



Chevron U.S.A. Products Company

2410 Camino Ramon, San Ramon, California • Phone (510) 842-9500
Mail Address: P.O. Box 5004, San Ramon, CA 94583-0804

3/11/93 10:17

Operations

February 27, 1993

Ms. Jennifer Eberle
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

3628

**Re: Chevron Service Station #9-0121
3026 Lakeshore Avenue, Oakland, CA**

Dear Ms. Eberle:

Enclosed is the Groundwater Monitoring and Sampling Activities report dated January 19, 1993, prepared by our consultant Groundwater Technology Inc. for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline, total petroleum hydrocarbons as diesel, and BTEX. **Benzene** was detected only in monitor wells MW-1, MW-2, MW-3, MW-4, MW-7, and MW-8 at concentrations of 7100 ppb, 5400 ppb, 270 ppb, 700 ppb, 2.9 ppb, and 0.7 ppb, respectively. Depth to ground water was measured at approximately 3.7 feet to 11.1 feet below grade and the **direction of flow is to the west.**

This site is currently being evaluated for appropriate corrective actions. The proposed corrective action will achieve the greatest water quality benefit while taking into consideration technical practicality and cost. Chevron will continue to monitor and sample all wells at this site and report findings on a quarterly basis.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-8134.

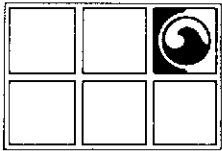
Very truly yours,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark A. Miller
Site Assessment and Remediation Engineer

cc: Mr. Rich Hiatt, RWQCB - Bay Area
Mr. S.A. Willer
File (9-0121 QM2)



Jan 25 '93 J.M.M.



GROUNDWATER TECHNOLOGY, INC.

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

FAX: (415) 685-9148

January 19, 1993

Project No. 020302090

Mr. Mark Miller
Chevron U.S.A. Inc.
P. O. Box 5004
San Ramon, CA 94583-0804

**SUBJECT: GROUNDWATER MONITORING AND SAMPLING ACTIVITIES
CHEVRON SERVICE STATION NO. 9-0121
3026 LAKESHORE AVENUE, OAKLAND, CALIFORNIA**

Dear Mr Miller:


Groundwater Technology, Inc. presents the attached quarterly groundwater monitoring and sampling data collected on December 22 and 23, 1992. Five monitoring wells at this site were gauged on December 22, 1992, and the remaining three were gauged on January 8, 1993, to determine depth to groundwater (DTW) and to check for separate-phase hydrocarbons. No separate-phase hydrocarbons were detected in the monitoring wells. A potentiometric surface (figure 1) and a summary of groundwater monitoring data (Table 1) are presented in Attachment A and B, respectively. After measuring the DTW, each monitoring well except MW-5 was purged and sampled. **Monitoring well MW-5 was not sampled because a car was parked over the well.** The groundwater samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), total petroleum hydrocarbons-as-gasoline (TPH-G), and TPH-as-diesel fuel (TPH-D). 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 removed by Groundwater Technology and transported 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 office at (510) 671-2387.

Sincerely,
Groundwater Technology, Inc.
Written/Submitted by

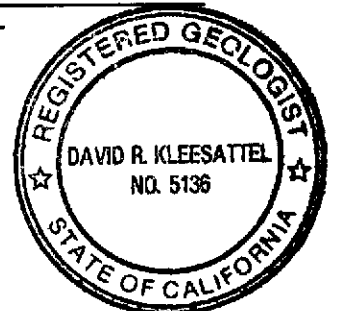
Groundwater Technology, Inc.
Reviewed/Approved by


SANDRA L. LINDSEY
Project Manager


DAVID R. KLEESATTEL
Registered Geologist
No. 5136

Attachment A - Figure 1
Attachment B - Table 1
Attachment C - Laboratory Report
LR2090A2.NM

