, each monitoring well, except monitoring well C-2, was purged and sampled. The groundwater samples were analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX), and total petroleum hydrocarbons (TPH)-as-gasoline. Results of the chemical analyses are summarized in Table 1. The laboratory report and chain-of-custody record are included in Attachment C. Monitoring well purge water was transported by Groundwater Technology, Inc. to the Chevron terminal in Richmond, California for recycling.

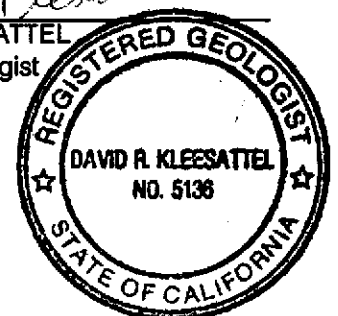
Groundwater Technology is pleased to assist Chevron on this project. If you have any questions or comments, please call our Concord, California office at (510) 671-2387.

Sincerely,  
Groundwater Technology, Inc.  
Written/Submitted by

  
SANDRA L. LINDSEY  
Project Manager

Groundwater Technology, Inc.  
Reviewed/Approved by

  
DAVID R. KLEESATTEL  
Registered Geologist  
No. 5136



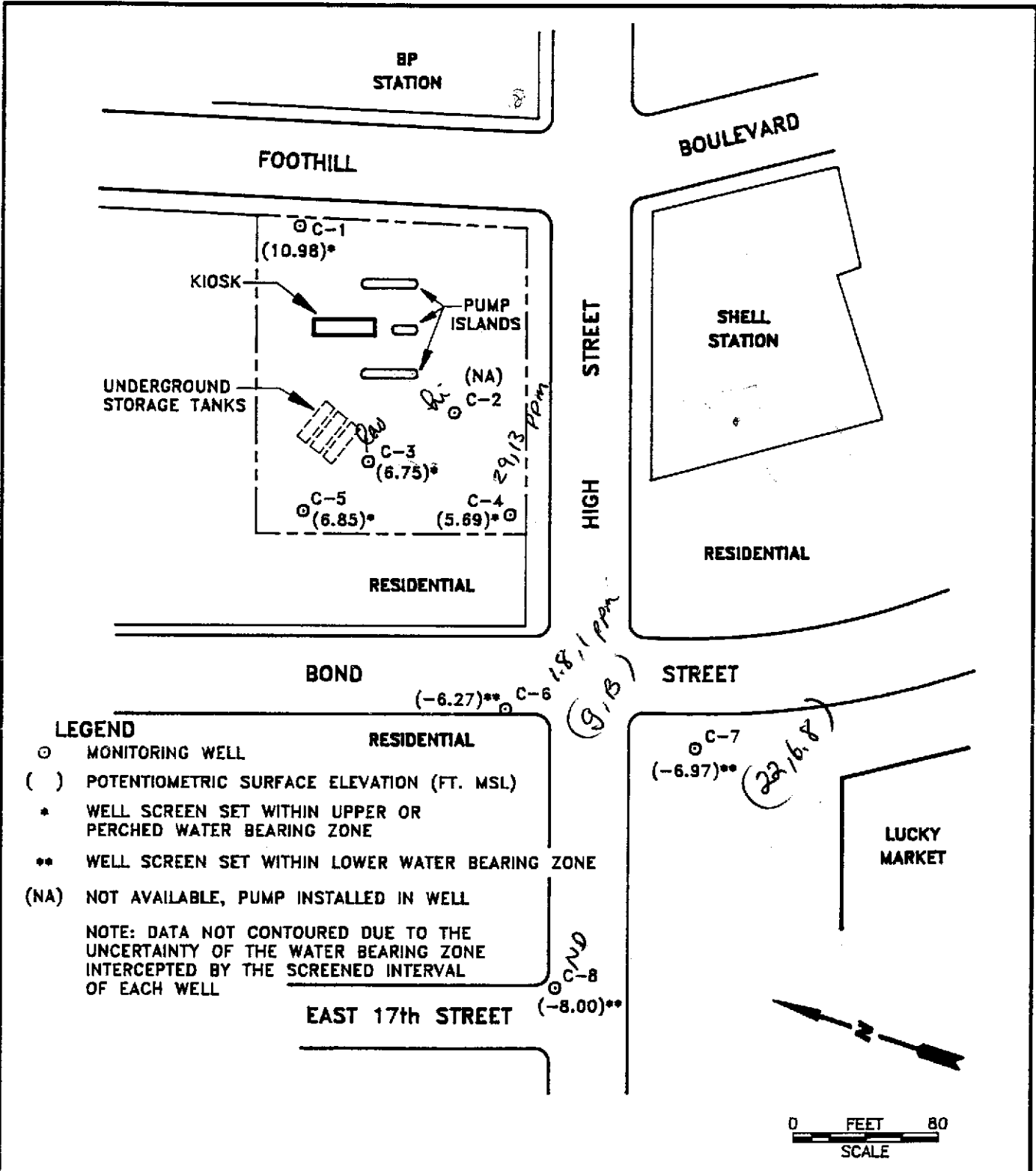
Attachments: Attachment A - Figure 1  
Attachment B - Table 1  
Attachment C - Laboratory Report

