



**Chevron**

May 6, 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 #9-4816  
301 14th Street, Oakland**

Dear Ms. Eberle:

Enclosed we are forwarding the Quarterly Ground Water Monitoring report dated April 27, 1993, prepared by our consultant Alton Geoscience for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline and BTEX. Benzene was detected in monitor wells C-1, C-2, C-4 and CR-1 only at concentrations of 8900, 2200, 2.1 and 28,000 ppb, respectively. Separate-phase hydrocarbons were observed in monitor well C-3 only at a measured thickness of 1.32-feet. Depth to ground water was measured at approximately 21-feet below grade.

Chevron will continue to monitor this site and report findings on a quarterly basis and monitor the effectiveness of the soil vapor extraction system.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-9581.

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

  
Nancy Vukelich  
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Rich Hiatt, RWQCB  
Mr. Tim Watchers, Groundwater Technology, Inc.  
Mr. Tom Berry, Weiss Associates  
Mr. R.W. Cosby, 225/1936  
Ms B.C. Owen  
File (9-4816Q7)

Ms. Beth D. Castleberry  
Ware & Freidenrich  
400 Hamilton Avenue  
Palo Alto, CA 94301-1825

C-5

MAY 4 '93 J.M.M.

April 27, 1993

Ms. Nancy Vukelich  
Chevron U.S.A. Products Company  
Post Office Box 5004  
San Ramon, California 94583-0804

31-0557

Subject: Quarterly Ground Water Monitoring Report  
Former Chevron Station No. 9-4816  
301 14th Street  
Oakland, California

Dear Ms. Vukelich:

In accordance with our agreement, Alton Geoscience transmits this Quarterly Ground Water Monitoring and Sampling Report for Chevron Station No. 9-4816, 301 14th Street, Oakland, California. Figure 1 shows the site location.

Monitoring and sampling of the ground water monitoring wells was performed on March 15, 1993, in accordance with the requirements and procedures of the California Regional Water Quality Control Board (RWQCB) and local regulatory agencies.

#### **FIELD PROCEDURES**

Prior to purging and sampling the wells, each well was checked for liquid-phase hydrocarbons or sheen. The depth to ground water and, if present, free product was measured in each well from the top of casing using an electronic interface probe with 0.01 foot tolerance.

Ground water samples were collected after more than 3 casing volumes of ground water was purged from each well. Each sample was collected using a clean bailer. Ground water samples were then decanted into the appropriate clean sample containers for delivery to a California-certified laboratory following proper preservation and chain of custody procedures. Purged ground water was transferred to a 600-gallon, trailer-mounted, steel tank (California Department of Health Services-registered), and delivered as non-hazardous to the Chevron Richmond Terminal for treatment.

Ms. Nancy Vukelich  
April 27, 1993  
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31-0557

**SAMPLING AND ANALYTICAL RESULTS**

The results of the monitoring and laboratory analyses of ground water samples for this quarter, as well as the results of previous monitoring and sampling events, are summarized in Table 1. Based on the previous wellhead elevation survey data and depth to water measurements collected during this monitoring event, ground water elevations and the general ground water gradient direction at this site are presented in Figure 2.

*I don't think they mean FP.*  
Liquid-phase hydrocarbons were observed in monitoring wells C-1, C-2, C-3, C-5 and CR-1. Manual bailing was terminated in March of 1992 when a soil vapor extraction system began operating at this site. The official laboratory reports and chain of custody records are included in Appendix A.

Please call Todd B. Pearson at (510) 734-8134 if you have any questions regarding this report.

