Chevron

June 2, 1993

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

Marketing Department
Phone 510 842 9500

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

Re: Former Chevron Service Station #9-0020
1633 Harrison, Oakland

Dear Ms. Eberle:

Enclosed we are forwarding the **Quarterly Monitoring and Sampling Report** dated May 12, 1993, prepared by our consultant Groundwater Technology, Inc. for the above referenced site. As indicated in the report, ground water samples were collected and analyzed for total petroleum hydrocarbons and BTEX. Benzene was detected in monitor wells MW-7, MW-9 and MW-13 only at concentrations of 1.4, 51 and 72 ppb, respectively. Depth to ground water was measured at approximately 20-feet below grade, and the direction of flow is to the east.

Chevron typically samples ground water on a quarterly basis at their operating or former service stations. However, a review of data for this site indicates that **some of the monitor wells warrant sampling frequency modification for ground water monitoring.** The California Water Quality Control Board (CWQCB) ground water monitoring guidelines also support frequency changes for ground water monitoring. CWQCB guidelines state that "Quarterly (ground water) monitoring is the maximum sampling interval typically allowed when ground water contamination is present unless other arrangements are made with the Regional Water Quality Control Board (RWQCB) staff." RWQCB-San Francisco Bay Region personnel have indicated that the Board will allow reduction of the sampling frequency on a site-specific basis, if the frequency modification is justified by site conditions.

A review of the referenced site data indicates the following:

* In 1972, the station was abandoned with all improvements including the underground storage tank system.

* A total of sixteen (16) monitor wells and eight (8) soil borings have been installed on and off-site through a number of phases of assessment work. Soil samples reported concentrations of TPH-Gasoline in wells MW-4, MW-7 and boring B-D. MW-4 reported a concentration of 600 ppm at sample depths of 4.5 and 9.6-feet below grade, MW-7 reported concentrations of 600 ppm at 17-feet and 50,000 ppm at 23.5-feet below grade, and B-D reported a concentration of 120 ppm at 25-feet below grade.

* A soils excavation program was implemented to excavate and aerate the soils in the vicinity of MW-4. Approximately 150 cubic yards of soils were excavated and disposed of off-site in an approved landfill. Final excavation samples collected were analyzed for TPH-Gasoline, TPH-Diesel and BTEX. In addition, three (3) excavation samples were analyzed for halogenated volatile organics. All the samples reported non-detectable concentrations of these constituents with the exception of a sample collected from the southern sidewall at a depth of 8-feet below grade. This sample reported concentrations of TPH-Gasoline and TPH-Diesel of 310 and 270 ppm, respectively. Benzene was not detected in this sample. Laboratory analysis reported that the TPH-Diesel chromatograph was of a non-standard diesel pattern. They highly suspect this to be a result of weathered gasoline as diesel was never marketed at this site. Further excavation laterally to the south was precluded due to the presence of an adjacent building foundation wall. However, no hydrocarbon contaminants were detected in the adjacent 10-foot and 5-foot depth samples collected from the southern sidewall. The excavation extended to a depth of approximately 14-feet below grade.

SH it's ok
except mw 10
should be
continued, so
we can define
edge of plume
(zero line)

* Concentrations of BTEX constituents have consistently been detected only in wells MW-7, MW-9 and MW-13. The plume is located on the down-gradient portion of the property and has moved off-site. Plume delineation has been obtained in the down-gradient direction. TPH-Gasoline values have not correlated well with the BTEX compound concentrations and may be due to the occurrence of halogenated VOC's emanating from an off-site up-gradient source. Laboratory analytical reports generally indicate that TPH chromatographs do not match typical gasoline patterns.

Based on a review of the analytical data that has been collected through quarterly monitoring at this site since November, 1988, we recommend adjusting the frequency of monitoring as described below:

Well ID	Current Sampling Frequency	Recommended Sampling Frequency	Rationale for Recommended Sampling Frequency
MW-1	Quarterly	Quarterly	Historical non-detectable concentrations of hydrocarbons; on-site cross-gradient source area well
MW-2	Quarterly	Quarterly	Historical non-detectable concentrations of hydrocarbons; up-gradient point of compliance well
MW-3	Quarterly	Quarterly	Historical non-detectable concentrations of hydrocarbons; on-site cross-gradient well
MW-4	Quarterly	Quarterly	Historical non-detectable concentrations of hydrocarbons; up-gradient point of compliance well
MW-5	Quarterly	Suspend	Non-detectable hydrocarbon concentrations for four (4) consecutive quarters; up-gradient on-site well
MW-6	Quarterly	Suspend	Non-detectable hydrocarbon concentrations for three (3) consecutive quarters; on-site down-gradient well
MW-7	Quarterly	Quarterly	Consistent hydrocarbon concentrations; down-gradient well
MW-8	Quarterly	Suspend	Historical non-detectable hydrocarbon concentrations; on-site cross-gradient well
MW-9	Quarterly	Quarterly	Consistent hydrocarbon concentrations; off-site down-gradient well
MW-10	Quarterly	Suspend	Historical non-detectable hydrocarbon concentrations; off-site down-gradient well
MW-11	Quarterly	Suspend	Historical non-detectable to trace hydrocarbons; farthest off-site cross-gradient well. Detection related to other sources.

Well ID	Current Sampling Frequency	Recommended Sampling Frequency	Rationale for Recommended Sampling Frequency
MW-12	Quarterly	~~Suspend~~ ?	Same rationale as MW-11
MW-13	Quarterly	Quarterly	Consistent hydrocarbon concentrations; off-site down-gradient well
MW-14	Quarterly	~~Suspend~~ no not enough consecutive Qs ND	Same rationale as MW-11
MW-15	Quarterly	Quarterly	Off-site down-gradient point of compliance well.
MW-16	Quarterly	Quarterly	Off-site down-gradient point of compliance well

VOCs?* yes yes

Based on this justification, Chevron feels that a sampling frequency reduction is warranted. The discontinuation of monitoring seven (7) of the sixteen (16) wells at the site will not diminish the definition of the dissolved hydrocarbon plume. Wells MW-2 and MW-4 serve as up-gradient data points; wells MW-15 and MW-16 as down-gradient data points; and wells MW-1 and MW-3 as cross-gradient data points. As you are aware, the number of wells that have been installed at this site is proportionally higher than the number of wells installed at similar sites. We would appreciate your review and approval of this recommendation.