For:  
John Gaines V.P.  
General Manager  
West Region

LR2227A2.NM

**ATTACHMENT A**

**FIGURE 1**



		<b>GROUNDWATER TECHNOLOGY</b> 4057 PORT CHICAGO HWY CONCORD, CA 94520 (510) 871-2387		<b>POTENTIOMETRIC SURFACE MAP</b> <b>(10/8/92)</b>			
<b>CLIENT:</b> CHEVRON U.S.A. PRODUCTS Co. SERVICE STATION No. 9-0076			<b>LOCATION:</b> 4825 FOOTHILL BLVD. OAKLAND, CALIFORNIA		<b>REV. NO.:</b> 1	<b>DATE:</b> 11/17/92	
<b>PM</b> <i>JAW</i>	<b>PE/RG</b>	<b>DESIGNED</b> TW	<b>DETAILED</b> ML	<b>ACAD FILE:</b> PSM0892/SP392	<b>PROJECT NO.:</b> 020302227	<b>FIGURE:</b> 1	

**ATTACHMENT B**

**TABLE 1**

**TABLE 1**  
**HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA**  
**CHEVRON SERVICE STATION NO. 9-0076**  
**4625 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA**

WELL ID/ ELEV	DATE	TPH-AS- GASOLINE	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	DTW (ft)	SPT (ft)	WTE (ft)
C-1  35.42	04/28/89a	940	30	1.3	11	13	20.05	0.00	15.37
	08/08/89a	820	45	2	13	13	24.07	0.00	11.35
	12/21/89	--	--	--	--	--	22.81	0.00	12.61
	08/27/90	440	15	1	6	13	22.12	0.00	13.30
	11/04/90	--	--	--	--	--	25.56	0.00	9.86
	06/18/91	74	5.6	0.6	1.9	1.3	21.64	0.00	13.78
	09/19/91	150	7.1	<0.5	2.3	3	24.58	0.00	10.84
	12/20/91	250	10	<0.5	3.7	1.6	26.17	0.00	9.25
	03/18/92	190	16	<0.5	8.5	2.9	18.25	0.00	17.17
	07/14/92	20,000	480	2,200	510	2,900	27.61	0.00	7.81
10/08/92	360	34	4.6	19	12	24.44	0.00	10.98	
C-2  35.18	04/28/89a	120,000	30,000	22,000	3,000	17,000	26.44	0.00	8.74
	08/08/89a	--	--	--	--	--	29.90	0.01	5.29
	12/21/89	--	--	--	--	--	29.32	0.00	5.86
	08/27/90	--	--	--	--	--	29.55	0.17	5.77
	11/04/90	--	--	--	--	--	30.47	0.00	4.71
	06/18/91	--	--	--	--	--	26.33	0.06	6.90
	09/19/91	--	--	--	--	--	29.39	0.06	5.84
	12/20/91	170,000	20,000	10,000	2,800	19,000	29.23	0.00	5.95
	03/18/92	--	--	--	--	--	13.60	0.09	21.58
	07/14/92	--	--	--	--	--	--	--	--
10/08/92	--	--	--	--	--	--	--	--	
C-3  35.28  35.30	04/28/89a	<500	1.7	<0.5	<0.5	<0.5	28.00	0.00	7.28
	08/08/89a	<500	1	<0.5	<0.5	<0.5	30.00	0.00	5.28
	12/21/89	--	--	--	--	--	30.53	0.00	4.75
	08/27/90	<50	<0.3	<0.3	<0.3	<0.6	29.68	0.00	5.60
	11/04/90	--	--	--	--	--	30.36	0.00	4.94
	06/18/91	52	1.1	<0.5	<0.5	1.2	28.46	0.00	6.84
	09/19/91	73	1.2	<0.5	<0.5	<0.5	29.33	0.00	5.97
	12/20/91	<50	0.7	<0.5	<0.5	<0.5	29.77	0.00	5.53
	03/18/92	<50	<0.5	<0.5	<0.5	<0.5	25.75	0.00	9.55
	07/14/92	<50	<0.5	<0.5	<0.5	<0.5	27.87	0.00	7.43
10/08/92	<50	<0.5	<0.5	<0.5	0.5	28.55	0.00	6.75	

