



Chevron

September 23, 1993

Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583

Marketing Department
Phone 510 842 9500

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

**Re: Chevron Service Station #9-0290
1802 Webster Street, Alameda, CA**

Dear Ms. Shin:

Enclosed is the Groundwater Monitoring and Sampling Activities report dated August 25, 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 (TPH-G) and BTEX. Benzene was detected in monitor wells B-1, B-3, and B-4 at concentrations of 1200, 780, and 2400 ppb, respectively. Depth to ground water was measured at approximately 5.0 to 6.9 feet below grade and the direction of flow is to the north

Separate phase hydrocarbons (SPH) are being removed on a weekly basis from monitor wells A-1 and A-2. Absorbent pads are currently employed to remove the SPH due to its viscous nature. A summary of the baling program is presented in Table 2 of the enclosed report.

Trace concentrations of TPH-G and toluene were detected in monitor well B-5. Hydrocarbon concentrations in this well will be observed closely during subsequent sampling events to assure hydrocarbons are not migrating off-site. If subsequent data suggests hydrocarbons are migrating off-site, appropriate actions will be taken.

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

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

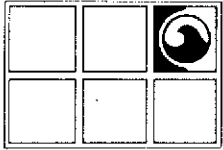
cc: Mr. Eddy So, RWQCB-Bay Area
Mr. S.A. Willer
File (9-0290 QM1)

93 SEP 24 PM 1:19

Mr. Bruce E. Prigoff, Esq.
Steeffel, Levitt & Weiss
One Embarcadero Center, 29th Floor
San Francisco, CA 94111

Ms. Louise Van De Deere
Housing Authority of the City of Alameda
701 Atlantic Avenue
Alameda, CA 94501

SEP 2 '93 J.M.M.



GROUNDWATER TECHNOLOGY, INC.

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

FAX: (415) 685-9148

August 25, 1993

Project No. 020204104

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. 9-0290
1802 Webster Street, Alameda, California

Dear Mr. Miller:

Groundwater Technology, Inc. presents the attached quarterly groundwater monitoring and sampling data collected on July 19, 1993. The ten groundwater monitoring wells at this site were gauged to measure depth to groundwater (DTW) and to check for the presence of separate-phase hydrocarbons. A potentiometric surface map (Figure 1) and a summary of groundwater monitoring data (Table 1) are presented in Attachments 1 and 2, respectively. After the DTW was measured, each monitoring wells was purged and sampled, except A-1 and A-2. Separate-phase hydrocarbons were detected in monitoring wells A-1 and A-2. Groundwater Technology has been bailing product on a weekly basis from wells A-1 and A-2 (Tables 2 and 3). The groundwater samples were analyzed for benzene, toluene, ethylbenzene, and xylenes; total petroleum hydrocarbons-as-gasoline; and total petroleum hydrocarbons-as-diesel fuel. Results of the chemical analyses are summarized in Table 3. Additional samples collected from wells B-7, B-8, and B-9 were analyzed for total dissolved solids; results are presented in Table 4. Field data measurements of pH, conductivity, and temperature collected from monitoring wells B-7, B-8, and B-9 are included in Attachment 3. The laboratory report and chain-of-custody record are included in Attachment 4. Monitoring-well purge water was transported by Groundwater Technology 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


Tim Watchers
Project Geologist

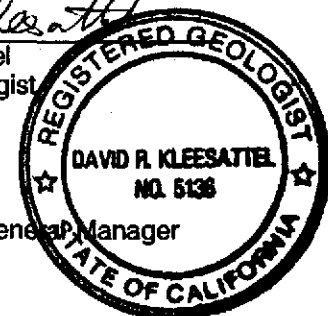
PR 

Attachment 1 Figure
Attachment 2 Tables
Attachment 3 Field Data
Attachment 4 Laboratory Report

