



**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

November 23, 1992

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

*Jennifer Chubb*

STIP 3678

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

Dear Ms. Hugo:

Enclosed we are forwarding the Groundwater Monitoring and Sampling Activities report dated November 12, 1992, prepared by our consultant Groundwater Technology Inc. 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 in monitor wells MW-1, MW-3, and MW-4 only in concentrations of 1700 ppb, 730 ppb, and 480 ppb, respectively. Separate-phase hydrocarbons were detected in MW-2 at a measured thickness of 0.01 feet. Depth to ground water was measured at approximately 5.5 to 12.5 feet below grade and the direction of flow is to the west.

Monitor well MW-2 was found to contain 0.02 feet of separate-phase hydrocarbons at the August 24, 1992, bailing event. Due to difficulties in bailing this 3/4" diameter well and the very small amount of product recovered, bailing of this well was modified from a weekly to a monthly schedule. Separate-phase hydrocarbons were observed during the September event at a thickness at 0.01 feet and bailed. (No separate-phase hydrocarbons were observed during the October event.) *OK*

Depth to water measurements were taken on a monthly basis for the months of August, September, and October. Based on these measurements, ground water direction and gradient has been firmly established. Depth to ground water measurements will hereafter be taken on a quarterly basis in conjunction with sampling activities.

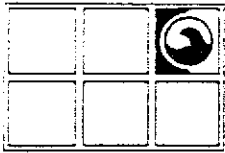
This site will now be evaluated for appropriate corrective actions. *really?* Chevron will continue to monitor and sample all wells and report findings on a quarterly basis.

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*

Mark A. Miller  
Site Assessment and Remediation Engineer



# GROUNDWATER TECHNOLOGY, INC.

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

FAX: (415) 685-9148

November 12, 1992

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. The eight groundwater monitoring wells at this site were gauged to determine depth to groundwater (DTW) and to check for separate-phase hydrocarbons on August 24, September 21, and October 26, 1992. Monitoring well MW-2 contained 0.02 foot of separate-phase hydrocarbons on August 24 and September 21, 1992. A potentiometric surface map was prepared using the monitoring data collected on September 21, 1992 (Attachment A). A summary of groundwater monitoring data is presented in Attachment B. After measuring the DTW, monitoring wells MW-1 and MW-3 through MW-8 were purged and sampled on September 21, 1992. 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.

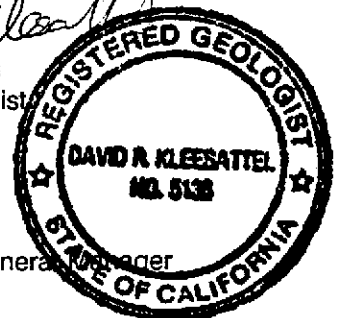
Sincerely,  
GROUNDWATER TECHNOLOGY, INC.

Sandra L. Lindsey  
Project Manager

Attachment A - Figure 1  
Attachment B - Table 1  
Attachment C - Laboratory Report  
LR2090A1.NM