**TABLE 1  
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA  
CHEVRON SERVICE STATION NO. 9-0076  
4625 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA**

WELL ID/ ELEV	DATE	TPH-AS- GASOLINE	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	DTW (ft)	SPT (ft)	WTE (ft)
C-4 33.45	01/12/89a	--	--	--	--	--	29.49	0.00	3.96
	04/12/89a	--	--	--	--	--	27.44	0.00	6.01
33.48	04/28/89	20,000	6,300	550	230	1,500	29.49	0.00	3.96
	08/08/89a	8,000	7,500	340	88	1,000	29.55	0.00	3.90
	12/21/89	--	--	--	--	--	30.02	0.00	3.43
	08/27/90	26,000	10,000	280	410	1,400	29.02	0.00	4.46
	11/04/90	--	--	--	--	--	29.81	0.00	3.67
	06/18/91	34,000	14,000	410	450	1,300	27.45	0.00	6.03
	09/19/91	16,000	7,400	90	110	460	28.65	0.00	4.83
	12/20/91	24,000	12,000	120	260	740	28.84	0.00	4.64
	03/18/92	48,000	6,000	1,300	1,300	2,400	24.43	0.00	11.05
	07/14/92	40,000	14,000	920	550	2,400	26.89	0.00	6.59
10/08/92	29,000	13,000	190	110	1,400	27.79	0.00	5.69	
C-5 35.50	08/27/90	<50	<0.3	<0.3	<0.3	<0.6	29.83	0.00	5.67
	11/14/90	--	--	--	--	--	30.56	0.00	4.94
	06/18/91	<50	<0.5	<0.5	<0.5	<0.5	28.52	0.00	6.98
	09/19/91	<50	<0.5	<0.5	<0.5	<0.5	29.51	0.00	5.99
	12/20/91	<50	<0.5	<0.5	<0.5	<0.5	29.96	0.00	5.54
	03/18/92	<50	<0.5	<0.5	<0.5	<0.5	25.92	0.00	9.58
	07/14/92	<50	<0.5	<0.5	<0.5	<0.5	28.00	0.00	7.50
	10/08/92	<50	<0.5	<0.5	<0.5	<0.5	28.65	0.00	6.85
C-6 32.40	08/27/90	7,200	2,100	6	41	300	44.11	0.00	-11.71
	11/14/90	--	--	--	--	--	44.03	0.00	-11.63
	06/18/91	4,400	2,500	18	160	77	43.48	0.00	-11.08
	09/19/91	3,100	1,600	8.3	73	8	34.32	0.00	-1.92
	12/20/91	4,400	1,300	3.2	74	10	41.35	0.00	-8.95
	03/18/92	9,800	3,200	34	250	500	40.69	0.00	-8.29
	07/14/92	6,500	2,200	100	96	240	38.89	0.00	-6.49
	10/08/92	1,800	1,000	3.1	15	41	38.67	0.00	-6.27

**TABLE 1  
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA  
CHEVRON SERVICE STATION NO. 9-0076  
4625 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA**