Sincerely,

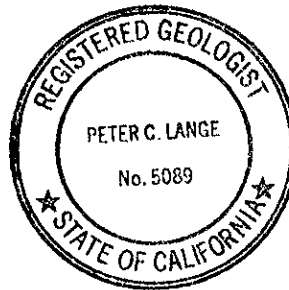
**ALTON GEOSCIENCE,**

*Todd B. Pearson*

Todd B. Pearson  
Staff Scientist

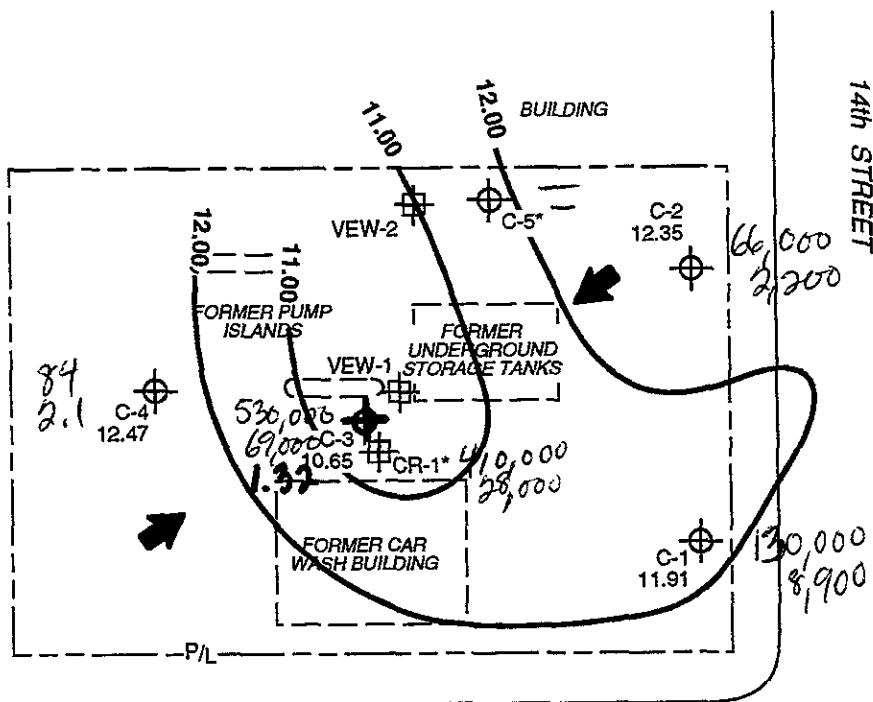
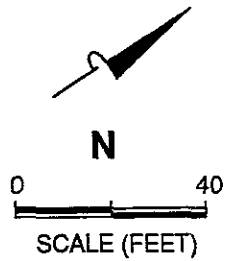
*Peter C. Lange*

Peter C. Lange  
Registered Geologist, #5089



wp94816tp





**LEGEND**

- C-9 Ground water monitoring well
- CR-1 Vapor extraction well
- 8.88 Ground water elevation in feet above mean sea level [NGVD-1929]
- Ground water elevation contour
- General direction of ground water gradient

MW-10  
12.18

HARRISON STREET

ND C-9  
ND 12.28

C-6 13.09 ND ND

BUILDING

**NOTES:**  
Contours are interpretive based on fluid level measurements collected March 15, 1993.  
Contour interval = 1.0 foot.  
\* = Ground water elevation data not available.

TPH-g  
benz  
⊕ = FP

4200 ND C-8  
13.01

**GROUND WATER ELEVATION CONTOUR MAP**  
March 15, 1993

Former Chevron Station No. 9-4816  
301 14th Street  
Oakland, California

**FIGURE 2**

**ALTON GEOSCIENCE**  
Pleasanton, California

Source: Geostrategies, Inc.