Groundwater Technology, Inc.
Reviewed/Approved by


David R. Kleesattel
Registered Geologist
No. 5136

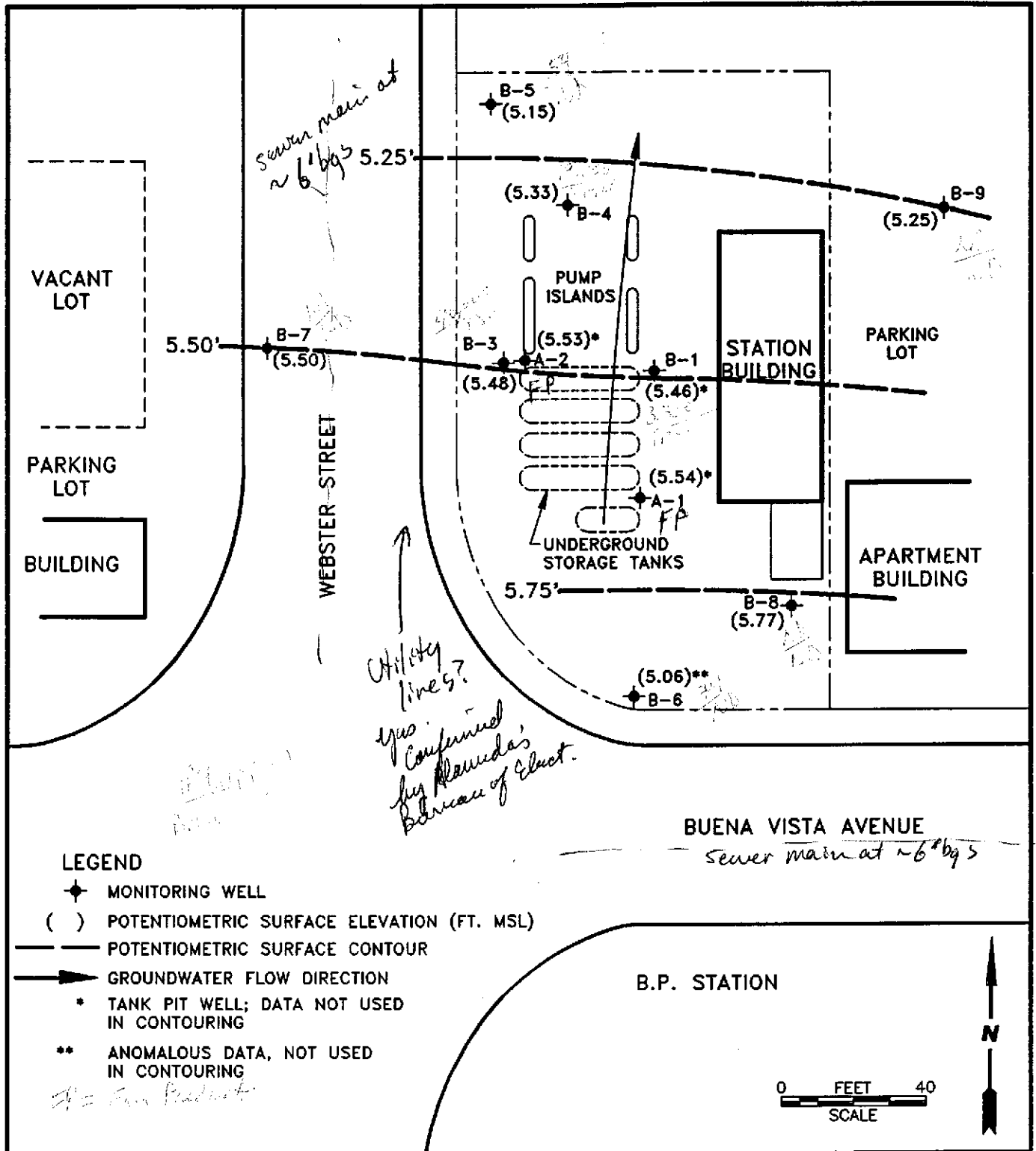
For:
Wendell Lantz
Vice President, General Manager
West Region



4104R023.020

ATTACHMENT 1

Figure



LEGEND

- ◆ MONITORING WELL
- () POTENTIOMETRIC SURFACE ELEVATION (FT. MSL)
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION
- * TANK PIT WELL; DATA NOT USED IN CONTOURING
- ** ANOMALOUS DATA, NOT USED IN CONTOURING

A-1 = Fair Products



GROUNDWATER TECHNOLOGY

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

**POTENTIOMETRIC SURFACE MAP
(7/19/93)**

CLIENT: CHEVRON U.S.A. PRODUCTS CO.
SERVICE STATION No. 9-0290

LOCATION: 1802 WEBSTER STREET
ALAMEDA, CALIFORNIA

REV. NO.: 0
DATE: 8/19/93

PM
JAW

PE/RG
ORK

DESIGNED
TW

DETAILED
ML

ACAD FILE:
PSM71993/SP593

PROJECT NO.:
020204098

FIGURE:
1

ATTACHMENT 2

Tables

**TABLE 1
HISTORICAL GROUNDWATER MONITORING AND ANALYTICAL RESULTS
CHEVRON SERVICE STATION NO 9-0290
1802 WEBSTER STREET, ALAMEDA, CALIFORNIA**