WELL ID/ ELEV	DATE	TPH-AS- GASOLINE	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	DTW (ft)	SPT (ft)	WTE (ft)
C-7  32.17	08/27/90	110	26	0.8	4	6	44.23	0.00	-12.06
	11/14/90	—	—	—	—	—	44.11	0.00	-11.94
	06/18/91	23,000	5,700	420	1,000	2,800	42.05	0.00	-9.88
	09/19/91	26,000	4,600	330	970	2,400	41.72	0.00	-9.55
	12/20/91	33,000	5,500	270	1,000	2,100	41.67	0.00	-9.50
	03/18/92	27,000	5,800	410	1,300	3,300	41.20	0.00	-9.03
	07/14/92	46,000	12,000	720	1,700	4,600	39.77	0.00	-7.60
	10/08/92	22,000	6,800	370	1,300	3,200	39.14	0.00	-6.97
C-8  30.68	11/14/90	<50	<0.3	<0.3	<0.3	<0.6	43.29	0.00	-12.61
	06/18/91	<50	<0.5	<0.5	<0.5	<0.5	42.62	0.00	-11.94
	09/19/91	<50	<0.5	<0.5	<0.5	<0.5	41.72	0.00	-11.04
	12/20/91	<50	<0.5	<0.5	<0.5	<0.5	40.98	0.00	-10.30
	03/18/92	<50	<0.5	<0.5	<0.5	<0.5	40.02	0.00	-9.34
	07/14/92	<50	<0.5	<0.5	<0.5	<0.5	39.02	0.00	-8.34
	10/08/92	<50	<0.5	<0.5	<0.5	1.1	38.68	0.00	-8.00

**TABLE 1**  
**HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA**  
**CHEVRON SERVICE STATION NO. 9-0076**  
**4625 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA**

WELL ID/ ELEV	DATE	TPH-AS- GASOLINE	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	DTW (ft)	SPT (ft)	WTE (ft)
TRIP BLANK	04/28/89	<500	<0.5	<0.5	<0.5	<0.5	--	--	--
	08/08/89	<500	<0.5	<0.5	<0.5	<0.5	--	--	--
	08/27/90	<50	<0.3	<0.3	<0.3	<0.6	--	--	--
	11/14/90	<50	<0.3	<0.3	<0.3	<0.6	--	--	--
	06/18/91	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	09/19/91	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	12/20/91	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	03/18/92	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	07/14/92	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	10/08/92	<50	<0.5	<0.5	<0.5	<0.5	--	--	--

--- = Not applicable, not sampled, not measured  
 DTW = Depth to groundwater  
 SPT = Separate-phase hydrocarbon thickness  
 WTE = Water table elevation  
 a = Water elevations measured to grade

All elevations are given as feet above mean sea level.

Analytical results in micrograms per liter  $\mu/L$ , or parts per billion

Top of casing surveyed 1/03/90 and 08/21/90

Data from 4/28/89 through 12/20/91 taken from Fourth Quarter 1991 Ground Water Monitoring Report dated January 30, 1992, (Weiss Associates).



**ATTACHMENT C**  
**LABORATORY ANALYTICAL REPORT**



# Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

GROUNDWATER TECHNOLOGY, INC.  
Attn: GREG MISCHEL

Project 020302227  
Reported 10/15/92

## TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
86878- 1	TB-LB	10/08/92	10/12/92 Water
86878- 2	RBC-5	10/08/92	10/12/92 Water
86878- 3	C-5	10/08/92	10/13/92 Water
86878- 5	C-8	10/08/92	10/13/92 Water
86878- 7	C-3	10/08/92	10/13/92 Water
86878- 9	C-1	10/08/92	10/14/92 Water
86878-11	C-6	10/08/92	10/14/92 Water
86878-13	C-4	10/08/92	10/14/92 Water
86878-15	C-7	10/08/92	10/14/92 Water

## RESULTS OF ANALYSIS

Laboratory Number: 86878- 1    86878- 2    86878- 3    86878- 5    86878- 7

Gasoline:	ND<50	ND<50	ND<50	ND<50	ND<50
Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Toluene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Xylenes:	ND<0.5	ND<0.5	ND<0.5	1.1	0.5

Concentration:                    ug/L                    ug/L                    ug/L                    ug/L                    ug/L

Laboratory Number: 86878- 9    86878-11    86878-13    86878-15

Gasoline:	360	1800	29000	22000
Benzene:	34	1000	13000	6800
Toluene:	4.6	3.1	190	370
Ethyl Benzene:	19	15	110	1300
Xylenes:	12	41	1400	3200

Concentration:                    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

Page 2 of 2  
QA/QC INFORMATION  
SET: 86878

5030 E 5520 E F

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

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:  
Minimum Detection Limit in Water: 5000ug/L

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:  
Minimum Quantitation Limit for Diesel in Water: 50ug/L

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	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	200 ng	96/100	4%	70-130
Benzene:	200 ng	100/98	2%	70-130
Toluene:	200 ng	100/103	3%	70-130
Ethyl Benzene:	200 ng	98/99	1%	70-130
Xylenes:	200 ng	98/99	1%	70-130

Richard Sryna, Ph.D.