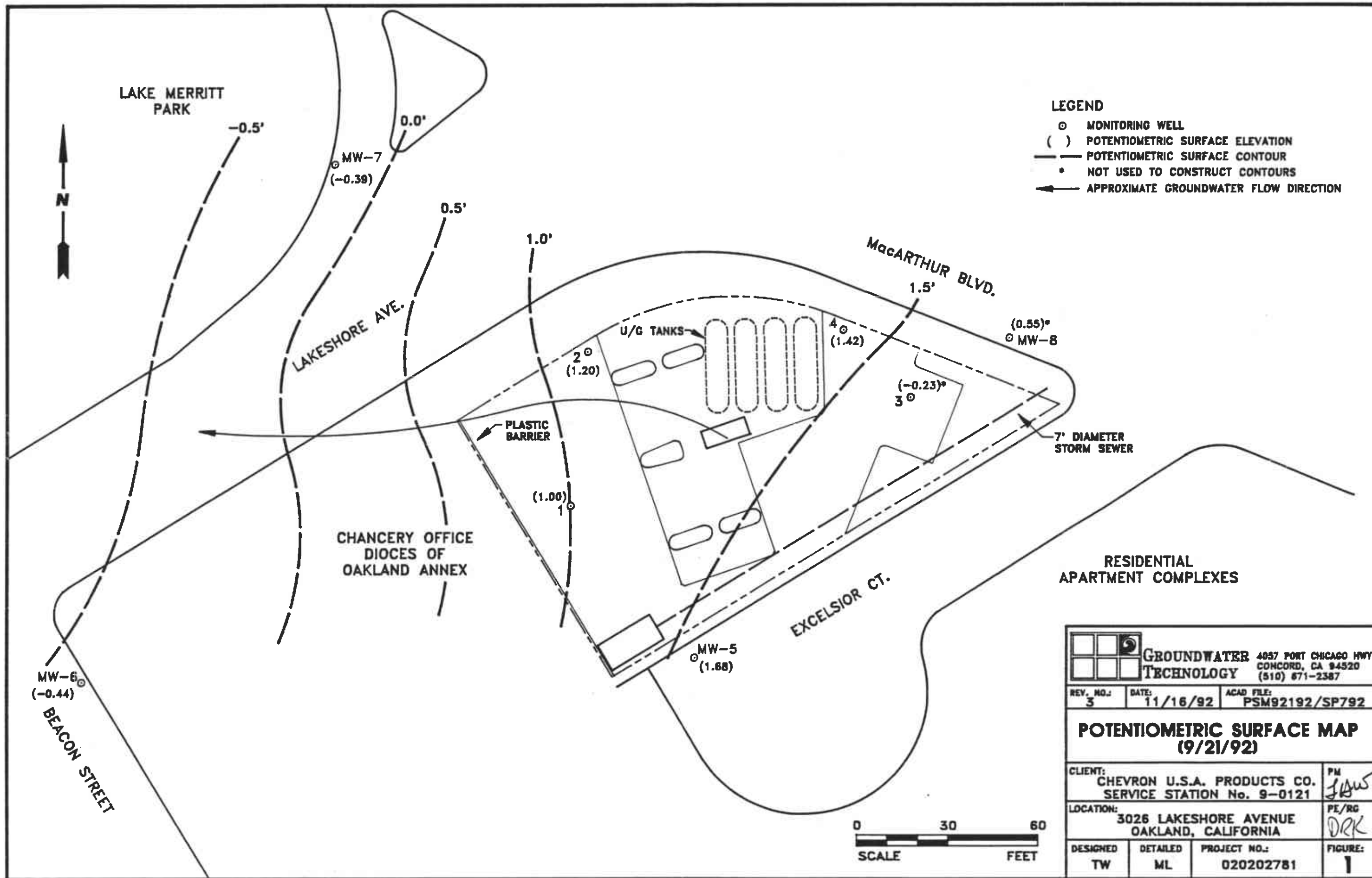
David R. Kleesattel  
Registered Geologist  
No. 5136

For:  
John S. Gaines  
Vice President, General Manager  
West Region



**ATTACHMENT A**

**FIGURE 1**



		<b>GROUNDWATER TECHNOLOGY</b> 4057 PORT CHICAGO HWY CONCORD, CA 94520 (510) 671-2387	
REV. NO.:	DATE:	ACAD FILE:	
3	11/16/92	PSM92192/SP792	
<b>POTENTIOMETRIC SURFACE MAP</b>			
<b>(9/21/92)</b>			
CLIENT:			PM
CHEVRON U.S.A. PRODUCTS CO.			<i>JLW</i>
SERVICE STATION No. 9-0121			
LOCATION:			PE/RG
3026 LAKESHORE AVENUE			<i>DRK</i>
OAKLAND, CALIFORNIA			
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	Separate-phase hydrocarbons present						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
		08/24/92	—	—	—	—	—	—	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		
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	—	1.63
		08/24/92	Separate-phase hydrocarbons present						4.94	0.03	1.34
		09/21/92	Separate-phase hydrocarbons present						5.08	0.01	1.20
	10/26/92	—	—	—	—	—	—	5.93	0.00	.34	
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

**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-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
		MW-5	14.14	06/23/92	<50	<0.5	<0.5	<0.5	<0.5	<50	12.24
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
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
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

\* MDL should be 50ppb  
 † MDL should be .5ppb

**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-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	**g4 ✓	<0.5 ✓	<0.5 ✓	<0.5 ✓	<0.5 ✓	<50 ✓	8.39	0.00	0.55
		10/26/92	---	---	---	---	---	9.12	0.00	-0.18	
TRIP BLANK		08/24/92	---	---	---	---	---	---	---	---	---
		09/21/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---
		10/26/92	---	---	---	---	---	---	---	---	---

- 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.
- = Separate-phase hydrocarbons prevented groundwater elevations measurements in 3/4-inch well.
- = Not applicable, not analyzed, not measured