Table 1  
 Summary of Results of Ground Water Sampling  
 Former Chevron Service Station No. 9-4816  
 301 14th Street, Oakland, California

Concentrations in parts per billion (ppb)

WELL ID	DATE OF SAMPLING/ MONITORING	TOP OF WELL BOX ELEVATION	DEPTH TO WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH-G	B	T	E	X	LAB
C-1	06/13/90	30.82	21.97	---	8.85	26000	2800	5100	400	2600	NA
C-1	10/30/90	30.82	21.72	---	9.10	67000	6700	8700	900	5000	NA
C-1	01/04/91	30.82	21.84	---	8.98	---	---	---	---	---	NA
C-1	01/07/91	30.82	21.95	---	8.87	100000	12000	20000	1600	11000	NA
C-1	01/11/91	30.82	21.99	---	8.83	---	---	---	---	---	NA
C-1	02/15/91	30.82	22.12	---	8.70	---	---	---	---	---	NA
C-1	05/02/91	30.82	22.06	---	8.76	59000	5600	7700	700	5200	SAL
C-1	05/30/91	30.82	22.04	---	8.78	---	---	---	---	---	NA
C-1	06/13/91	30.82	21.80	---	9.02	---	---	---	---	---	NA
C-1	07/12/91	30.82	22.01	---	8.81	---	---	---	---	---	NA
C-1	08/07/91	30.82	---	---	---	7900	2000	150	240	330	SAL
C-1	09/24/91	30.82	---	---	---	---	---	---	---	---	NA
C-1	10/18/91	30.87 ***	22.42	---	8.45	---	---	---	---	---	NA
C-1	11/05/91	30.87	22.36	---	8.51	8700	1500	1200	150	580	SAL
C-1	01/06/92	30.87	22.34	---	8.53	---	---	---	---	---	NA
C-1	01/16/92	30.87	22.28	0.03	8.61	---	---	---	---	---	NA
C-1	01/22/92	30.87	22.43	0.09	8.51	---	---	---	---	---	NA
C-1	01/28/92	30.87	22.28	0.02	8.61	---	---	---	---	---	NA
C-1	02/04/92	30.87	22.24	0.01	8.64	---	---	---	---	---	NA
C-1	02/14/92	30.87	22.16	sheen	8.71	---	---	---	---	---	NA
C-1	02/21/92	30.87	22.07	sheen	8.80	---	---	---	---	---	NA
C-1	02/25/92	30.87	21.95	sheen	8.92	---	---	---	---	---	NA
C-1	03/06/92	30.87	21.85	0.00	9.02	---	---	---	---	---	NA
C-1	03/19/92	30.87	20.54	0.00	10.33	---	---	---	---	---	NA
C-1	05/06/92	30.87	21.39	sheen	9.48	---	---	---	---	---	NA
C-1	08/31/92	30.87	21.51	sheen	9.36	---	---	---	---	---	NA
C-1	12/01/92	30.87	21.88	sheen	8.99	---	---	---	---	---	NA
C-1	03/15/93	32.81	20.90	0.00	11.91	130000	8900	13000	1800	11000	SAL

