



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

S210 2047
SH

20.1.1.1005

December 22, 1992

Mr. Edgar Howell
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Chevron Service Station #9-1583
5509 Martin Luther King Way, Oakland, CA 607

Dear Mr. Howell:

Enclosed we are forwarding the Quarterly Groundwater Monitoring and Sampling Activities report dated December 2, 1992, prepared by our consultant Groundwater Technology, Inc. for the above referenced site. As indicated in the report, groundwater samples collected were analyzed for total petroleum hydrocarbons as gasoline and BTEX. Benzene was detected in monitor wells MW-1 and MW-2 at concentrations of 4,300 and 1,200 ppb, respectively. A parked car over monitor well MW-6 prevented sampling, however this well will be sampled during all future monitoring events. Depth to groundwater was measured at approximately 8.6 feet to 14.2 feet below grade, and the direction of flow is to the northwest.

Separate-phase hydrocarbons were detected in monitor well MW-3 at a measured thickness of 0.24 feet during the October 10, 1992, sampling event. Historically, separate-phase hydrocarbons have never been detected in any of the monitor wells at this site. The tanks and lines at this site were last tested in September of 1992 and tested tight. A 90-day inventory audit was conducted and results indicate no loss of product in any of the tanks.

A weekly bailing program was initiated on November 11, 1992 to remove separate phase hydrocarbons from monitor well MW-3. Approximately 220 ml of hydrocarbons have been recovered through December 1, 1992. A separate-phase hydrocarbon thickness of 0.03 feet was measured at the December 1, 1992 bailing event, indicating a significant decrease in separate-phase hydrocarbon thickness. Currently, the bailing program is being continued on a weekly basis.

Chevron is currently developing a work plan for additional downgradient wells to define the extent of the hydrocarbon plume.

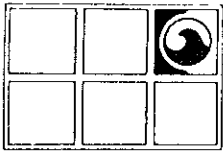
If you have any questions or comments, please do not hesitate to contact me at (510) 842-8134.

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

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Eddy So, RWQCB-Bay Area
Mr. S.A. Willer
File (9-1583 QM2)



GROUNDWATER TECHNOLOGY, INC.

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

FAX: (415) 685-9148

December 2, 1992

Project No. 020302228

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. 9-1583
5509 MARTIN LUTHER KING JR. WAY, OAKLAND, CALIFORNIA**


Dear Mr. Miller:


Groundwater Technology, Inc. presents the attached quarterly groundwater monitoring and sampling data collected on October 5, 1992. Five of the six groundwater monitoring wells at this site were measured to determine depth to groundwater (DTW) and to check for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were detected in monitoring well MW-3 with a measured thickness of 0.24 foot. Approximately 40 milliliters of separate-phase hydrocarbons were bailed from monitoring well MW-3. At the request of Chevron the thickness of the separate-phase hydrocarbons will be measured on a weekly basis and bailed from MW-3. Monitoring well MW-6 was obstructed by a car. 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 MW-3 and MW-6 was purged and sampled. The groundwater samples were analyzed for benzene, toluene, ethylbenzene, and 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

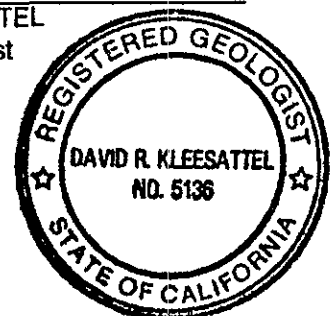
Groundwater Technology, Inc.
Reviewed/Approved by