The vapor abatement equipment has been received and the remediation system is currently being assembled. We anticipate activation of the system to occur by mid-June, 1993. If you have any questions or comments, please do not hesitate to contact me at (510) 842-9581. I look forward to your reply.

yet another delay

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Nancy Vukelich
Site Assessment and Remediation Engineer

Enclosure

* VOCs last sampled 6-92 (2-92 in MW 11 + 14).

cc: Mr. Rich Hiett, RWQCB-Bay Area
Mr. Kent O'Brien, Geraghty & Miller
Mr. Tim Watchers, GTI-Concord
Ms. B.C. Owen
Mr. L.E. Jones, 225/1510
File (9-0020Q4)

MAY 19 '93 PWM

GROUNDWATER TECHNOLOGY, INC.

4057 Port Chicago Highway, Concord, CA 94520 (415) 671-2387
FAX: (415) 685-9148

May 12, 1993

Project No. 020202499

Ms. Nancy Vukelich
Chevron U.S.A. Inc.
2410 Camino Ramon
San Ramon, CA 94583-0804

SUBJECT: Groundwater Monitoring and Sampling Activities
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Dear Ms. Vukelich:

Groundwater Technology, Inc. presents the attached quarterly groundwater monitoring and sampling data collected on April 7, 1993, at 1633 Harrison Street, Oakland, California. Fifteen groundwater monitoring wells at this site were gauged to measure depth to groundwater (DTW) and to check for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not detected in the monitoring wells. Monitoring well MW-14 was not gauged or sampled because a car was parked over the well. 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 well was purged and sampled. The groundwater samples collected were analyzed for benzene, toluene, ethylbenzene, and total xylenes and total petroleum hydrocarbons-as-gasoline. Results of the chemical analyses are summarized in Table 1. The laboratory report and chain-of-custody record are included in Attachment 3. Table 2 contains historical groundwater analytical results for halogenated volatile organics. 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
Tim Watchers
Project Geologist

Groundwater Technology, Inc.
Reviewed/Approved by

David R. Kleesattel
David R. Kleesattel
Registered Geologist
No. 5136

REGISTERED GEOLOGIST
DAVID R. KLEESATTEL
NO. 5136
STATE OF CALIFORNIA

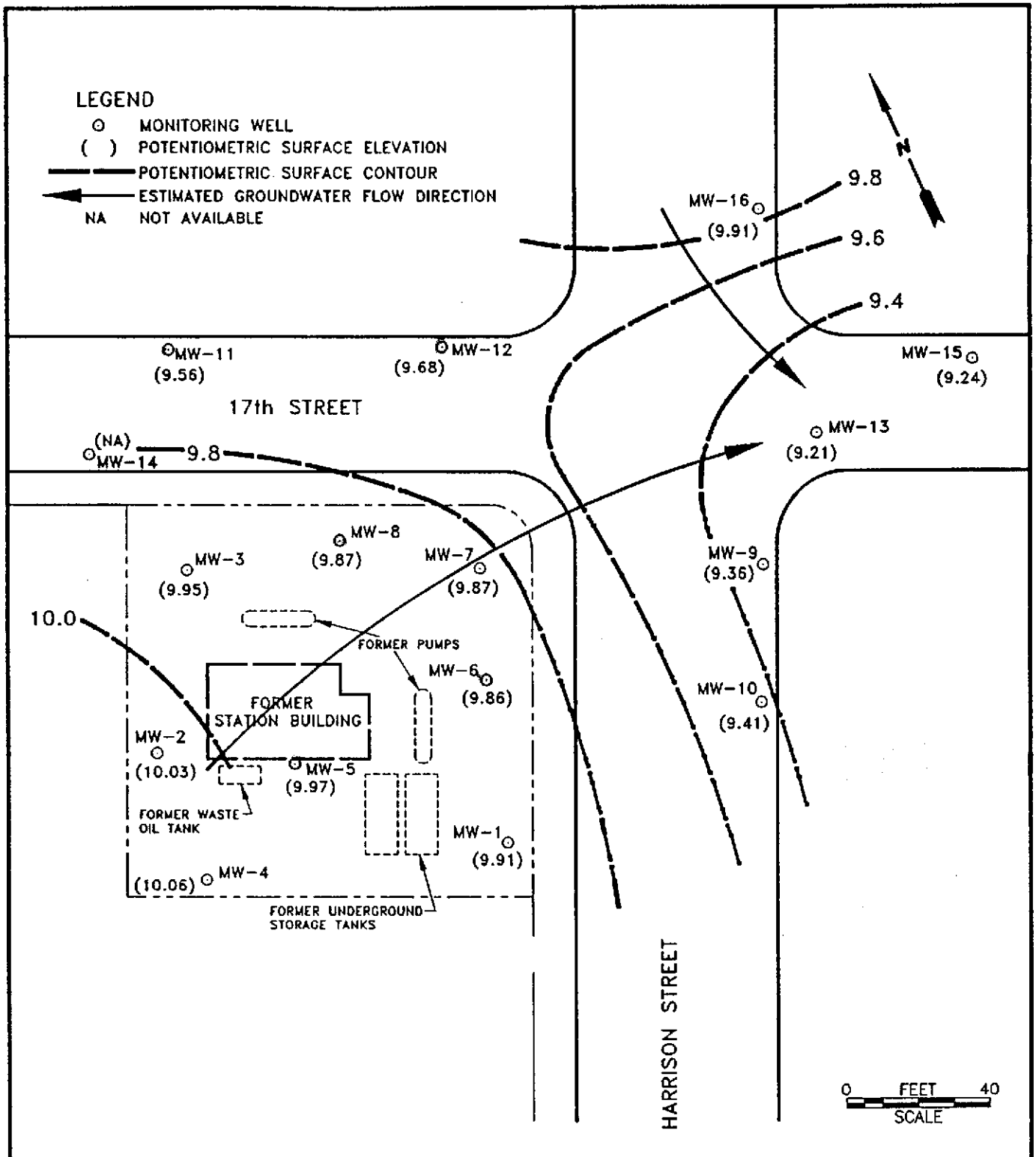
For:
John S. Gaines
Vice President, General Manager
West Region

Attachment 1 Figures
Attachment 2 Tables
Attachment 3 Laboratory Report

2499R013

ATTACHMENT 1

FIGURES



GROUNDWATER TECHNOLOGY 4057 PORT CHICAGO HWY. CONCORD, CA 94520 (510) 671-2387				**POTENTIOMETRIC SURFACE MAP (4/7/93)**		
CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0020				LOCATION: 1633 HARRISON STREET OAKLAND, CALIFORNIA	REV. NO.: 0	DATE: 5/12/93
PM: JWS	PE/RG: ORK	DESIGNED: TW	DETAILED: CY	ACAD FILE: PSM593/SP193	PROJECT NO.: 020302499	FIGURE: 1

