



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

SEP 11 1992

September 11, 1992

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

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

Dear Mr. Howell:

Enclosed we are forwarding the Quarterly Groundwater Monitoring and Sampling Activities report dated August 27, 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, MW-2, MW-3, and MW-5 at concentrations of 170, 2.0, 120, and 2.6 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 10.2 feet to 14 feet below grade, and the direction of flow is to the northwest.

Following the next round of sampling, Chevron will submit a workplan 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

Enclosures

cc: Mr. Eddy So, RWQCB-Bay Area
Ms. B.C. Owen
File (9-1583 M1)

GROUNDWATER TECHNOLOGY, INC.

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

FAX. (415) 685-9148

August 27, 1992

Project No. 020302228

Ms. Nancy Vukelich
Chevron U.S.A. Products Company
P. O. Box 5004
San Ramon, CA 94583-0804

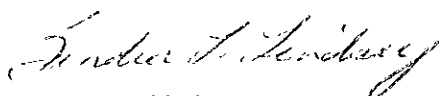
**SUBJECT: GROUNDWATER MONITORING AND SAMPLING ACTIVITIES
CHEVRON SERVICE STATION NO. 9-1583
5509 MARTIN LUTHER KING JR. WAY, OAKLAND, CALIFORNIA**

Dear Ms. Vukelich:

Groundwater Technology, Inc. presents the attached quarterly groundwater monitoring and sampling data collected on July 17, 1992. Five of the six groundwater monitoring wells at this site were gauged to determine depth to groundwater (DTW) and to check for the presence of separate-phase hydrocarbons. A car parked over well MW-6 prevented monitoring and sampling. 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 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.

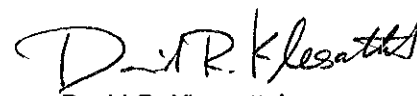
Sincerely,
GROUNDWATER TECHNOLOGY, INC.



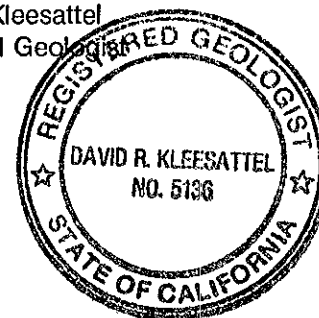
Sandra L. Lindsey
Project Manager

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

LR2228A2.NM
(061022)



David R. Kleesattel
Registered Geologist
No. 5136

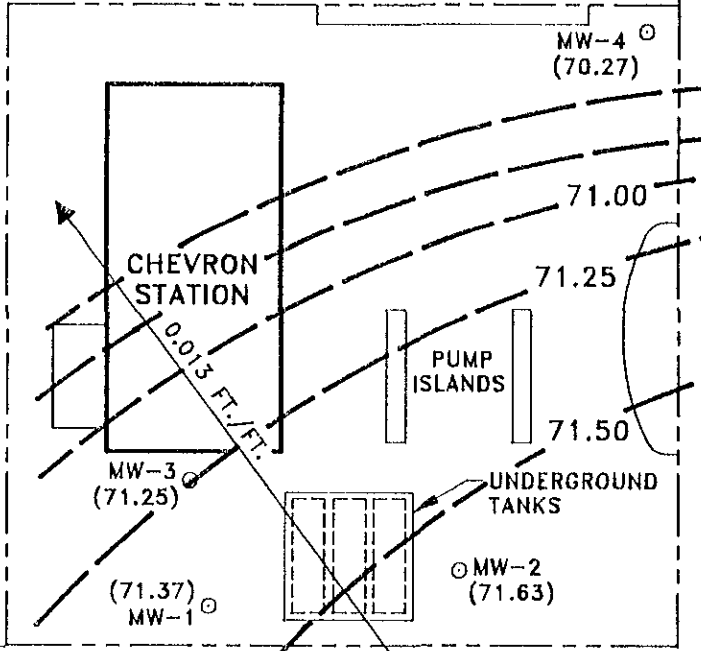


ATTACHMENT A

FIGURE

LEGEND

- MONITORING WELL
- () POTENTIOMETRIC SURFACE ELEVATION (FT.)
- - - POTENTIOMETRIC SURFACE CONTOUR; INTERVAL=0.25 FT.
- (NA) NOT AVAILABLE, CAP ON WELL
- ➔ APPROXIMATE GROUNDWATER FLOW DIRECTION



MARTIN LUTHER KING JR. WAY

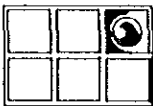
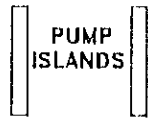
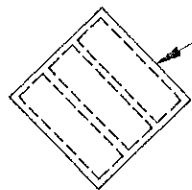
55th STREET