SANDRA L. LINDSEY
Project Manager


DAVID R. KLEESATTEL
Registered Geologist
No. 5136

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

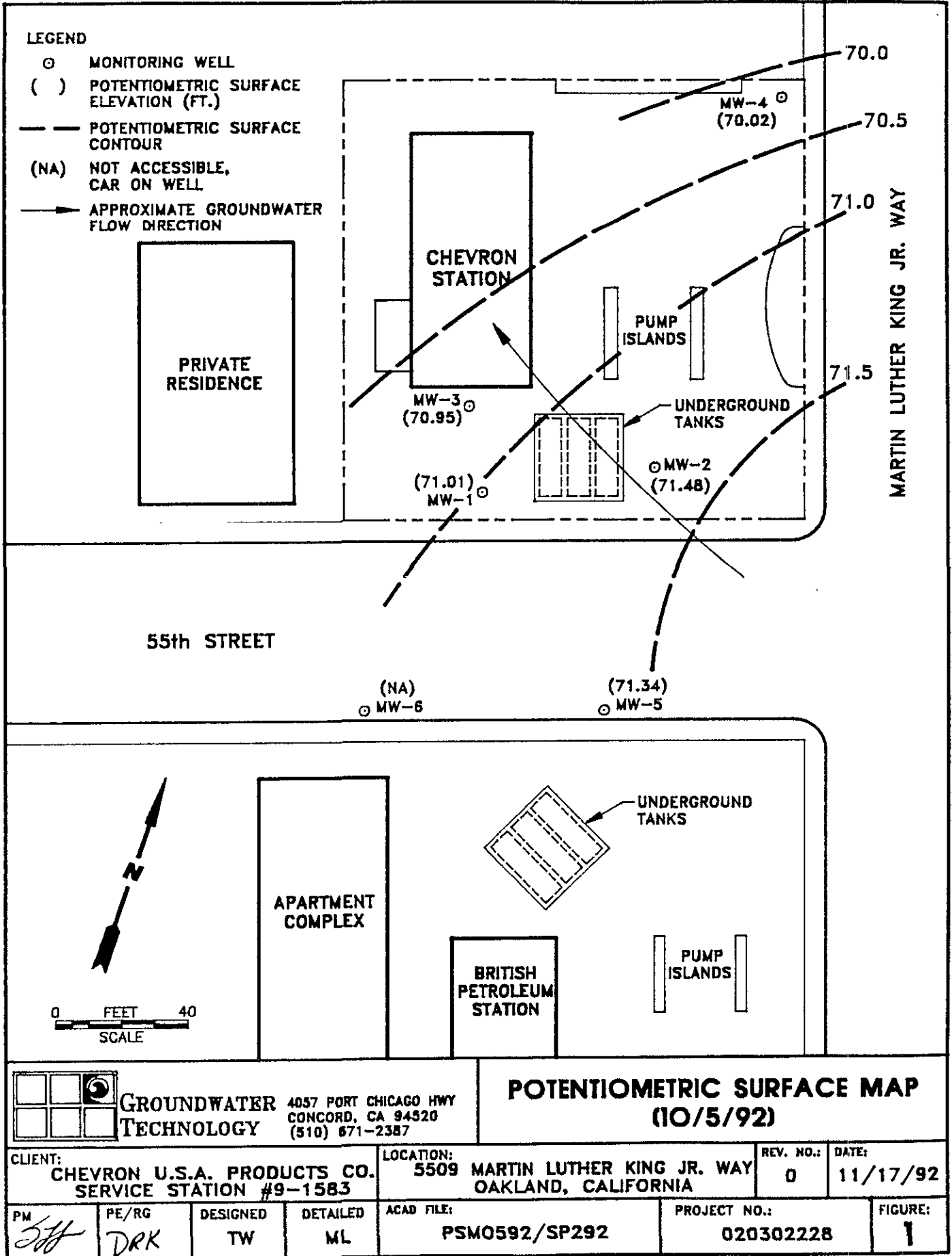
For:
John Gaines, V.P.
General Manager
West Region



LR2228A3.NM

ATTACHMENT A

FIGURE



GROUNDWATER TECHNOLOGY 4057 PORT CHICAGO HWY
 CONCORD, CA 94520
 (510) 671-2387

**POTENTIOMETRIC SURFACE MAP
 (10/5/92)**

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION #9-1583		LOCATION: 5509 MARTIN LUTHER KING JR. WAY OAKLAND, CALIFORNIA		REV. NO.: 0	DATE: 11/17/92
PM <i>JEH</i>	PE/RG DRK	DESIGNED TW	DETAILED ML	ACAD FILE: PSM0592/SP292	PROJECT NO.: 020302228
					FIGURE: 1