Well ID/ Elev	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	TPH-D	DTW (ft)	SPT (ft)	WTE (ft)
A1 8.13	09/20/91	---	---	---	---	---	---	---	9.23	1.58	0.48
	10/09/91	---	---	---	---	---	---	---	6.67	0.00	1.46
	10/17/91	---	---	---	---	---	---	---	7.28	0.58	1.43
	10/23/91	---	---	---	---	---	---	---	7.42	0.65	1.36
	11/01/91	---	---	---	---	---	---	---	7.14	0.50	1.49
	11/07/91	---	---	---	---	---	---	---	7.14	0.51	1.50
	11/15/91	---	---	---	---	---	---	---	7.19	0.53	1.47
	11/21/91	---	---	---	---	---	---	---	7.28	0.54	1.28
	12/12/91	---	---	---	---	---	---	---	7.33	0.49	1.29
	12/30/91	---	---	---	---	---	---	---	6.76	0.36	1.73
	01/13/92	---	---	---	---	---	---	---	6.29	0.37	2.21
	01/22/92	---	---	---	---	---	---	---	6.43	0.45	2.15
	02/12/92	---	---	---	---	---	---	---	6.30	0.38	2.21
	03/09/92	---	---	---	---	---	---	---	5.30	0.31	3.14
	04/10/92	---	---	---	---	---	---	---	5.37	0.07	2.83
05/18/92	---	---	---	---	---	---	---	6.14	0.40	2.39	
01/06/93	---	---	---	---	---	---	---	---	---	---	
02/03/93	---	---	---	---	---	---	---	---	---	---	
11.56	04/23/93	---	---	---	---	---	---	---	5.85	0.60	6.19
	07/19/93	---	---	---	---	---	---	---	6.23	0.26	5.54

TABLE 1
HISTORICAL GROUNDWATER MONITORING AND ANALYTICAL RESULTS
CHEVRON SERVICE STATION NO 9-0290
1802 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID/ Elev	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	TPH-D	DTW (ft)	SPT (ft)	WTE (ft)
A-2 8.00	09/20/91	8,100	860	14	110	53	--	**5,100	7.73	0.00	0.27
	10/09/91	--	--	--	--	--	--	--	6.61	0.00	1.39
	10/17/91	--	--	--	--	--	--	--	6.66	0.00	1.34
	10/23/91	--	--	--	--	--	--	--	6.80	0.09	1.29
	11/01/91	--	--	--	--	--	--	--	6.63	0.15	1.45
	11/07/91	--	--	--	--	--	--	--	6.64	0.21	1.45
	11/15/91	--	--	--	--	--	--	--	6.81	0.19	1.38
	11/21/91	--	--	--	--	--	--	--	6.93	0.24	1.31
	12/12/91	--	--	--	--	--	--	--	6.97	0.15	1.24
	12/30/91	--	--	--	--	--	--	--	6.54	0.24	1.70
	01/13/92	--	--	--	--	--	--	--	5.92	0.08	2.16
	01/22/92	--	--	--	--	--	--	--	6.01	0.10	2.00
	02/12/92	--	--	--	--	--	--	--	6.06	0.26	2.20
	03/09/92	--	--	--	--	--	--	--	4.93	0.04	3.11
	04/10/92	--	--	--	--	--	--	--	5.20	<0.01	2.80
	05/18/92	--	--	--	--	--	--	--	5.66	0.02	2.36
	11.46	01/06/93	--	--	--	--	--	--	--	--	--
02/03/93		--	--	--	--	--	--	--	4.98	0.22	3.20
04/23/93		--	--	--	--	--	--	--	5.36	0.18	6.24
	07/19/93	--	--	--	--	--	--	--	6.79	1.07	5.53
B-1 12.12	04/23/93	13,000	4,900	22	250	47	--	8,300	5.93	0.00	6.19
	07/19/93	3,300	1,200	16	24	<30	--	1,600	6.66	0.00	5.46