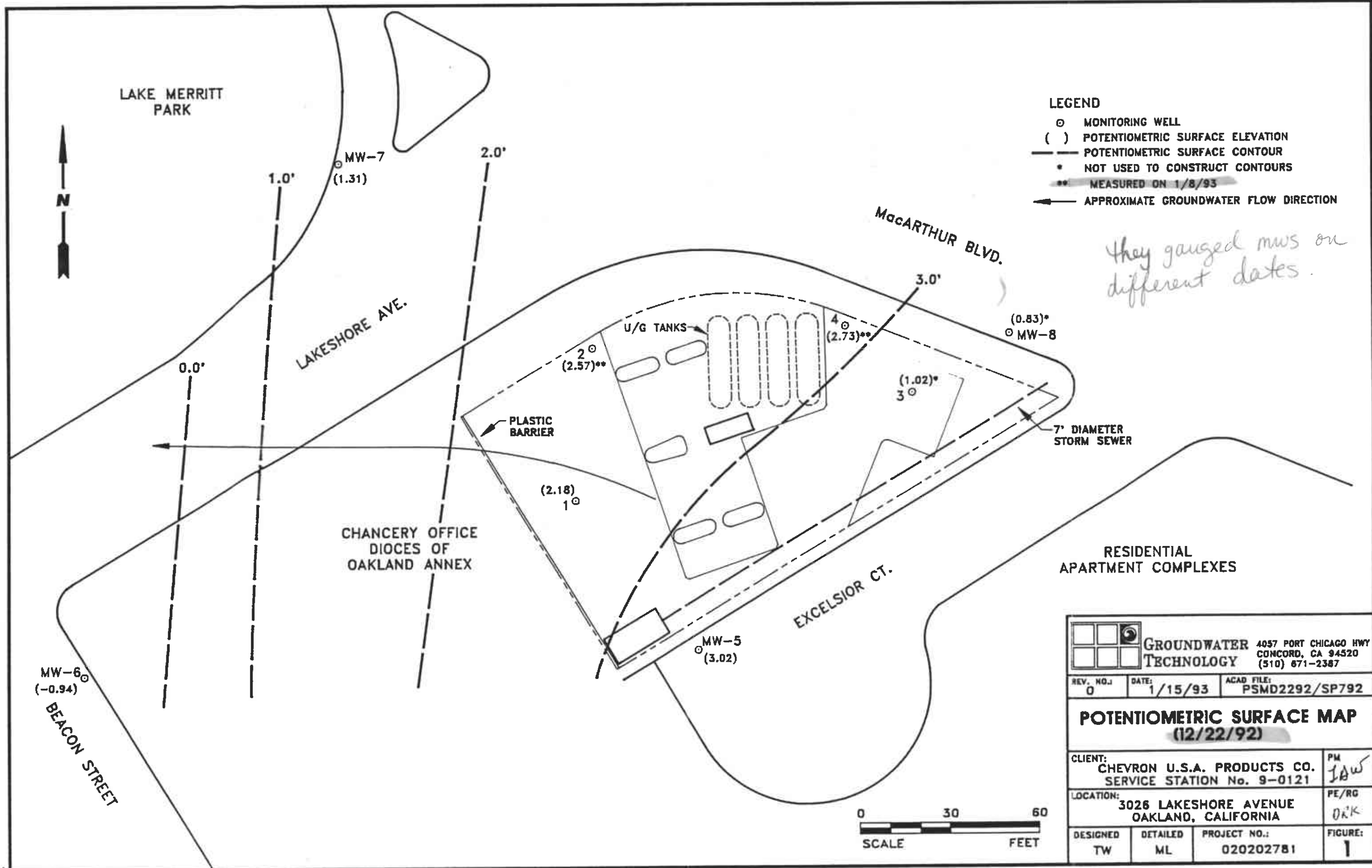
For:
John S. Gaines
Regional Manager
West Region



diff. dates

ATTACHMENT A

FIGURE 1



- LEGEND**
- ⊙ MONITORING WELL
 - () POTENTIOMETRIC SURFACE ELEVATION
 - - - POTENTIOMETRIC SURFACE CONTOUR
 - NOT USED TO CONSTRUCT CONTOURS
 - ** MEASURED ON 1/8/93
 - ← APPROXIMATE GROUNDWATER FLOW DIRECTION

they gauged mws on different dates.

		4057 PORT CHICAGO HWY CONCORD, CA 94520 (510) 671-2387	
REV. NO.:	DATE:	ACAD. FILE:	
0	1/15/93	PSMD2292/SP792	
POTENTIOMETRIC SURFACE MAP (12/22/92)			
CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0121			PM <i>JAW</i>
LOCATION: 3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA			PE/RG <i>ORK</i>
DESIGNED	DETAILED	PROJECT NO.:	FIGURE:
TW	ML	020202781	1

ATTACHMENT B

TABLE 1

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
(Results in parts per billion)