ATTACHMENT B

TABLE

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
CHEVRON SERVICE STATION NO. 9-1583
5509 MARTIN LUTHER KING JR. WAY, OAKLAND, CALIFORNIA

WELL ID/ ELEV	DATE	TPH-AS- GASOLINE	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	DTW (ft)	SPT (ft)	WTE (ft)
MW-1 81.97/ 82.42	12/22/83	—	—	—	—	—	10.25	0.00	71.72
	12/30/83	—	—	—	—	—	9.17	0.00	72.80
	03/12/90	50,000	3,000	7,300	1,900	18,000	10.08	0.00	71.89
	03/25/90	—	—	—	—	—	10.46	0.00	71.51
	10/18/90	—	—	—	—	—	—	—	—
	10/31/90	—	—	—	—	—	—	—	—
	11/16/90	—	—	—	—	—	11.58	0.00	70.84
	02/08/91	100,000	4,200	8,400	16,000	2,600	10.11	0.00	72.31
	05/08/91	31,000	200	66	670	2,000	10.45	0.00	71.97
	08/12/91	17,000	81	7.2	270	710	11.23	0.00	71.19
	11/07/91	7,100	24	6	130	170	10.70	0.00	71.72
	02/05/92	110,000	8,900	14,000	2,700	12,000	10.37	0.00	72.05
	05/13/92	19,000	450	85	480	870	10.58	0.00	71.84
	07/17/92	8,500	170	<10	360	600	11.05	0.00	71.37
	10/05/92	22,000	4,300	5,100	570	2,900	11.41	0.00	71.01
MW-2 83.48	12/22/83	—	—	—	—	—	10.50	0.00	72.98
	12/30/83	—	—	—	—	—	9.92	0.00	73.56
	03/12/90	800	400	22	18	55	11.02	0.00	72.46
	03/25/90	—	—	—	—	—	11.33	0.00	72.15
	10/18/90	—	—	—	—	—	12.31	0.00	71.17
	10/31/90	—	—	—	—	—	—	—	—
	11/16/90	—	—	—	—	—	—	—	—
	02/08/91	4,600	820	440	720	210	11.05	0.00	72.43
	05/08/91	<50	5	<0.5	<0.5	<0.5	11.36	0.00	72.12
	08/12/91	<50	<0.5	<0.5	<0.5	<0.5	11.97	0.00	71.51
	11/07/91	<50	<0.5	<0.5	<0.5	<0.5	11.50	0.00	71.98
	02/05/92	1,700	390	170	60	200	11.19	0.00	72.29
	05/13/92	74*	9.3	<0.5	<0.5	<0.5	11.49	0.00	71.99
	07/17/92	<50	2.0	<0.5	<0.5	<0.5	11.85	0.00	71.63
	10/05/92	3,500	1,200	530	86	220	12.00	0.00	71.48

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CHEVRON SERVICE STATION NO. 9-1583
5509 MARTIN LUTHER KING JR. WAY, OAKLAND, CALIFORNIA