TABLE 1
HISTORICAL GROUNDWATER MONITORING AND ANALYTICAL RESULTS
CHEVRON SERVICE STATION NO 9-0290
1802 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID/ Elev	Date	TPH-G	Berzene	Toluene	Ethyl- benzene	Xylenes	TOG	TPH-D	DTW (ft)	SPT (ft)	WTE (ft)
B-3 8.01	09/20/91	---	---	---	---	---	---	---	6.94	0.01	1.08
	10/09/91	---	---	---	---	---	---	---	6.35	0.00	1.66
	10/17/91	---	---	---	---	---	---	---	6.44	0.00	1.57
	10/23/91	---	---	---	---	---	---	---	6.84	0.00	1.53
	11/01/91	---	---	---	---	---	---	---	6.31	0.00	1.70
	11/07/91	---	---	---	---	---	---	---	6.32	0.00	1.69
	11/15/91	---	---	---	---	---	---	---	6.39	0.00	1.62
	11/21/91	---	---	---	---	---	---	---	6.44	0.00	1.57
	12/12/91	---	---	---	---	---	---	---	6.82	<0.01	1.19
	12/30/91	---	---	---	---	---	---	---	6.37	0.00	1.64
	01/13/92	---	---	---	---	---	---	---	5.94	0.00	2.07
	01/22/92	---	---	---	---	---	---	---	5.99	0.00	2.02
	02/12/92	---	---	---	---	---	---	---	5.82	<0.01	2.19
	03/09/92	---	---	---	---	---	---	---	5.10	0.00	2.91
	04/10/92	---	---	---	---	---	---	---	5.36	0.00	2.65
	05/18/92	6,200	550	58	13	51	<5,000	**250	5.72	0.00	2.29
	01/06/93	5,400	490	54	51	82	---	***10,000	5.50	SHEEN	2.51
02/03/93	---	---	---	---	---	---	---	---	---	---	
11.42	04/23/93	18,000	540	69	47	120	---	6,400	5.32	0.00	6.10
	07/29/93	40,000	780	69	49	150	---	4,000	5.94	0.00	5.48

TABLE 1
HISTORICAL GROUNDWATER MONITORING AND ANALYTICAL RESULTS
CHEVRON SERVICE STATION NO 9-0290
1802 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID/ Elev	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	TPH-D	DTW (ft)	SPT (ft)	WTE (ft)
B-4 8.04	09/20/91	19,000	710	160	650	2,000	---	*1,400	6.82	0.00	1.22
	10/09/91	---	---	---	---	---	---	---	6.63	0.00	1.41
	10/17/91	---	---	---	---	---	---	---	6.84	0.00	1.20
	10/23/91	---	---	---	---	---	---	---	6.87	0.00	1.17
	11/01/91	---	---	---	---	---	---	---	6.70	0.00	1.34
	11/07/91	---	---	---	---	---	---	---	6.73	0.00	1.31
	11/15/91	---	---	---	---	---	---	---	6.83	0.00	1.21
	11/21/91	---	---	---	---	---	---	---	6.84	0.00	1.20
	12/12/91	---	---	---	---	---	---	---	6.87	0.00	1.17
	12/30/91	---	---	---	---	---	---	---	6.46	0.00	1.58
	01/13/92	---	---	---	---	---	---	---	5.91	0.00	2.13
	01/22/92	---	---	---	---	---	---	---	5.95	0.00	2.09
	02/12/92	15,000	920	75	520	940	---	*860	5.78	0.00	2.26
	03/09/92	---	---	---	---	---	---	---	5.09	0.00	2.95
	04/10/92	---	---	---	---	---	---	---	5.39	0.00	2.65
05/18/92	19,000	2,000	97	560	1,200	<5,000	<50	5.59	0.00	2.45	
01/06/93	19,000	2,000	89	490	740	---	*2,700	5.50	SHEEN	2.54	
02/03/93	---	---	---	---	---	---	---	---	---	---	
11.46	04/23/93	5,700	2,400	75	380	580	---	2,300	5.39	0.00	6.07
	07/19/93	19,000	2,400	140	440	620	---	2,400	6.13	0.00	5.33