WELL NO.	CASING ELEV.	DATE	TPH-AS-GASOLINE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENE	TPH-AS-DIESEL	DTW (ft)	SPT (ft)	GWE (ft)
MW-1	6.82	08/20/91	5,100	1,700	21	220	34	260	5.20	0.00	1.62
		09/30/91	Separate-phase hydrocarbons present						5.67	SHEEN	1.15
		10/28/91							5.30	0.03	1.50
	6.89	01/08/92	5,400	770	13	95	31	—	5.15	SHEEN	1.67
		01/13/92	—	—	—	—	—	*4,400	—	—	—
		06/23/92	7,700	1,500	40	230	100	*2,000	5.41	0.00	1.48
		06/24/92	—	—	—	—	—	—	5.77	0.00	1.12
		09/21/92	3,500	1,700	28	190	78	<50	5.89	0.00	1.00
		10/26/92	—	—	—	—	—	—	5.94	0.00	.95
		12/23/92	<u>80,000</u>	<u>7,100</u>	240	2,000	1,300	*5,500	<u>4.71</u>	0.00	2.18
01/08/93	—	—	—	—	—	—	—	—	—		
MW-2	6.27	08/20/91	9,300	3,700	55	530	75	600	4.35	0.00	1.92
		09/30/91	3,500	2,600	47	440	68	—	4.99	0.00	1.28
		10/28/91	4,600	1,800	29	290	53	—	4.91	0.00	1.36
		01/08/92	14,000	4,300	70	<25	130	—	4.64	SHEEN	1.63
		01/13/92	—	—	—	—	—	*38,000	—	—	—
		06/23/92	—	—	—	—	—	—	4.64	0.02	1.63
		08/24/92	Separate-phase hydrocarbons present						4.94	0.02	1.34
	09/21/92							5.08	0.01	1.20	
		10/26/92	—	—	—	—	—	—	5.93	0.00	.34
		12/23/92	<u>21,000</u>	<u>5,400</u>	59	1,300	160	<u>160,000</u>	—	—	—
01/08/93		—	—	—	—	—	—	3.70	0.00	2.57	

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
(Results in parts per billion)

WELL NO.	CASING ELEV.	DATE	TPH AS-GASOLINE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENE	TPH AS-DIESEL	DTW (ft)	SPT (ft)	GWE (ft)
MW-3	8.71	08/20/91	3,100	200	13	15	12	200	8.45	0.00	0.26
		09/30/91	1,000	150	8.3	13	6.7	---	8.74	0.00	-0.03
		10/28/91	1,200	120	6.7	11	7.5	---	8.76	0.00	-0.05
		01/08/92	410	120	0.9	4.1	3.4	---	8.77	0.00	-0.06
		01/13/92	---	---	---	---	---	*220	---	---	---
		06/23/92	630	43	0.8	8.2	3.4	<50	8.68	0.00	0.03
		08/24/92	---	---	---	---	---	---	8.85	0.00	-0.14
		09/21/92	1,800	730	1.4	66	39	<50	8.94	0.00	-0.23
		10/26/92	---	---	---	---	---	---	9.07	0.00	-0.36
		12/23/92	840 ←	270 ←	3.4	15	4.2	*850 ←	---	---	---
		01/08/93	---	---	---	---	---	---	7.69	0.00	1.02
MW-4	7.37	08/20/91	1,800	870	4	3	9	160	5.05	0.00	1.32
		09/30/91	670	830	5.5	2.7	12	---	5.67	0.00	1.70
		10/28/91	2,800	990	5.8	4.8	19	---	5.81	0.00	1.56
		01/08/92	2,900	1,200	10	7	18	---	5.34	0.00	2.03
		01/13/92	---	---	---	---	---	*1,000	---	---	---
		06/23/92	1,600	380	6.5	3	12	<50	5.37	0.00	2.00
		08/24/92	---	---	---	---	---	---	5.75	0.00	1.62
		09/21/92	1,200	480	5.6	3.7	11	<50	5.95	0.00	1.42
		10/26/92	---	---	---	---	---	---	5.96	0.00	1.41
		12/23/92	1,500 ←	700 ←	3.6	3.2	11	*1,800 ←	---	---	---
		01/08/93	---	---	---	---	---	---	4.64	0.00	2.73
MW-5	14.14	06/23/92	<50	<0.5	<0.5	<0.5	<0.5	<50	12.24	0.00	1.90
		08/24/92	---	---	---	---	---	---	12.29	0.00	1.85
		09/21/92	<50	<0.5	<0.5	<0.5	<0.5	*60	12.46	0.00	1.68
		10/26/92	---	---	---	---	---	---	12.52	0.00	1.62
		12/23/92	---	---	---	---	---	---	11.12	0.00	3.02
		01/08/93	NS	---	---	---	---	---	---	---	---

see car parked over it.