(NA)
○ MW-6

(71.74)
○ MW-5



0 FEET 40
SCALE



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

**POTENTIOMETRIC SURFACE MAP
(7/17/92)**

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION #9-1583				LOCATION: 5509 MARTIN LUTHER KING JR. WAY OAKLAND, CALIFORNIA		REV. NO.: 0	DATE: 8/24/92
PM SAM	PE/RG DRK	DESIGNED	DETAILED GWS	ACAD FILE: PSM71792/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	0.0	71.72
	12/30/83	--	--	--	--	--	9.17	0.0	72.80
	03/12/90	50,000	3,000	7,300	1,900	18,000	10.08	0.0	71.89
	03/25/90	--	--	--	--	--	10.46	0.0	71.51
	10/18/90	--	--	--	--	--	--	--	--
	10/31/90	--	--	--	--	--	--	--	--
	11/16/90	--	--	--	--	--	11.58	0.0	70.84
	02/08/91	100,000	4,200	8,400	16,000	2,600	10.11	0.0	72.31
	05/08/91	31,000	200	66	670	2,000	10.45	0.0	71.97
	08/12/91	17,000	81	7.2	270	710	11.23	0.0	71.19
	11/07/91	7,100	24	6	130	170	10.70	0.0	71.72
	02/05/92	110,000	8,900	14,000	2,700	12,000	10.37	0.0	72.05
	05/13/92	19,000	450	85	480	870	10.58	0.0	71.84
	07/17/92	8,500	170	<10	360	600	11.05	0.0	71.37
MW-2 83.48	12/22/83	--	--	--	--	--	10.50	0.0	72.98
	12/30/83	--	--	--	--	--	9.92	0.0	73.56
	03/12/90	800	400	22	18	55	11.02	0.0	72.46
	03/25/90	--	--	--	--	--	11.33	0.0	72.15
	10/18/90	--	--	--	--	--	12.31	0.0	71.17
	10/31/90	--	--	--	--	--	--	--	--
	11/16/90	--	--	--	--	--	--	--	--
	02/08/91	4,600	820	440	720	210	11.05	0.0	72.43
	05/08/91	<50	5	<0.5	<0.5	<0.5	11.36	0.0	72.12
	08/12/91	<50	<0.5	<0.5	<0.5	<0.5	11.97	0.0	71.51
	11/07/91	<50	<0.5	<0.5	<0.5	<0.5	11.50	0.0	71.98
	02/05/92	1,700	390	170	60	200	11.19	0.0	72.29
	05/13/92	74*	9.3	<0.5	<0.5	<0.5	11.49	0.0	71.99
	07/17/92	<50	2.0	<0.5	<0.5	<0.5	11.85	0.0	71.63

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-3 84.36/ 84.38	12/22/83	--	--	--	--	--	11.58	0.0	72.78
	12/30/83	--	--	--	--	--	11.17	0.0	73.19
	03/12/90	47,000	1,000	9,900	1,700	9,800	12.14	0.0	72.22
	03/25/90	--	--	--	--	--	12.55	0.0	71.81
	10/18/90	--	--	--	--	--	--	--	--
	10/31/90	--	--	--	--	--	--	--	--
	11/16/90	--	--	--	--	--	13.62	0.0	70.76
	02/08/91	58,000	4,900	5,200	9,500	2,000	12.18	0.0	72.20
	05/08/91	50,000	2,100	1,400	2,000	9,400	12.52	0.0	71.86
	08/12/91	15,000	1,300	160	920	1,900	13.27	0.0	71.11
	11/07/91	26,000	1,000	310	1,900	5,900	12.81	0.0	71.57
	02/05/92	35,000	2,800	1,300	1,500	4,700	12.47	0.0	71.91
	05/13/92	47,000	1,500	1,200	1,100	4,800	12.62	0.0	71.76
	07/17/92	15,000	120	11	88	140	13.13	0.0	71.25
MW-4/ 84.25	10/18/90	--	--	--	--	--	15.75	0.0	68.50
	10/31/90	<50	<0.5	<0.5	<0.5	1	13.90	0.0	70.35
	11/16/90	--	--	--	--	--	14.25	0.0	70.00
	02/08/91	60	17	2	12	<0.5	12.32	0.0	71.93
	05/08/91	65	<0.5	<0.5	<0.5	<0.5	12.23	0.0	72.02
	08/12/91	<50	<0.5	<0.5	<0.5	<0.5	13.93	0.0	70.32
	11/07/91	<50	<0.5	<0.5	<0.5	<0.5	13.42	0.0	70.83
	02/05/92	<50	<0.5	<0.5	<0.5	<0.5	12.83	0.0	71.42
	05/13/92	<50	<0.5	<0.5	<0.5	<0.5	13.28	0.0	70.97
	07/17/92	<50	<0.5	<0.5	<0.5	<0.5	13.98	0.0	70.27