ATTACHMENT 2

TABLES

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California
(Concentrations in parts per billion [ppb], µg/l)

Well ID/ Elev	Date	TPH-as-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	GWE (ft)
MW-1	11/03/88	<1,000[1]	<1.0	<1.0	<1.0	<1.0	—	20.40	0.0	9.42
	02/02/89	—	—	—	—	—	—	20.71	0.0	9.11
29.82	02/10/89	<100	<0.2	<0.2	<0.2	<0.4	—	—	—	—
	04/23/89	—	—	—	—	—	—	20.34	0.0	9.48
	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	<3,000	—	—	—
	07/28/89	<50	<0.1	<0.5	<0.2	<0.5	<3,000	20.58	0.0	9.24
	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	—	20.52	0.0	9.30
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	20.77	0.0	9.05
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	—	20.95	0.0	8.87
	06/22/90	—	—	—	—	—	—	21.00	0.0	8.82
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	20.94	0.0	8.88
	11/13/90	<50	<0.5	<0.5	<0.5	<0.5	—	20.98	0.0	8.84
	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	20.64	0.0	9.18
	08/27/91	110[2]	<0.5	<0.5	<0.5	<0.5	—	20.79	0.0	9.03
	11/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	20.75	0.0	9.07
	02/20/92	<50	0.5	0.6	<0.5	0.9	—	20.90	0.0	8.92
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	—	20.64	0.0	9.18
29.82	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	20.84	0.0	8.98
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	—	19.91	0.0	9.91
MW-2	11/03/88	<1,000[1]	<1.0	<1.0	<1.0	<1.0	—	20.89	0.0	9.70
	02/02/89	—	—	—	—	—	—	21.21	0.0	9.38
30.59	02/10/89	<100	<0.2	<0.2	<0.2	<0.4	—	—	—	—
	04/23/89	—	—	—	—	—	—	20.82	0.0	9.77
	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	<3,000	—	—	—
	07/28/89	<100	<0.2	<1.0	<0.2	<0.4	<3,000	21.02	0.0	9.57
	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	—	20.96	0.0	9.63
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.25	0.0	9.34
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.53	0.0	9.06
	06/22/92	—	—	—	—	—	—	21.57	0.0	9.02
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.55	0.0	9.04
	11/13/90	<50	<0.5	0.8	<0.5	0.9	—	21.54	0.0	9.05
	05/15/91	83[2]	<0.5	<0.5	<0.5	<0.5	—	21.15	0.0	9.44
	08/27/91	97[2]	<0.5	<0.5	<0.5	<0.5	—	21.27	0.0	9.32
	11/15/91	<50	0.5	1.5	0.8	3.6	—	21.30	0.0	9.29
	02/20/92	<50	<0.5	<0.5	<0.5	<0.5	—	21.43	0.0	9.13
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	—	21.18	0.0	9.41
30.56	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	21.47	0.0	9.09
	04/07/93	66*	<0.5	<0.5	<0.5	<1.5	—	20.53	0.0	10.03

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California
(Concentrations in parts per billion [ppb], µg/l)

Well ID/ Elev	Date	TPH-as-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	GWE (ft)
MW-3	11/03/88	<1,000[1]	<1.0	<1.0	<1.0	<1.0	—	20.54	0.0	9.55
	02/02/89	—	—	—	—	—	—	20.85	0.0	9.24
30.09	02/10/89	<100	<0.2	<0.2	<0.2	<0.4	—	—	—	—
	04/23/89	—	—	—	—	—	—	20.43	0.0	9.66
	04/24/92	<50	<0.5	<1.0	<1.0	<1.0	<3,000	—	—	—
	07/28/89	<100	<0.2	<1.0	<0.2	<0.4	<3,000	20.64	0.0	9.45
	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	—	20.61	0.0	9.48
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	20.88	0.0	9.21
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.15	0.0	8.94
	06/22/90	—	—	—	—	—	—	21.20	0.0	8.89
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.18	0.0	8.91
	11/13/90	51[2]	<0.5	<0.5	<0.5	<0.5	—	21.15	0.0	8.94
	05/15/91	85[2]	<0.5	<0.5	<0.5	<0.5	—	20.91	0.0	9.18
	08/27/91	91[2]	<0.5	<0.5	<0.5	<0.5	—	20.89	0.0	9.20
	11/15/91	<50	<0.5	0.7	<0.5	1.3	—	21.02	0.0	9.07
	02/02/92	<50	<0.5	<0.5	<0.5	0.9	—	21.07	0.0	9.02
	06/15/92	50[2]	<0.5	<0.5	<0.5	<0.5	—	20.82	0.0	9.27
30.08	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	21.07	0.0	9.07
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	—	20.13	0.0	9.95
MW-4	04/23/89	—	—	—	—	—	—	21.33	0.0	9.84
	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	<3,000	—	—	—
31.17	07/28/89	<50	<0.1	<0.5	<0.1	<0.2	<3,000	21.58	0.0	9.59
	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	—	21.54	0.0	9.63
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.82	0.0	9.35
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	—	22.09	0.0	9.08
	06/22/90	—	—	—	—	—	—	22.12	0.0	9.05
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	22.11	0.0	9.06
	11/13/90	<50	<0.5	1	0.5	1	—	22.10	0.0	9.07
	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	21.71	0.0	9.46
	08/27/91	<50	<0.5	<0.5	<0.5	<0.5	—	21.87	0.0	9.30
	11/15/91	97	<0.5	0.9	<0.5	1.9	—	21.80	0.0	9.37
	02/20/92	<50	<0.5	<0.5	<0.5	<0.5	—	21.99	0.0	9.18
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	—	21.74	0.0	9.43
31.17	12/16/92	<50	0.7	0.5	0.5	1.3	—	22.05	0.0	9.12
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	—	21.11	0.0	10.06

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California
(Concentrations in parts per billion [ppb], µg/l)