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
 (Results in parts per billion)

WELL NO.	CASING ELEV.	DATE	TPH-AS-GASOLINE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENE	TPH-AS-DIESEL	DTW (ft)	SPT (ft)	GWE (ft)
MW-6	4.46	06/23/92	<50	4.3	<0.5	0.8	0.9	120	5.14	0.00	-0.68
		08/24/92	—	—	—	—	—	—	4.95	0.00	-0.49
		09/21/92	<250	<2.5	<2.5	<2.5	<2.5	<50	4.90	0.00	-0.44
		10/26/92	—	—	—	—	—	—	5.52	0.00	-1.06
		12/23/92	<50 ✓	<0.5 ✓	<0.5	<0.5	<0.5	81 ✓	5.40	0.00	-0.94
		01/08/93	—	—	—	—	—	—	—	—	—
MW-7	5.26	06/23/92	<50	4.7	<0.5	<0.5	<0.5	<50	4.38	0.00	0.88
		08/24/92	—	—	—	—	—	—	5.55	0.00	-0.29
		09/21/92	<50	<0.5	<0.5	<0.5	<0.5	<50	5.65	0.00	-0.39
		10/26/92	—	—	—	—	—	—	5.51	0.00	-0.25
		12/23/92	<50 ✓	2.9 ✓	<0.5	<0.5	<0.5	60 ✓	3.95	0.00	1.31
		01/08/93	—	—	—	—	—	—	—	—	—
MW-8	8.94	06/23/92	<50	<0.5	<0.5	<0.5	<0.5	<50	24.14	0.00	-15.20
		08/24/92	—	—	—	—	—	—	8.60	0.00	0.34
		09/21/92	**94	<0.5	<0.5	<0.5	<0.5	<50	8.39	0.00	0.55
		10/26/92	—	—	—	—	—	—	9.12	0.00	-0.18
		12/23/92	<50 ✓	0.7 ✓	5.0	0.7	2.9	79 ✓	8.11	0.00	0.83
		01/08/93	—	—	—	—	—	—	—	—	—
TRIP BLANK		08/24/92	—	—	—	—	—	—	—	—	—
		09/21/92	<50	<0.5	<0.5	<0.5	<0.5	—	—	—	—
		10/26/92	—	—	—	—	—	—	—	—	—
		12/23/92	<50	<0.5	<0.5	<0.5	<0.5	—	—	—	—
		01/08/93	—	—	—	—	—	—	—	—	—

- DTW = Depth to groundwater
- GWE = Groundwater elevation in feet above mean sea level
- SPT = Separate-phase hydrocarbon thickness
- * = Diesel range concentration reported. The laboratory reported that the majority of peaks were observed in the gasoline range of the chromatogram, or that the pattern observed in the chromatogram was not typical of diesel.
- ** = Gasoline range concentration reported. A non standard gasoline pattern was observed in the chromatogram.
- = Not applicable, not analyzed, not measured

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: Sandra Lindsey

Project 020302090.061004
Reported 01/07/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
87513- 1	tb-1b	12/23/92	01/04/93 Water
87513- 2	RBMW-8	12/23/92	01/05/93 Water
87513- 3	MW-8	12/23/92	01/04/93 Water
87513- 5	MW-3	12/23/92	01/05/93 Water
87513- 7	MW-4	12/23/92	01/05/93 Water
87513- 9	MW-7	12/23/92	01/05/93 Water
87513-11	MW-6	12/23/92	01/05/93 Water
87513-13	MW-1	12/23/92	01/05/93 Water
87513-15	MW-2	12/23/92	01/05/93 Water

RESULTS OF ANALYSIS

Laboratory Number:	87513- 1	87513- 2	87513- 3	87513- 5	87513- 7
			MW8	MW3	MW4

Gasoline:	ND<50	ND<50	ND<50 ✓	840 ✓	1500 ✓
Benzene:	ND<0.5	ND<0.5	0.7 ✓	270 ✓	700 ✓
Toluene:	ND<0.5	ND<0.5	5.0	3.4	3.6
Ethyl Benzene:	ND<0.5	ND<0.5	0.7	15	3.2
Xylenes:	ND<0.5	ND<0.5	2.9	4.2	11
Diesel:	NA	NA	79 ✓	850* ✓	1800* ✓
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number:	87513- 9	87513-11	87513-13	87513-15
	MW7	MW6	MW1	MW2

Gasoline:	ND<50 ✓	ND<50 ✓	60000 ✓	21000 ✓
Benzene:	2.9 ✓	ND<0.5 ✓	7100 ✓	5400 ✓
Toluene:	ND<0.5	ND<0.5	240	59
Ethyl Benzene:	ND<0.5	ND<0.5	2000	1300
Xylenes:	ND<0.5	ND<0.5	1300	160
Diesel:	60 ✓	81 ✓	5500* ✓	160000 ✓
Concentration:	ug/L	ug/L	ug/L	ug/L

* Diesel range concentration reported. The pattern of peaks observed in the chromatogram shows hydrocarbons lighter than diesel.