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	0.0	71.17
	10/31/90	110	<0.5	<0.5	<0.5	<0.5	10.63	0.0	71.32
	11/16/90	—	—	—	—	—	10.68	0.0	71.27
	02/08/91	<50	<0.5	<0.5	<0.5	<0.5	9.17	0.0	72.78
	05/08/91	<50	<0.5	<0.5	<0.5	<0.5	8.68	0.0	73.27
	08/12/91	<50	<0.5	<0.5	<0.5	<0.5	10.33	0.0	71.62
	11/07/91	<50	<0.5	<0.5	<0.5	<0.5	9.76	0.0	72.19
	02/05/92	69*	<0.5	<0.5	<0.5	<0.5	9.47	0.0	72.48
	05/13/92	74*	<0.5	<0.5	<0.5	<0.5	9.70	0.0	72.25
07/17/92	880	2.6	<1.2	4.6	11	10.21	0.0	71.74	
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	—	—	—	—	—	—	—	—	

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	TPHAS- 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	--	--	--

— = 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.

835 Arnold Drive, Suite 106 • Martinez, California 94553 • (510) 229-0166 / fax (510) 229-0916

GROUNDWATER TECHNOLOGY, INC.
Attn: GREG MISCHEL

Project 020302228
Reported 07/28/92

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
86254- 1	TB-LB	07/17/92	07/27/92 Water
86254- 2	RBMW-4	07/17/92	07/27/92 Water
86254- 3	MW-4	07/17/92	07/27/92 Water
86254- 4	MW-5	07/17/92	07/28/92 Water
86254- 5	MW-2	07/17/92	07/28/92 Water
86254- 6	MW-3	07/17/92	07/28/92 Water
86254- 7	MW-1	07/17/92	07/27/92 Water

RESULTS OF ANALYSIS

Laboratory Number:	86254- 1	86254- 2	86254- 3	86254- 4	86254- 5
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Gasoline:	ND<50	ND<50	ND<50	880	ND<50
Benzene:	ND<0.5	ND<0.5	ND<0.5	2.6	2.0
Toluene:	ND<0.5	ND<0.5	ND<0.5	ND<1.2	ND<0.5
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	4.6	ND<0.5
Xylenes:	ND<0.5	ND<0.5	ND<0.5	11	ND<0.5
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number:	86254- 6	86254- 7
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Gasoline:	15000	8500
Benzene:	120	170
Toluene:	11	ND<10
Ethyl Benzene:	88	360
Xylenes:	140	600
Concentration:	ug/L	ug/L



Superior Precision Analytical, Inc.

835 Arnold Drive, Suite 106 ▪ Martinez, California 94553 ▪ (510) 229-0166 / fax (510) 229-0916

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: 86254

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	92/96	4%	70-130
Benzene:	200 ng	94/98	4%	70-130
Toluene:	200 ng	93/97	4%	70-130
Ethyl Benzene:	200 ng	93/98	5%	70-130
Xylenes:	200 ng	98/102	4%	70-130

Richard Srna, Ph.D.

Delomina V. Fanguilig (for)
Laboratory Director

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591	Chevron Facility Number <u>9-1583</u> Facility Address <u>5509 Martin Luther King Blvd</u> Consultant Project Number <u>020302228</u> Consultant Name <u>Groundwater Technology, Inc.</u> Address <u>4057 Port Chicago Hwy, concord, CA</u> Project Contact (Name) <u>MR. Gregory A. Mischel</u> (Phone) <u>(510)671-2387</u> (Fax Number) <u>685-9148</u>	Chevron Contact (Name) <u>Nancy Vukelich</u> (Phone) <u>(510) 842-9581</u> Laboratory Name <u>Superior Analytical</u> Laboratory Release Number <u>496-2420</u> Samples Collected by (Name) <u>Greg Mason</u> Collection Date <u>7-17-92</u> Signature <u>[Signature]</u>
---	--	---

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)	Analyses To Be Performed											Remarks			
								BTEX + TPH GAS (8020 + 8015)	TPH Dised (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						
Trip Blank	1	1	W	D		HCl	yes	X														
RBMW-4	2	1			1			X														
MW-4	3	3			1			X														
RBMW-5	4	1			2																	
MW-5		3			2			X														
RBMW-2	5	1			3																	
MW-2		3			3			X														
RBMW-3	6	1			4																	
MW-3		3			4			X														
RBMW-1	7	1			5																	
MW-1		3			5			X														

Please Initia: AAV
 Samples Stored in ice: AAV
 Appropriate containers: AAV
 Samples preserved: AAV
 VOC's without headspace: AAV
 Comments:

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>GTI</u>	Date/Time <u>7/17</u>	Received By (Signature) <u>[Signature]</u>	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>Nancy Vukelich</u>		Date/Time <u>7/17/92 12:00</u>	

COC-3.DWG/03 91/HCH