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



# Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

GROUNDWATER TECHNOLOGY, INC.  
Attn: Sandra Lindsey

Project 020302090  
Reported 10/12/92

## TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
86768- 1	TB-LB	09/21/92	09/25/92 Water
86768- 2	RBMW6	09/21/92	09/26/92 Water
86768- 3	MW6	09/21/92	09/25/92 Water
86768- 5	MW7	09/21/92	09/26/92 Water
86768- 7	MW8	09/21/92	09/25/92 Water
86768- 9	MW5	09/21/92	09/26/92 Water
86768-11	MW1	09/21/92	09/25/92 Water
86768-13	MW3	09/21/92	09/26/92 Water
86768-15	MW4	09/21/92	09/26/92 Water

### RESULTS OF ANALYSIS

Laboratory Number: 86768- 1   86768-2   86768- 3   86768- 5   86768- 7

*MW6*   *MW7*   *MW8*

Gasoline:	ND<50	ND<50	ND<250	ND<50	94**
Benzene:	ND<0.5	ND<0.5	ND<2.5	ND<0.5	ND<0.5
Toluene:	ND<0.5	ND<0.5	ND<2.5	ND<0.5	ND<0.5
Ethyl Benzene:	ND<0.5	ND<0.5	ND<2.5	ND<0.5	ND<0.5
Xylenes:	ND<0.5	ND<0.5	ND<2.5	ND<0.5	ND<0.5
Diesel:	NA	NA	ND<50	ND<50	ND<50
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number: 86768- 9   86768-11   86768-13   86768-15

*MW5*   *MW1*   *MW3*   *MW4*

Gasoline:	ND<50	3500	1800	1200
Benzene:	ND<0.5	1700	730	480
Toluene:	ND<0.5	28	1.4	5.6
Ethyl Benzene:	ND<0.5	190	66	3.7
Xylenes:	ND<0.5	78	39	11
Diesel:	60*	ND<50	ND<50	ND<50
Concentration:	ug/L	ug/L	ug/L	ug/L

*MW6 should be 50ppb*  
*" " " 5ppb*

\* Diesel range concentration reported. The pattern of peaks in the chromatogram suggests the presence of hydrocarbons heavier than diesel #2.

\*\* Gasoline range concentration reported. A non standard gasoline pattern was observed in the chromatogram.



# 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: 86768

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	97/100	3	70-130
Benzene:	200 ng	104/104	0	70-130
Toluene:	200 ng	105/105	1	70-130
Ethyl Benzene:	200 ng	103/103	1	70-130
Xylenes:	200 ng	106/105	1	70-130
Diesel:	200 ppm	95/98	3	70-130

Richard Srna, Ph.D.

*Isolina V. Langquilitz (for)*  
Laboratory Director

Chevron Facility Number 9-0121  
 Facility Address 3026 Lakeshore Ave., Oakland, CA  
 Consultant Project Number 020302090  
 Consultant Name Groundwater Technology, Inc.  
 Address 4057 Port Chicago Hwy., Concord, CA  
 Project Contact (Name) Sandra Lindsey  
 (Phone) 671-2387 (Fax Number) 685-9148

Chevron Contact (Name) Nancy Vokelich  
 (Phone) 842-9581  
 Laboratory Name Superior Analytical  
 Laboratory Release Number 440-3170  
 Samples Collected by (Name) Hector Merino  
 Collection Date 9/21/92  
 Signature [Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed										Remarks
								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)	HOLD		
TBLB	1	1	W	G		HCE		X										Analyze but do not charge for TBLB
RBMW6	2	1						X										HOLD All Blanks EXCEPT TBLB RBMW6  Please Initial: <u>AT</u> Samples stored in ice: <u>/</u> Appropriate containers: <u>/</u> Samples preserved: <u>/</u> VOA's without headspace: <u>/</u> Comments: <u>X</u>
MW6	3	3						X										
RBMW7	4	1						X										
MW7	5	3						X										
RBMW8	6	1						X										
MW8	7	3						X										
RBMW5	8	1						X										
MW5	9	3						X										
RBMW1	10	1						X										
MW1	11	3						X										
RBMW3	12	1						X										
MW3	13	3	X	X		X		X										

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>GTC</u>	Date/Time <u>9/21/92</u>	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 8 Days 10 Days As Contracted
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>9-21-92 3:20PM</u>	

COC-3.DWG/03 81/ACH