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WELL ID	DATE OF SAMPLING/ MONITORING	TOP OF WELL BOX ELEVATION	DEPTH TO WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH-G	B	T	E	X	LAB
C-2	06/13/90	30.91	22.08	---	8.83	15000	1100	1900	260	1700	NA
C-2	10/30/90	30.91	21.81	---	9.10	13000	2800	1900	240	1000	NA
C-2	01/04/91	30.91	21.90	---	9.01	---	---	---	---	---	NA
C-2	01/07/91	30.91	22.03	---	8.88	15000	3400	2500	340	1400	NA
C-2	01/11/91	30.91	22.13	---	8.78	---	---	---	---	---	NA
C-2	02/15/91	30.91	22.36	---	8.55	---	---	---	---	---	NA
C-2	05/02/91	30.91	22.44	---	8.47	19000	4500	3200	660	2900	SAL
C-2D	05/02/91	30.91	22.44	---	8.47	21000	3200	2200	410	2000	SAL
C-2	05/30/91	30.91	22.44	---	8.47	---	---	---	---	---	NA
C-2	06/13/91	30.91	---	---	---	---	---	---	---	---	NA
C-2	07/12/91	30.91	22.57	0.01	8.35	---	---	---	---	---	NA
C-2	08/07/91	30.91	---	0.11	---	---	---	---	---	---	NA
C-2	09/24/91	30.91	---	---	---	---	---	---	---	---	NA
C-2	10/18/91	30.72 ***	22.34	0.07	8.44	---	---	---	---	---	NA
C-2	11/05/91	30.72	22.26	0.04	8.49	---	---	---	---	---	NA
C-2	01/06/92	30.72	22.25	---	8.47	---	---	---	---	---	NA
C-2	01/16/92	30.72	22.16	0.01	8.57	---	---	---	---	---	NA
C-2	01/22/92	30.72	22.25	0.02	8.49	---	---	---	---	---	NA
C-2	01/28/92	30.72	22.18	0.01	8.55	---	---	---	---	---	NA
C-2	02/04/92	30.72	22.15	0.01	8.58	---	---	---	---	---	NA
C-2	02/14/92	30.72	22.09	0.00	8.63	---	---	---	---	---	NA
C-2	02/21/92	30.72	22.06	sheen	8.66	---	---	---	---	---	NA
C-2	02/25/92	30.72	21.96	0.00	8.76	---	---	---	---	---	NA
C-2	03/06/92	30.72	21.80	0.00	8.92	---	---	---	---	---	NA
C-2	03/19/92	30.72	21.12	0.00	9.60	---	---	---	---	---	NA
C-2	05/06/92	30.72	21.30	sheen	9.42	---	---	---	---	---	NA
C-2	08/31/92	30.72	21.43	sheen	9.29	---	---	---	---	---	NA
C-2	12/01/92	30.72	21.74	sheen	8.98	---	---	---	---	---	NA
C-2	03/15/93	33.27	20.92	0.00	12.35	66000	2200	3900	1300	7300	SAL

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WELL ID	DATE OF SAMPLING/ MONITORING	TOP OF WELL BOX ELEVATION	DEPTH TO WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH-G	B	T	E	X	LAB
C-3	06/13/90	---	24.75	3.00	---	---	---	---	---	---	NA
C-3	10/30/90	---	23.81	2.50	---	---	---	---	---	---	NA
C-3	01/04/91	---	24.15	2.70	---	---	---	---	---	---	NA
C-3	01/07/91	---	24.13	2.50	---	---	---	---	---	---	NA
C-3	01/11/91	---	24.35	2.66	---	---	---	---	---	---	NA
C-3	02/15/91	---	24.70	2.93	---	---	---	---	---	---	NA
C-3 *	05/02/91	---	---	---	---	---	---	---	---	---	NA
C-3	05/30/91	---	24.08	2.49	---	---	---	---	---	---	NA
C-3	06/13/91	---	---	---	---	---	---	---	---	---	NA
C-3	07/12/91	---	---	---	---	---	---	---	---	---	NA
C-3	08/07/91	---	---	2.64	---	---	---	---	---	---	NA
C-3	09/24/91	---	---	---	---	---	---	---	---	---	NA
C-3	10/18/91	30.79 ***	24.44	2.50	--- #	---	---	---	---	---	NA
C-3	11/05/91	30.79	24.31	2.46	--- #	---	---	---	---	---	NA
C-3	01/06/92	30.79	24.25	2.39	--- #	---	---	---	---	---	NA
C-3	01/16/92	30.79	24.02	2.29	--- #	---	---	---	---	---	NA
C-3	01/22/92	30.79	24.10	2.28	--- #	---	---	---	---	---	NA
C-3	01/28/92	30.79	24.06	2.29	--- #	---	---	---	---	---	NA
C-3	02/04/92	30.79	24.04	2.31	--- #	---	---	---	---	---	NA
C-3	02/14/92	30.79	23.93	2.31	--- #	---	---	---	---	---	NA
C-3	02/21/92	30.79	24.61	3.05	--- #	---	---	---	---	---	NA
C-3	02/25/92	30.79	23.69	2.23	--- #	---	---	---	---	---	NA
C-3	03/06/92	30.79	23.69	2.23	--- #	---	---	---	---	---	NA
C-3	03/19/92	30.79	22.98	2.26	--- #	---	---	---	---	---	NA
C-3	05/06/92	30.79	22.74	1.93	--- #	---	---	---	---	---	NA
C-3	08/31/92	30.79	21.77	1.93	--- #	---	---	---	---	---	NA
C-3	12/01/92	30.79	22.63	1.32	--- #	---	---	---	---	---	NA
C-3	03/15/93	33.28	22.63	1.32	10.65	530000	69000	58000	6000	32000	SAL