WELL ID/ ELEV	DATE	TPH-AS- GASOLINE	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	DTW (ft)	SPT (ft)	WTE (ft)
MW-3 84.36/ 84.38	12/22/83	—	—	—	—	—	11.58	0.00	72.78
	12/30/83	—	—	—	—	—	11.17	0.00	73.19
	03/12/90	47,000	1,000	9,900	1,700	9,800	12.14	0.00	72.22
	03/25/90	—	—	—	—	—	12.55	0.00	71.81
	10/18/90	—	—	—	—	—	—	—	—
	10/31/90	—	—	—	—	—	—	—	—
	11/16/90	—	—	—	—	—	13.62	0.00	70.76
	02/08/91	58,000	4,900	5,200	9,500	2,000	12.18	0.00	72.20
	05/08/91	50,000	2,100	1,400	2,000	9,400	12.52	0.00	71.86
	08/12/91	15,000	1,300	160	920	1,900	13.27	0.00	71.11
	11/07/91	26,000	1,000	310	1,900	5,900	12.81	0.00	71.57
	02/05/92	35,000	2,800	1,300	1,500	4,700	12.47	0.00	71.91
	05/13/92	47,000	1,500	1,200	1,100	4,800	12.62	0.00	71.76
	07/17/92	15,000	120	11	88	140	13.13	0.00	71.25
10/05/92	—	—	—	—	—	13.62	0.24	70.95	
MW-4/ 84.25	10/18/90	—	—	—	—	—	15.75	0.00	68.50
	10/31/90	<50	<0.5	<0.5	<0.5	1	13.90	0.00	70.35
	11/16/90	—	—	—	—	—	14.25	0.00	70.00
	02/08/91	60	17	2	12	<0.5	12.32	0.00	71.93
	05/08/91	65	<0.5	<0.5	<0.5	<0.5	12.23	0.00	72.02
	08/12/91	<50	<0.5	<0.5	<0.5	<0.5	13.93	0.00	70.32
	11/07/91	<50	<0.5	<0.5	<0.5	<0.5	13.42	0.00	70.83
	02/05/92	<50	<0.5	<0.5	<0.5	<0.5	12.83	0.00	71.42
	05/13/92	<50	<0.5	<0.5	<0.5	<0.5	13.28	0.00	70.97
	07/17/92	<50	<0.5	<0.5	<0.5	<0.5	13.98	0.00	70.27
	10/05/92	<50	<0.5	<0.5	<0.5	<0.5	14.23	0.00	70.02

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
CHEVRON SERVICE STATION NO. 9-1583
5509 MARTIN LUTHER KING JR. WAY, OAKLAND, CALIFORNIA

WELL ID/ ELEV	DATE	TPH-AS- GASOLINE	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	DTW (ft)	SPT (ft)	WTE (ft)
MW-5 81.95	10/18/90	—	—	—	—	—	10.78	0.00	71.17
	10/31/90	110	<0.5	<0.5	<0.5	<0.5	10.63	0.00	71.32
	11/16/90	—	—	—	—	—	10.68	0.00	71.27
	02/08/91	<50	<0.5	<0.5	<0.5	<0.5	9.17	0.00	72.78
	05/08/91	<50	<0.5	<0.5	<0.5	<0.5	8.68	0.00	73.27
	08/12/91	<50	<0.5	<0.5	<0.5	<0.5	10.33	0.00	71.62
	11/07/91	<50	<0.5	<0.5	<0.5	<0.5	9.76	0.00	72.19
	02/05/92	69*	<0.5	<0.5	<0.5	<0.5	9.47	0.00	72.48
	05/13/92	74*	<0.5	<0.5	<0.5	<0.5	9.70	0.00	72.25
	07/17/92	880	2.6	<1.2	4.6	11	10.21	0.00	71.74
	10/05/92	120	<0.5	<0.5	0.6	4.9	10.61	0.00	71.34
MW-6 80.60	10/18/90	—	—	—	—	—	9.79	0.0	70.81
	10/31/90	<50	<0.5	<0.5	<0.5	3	9.69	0.0	70.91
	11/16/90	—	—	—	—	—	9.74	0.0	70.86
	02/08/91	—	—	—	—	—	—	—	—
	05/08/91	56	<0.5	<0.5	<0.5	<0.5	9.54	0.0	71.06
	08/12/91	<50	<0.5	<0.5	<0.5	<0.5	9.50	0.0	71.10
	11/07/91	<50	<0.5	<0.5	<0.5	<0.5	8.89	0.0	71.71
	02/05/92	<50	<0.5	<0.5	<0.5	<0.5	8.59	0.0	72.01
	05/13/92	—	—	—	—	—	—	—	—
	07/17/92	—	—	—	—	—	—	—	—
	10/05/92	—	—	—	—	—	—	—	—

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
CHEVRON SERVICE STATION NO. 9-1583
5509 MARTIN LUTHER KING JR. WAY, OAKLAND, CALIFORNIA