TABLE 1
HISTORICAL GROUNDWATER MONITORING AND ANALYTICAL RESULTS
CHEVRON SERVICE STATION NO 9-0290
1802 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID/ Elev	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	TPH-D	DTW (ft)	SPT (ft)	WTE (ft)	
B-5 7.73	09/20/91	<50	<0.5	<0.5	<0.5	<0.5	--	<50	5.53	0.00	2.20	
	10/09/91	--	--	--	--	--	--	--	5.31	0.00	2.42	
	10/17/91	--	--	--	--	--	--	--	5.64	0.00	2.09	
	10/23/91	--	--	--	--	--	--	--	5.68	0.00	2.05	
	11/01/91	--	--	--	--	--	--	--	5.49	0.00	2.24	
	11/07/91	--	--	--	--	--	--	--	5.54	0.00	2.19	
	11/15/91	--	--	--	--	--	--	--	5.63	0.00	2.10	
	11/21/91	--	--	--	--	--	--	--	--	--	--	
	12/12/91	--	--	--	--	--	--	--	5.68	0.00	2.05	
	12/30/91	--	--	--	--	--	--	--	5.19	0.00	2.54	
	01/13/92	--	--	--	--	--	--	--	4.65	0.00	3.07	
	01/22/92	--	--	--	--	--	--	--	4.70	0.00	3.03	
	02/12/92	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	<50	4.45	0.00	3.28
	03/09/92	--	--	--	--	--	--	--	4.05	0.00	3.68	
	04/10/92	--	--	--	--	--	--	--	4.43	0.00	3.30	
	05/18/92	390	39	1.9	11	24	<5,000	--	3.79	0.00	3.94	
	01/06/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	<50	4.44	SHEEN	3.29
02/03/93	--	--	--	--	--	--	--	--	--	--	--	
10.18	04/23/93	<50	<0.5	<0.5	<0.5	<1.5	--	<50	4.32	0.00	5.86	
	07/19/93	54	<0.5	0.7	<0.5	<1.5	--	<50	5.03	0.00	5.15	

TABLE 1
HISTORICAL GROUNDWATER MONITORING AND ANALYTICAL RESULTS
CHEVRON SERVICE STATION NO 9-0290
1802 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID/ Elev	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	TPH-D	DTW (ft)	SPT (ft)	WTE (ft)
B-6 8.55	09/20/91	<50	<0.5	<0.5	<0.5	<0.5	--	<50	6.85	0.00	1.70
	10/09/91	--	--	--	--	--	--	--	6.83	0.00	1.72
	10/17/91	--	--	--	--	--	--	--	6.90	0.00	1.65
	10/23/91	--	--	--	--	--	--	--	6.93	0.00	1.62
	11/01/91	--	--	--	--	--	--	--	6.78	0.00	1.77
	11/07/91	--	--	--	--	--	--	--	6.81	0.00	1.74
	11/15/91	--	--	--	--	--	--	--	6.88	0.00	1.67
	11/21/91	--	--	--	--	--	--	--	6.95	0.00	1.60
	12/12/91	--	--	--	--	--	--	--	7.14	0.00	1.41
	12/30/91	--	--	--	--	--	--	--	6.50	0.00	2.05
	01/13/92	--	--	--	--	--	--	--	6.19	0.00	2.36
	01/22/92	--	--	--	--	--	--	--	6.27	0.00	2.28
	02/12/92	<50	<0.5	<0.5	<0.5	<0.5	--	<50	6.12	0.00	2.43
	03/09/92	--	--	--	--	--	--	--	5.28	0.00	3.27
	04/10/92	--	--	--	--	--	--	--	5.48	0.00	3.07
	05/18/92	<50	<0.5	<0.5	<0.5	<0.5	<5,000	<50	5.90	0.00	2.65
	11.97	01/06/93	<50	<0.5	<0.5	<0.5	<0.5	--	<50	5.79	0.00
02/03/93		--	--	--	--	--	--	--	--	--	--
04/23/93		<50	<0.5	<0.5	<0.5	<1.5	--	<50	5.27	0.00	6.70
07/19/93		74	<0.5	<0.5	<0.5	<1.5	--	<50	6.91	0.00	5.06
B-7 10.54	04/23/93	<50	<0.5	<0.5	<0.5	<1.5	<50	--	4.52	0.00	6.02
	07/19/93	<50	<0.5	<0.5	<0.5	<1.5	<50	<50	5.04	0.00	5.50
B-8 11.99	04/23/93	<50	<0.5	<0.5	<0.5	<1.5	<50	--	5.36	0.00	6.63
	07/19/93	<50	<0.5	<0.5	<0.5	<1.5	<50	<50	6.22	0.00	5.77
B-9 10.70	04/23/93	<50	<0.5	<0.5	<0.5	<1.5	<50	--	4.56	0.00	6.14
	07/19/93	<50	<0.5	<0.5	<0.5	<1.5	<50	<50	5.45	0.00	5.25