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: 87513

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	96/93	3%	70-130
Benzene:	200 ng	90/93	3%	70-130
Toluene:	200 ng	97/98	1%	70-130
Ethyl Benzene:	200 ng	110/107	3%	70-130
Xylenes:	600 ng	115/111	4%	70-130
Diesel:	200 mg	109/109	0%	70-130

Richard Srna, Ph.D.

Richard Srna
Laboratory Director

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

87513
 Yes
 No

Chain-of-Custody-Record

1 of 2

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

Chevron Facility Number 9-0121
 Facility Address 3026 Lakeshore Ave, Oakland
 Consultant Project Number 020302090.061004
 Consultant Name Groundwater Technology, Inc.
 Address 4057 Port Chicago Hwy, Concord, CA
 Project Contact (Name) Ms. Sandra L. Lindsey
 (Phone) 671-2387 (Fax Number) 685-9148

Chevron Contact (Name) Mr. Mark Miller
 (Phone) 510-842-8134
 Laboratory Name Superior Analytical
 Laboratory Release Number 440-3170
 Samples Collected by (Name) Chris McCormack
 Collection Date 12-23-92
 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	Iod (Yes or No)	Analytes To Be Performed												Remarks
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Greases (8520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Hg (ICAP or AA)	HOLD				
BCLB		1	W	G		HCL	Yes	X												Analyse but do not charge for TBLB
IBMW-5		1						X												
1W-5		3+1						X	X											
IBMW-8		1						X												
1W-8		3+1						X	X											
IBMW-3		1																		
1W-3		3+1						X	X											
IBMW-4		1																		
1W-4		3+1						X	X											
IBMW-7		1																		
1W-7		3+1						X	X											
IBMW-6		1																		
1W-6		3H	W	G		HCL	Yes	X	X											

Please initial:
 Samples Stored in Ice. [initials]
 Appropriate containers. [initials]
 Samples preserved. [initials]
 VOA's without headspace. [initials]
 Comments: [initials]


Relinquished By (Signature) <u>[Signature]</u>	Organization <u>GTI</u>	Date/Time <u>12-23-92</u>	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Controlled</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>R. Carogers</u>		Date/Time <u>12-23 5:30</u>	

Chain of Custody and Analysis Request

Section I

Consultant Groundwater Technology
 Address 4057 Poit Chicago Hwy
Concord, CA
 Phone No. 671-2387 Fax No. 685-9148
 Project Manager Gandra Lindsay
 Alternate Contact Tim Watchers
 Project No. 020302090 P.O. No. _____

Turn Around Time
 (circle one)
 Same Day 72 Hrs
 24 Hrs 48 Hrs
Normal 5 Day

Superior Precision Analytical, Inc.

 P.O. Box 1545
 Martinez, California 94553
 Martinez 1 (510) 229-1512 Martinez 2 (510) 229-0166
 San Francisco (415) 647-2081

Sampler: Chris McCormack
 Regulatory Agency: _____

Section II: Analysis Request

Laboratory Sample Identification	S = Soil A = Air W = Water Matrix	mod 8015 - Gas	mod 8015 - BTEX	mod 8015 - Diesel	8010	8240	CAM17	TCLP Metals:	Metals:	418.1 - TPH by IR	O & G	PCBs	Date Sampled	Time Sampled	Number of Containers	Preservative (yes or no)	Sampling Remarks				
																	<input type="checkbox"/> Bio-remediation	<input type="checkbox"/> Underground storage tank	<input type="checkbox"/> Monitoring	<input type="checkbox"/> Recent Contamination	<input type="checkbox"/> Unknown Compounds
1 RBMW-1	W																				
2 MW-1	W	X	X	X																	
3 RBMW-2	W																				
4 MW-2	W	X	X	X																	
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

X HOLD

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

Relinquished by <u>[Signature]</u> Organization <u>[Signature]</u>	Date/Time <u>12-23-92</u>	Received by _____ Organization _____	Date/Time _____	Lab please initial the following: Samples Stored in Ice _____ Appropriate Containers _____ Samples Preserved _____ VOAs without Headspace _____ Comments: _____
Relinquished by _____ Organization _____	Date/Time _____	Received by _____ Organization _____	Date/Time _____	
Relinquished by _____ Organization _____	Date/Time _____	Received by <u>R. Vanegas</u> <u>Superior</u>	Date/Time <u>12-23 9:30</u>	