SVE



Table 1  
 Summary of Results of Ground Water Sampling  
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 301 14th Street, Oakland, California

Concentrations in parts per billion (ppb)

WELL ID	DATE OF SAMPLING/ MONITORING	TOP OF WELL BOX ELEVATION	DEPTH TO WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH-G	B	T	E	X	LAB
C-4	06/13/90	31.42	22.73	---	8.69	440	47	47	3	61	NA
C-4	10/30/90	31.42	22.48	---	8.94	210	72	13	1	11	NA
C-4	01/04/91	31.42	22.64	---	8.78	---	---	---	---	---	NA
C-4	01/07/91	31.42	22.74	---	8.68	890	100	130	15	88	NA
C-4	01/11/91	31.42	22.81	---	8.61	---	---	---	---	---	NA
C-4	02/15/91	31.42	22.55	---	8.87	---	---	---	---	---	NA
C-4	05/02/91	31.42	22.54	---	8.88	330	140	11	2	9	SAL
C-4	05/30/91	31.42	22.55	---	8.87	---	---	---	---	---	NA
C-4	06/13/91	31.42	---	---	---	---	---	---	---	---	NA
C-4	07/12/91	31.42	---	---	---	---	---	---	---	---	NA
C-4	08/07/91	31.42	---	---	---	1500	400	79	13	61	SAL
C-4	09/24/91	31.42	---	---	---	---	---	---	---	---	NA
C-4	10/18/91	31.20 ***	22.97	---	8.23	---	---	---	---	---	NA
C-4	11/05/91	31.20	22.90	---	8.30	310	130	11	2.6	6.8	SAL
C-4	01/06/92	31.20	22.84	---	8.36	---	---	---	---	---	NA
C-4	01/16/92	31.20	22.75	---	8.45	---	---	---	---	---	NA
C-4	01/22/92	31.20	22.81	---	8.39	---	---	---	---	---	NA
C-4	01/28/92	31.20	22.77	---	8.43	---	---	---	---	---	NA
C-4	02/04/92	31.20	22.72	---	8.48	300	100	26	2.4	14	SAL
C-4	02/14/92	31.20	22.58	---	8.62	---	---	---	---	---	NA
C-4	02/21/92	31.20	22.60	---	8.60	---	---	---	---	---	NA
C-4	02/25/92	31.20	22.50	---	8.70	---	---	---	---	---	NA
C-4	! 03/06/92	31.20	---	---	---	---	---	---	---	---	NA
C-4	03/19/92	31.20	21.75	---	9.45	---	---	---	---	---	NA
C-4	05/06/92	31.20	21.82	---	9.38	200	26	ND<0.5	1.2	1.4	SAL
C-4	08/31/92	31.20	21.88	---	9.32	190	20	1.2	1.7	1.7	SAL
C-4	12/01/92	31.20	22.23	---	8.97	72	5	0.5	ND<0.5	1.3	SAL
C-4	03/15/93	33.85	21.38	---	12.47	84	2.1	0.9	ND<0.5	ND<1.5	SAL