**TABLE 1
 HISTORICAL GROUNDWATER MONITORING AND ANALYTICAL RESULTS
 CHEVRON SERVICE STATION NO 9-0290
 1802 WEBSTER STREET, ALAMEDA, CALIFORNIA**

Well ID/ Elev	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	TPH-D	DTW (ft)	SPT (ft)	WTE (ft)
TRIP BLANK	01/06/93	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	04/23/93	--	--	--	--	--	--	--	--	--	--
	****07/19/93	--	--	--	--	--	--	--	--	--	--

- TPH-G = Total petroleum hydrocarbons-as-gasoline
 TPH-D = Total petroleum hydrocarbons-as-diesel fuel
 DTW = Depth to water
 SPT = Separate-phase hydrocarbon thickness
 WTE = Water table elevation in feet above mean sea level
 TOG = Total oil and grease
 -- = Not applicable/not sampled/not measured
 * = Diesel fuel range concentration reported. The pattern of peaks observed in the chromatogram is typical of gasoline.
 ** = Does not match typical diesel patterns
 *** = Diesel fuel range concentration reported. The pattern of peaks observed in the chromatogram is a mixture of gasoline and heavy hydrocarbons.
 **** = Trip blank contaminated in lab; no back-up trip blank was carried.
- Analytical results in micrograms/liter (µ/l), parts per billion

**TABLE 2
SEPARATE-PHASE HYDROCARBONS BAILED
MONITORING WELL A-1
Chevron Service Station No. 9-0290
1802 Webster Street, Alameda, California**

Date	Amount Product Bailed (gallons)	Total Product Bailed (gallons)
06/11/93	2 gallons	2.00
06/15/93	0.13	2.13
06/18/93	0.13	2.26
06/22/93	0.5 gallon	2.76
06/29/93	*	2.76
07/09/93	**	2.76
07/15/93	***	2.76
07/20/93	***	2.76
07/27/93	***	2.76

- * = Absorbent pad installed to collect separate-phase product
- ** = Absorbent pads turned over
- *** = Replaced absorbent pad

TABLE 3
SEPARATE-PHASE HYDROCARBONS BAILED
MONITORING WELL A-2
Chevron Service Station No. 9-0290
1802 Webster Street, Alameda, California

Date	Amount Product Bailed (gallons)	Total Product Bailed (gallons)
06/11/93	1.00	1.00
06/15/93	0.13	1.13
06/18/93	0.26	1.39
06/22/93	0.50	1.89
06/29/93	*	1.89
07/09/93	**	1.89
07/15/93	***	1.89
07/20/93	***	1.89
07/27/93	***	1.89

- * = Absorbent pad installed to collect separate-phase product
- ** = Absorbent pads turned over
- *** = Replaced absorbent pad

TABLE 4
TOTAL DISSOLVED SOLIDS
COLLECTED JULY 19, 1993
Chevron Service Station No. 9-0290
1802 Webster Street, Alameda, California

(Concentrations in milligrams per liter)

Date	Well Identifier	Total Dissolved Solids
07/19/93	B-7	360
07/19/93	B-8	730
07/19/93	B-9	640

ATTACHMENT 3

Field Data

Project Name: CHV/1802 Webster
 Project Number: 020204098.0610
 Site Address: 1802 Webster, Alameda

Date: 7/19/93
 Page of

Project Manager: Sandra Lindsey

Well ID B-8
 Well Dia 2"

DTW Measurements
 Initial ft Calc Well Volume = gal
 Recha ft Well Volume = X3 = gal

Purged Method	Pump Depth	ft
<input type="checkbox"/> Peristaltic	<input checked="" type="checkbox"/> Hand Bailed	
<input type="checkbox"/> Gear Drive	<input type="checkbox"/> Air Lift	
<input type="checkbox"/> Submersible	<input type="checkbox"/> Other	

Instruments Used	
<input type="checkbox"/> YSI 3650 pH/ C/mmbo	<input type="checkbox"/> OMEGA Cond.
<input type="checkbox"/> HYDAC pH/ F/umbo	<input type="checkbox"/> DRT-15C TURBID
<input type="checkbox"/> OMEGA pH/ C	<input type="checkbox"/> Other

TIME	TEMP	Conductivity	pH	PURGE VOLUME gallons	TURBIDITY	COMMENTS
	<u>X</u> C <u> </u> F					
11:50	22.1	N/A	6.9	2		
11:57	21.9	N/A	7.2	3		
12:05	22.0	N/A	7.4	4		
12:10	22.1	N/A	7.3	5		

ATTACHMENT 4
Laboratory Report
and Chain-of-Custody Record



Superior Precision Analytical, Inc.