Well ID/ Elev	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	GWE (ft)
MW-5	04/23/89	—	—	—	—	—	—	20.62	0.0	9.66
	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	<3,000	—	0.0	—
	07/28/89	<100	<0.2	<1.0	<0.2	<0.4	<3,000	20.86	0.0	9.42
30.28	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	—	20.82	0.0	9.46
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.07	0.0	9.21
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.35	0.0	8.93
	06/22/90	—	—	—	—	—	—	21.38	0.0	8.90
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.36	0.0	8.92
	11/13/90	<50	<0.5	1	<0.5	1	—	21.35	0.0	8.93
	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	21.29	0.0	8.99
	08/27/91	94	3.0	5.0	1.5	5.5	—	21.11	0.0	9.17
	11/15/91	<50	0.9	1.7	<0.5	2.2	—	21.18	0.0	9.10
	02/20/92	<50	<0.5	<0.5	<0.5	<0.5	—	21.25	0.0	9.03
9-92?	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	—	21.00	0.0	9.28
30.28	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	21.23	0.0	9.05
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	—	20.31	0.0	9.97
MW-6	04/23/89	—	—	—	—	—	—	20.05	0.0	9.41
	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	<3	—	—	—
	07/28/89	<100	<0.2	<1.0	<0.2	<0.4	<3	20.30	0.0	9.16
29.46	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	—	20.32	0.0	9.14
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	20.51	0.0	8.95
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	—	20.72	0.0	8.74
	06/22/90	—	—	—	—	—	—	20.77	0.0	8.69
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	20.74	0.0	8.72
	11/13/90	<50	3	5	0.5	2	—	20.75	0.0	8.71
	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	20.61	0.0	8.85
	08/27/91	180	6.1	12	3.8	14	—	20.53	0.0	8.93
	11/15/91	<50	<0.5	0.6	<0.5	<0.5	—	20.53	0.0	8.93
	02/20/92	<50	0.9	1.1	<0.5	1.4	—	20.69	0.0	8.77
?	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	—	20.38	0.0	9.08
29.45	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	20.57	0.0	8.88
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	—	19.59	0.0	9.86

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California
(Concentrations in parts per billion [ppb], µg/l)

Well ID/ Elev	Date	TPH-as-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	GWE (ft)
MW-7	04/23/89	—	—	—	—	—	—	18.99	0.0	10.02
	04/24/89	8,400[3]	100	260	160	1,300	3[4]	—	—	—
29.01	07/28/89	7,000[3]	230	90	70	440	<3,000	19.94	0.0	9.07
(D)	07/28/89	6,000[3]	280	180	58	430	—	—	—	—
	10/30/89	10,000[3]	570	55	160	400	—	19.97	0.0	9.04
(D)	10/30/89	9,900[3]	520	82	180	410	—	—	—	—
	01/09/90	3,400[3]	290	72	9	200	—	20.15	0.0	8.86
	04/18/90	6,800[3]	350	140	110	400	—	20.37	0.0	8.64
	06/22/90	—	—	—	—	—	—	20.40	0.0	8.61
	08/09/90	11,000[3]	360	130	14	660	—	20.38	0.0	8.63
	11/13/90	6,500	230	110	97	460	—	20.41	0.0	8.60
	05/15/91	4,600	180	55	46	300	—	20.47	0.0	8.54
	08/27/91	7,000	220	53	63	340	—	20.14	0.0	8.87
	11/15/91	3,300	150	19	4.9	200	—	20.22	0.0	8.79
	02/20/92	5,200	520	150	100	380	—	20.32	0.0	8.69
	06/15/92	10,000	760	430	320	1,100	—	19.98	0.0	9.03
29.01	12/16/92	11,000	810	350	280	1,100	—	20.14	0.0	8.87
	04/07/93	150	1.4	0.9	0.9	4.5	—	19.14	0.0	9.87
MW-8	04/23/89	—	—	—	—	—	—	20.14	0.0	9.43
	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	3,000	—	—	—
29.57	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	—	—	—	—
	07/28/89	<100	<0.2	<1.0	<0.2	<0.4	<3,000	20.37	0.0	9.20
	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	—	20.32	0.0	9.25
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	20.60	0.0	8.97
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	—	20.87	0.0	8.70
	06/22/90	—	—	—	—	—	—	20.34	0.0	9.23
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	20.89	0.0	8.68
	11/13/90	<50	<0.5	0.8	<0.5	2	—	20.86	0.0	8.71
	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	20.49	0.0	9.08
	08/27/91	73[2]	<0.5	<0.5	<0.5	<0.5	—	20.60	0.0	8.97
	11/15/91	<50	<0.5	0.7	<0.5	2.1	—	20.62	0.0	8.95
	02/20/92	<50	<0.5	<0.5	<0.5	<0.5	—	20.80	0.0	8.77
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	—	20.48	0.0	9.09
29.57	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	20.68	0.0	8.89
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	—	19.70	0.0	9.87
MW-9	06/22/90	5,700[3]	47	31	280	530	<1,000	20.80	0.0	7.87
	08/09/90	8,000[3]	<0.3	17	210	480	—	20.74	0.0	7.93
	11/13/90	6,400	<3	20	240	450	—	20.78	0.0	7.89
28.67	05/15/91	5,700	2	16	190	390	—	20.48	0.0	8.19
	08/27/91	6,700	<3	31	180	350	—	20.55	0.0	8.12
	11/15/91	4,000	8.8	26	150	280	—	20.57	0.0	8.10
	02/20/92	3,400	13	30	230	460	—	21.77	0.0	6.90
	06/15/92	4,500	19	72	280	560	—	20.37	0.0	8.30
28.68	12/16/92	9,900	380	220	380	1,300	—	20.29	0.0	8.39
	04/07/93	8,700	51	150	360	1,000	—	19.32	0.0	9.36

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California
(Concentrations in parts per billion [ppb], µg/l)