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WELL ID	DATE OF SAMPLING/ MONITORING	TOP OF WELL BOX ELEVATION	DEPTH TO WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH-G	B	T	E	X	LAB
C-5	10/30/90	31.25	22.11	---	9.14	20000	2500	3300	320	2200	NA
C-5	01/04/91	31.25	22.55	0.31	---	---	---	---	---	---	NA
C-5	01/07/91	31.25	22.36	0.04	9.26	---	---	---	---	---	NA
C-5	01/11/91	31.25	23.08	0.73	---	---	---	---	---	---	NA
C-5	02/15/91	31.25	24.70	2.74	---	---	---	---	---	---	NA
C-5	05/02/91	31.25	22.02	2.00	---	---	---	---	---	---	NA
C-5	05/30/91	31.25	24.78	2.70	---	---	---	---	---	---	NA
C-5	06/13/91	31.25	24.70	2.77	---	---	---	---	---	---	NA
C-5	07/12/91	31.25	25.10	2.72	---	---	---	---	---	---	NA
C-5	08/07/91	31.25	---	2.69	---	---	---	---	---	---	NA
C-5	09/24/91	31.25	---	---	---	---	---	---	---	---	NA
C-5	10/18/91	30.16 ***	24.71	2.51	---	#	---	---	---	---	NA
C-5	11/05/91	30.16	24.47	2.29	---	#	---	---	---	---	NA
C-5	01/06/92	30.16	24.68	---	---	#	---	---	---	---	NA
C-5	01/16/92	30.16	24.03	1.82	---	#	---	---	---	---	NA
C-5	01/22/92	30.16	24.01	1.67	---	#	---	---	---	---	NA
C-5	01/28/92	30.16	23.79	1.46	---	#	---	---	---	---	NA
C-5	02/04/92	30.16	23.81	1.54	---	#	---	---	---	---	NA
C-5	02/14/92	30.16	22.79	1.59	---	#	---	---	---	---	NA
C-5	02/21/92	30.16	24.40	2.22	---	#	---	---	---	---	NA
C-5	02/25/92	30.16	23.25	1.03	---	#	---	---	---	---	NA
C-5	03/06/92	30.16	23.20	1.19	---	#	---	---	---	---	NA
C-5	## 03/19/92	30.16	---	---	---	---	---	---	---	---	NA
C-5	## 05/06/92	30.16	---	---	---	---	---	---	---	---	NA
C-5	!! 08/31/92	30.16	21.86	sheen	---	---	---	---	---	---	NA
C-5	!! 12/01/92	30.16	22.24	sheen	---	---	---	---	---	---	NA
C-5	!! 03/15/93	33.85	20.96	---	---	---	---	---	---	---	NA

MW needs to be resurveyed -  
 Why no data?

Table 1  
 Summary of Results of Ground Water Sampling  
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 301 14th Street, Oakland, California

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WELL ID	DATE OF SAMPLING/ MONITORING	TOP OF WELL BOX ELEVATION	DEPTH TO WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH-G	B	T	E	X	LAB
C-6	05/02/91	30.41	21.84	---	8.57	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-6	05/30/91	30.41	---	---	---	---	---	---	---	---	NA
C-6	07/12/91	30.41	22.86	---	7.55	---	---	---	---	---	NA
C-6 **	08/07/91	30.41	---	---	---	---	---	---	---	---	NA
C-6	09/24/91	30.41	21.88	---	8.53	---	---	---	---	---	NA
C-6	10/18/91	30.41	22.18	---	8.23	---	---	---	---	---	NA
C-6	11/05/91	30.41	22.14	---	8.27	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-6	01/06/92	30.41	22.09	---	8.32	---	---	---	---	---	NA
C-6	01/16/92	30.41	22.04	---	8.37	---	---	---	---	---	NA
C-6	01/22/92	30.41	22.04	---	8.37	---	---	---	---	---	NA
C-6	01/28/92	30.41	21.99	---	8.42	---	---	---	---	---	NA
C-6	02/04/92	30.41	21.94	---	8.47	ND<50	ND<0.5	ND<0.5	ND<0.5	0.6	SAL
C-6	02/14/92	30.41	21.87	---	8.54	---	---	---	---	---	NA
C-6	02/21/92	30.41	21.83	---	8.58	---	---	---	---	---	NA
C-6	02/25/92	30.41	21.71	---	8.70	---	---	---	---	---	NA
C-6	03/06/92	30.41	21.53	---	8.88	---	---	---	---	---	NA
C-6	03/19/92	30.41	20.92	---	9.49	---	---	---	---	---	NA
C-6	05/06/92	30.41	21.02	---	9.39	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-6	08/31/92	30.41	21.14	---	9.27	80	ND<0.5	ND<0.5	ND<0.5	2.4	SAL
C-6	01/21/93	30.41	20.91	---	9.50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-6	03/15/93	33.09	20.00	---	13.09	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.5	SAL