WELL ID/ ELEV	DATE	TPH-AS- GASOLINE	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	DTW (ft)	SPT (ft)	WTE (ft)
TRIP BLANK	03/12/90	<50	<0.3	<0.3	<0.3	<0.6	—	—	—
	02/08/91	<50	<0.5	<0.5	<0.5	<0.5	—	—	—
	05/08/91	<50	<0.5	<0.5	<0.5	<0.5	—	—	—
	08/12/91	<50	<0.5	<0.5	<0.5	<0.5	—	—	—
	11/07/91	<50	<0.5	<0.5	<0.5	<0.5	—	—	—
	02/05/92	<50	<0.5	<0.5	<0.5	<0.5	—	—	—
	05/13/92	<50	<0.5	<0.5	<0.5	<0.5	—	—	—
	07/17/92	<50	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/05/92	<50	<0.5	<0.5	<0.5	<0.5	—	—	—

- = Not applicable/not sampled/not measured
DTW = Depth to water
SPT = Separate-phase hydrocarbon thickness
WTE = Water table elevation
81.97/82.42 = March 3, 1990 survey/November 30, 1990 survey
* = The laboratory reported that a non-standard gasoline pattern was observed in the chromatogram.

All elevations are given as feet above mean sea level.
Analytical results in micrograms per liter ($\mu\text{g/L}$), or parts per billion

ATTACHMENT C
LABORATORY 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 020302228
Reported 10/13/92

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
86872- 1	TB-LB	10/05/92	10/09/92 Water
86872- 2	RBMW-4	10/05/92	10/09/92 Water
86872- 3	MW-4	10/05/92	10/09/92 Water
86872- 5	MW-5	10/05/92	10/09/92 Water
86872- 7	MW-2	10/05/92	10/12/92 Water
86872- 9	MW-1	10/05/92	10/09/92 Water

RESULTS OF ANALYSIS

Laboratory Number: 86872- 1 86872- 2 86872- 3 86872- 5 86872- 7

Gasoline:	ND<50	ND<50	ND<50	120	3500
Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1200
Toluene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	530
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	0.6	86
Xylenes:	ND<0.5	ND<0.5	ND<0.5	4.9	220
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number: 86872- 9

Gasoline:	22000
Benzene:	4300
Toluene:	5100
Ethyl Benzene:	570
Xylenes:	2900
Concentration:	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: 86872

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	99/101	2%	70-130
Benzene:	200 ng	94/98	4%	70-130
Toluene:	200 ng	93/96	3%	70-130
Ethyl Benzene:	200 ng	96/97	1%	70-130
Xylenes:	200 ng	95/97	2%	70-130

Richard Srna, Ph.D.

Laboratory Director

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

Chevron Facility Number 9-1583
 Facility Address 5509 Martin Luther King Blvd
 Consultant Project Number 020302228
 Consultant Name Groundwater Technology, Inc.
 Address 4057 Port Chicago Hwy, concord, CA
 Project Contact (Name) MR. Gregory A. Mischel
 (Phone) (510)671-2387 (Fax Number) 685-9148

Chevron Contact (Name) Nancy Vukelich
 (Phone) (510) 842-9581
 Laboratory Name Superior Analytical
 Laboratory Release Number 496-2420
 Samples Collected by (Name) Greg MASON
 Collection Date 10-5-92
 Signature [Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analytes To Be Performed										Remarks	
								BTEX + TPH GAS (8020 + 9015)	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)	Other	Other		Other
TBLB	1	1	W	G		HLR	Yes	X											Analyze but Do Not charge for TB-LB
RBMW-4	2	1						X											
MW-4	3	3						X											
RBMW-6		X																	
MW-6		B																	
RBMW-5	4	1																	
MW-5	5	3						X											
RBMW-2	6	1						X											
MW-2	7	3						X											
RBMW-3		X																	
MW-3		B																	
RBMW-1	8	1																	
MW-1	9	3						X											

Please Initial: [Signature]
 Samples Stored in ice
 Appropriate containers X
 Samples preserved X
 VOA's without headspace X
 Comments: [Blank]

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>GTI</u>	Date/Time <u>10-5</u>	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>10-5-92</u>	

COC-3.DWG/03 91/ACB