Well ID/ Elev	Date	TPH-as-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	GWE (ft)
MW-10	06/22/90	<50[3]	<0.5	<0.5	<0.5	<0.5	<1,000	20.48	0.0	8.12
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	20.45	0.0	8.15
	11/13/90	<50	<0.5	2	0.5	2	—	20.47	0.0	8.13
28.60	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	20.15	0.0	8.45
	08/27/91	<50	<0.5	<0.5	<0.5	<0.5	—	20.27	0.0	8.33
	11/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	20.33	0.0	8.27
	02/20/92	<50	2.0	2.2	<0.5	2.1	—	21.45	0.0	7.15
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	—	21.30	0.0	7.30
28.62	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	20.17	0.0	8.45
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	—	19.26	0.0	9.41
MW-11	06/22/90	<50[3]	<0.5	<0.5	<0.5	<0.5	<1,000	21.03	0.0	8.34
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.02	0.0	8.35
29.37	11/13/90	76	0.6	1	0.9	4	—	20.93	0.0	8.44
	05/15/91	78[2]	<0.5	<0.5	<0.5	<0.5	—	20.61	0.0	8.76
	08/27/91	110[2]	<0.5	<0.5	<0.5	<0.5	—	20.70	0.0	8.67
	11/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	20.68	0.0	8.69
	02/20/92	<50	1.9	2.1	1.0	4.4	—	21.91	0.0	7.46
	06/15/92	—	—	—	—	—	—	20.56	0.0	8.81
29.39	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	20.75	0.0	8.64
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	—	19.83	0.0	9.56
MW-12	06/22/90	<50[3]	<0.5	<0.5	<0.5	<0.5	<1,000	20.45	0.0	7.98
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	20.43	0.0	8.00
28.43	11/13/90	<50	<0.5	<0.5	<0.5	<0.5	—	20.45	0.0	7.98
	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	20.07	0.0	8.36
	08/27/91	56[2]	<0.5	<0.5	<0.5	<0.5	—	20.15	0.0	8.28
	11/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	20.25	0.0	8.18
	02/20/92	<50	2.5	3.1	0.7	3.0	—	21.37	0.0	7.06
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	—	19.90	0.0	8.53
28.43	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	19.80	0.0	8.63
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	—	18.75	0.0	9.68
MW-13	11/15/91	3,100	68	40	110	270	—	21.07	0.0	7.56
	02/20/92	3,100	120	50	240	400	—	22.17	0.0	6.46
28.63	06/15/92	3,200	35	33	210	300	—	20.67	0.0	7.96
28.62	12/16/92	87,000	1,400	540	2,400	11,000	—	20.34	0.0	8.28
	04/07/93	1,500	72	12	70	160	—	19.41		9.21
MW-14	11/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	20.33	0.0	9.13
	02/20/92	<50	1.3	1.8	1.1	5.2	—	21.41	0.0	8.05
29.46	06/15/92	—	—	—	—	—	—	—	—	—
29.45	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	20.66	0.0	8.79
	04/07/93	—	—	—	—	—	—	—	—	—
MW-15	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	19.74	0.0	8.30
28.04	04/07/93	<50	1.3	<0.5	<0.5	<1.5	—	18.80	0.0	9.24
MW-16	12/16/92	—	—	—	—	—		19.58	0.0	8.74
28.32	12/21/92	<50	<0.5	<0.5	<0.5	<0.5	—			
	04/07/93	<50	<0.5	6.8	<0.5	<0.5	—	18.41	0.0	9.91

strange: big ↓ in CJ but gw rose

car parked over it

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California
(Concentrations in parts per billion [ppb], µg/l)

Well ID/ Elev	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	GWE (ft)
Trip Blank	11/03/88	---	<1.0	<1.0	<1.0	<1.0	---	---	---	---
	02/10/89	<50	<0.1	<0.1	<0.1	<0.2	---	---	---	---
	04/24/89	<50	<0.5	<0.5	<1.0	<1.0	---	---	---	---
	07/28/89	<50	<0.1	<0.1	<0.1	<0.2	---	---	---	---
	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	---	---	---	---
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	---	---	---	---
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	---	---	---	---
	06/22/90	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	---	---	---	---
	11/13/90	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	08/27/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	11/15/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	02/20/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	---	---	---	---

All elevation are presented as feet above mean sea level.

TPH = Total petroleum hydrocarbons
TOG = Total oil and grease
DTW = Depth to water
SPT = Separate-phase hydrocarbon thickness
GWE = Groundwater elevation in feet above mean sea level
--- = Not applicable/not sampled/not measured
(D) = Duplicate analysis
* = Gasoline range concentration reported. The chromatogram indicates only a single peak in the gasoline range.
1 = Analyzed for total fuel hydrocarbons
2 = Laboratory reported that peaks did not match typical gasoline pattern.
3 = Fuel characterized as gasoline
4 = Acetone and 2-butanone were detected at 5 ppb and 160 ppb, respectively.

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloro-form	PCE	TCE	1,2,-DCE	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	MC	Other[a] HVOCs
MW-1	11/03/88	18.0	7.0	<1.0	<1.0	---	<1.0	---	<1.0	<1.0	---	---	---
	02/10/89	17.0	6.0	<0.2	<0.2	---	<0.2	<0.2	<0.2	<0.2	---	---	---
	04/24/89	16.0	6.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---	---
	07/28/89	20.0	6.4	<0.1	<0.1	---	<0.1	<0.1	0.3	<0.1	---	---	---
	10/30/89	11.0	4.9	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---	---
	01/09/90	24.0	7.2	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---	---
	04/18/90	23.0	5.5	<0.5	<0.5	<0.5	---	---	1.4	<0.5	<0.5	<0.5	---
	08/09/90	32.0	11.0	0.7	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	24	7	60.7	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---
	05/15/91	15	5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	18	4.2	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	21	7.9	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	24	7.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	10	3.2	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-2	11/03/88	3.0	2.0	34.0	3.0	---	10.0	---	<1.0	<1.0	---	---	---
	02/10/89	1.4	1.0	17.2	<0.2	---	<0.2	6.3	<0.2	<0.2	---	---	---
	04/24/89	2.0	2.0	38.0	3.0	9.0	---	---	<1.0	<1.0	---	---	---
	07/28/89	3.7	2.0	46.0	2.6	---	<0.2	<0.2	<0.2	<0.2	---	---	---
	10/30/89	1.4	2.6	53.0	1.1	14.0	---	---	<0.5	<0.5	---	---	---
	01/09/90	3.6	3.9	78.0	5.3	16.0	---	---	<0.5	<0.5	---	---	---
	04/18/90	1.5	2.7	130.0	3.9	19.0	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/09/90	2.1	2.1	74.0	6.1	15.0	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	<0.5	2	40	4	---	<0.5	10	<0.5	<0.5	<0.5	<0.5	---
	05/15/91	2	2	56	6	---	<0.5	15	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	1.1	0.9	46	3.9	---	---	8.0	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	0.6	1.1	58	3.1	---	<0.5	6.3	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	11	<2.5	62	3.1	---	<2.5	4.3	<2.5	<2.5	<2.5	<2.5	ND
	06/15/92	<0.5	1.2	45	3.1	---	<0.5	4.8	<0.5	<0.5	<0.5	<0.5	ND