Table 1  
 Summary of Results of Ground Water Sampling  
 Former Chevron Service Station No. 9-4816  
 301 14th Street, Oakland, California

Concentrations in parts per billion (ppb)

WELL ID	DATE OF SAMPLING/ MONITORING	TOP OF WELL BOX ELEVATION	DEPTH TO WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH-G	B	T	E	X	LAB
C-7	05/02/91	30.56	21.81	---	8.75	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-7	05/30/91	30.56	---	---	---	---	---	---	---	---	NA
C-7	07/12/91	30.56	22.15	---	8.41	---	---	---	---	---	NA
C-7	08/07/91	30.56	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-7	09/24/91	30.56	21.53	---	9.03	---	---	---	---	---	NA
C-7	10/18/91	30.56	22.07	---	8.49	---	---	---	---	---	NA
C-7	11/05/91	30.56	22.01	---	8.55	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-7	01/06/92	30.56	22.03	---	8.53	---	---	---	---	---	NA
C-7	01/16/92	30.56	21.98	---	8.58	---	---	---	---	---	NA
C-7	01/22/92	30.56	22.05	---	8.51	---	---	---	---	---	NA
C-7	01/28/92	30.56	22.01	---	8.55	---	---	---	---	---	NA
C-7	02/14/92	30.56	21.94	---	8.62	---	---	---	---	---	NA
C-7	02/21/92	30.56	21.94	---	8.62	---	---	---	---	---	NA
C-7	02/25/92	30.56	21.82	---	8.74	---	---	---	---	---	NA
C-7	03/06/92	30.56	21.65	---	8.91	---	---	---	---	---	NA
C-7	03/19/92	30.56	20.92	---	9.64	---	---	---	---	---	NA
C-7	05/06/92	30.56	21.21	---	9.35	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-7	08/31/92	30.56	21.39	---	9.17	ND<50	ND<0.5	0.7	ND<0.5	0.9	SAL
C-7	12/01/92	30.56	21.79	---	8.77	ND<50	ND<0.5	ND<0.5	ND<0.5	0.9	SAL
C-7	03/15/93	33.06	20.94	---	12.12	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.5	SAL

Table 1  
 Summary of Results of Ground Water Sampling  
 Former Chevron Service Station No. 9-4816  
 301 14th Street, Oakland, California

Concentrations in parts per billion (ppb)