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

GROUNDWATER TECHNOLOGY, INC.
Attn: Nicole Merchant

Project 020204098
Reported 07/27/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
89303- 3	B7	07/19/93	07/21/93 Water
89303- 5	B8	07/19/93	07/21/93 Water
89303- 7	B9	07/19/93	07/21/93 Water
89303- 9	B6	07/19/93	07/21/93 Water
89303-11	B5	07/19/93	07/21/93 Water
89303-13	B4	07/19/93	07/21/93 Water
89303-15	B3	07/19/93	07/21/93 Water
89303-17	B1	07/19/93	07/21/93 Water

RESULTS OF ANALYSIS

Laboratory Number:	89303- 3	89303- 5	89303- 7	89303- 9
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Gasoline:	ND<50	ND<50	ND<50	74
Benzene:	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
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Xylenes:	ND<1.5	ND<1.5	ND<1.5	ND<1.5
Concentration:	ug/L	ug/L	ug/L	ug/L

Laboratory Number:	89303-11	89303-13	89303-15	89303-17
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Gasoline:	54	19000	40000	3300
Benzene:	ND<0.5	2400	780	1200
Toluene:	0.7	140	69	16
Ethyl Benzene:	ND<0.5	440	49	24
Xylenes:	ND<1.5	620	150	ND<30
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: 89303

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	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	73/69	6%	70-130
Benzene:	114/102	11%	70-130
Toluene:	108/97	11%	70-130
Ethyl Benzene:	108/97	11%	70-130
Xylenes:	110/98	12%	70-130

Richard Srna, Ph.D.

[Signature] (for) 2/2/93
Laboratory Director



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

LABORATORY NO.: 89303
CLIENT: GROUNDWATER TECHNOLOGY, INC.
CLIENT JOB NO.: 020204098

DATE RECEIVED: 07/20/93
DATE REPORTED: 07/28/93

ANALYSIS FOR TOTAL DISSOLVED SOLIDS by EPA 160.1

LAB #	Sample Identification	Concentration (mg/L) Total Dissolved Solids
3	B7	360
5	B8	730
7	B9	640

mg/L - parts per million (ppm)

Method Detection Limit for Total Dissolved Solids: 4 mg/L

Richard Srna, Ph.D.

Afsaneh Salmy
Laboratory Manager



Superior Precision Analytical, Inc.

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

Groundwater Technology Inc.
Attn: NICOLE MERCHANT

Project 620204098
Reported 07/27/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
14625- 1	B7	07/19/93	07/26/93 Water
14625- 2	B8	07/19/93	07/26/93 Water
14625- 3	B9	07/19/93	07/26/93 Water
14625- 4	B6	07/19/93	07/26/93 Water
14625- 5	B5	07/19/93	07/26/93 Water
14625- 6	B4	07/19/93	07/26/93 Water
14625- 7	B3	07/19/93	07/26/93 Water
14625- 8	B1	07/19/93	07/26/93 Water

RESULTS OF ANALYSIS

Laboratory Number:	14625- 1	14625- 2	14625- 3	14625- 4	14625- 5
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Diesel:	ND<50	ND<50	ND<50	ND<50	ND<50
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Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L
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Laboratory Number:	14625- 6	14625- 7	14625- 8
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Diesel:	2400	4000	1600
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Concentration:	ug/L	ug/L	ug/L
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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: 14625

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

<u>ANALYTE</u>	<u>MS/MSD RECOVERY</u>	<u>RPD</u>	<u>CONTROL LIMIT</u>
Diesel:	109/112	3%	65-123

Richard Srna, Ph.D.