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloro-form	PCE	TCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	MC	Other[a] HVOCs
MW-3	11/03/88	8.0	6.0	84.0	3.0	—	5.0	—	<1.0	<1.0	—	—	—
	02/10/89	5.8	4.0	53.0	1.9	—	<0.2	9.0	<0.2	<0.2	—	—	—
	04/24/89	7.0	6.0	110.0	3.0	11.0	—	—	<1.0	<1.0	—	—	—
	07/28/89	8.6	5.0	49.0	2.1	—	<0.2	11.0	<0.2	<0.1	—	—	—
	10/30/89	5.6	5.3	62.0	0.7	8.2	—	—	<0.5	<0.5	—	—	—
	01/09/90	8.6	6.1	81.0	73.8	8.7	—	—	<0.5	<0.5	—	—	—
	04/18/90	7.6	5.8	120.0	2.4	11.0	—	—	<0.5	<0.5	<0.5	<0.5	—
	08/09/90	11.0	6.7	81.0	5.1	11.0	—	—	<0.5	<0.5	<0.5	<0.5	—
	11/13/90	7	5	43	4	—	<0.5	9	<0.5	<0.5	<0.5	<0.5	—
	05/15/91	6	4	46	3	—	<0.5	8	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	5.5	3.8	43	2.6	—	—	8.1	<0.5	<0.5	<0.5	<0.5	c,d,e,f
	11/15/91	6.3	5.0	67	3.4	—	0.8	7.4	0.9	<0.5	<0.5	<0.5	ND
	02/20/92	2.8	4.0	96	3.0	—	<2.5	6.1	<2.5	<2.5	<2.5	<0.5	ND
	06/15/92	5.0	3.9	86	2.9	—	<0.5	7.5	<0.5	<0.5	<0.5	<0.5	ND
MW-4	04/24/89	35.0	11.0	<1.0	<1.0	<1.0	—	—	<1.0	<1.0	—	—	—
	07/28/89	32.0	9.3	<0.1	<0.1	—	<0.1	<0.1	<0.1	<0.1	—	—	—
	10/30/89	32.0	8.5	<0.5	<0.5	<0.5	—	—	<0.5	<0.5	—	—	—
	01/09/90	36.0	9.8	<0.5	<0.5	<0.5	—	—	<0.5	<0.5	—	—	—
	04/18/90	41.0	9.5	<0.5	<0.5	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	—
	08/09/90	38.0	11.0	<0.5	<0.5	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	—
	11/13/90	40	11	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	05/15/91	35	10	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	28	6.1	<0.5	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	23	9.1	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	400	140	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	38	11	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloro-form	PCE	TCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	MC	Other[a] HVOCs
MW-5	04/24/89	4.0	5.0	4.0	<1.0	2.0	—	—	<1.0	<1.0	—	—	—
	07/28/89	5.6	4.0	5.3	0.3	—	0.2	2.3	0.5	<0.2	—	—	—
	10/30/89	2.9	2.0	2.7	<0.5	0.86	—	—	<0.5	<0.5	—	—	—
	01/09/90	8.2	4.6	7.8	0.6	3.1	—	—	<0.5	<0.5	—	—	—
	04/18/90	6.3	2.8	2.6	<0.5	1.7	—	—	<0.5	<0.5	<0.5	<0.5	—
	08/09/90	11.0	4.8	6.0	<0.5	2.3	—	—	<0.5	<0.5	<0.5	<0.5	—
	11/13/90	7	3	5	<0.5	—	<0.5	1	<0.5	<0.5	<0.5	<0.5	—
	05/15/91	4	2	3	<0.5	—	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	3.3	1.1	2.3	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/15/91	5.7	2.8	5.5	<0.5	—	<0.5	1.7	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	4.0	2.0	3.9	<0.5	—	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	4.0	2.0	5.0	<0.5	—	<0.5	1.4	<0.5	<0.5	<0.5	<0.5	ND
MW-6	04/24/89	13.0	7.0	<1.0	<1.0	<1.0	—	—	<1.0	<1.0	—	—	—
	07/28/89	9.6	4.0	<0.2	<0.2	—	<0.2	<0.2	0.5	0.6	—	—	—
	10/30/89	8.2	3.6	<0.5	<0.5	<0.5	—	—	<0.5	<0.5	—	—	—
	01/09/90	10.0	4.2	<0.5	<0.5	<0.5	—	—	<0.5	1.8	—	—	—
	04/18/90	11.0	3.8	<0.5	<0.5	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	—
	08/09/90	20.0	6.6	<0.5	<0.5	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	—
	11/13/90	15	5	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	05/15/91	11	4	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	8.0	2.2	2.4	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	13	5.4	<0.5	<0.5	—	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	ND
	02/20/92	11	4.0	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	9.6	4.2	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloro-form	PCE	TCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	MC	Other[a] HVOCs
MW-7	04/24/89	3.0	9.0	<1.0	<1.0	<1.0	—	—	<1.0	<1.0	—	—	—
	07/28/89	<2.0	<10.0	<2.0	<2.0	—	<2.0	<2.0	<10.0	6.0	—	—	—
	07/28/89[b]	<5.0	<20.0	<5.0	<5.0	—	<5.0	<0.5	<5.0	<5.0	—	—	—
	10/30/89	<1.0	3.9	<1.0	<1.0	<1.0	—	—	<1.0	6.4	—	—	—
	10/30/89[b]	<1.0	3.1	<1.0	<1.0	<1.0	—	—	<1.0	6.2	—	—	—
	01/09/90	<0.5	3.0	<0.5	<0.5	<0.5	—	—	<0.5	8.4	—	—	—
	04/18/90	<0.5	3.2	<0.5	<0.5	<0.5	—	—	<0.5	7.7	0.6	0.6	—
	08/09/90	3.3	7.7	<0.5	<0.5	<0.5	—	—	<0.5	8.4	<0.5	1.8	—
	11/13/90	0.6	3	<0.5	<0.5	—	<0.5	<0.5	<0.5	4	<0.5	<0.5	—
	05/15/91	2	2	<0.5	<0.5	—	<0.5	<0.5	<0.5	3	<0.5	<0.5	ND
	08/27/91	0.7	2.8	<0.5	<0.5	—	—	<0.5	<0.5	2.7	<0.5	<0.5	ND
	11/15/91	0.8	2.7	<0.5	<0.5	—	<0.5	<0.5	<0.5	3.1	<0.5	0.8	ND
	02/20/92	2.2	1.9	<0.5	<0.5	—	<0.5	<0.5	<0.5	3.3	<0.5	<0.5	ND
	06/15/92	1.1	1.8	<0.5	<0.5	—	<0.5	<0.5	<0.5	4.5	<0.5	<0.5	ND
MW-8	04/24/89	2.0	3.0	6.0	<1.0	4.0	—	—	<1.0	<1.0	—	—	—
	04/24/89[b]	2.0	2.0	6.0	<1.0	3.0	—	—	<1.0	<1.0	—	—	—
	07/28/89	2.3	2.0	5.6	<0.2	—	<0.2	3.8	<0.2	<0.2	—	—	—
	10/30/89	2.5	2.6	8.0	<0.5	5.5	—	—	<0.5	<0.5	—	—	—
	01/09/90	4.9	3.9	19.0	0.9	6.6	—	—	<0.5	<0.5	—	—	—
	04/18/90	3.8	2.8	17.0	0.6	5.7	—	—	<0.5	<0.5	<0.5	<0.5	—
	08/09/90	5.3	4.4	27.0	1.2	9.2	—	—	<0.5	<0.5	<0.5	<0.5	—
	11/13/90	3	2	21	0.7	—	<0.5	6	<0.5	<0.5	<0.5	<0.5	—
	05/15/91	2	2	30	0.9	—	<0.5	6	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	1.4	1.1	32	1.0	—	—	4.7	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	1.5	1.9	50	<0.5	—	<0.5	5.8	<0.5	<0.5	2.0	<0.5	ND
	02/20/92	1.3	2.3	68	2.4	—	<0.5	7.6	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	0.7	1.9	46	1.6	—	<0.5	5.6	<0.5	—	<0.5	<0.5	ND