Laboratory Director

Fax copy of Lab Report and COC to Chevron Contact:

Yes **86878**  
 No

**Chain-of-Custody-Record**

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

Chevron Facility Number 9-0076  
 Facility Address 4625 Foothill Blvd, Oakland  
 Consultant Project Number 020302227  
 Consultant Name Groundwater Technology, Inc  
 Address 4057 Port Chicago Hwy, Concord, CA  
 Project Contact (Name) Mr. Greg A. Mischel  
 (Phone) 671-2387 (Fax Number) 685-9148

Chevron Contact (Name) N. Vukelich  
 (Phone) (510) 845-9581  
 Laboratory Name Superior Laboratory  
 Laboratory Release Number 450-8080  
 Samples Collected by (Name) Hector Merino  
 Collection Date 10-8-92  
 Signature [Signature]

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)	Analytes To Be Performed											Remarks					
								STEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Hydrocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)	HOLD								
TBLB	1	1	W	G		HCL	Yes	X															Analyze but Do Not Charge for TBLB Pg. 1 of 2 Remarks	
RBC-5	2	1						X																
C-5	3	3						X																
RBC-8	4	1						X																
C-8	5	3						X																
RBC-3	6	1						X																
C-3	7	3						X																
RBC-1	8	1						X																
C-1	9	3						X																
RBC-6	10	1						X																
C-6	11	3						X																
RBC-4	12	1						X																
C-4	13	3	W	G		HCL	Yes	X																

Please Initial  
 Samples Stored in ca.  
 Appropriate containers  
 Samples preserved  
 VOA's without headspace  
 Comments

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>GIT</u>	Date/Time	Received By (Signature) <u>[Signature]</u>	Organization	Date/Time	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Specified</u>
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>[Signature]</u>		Date/Time <u>10-8-92/15:18</u>	

COC-3.DWG/03 91/MCH

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

Yes  No

86878

**Chain-of-Custody-Record**

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

Chevron Facility Number 9-0076  
Facility Address 4625 Foothill Blvd, Oakland  
Consultant Project Number 020302227  
Consultant Name Groundwater Technology, Inc  
Address 4057 Port Chicago Hwy, Concord, CA  
Project Contact (Name) Mr. Greg A. Mischel  
(Phone) 671-2387 (Fax Number) 685-9148

Chevron Contact (Name) N. Vukelich  
(Phone) (510) 845-9581  
Laboratory Name Superior Laboratory  
Laboratory Release Number 450-8080  
Samples Collected by (Name) Hector Merino  
Collection Date 10-8-92  
Signature [Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water C = Charcoal	Type G = Grab C = Composite D = Dissolve	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed										Remarks						
								BTX + TPH GAS (8020 + 8019)	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 (CAP or AA)									
RBC-7	14	1	W	G		HCL	yes																	
C-7	15	3						X																
RBC-2		1																						
C-2		3	W	G		HCL		X																
<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <p>Please Initial: _____</p> <p>Samples Stored in Ice. _____</p> <p>Appropriate containers _____</p> <p>Samples preserved _____</p> <p>VOA's without headspace _____</p> <p>Comments: _____</p> </div>																								

Pg. 2 of 2  
Remarks

X HOLD

X

Please Initial: \_\_\_\_\_  
 Samples Stored in Ice. \_\_\_\_\_  
 Appropriate containers \_\_\_\_\_  
 Samples preserved \_\_\_\_\_  
 VOA's without headspace \_\_\_\_\_  
 Comments: \_\_\_\_\_

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>GTI</u>	Date/Time	Received By (Signature) _____	Organization	Date/Time	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>[Signature]</u>		Date/Time <u>10/9/92</u>	

COC-1.DWG/03 91/MCH