Richard Srna
Laboratory Director

Fax copy of Lab Report and COC to Chevron Contact: Yes 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: 9-0290
 Facility Address: 1802a Webster St
 Consultant Project Number: 02020 4098
 Consultant Name: Groundwater Technology, Inc.
 Address: 4057 Port Chicago Hwy, Concord, CA 94520
 Project Contact (Name): Nicole Merchant
 (Phone) 671-2387 (Fax Number) 685-9148

Chevron Contact (Name): Mark Miller
 (Phone) 842-8134
 Laboratory Name: Superior Analytical
 Laboratory Release Number: 014-8570
 Samples Collected by (Name): Randy Roy Phillips
 Collection Date: 7/19/93
 Signature: Randy Roy Phillips

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water C = Charcoal	Type G = Grab C = Composite D = Diacrete	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)								
TB LB	1	1	W	G	2:15		Yes	X															Do Not Bill TB-LB
RBB7	2	1			2:15																		
B7	3	5			2:15			X	X														
RBB8	4	1			2:40																		
B-8	5	5			2:40			X	X														
RBB9	6	1			2:55																		
B-9	7	5			2:55			X	X														
RBB6	8	1			3:05																		
B6	9	4			3:05			X	X														
RBB5	10	1			3:20																		
B5	11	4			3:20			X	X														
RBB4	12	1			3:30																		
B4	13	4	✓	✓	3:30			X	X														

Please Initialed
 Samples stored in ice...
 Appropriate containers
 Samples preserved
 VOA's without headspace
 Comments:

Relinquished By (Signature): <u>Randy Roy Phillips</u>	Organization: <u>GTI</u>	Date/Time: <u>7/20/93 8:15</u>	Received By (Signature): <u>[Signature]</u>	Organization: <u>GT</u>	Date/Time: <u>7/20/93</u>
Relinquished By (Signature): <u>[Signature]</u>	Organization: <u>GTI</u>	Date/Time: <u>7/20/93 1:30</u>	Received By (Signature): <u>[Signature]</u>	Organization: <u></u>	Date/Time: <u></u>
Relinquished By (Signature): <u>[Signature]</u>	Organization: <u></u>	Date/Time: <u></u>	Received By (Signature): <u>[Signature]</u>	Organization: <u></u>	Date/Time: <u>7/20/93</u>

Turn Around Time (Circle Choice)

- 24 Hrs.
- 48 Hrs.
- 5 Days
- 10 Days
- As Contracted

Fax copy of Lab Report and COC to Chevron Contact: Yes No 89305

Chain-of-Custody-Record

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

Chevron Facility Number: 9-0290
Facility Address: 1802 Webster Street
Consultant Project Number: 020204098
Consultant Name: Groundwater Technology, Inc.
Address: 4057 Port Chicago Hwy, Concord, CA 94520
Project Contact (Name): Nicole Merchant
(Phone) 671-2387 (Fax Number) 685-9148

Chevron Contact (Name): Mark Miller
(Phone) 842-8134
Laboratory Name: Superior
Laboratory Release Number: 614-8570
Samples Collected by (Name): Randy Ray Phillips
Collection Date: 7/19/93
Signature: Randy Ray Phillips

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)	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)	PCDD										
RBB3	14	1	W	G	3:50		Yes																	DO NOT BILL TB LIB		
B3	15	4			3:50			X	X																	
RBA1		0																								
A1		0																								
RBA1	16	1			4:10																					
B1	17	4			4:10			X	X																	

Please Initial: RP
 Samples Stored in ice: yes
 Appropriate containers: yes
 Samples preserved: yes
 VOA's without headspace: yes
 Comments: OK

Relinquished By (Signature): <u>Randy Ray Phillips</u>	Organization: <u>GTL</u>	Date/Time: <u>7/20/93 8:15</u>	Received By (Signature): <u>[Signature]</u>	Organization: <u>GTL</u>	Date/Time: <u>7/20/93 8:15</u>	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days <input checked="" type="radio"/> As Contracted
Relinquished By (Signature): <u>[Signature]</u>	Organization: <u>GTL</u>	Date/Time: <u>7/20/93 1:30</u>	Received By (Signature): <u>[Signature]</u>	Organization: <u>[Blank]</u>	Date/Time: <u>[Blank]</u>	
Relinquished By (Signature): <u>[Blank]</u>	Organization: <u>[Blank]</u>	Date/Time: <u>[Blank]</u>	Received For Laboratory By (Signature): <u>[Signature]</u>	Organization: <u>[Blank]</u>	Date/Time: <u>7/20/93 1:53</u>	

COC-18 CO/MSA