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloro-form	PCE	TCE	1,2,-DCE	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	MC	Other[a] HVOCs
MW-9	06/22/90	<0.5	<0.5	<0.5	<0.5	—	<0.5	—	<0.5	<0.5	<0.5	<0.5	—
	08/09/90	<0.5	<0.5	<0.5	<0.5	<0.5	—	—	<0.5	0.71	<0.5	<0.5	—
	11/13/90	<0.5	<0.5	<0.5	<0.5	—	<0.5	<0.5	<0.5	1	<0.5	<0.5	—
	05/15/91	<0.5	<0.5	<0.5	<0.5	—	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	ND
	08/27/91	<0.5	<0.5	<0.5	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	<0.5	<0.5	<0.5	<0.5	—	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	ND
	02/20/92	<0.5	<0.5	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	<0.5	<0.5	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-10	06/22/90	9.6	8.9	<0.5	<0.5	—	<0.5	—	<0.5	<0.5	<0.5	<0.5	—
	08/09/90	11.0	7.8	<0.5	<0.5	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	—
	11/13/90	5	4	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	05/15/91	5	4	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	6.9	3.4	<0.5	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	2.7	3.3	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	3.3	3.4	3.0	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	4.5	2.9	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-11	06/22/90	4.6	6.5	73	1.3	—	<0.5	8.9	<0.5	<0.5	<0.5	<0.5	—
	08/09/90	8.1	6.8	84	2.0	4.6	—	—	<0.5	<0.5	<0.5	<0.5	—
	11/13/90	<0.5	<0.5	39	<0.5	—	<0.5	2	5	<0.5	<0.5	<0.5	—
	05/15/91	1	3	7	0.5	—	<0.5	2	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	4.1	3.3	73	1.0	—	—	2.4	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	3.3	3.6	64	0.9	—	<0.5	2.3	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	<2.5	<2.5	62	<2.5	—	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	ND
	06/15/92	—	—	—	—	—	—	—	—	—	—	—	—

GROUNDWATER TECHNOLOGY

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloro-form	PCE	TCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	MC	Other[a] HVOCs
MW-12	06/22/90	6.0	7.3	7.4	<0.5	---	<0.5	13	<0.5	<0.5	<0.5	<0.5	---
	08/09/90	8.0	7.0	6.7	<0.5	5.8	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	<0.5	<0.5	9	<0.5	---	<0.5	3	3	<0.5	<0.5	<0.5	---
	05/15/91	4	4	10	<0.5	---	<0.5	3	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	3.1	2.6	10	<0.5	---	---	2.3	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	1.9	3.5	8.9	<0.5	---	<0.5	5.9	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	3.3	3.4	3.7	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	2.2	3.7	13	<0.5	---	<0.5	4.5	<0.5	<0.5	<0.5	<0.5	ND
MW-13	11/15/91	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	[g]
	02/20/92	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-14	11/15/91	<0.5	5.5	33	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	<0.5	4.3	38	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloro-form	PCE	TCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	MC	Other[a] HVOCs
Trip Blank	11/03/88	<1.0	<1.0	<1.0	<1.0	---	<1.0	---	<1.0	<1.0	---	---	---
	02/10/89	<0.1	<0.5	<0.1	<0.1	---	<0.1	<0.1	<0.1	<0.1	---	---	---
	04/24/89	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---	---
	07/28/89	<0.1	<0.5	<0.1	<0.5	<0.1	---	<0.1	<0.1	<0.1	---	---	---
	10/30/89	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---	---
	01/09/90	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---	---
	04/18/90	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	---
	06/22/90	<0.5	<0.5	<0.5	<0.5	---	<0.5	---	<0.5	<0.5	<0.5	<0.5	---
	08/09/90	<0.5	<0.5<	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	<0.5	0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---
	05/15/91	---	---	---	---	---	---	---	---	---	---	---	---
	08/27/91	---	---	---	---	---	---	---	---	---	---	---	---
	11/15/91	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	---	ND
	02/20/92	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	---	ND
	06/15/92	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND

Carbon Tet = Carbon Tetrachloride
PCE = Tetrachloroethene
TCE = Trichloroethene
1,2-DCE = 1,2-Dichloroethene
t-1,2-DCE = trans-1,2-Dichloroethene
c-1,2-DCE = cis-1,2-Dichloroethene
TCA = 1,1,1-Trichloroethane
1,2-DCA = 1,2-Dichloroethane
1,2-DCP = 1,2-Dichloropropane
MC = Methylene chloride (dichloromethane)

Other HVOC's = Other Halogenated Volatile Organic Compounds
--- = Not applicable/Not analyzed/Not Sampled
ND = Not detected above method detection limit
a = The tabulated analytical results for ground water prior to May 15, 1991 do not specify whether other HVOC's were detected
b = Duplicate analyses
c = Trichlorofluoromethane was detected at 1.4 ppb
d = 1,1-Dichloroethene was detected at 1.3 ppb
e = 1,1-Dichloroethane was detected at 0.5 ppb
f = Chlorobenzene was detected at 0.7 ppb
g = 1,1-Dichloroethane was detected at 0.6 ppb

ATTACHMENT 3

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: Sandra Lindsey

Project 020302499.061004
Reported 04/14/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
88278- 1	TB-LB	04/07/93	04/11/93	Water
88278- 3	MW7	04/07/93	04/11/93	Water
88278- 5	MW9	04/07/93	04/10/93	Water
88278- 7	MW13	04/07/93	04/10/93	Water
88278- 9	MW3	04/07/93	04/11/93	Water
88278-11	MW11	04/07/93	04/10/93	Water
88278-13	MW12	04/07/93	04/12/93	Water
88278-15	MW16	04/07/93	04/12/93	Water
88278-17	MW15	04/07/93	04/12/93	Water
88278-19	MW10	04/07/93	04/13/93	Water

RESULTS OF ANALYSIS

Laboratory Number:	88278- 1	88278- 3	88278- 5	88278- 7	88278- 9
Gasoline:	ND<50	150	8700	1500	ND<50
Benzene:	ND<0.5	1.4	51	72	ND<0.5
Toluene:	ND<0.5	0.9	150	12	ND<0.5
Ethyl Benzene:	ND<0.5	0.9	360	70	ND<0.5
Xylenes:	ND<1.5	4.5	1000	160	ND<1.5
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number:	88278-11	88278-13	88278-15	88278-17	88278-19
Gasoline:	ND<50	ND<50	ND<50	ND<50	ND<50
Benzene:	ND<0.5	ND<0.5	ND<0.5	1.3	ND<0.5
Toluene:	ND<0.5	ND<0.5	6.8	ND<0.5	ND<0.5
Ethyl Benzene:	ND<0.5	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	ND<1.5
Concentration:	ug/L	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

GROUNDWATER TECHNOLOGY, INC.
Attn: Sandra Lindsey

Project 020302499.061004
Reported 04/14/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
88278-21	MW1	04/07/93	04/12/93	Water
88278-23	MW4	04/07/93	04/12/93	Water
88278-25	MW2	04/07/93	04/13/93	Water
88278-27	MW5	04/07/93	04/12/93	Water
88278-29	MW6	04/07/93	04/12/93	Water
88278-31	MW8	04/07/93	04/12/93	Water

RESULTS OF ANALYSIS

Laboratory Number:	88278-21	88278-23	88278-25	88278-27	88278-29
Gasoline:	ND<50	ND<50	66 *	ND<50	ND<50
Benzene:	ND<0.5	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	ND<0.5
Ethyl Benzene:	ND<0.5	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	ND<1.5
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number:	88278-31
Gasoline:	ND<50
Benzene:	ND<0.5
Toluene:	ND<0.5
Ethyl Benzene:	ND<0.5
Xylenes:	ND<1.5
Concentration:	ug/L

* Gasoline range concentration reported.The chromatogram shows only a single pesk in the gasoline range.

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

CERTIFICATE OF ANALYSIS

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 88278

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:	108/100	8%	76-111
Benzene:	89/85	5%	78-110
Toluene:	93/91	2%	78-111
Ethyl Benzene:	98/96	2%	78-118
Xylenes:	97/95	2%	73-113

Richard Srna, Ph.D.
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: 9-0020
Facility Address: 1633 HARRISON, Oakland
Consultant Project Number: 020302499. 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): Ms. Nancy Vukelich
(Phone): 842-9581
Laboratory Name: Superior Analytical
Laboratory Release Number: 4316-8660
Samples Collected by (Name): Randy Ray Phillips
Collection Date: 4/7/93
Signature: Randy Ray Phillips

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: 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					TB-LB DO NOT BILL Remarks
TB-LB	1	1v			3:50			X													
RBMW7	(2)	1v			6:10											X					
MW7	3	3v			6:10			X													
RBMW9	(4)	1v			6:00											X					
MW9	5	3v			6:00			X													
RBMW13	(6)	1v			6:20											X					
MW13	7	3v			6:20			X													
RBMW3	(8)	1v			3:50											X					
MW3	9	3v			3:50			X													
~~TB-MW11~~		~~1v~~			~~4:00~~											~~X~~					
~~MW11~~		~~3v~~			~~4:00~~			~~X~~	Randy Phillips			Canceled									
RBMW11	10	1v			4:10											X					
MW11	11	3v			4:10			X													
RBMW12	(12)	1v			4:20											X					

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Randy Ray Phillips	GTI	10:25/4/8/93			
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			T Flanagan		4-8-93

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: ☐ 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: 9-0020
Facility Address: 1633 Harrison, Oakland
Consultant Project Number: 020302499.061004
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): Nancy Vukelich
(Phone): 842-9581
Laboratory Name: Superior Analytical
Laboratory Release Number: 436-86160
Samples Collected by (Name): Randy Ray Phillips
Collection Date: 4/7/93
Signature: Randy Ray Phillips

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: 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					Remarks
MW12	13	3V			4:20			X													
RBMW16	(14)	1V			4:30											X					
MW16	15	3V			4:30			X													
RBMW15	(16)	1V			4:40											X					
MW15	17	3V			4:40			X													
RBMW10	(18)	1V			4:50											X					
MW10	19	3V			4:50			X													
RBMW1	(20)	1V			5:00											X					
MW1	21	3V			5:00			X													
RBMW4	(22)	1V			5:50											X					
MW4	23	3V			5:50			X													
RBMW2	(24)	1V			5:10											X					
MW2	25	3V			5:10			X													
RBMW5	(26)	1V			5:20											X					

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Randy Ray Phillips	GTI	4/8/93 10:25	[illegible]		4/8/93 10:25
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time

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: ☐ No

Chain-of-Custody-Record

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San Ramon, CA 94583
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Chevron Facility Number: 9-0020
Facility Address: 1633 Harrison, Oakland
Consultant Project Number: 020302499.061004
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): Nancy Vukelich
(Phone): 842-9581
Laboratory Name: Superior Analytical
Laboratory Release Number: 436-8660
Samples Collected by (Name): Randy Ray Phillips
Collection Date: 4/7/93
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: 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					Remarks
MW5	27	3V			5:20			X													
RBMW6	(28)	1V			5:30											X					
MW6	29	3V			5:30			X													
RBMW8	(30)	1V			5:40											X					
MW8	31	3V			5:40			X													

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Randy Ray Phillips	GTI	4/8/93 10:25	Adonica Burgess	Superior	4-8-93/10:25
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
(As Contracted)