WELL ID	DATE OF SAMPLING/ MONITORING	TOP OF WELL BOX ELEVATION	DEPTH TO WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH-G	B	T	E	X	LAB
C-8	05/02/91	30.12	21.24	---	8.88	5000	ND<0.5	17	140	470	SAL
C-8	05/30/91	30.12	---	---	---	---	---	---	---	---	NA
C-8	07/12/91	30.12	---	---	---	---	---	---	---	---	NA
C-8	08/07/91	30.12	---	---	---	6300	ND<0.5	28	100	120	SAL
C-8	09/24/91	30.12	21.33	---	8.79	---	---	---	---	---	NA
C-8	10/18/91	30.12	21.76	---	8.36	---	---	---	---	---	NA
C-8	11/05/91	30.12	21.70	---	8.42	5100	ND<0.5	20	92	74	SAL
C-8	01/06/92	30.12	21.73	---	8.39	---	---	---	---	---	NA
C-8	01/16/92	30.12	21.63	---	8.49	---	---	---	---	---	NA
C-8	01/22/92	30.12	21.70	---	8.42	---	---	---	---	---	NA
C-8	01/28/92	30.12	21.65	---	8.47	---	---	---	---	---	NA
C-8	02/04/92	30.12	21.62	---	8.50	5300	ND<2.5	2.5	97	61	SAL
C-8	02/14/92	30.12	21.53	---	8.59	---	---	---	---	---	NA
C-8	02/21/92	30.12	21.51	---	8.61	---	---	---	---	---	NA
C-8	02/25/92	30.12	21.39	---	8.73	---	---	---	---	---	NA
C-8	03/06/92	30.12	21.21	---	8.91	---	---	---	---	---	NA
C-8	03/19/92	30.12	20.57	---	9.55	---	---	---	---	---	NA
C-8	05/06/92	30.12	20.77	---	9.35	3700	ND<0.5	29	110	130	SAL
C-8	08/31/92	30.12	20.91	---	9.21	1100	1.3	2.0	31	48	SAL
C-8	12/01/92	30.12	21.17	---	8.95	3400	ND<0.5	19	140	290	SAL
C-8	03/15/93	32.77	19.76	---	13.01	4200	ND<0.5	20	54	33	SAL

Table 1  
 Summary of Results of Ground Water Sampling  
 Former Chevron Service Station No. 9-4816  
 301 14th Street, Oakland, California

Concentrations in parts per billion (ppb)

WELL ID	DATE OF SAMPLING/ MONITORING	TOP OF WELL BOX ELEVATION	DEPTH TO WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH-G	B	T	E	X	LAB
C-9	05/02/91	30.15	21.27	---	8.88	ND<50	ND<0.5	ND<0.5	ND<0.5	0.8	SAL
C-9	05/30/91	30.15	---	---	---	---	---	---	---	---	NA
C-9	07/12/91	30.15	21.57	---	8.58	---	---	---	---	---	NA
C-9	08/07/91	30.15	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-9D	08/07/91	30.15	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-9	09/24/91	30.15	21.10	---	9.05	---	---	---	---	---	NA
C-9	10/18/91	30.15	21.67	---	8.48	---	---	---	---	---	NA
C-9	11/05/91	30.15	21.65	---	8.50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-9D	11/05/91	30.15	21.65	---	8.50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-9	01/06/92	30.15	21.65	---	8.50	---	---	---	---	---	NA
C-9	01/16/92	30.15	21.58	---	8.57	---	---	---	---	---	NA
C-9	01/22/92	30.15	21.65	---	8.50	---	---	---	---	---	NA
C-9	01/28/92	30.15	21.63	---	8.52	---	---	---	---	---	NA
C-9	02/04/92	30.15	21.58	---	8.57	ND<50	ND<0.5	0.7	ND<0.5	0.7	SAL
C-9D	02/04/92	30.15	21.58	---	8.57	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-9	02/14/92	30.15	21.54	---	8.61	---	---	---	---	---	NA
C-9	02/21/92	30.15	21.52	---	8.63	---	---	---	---	---	NA
C-9	02/25/92	30.15	21.39	---	8.76	---	---	---	---	---	NA
C-9	03/06/92	30.15	21.21	---	8.94	---	---	---	---	---	NA
C-9	03/19/92	30.15	20.47	---	9.68	---	---	---	---	---	NA
C-9	05/06/92	30.15	20.81	---	9.34	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-9	08/31/92	30.15	20.97	---	9.18	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-9	12/01/92	30.15	21.27	---	8.88	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
C-9	03/15/93	32.70	20.42	---	12.28	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.5	SAL

Table 1  
 Summary of Results of Ground Water Sampling  
 Former Chevron Service Station No. 9-4816  
 301 14th Street, Oakland, California

Concentrations in parts per billion (ppb)

WELL ID	DATE OF SAMPLING/ MONITORING	TOP OF WELL BOX ELEVATION	DEPTH TO WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH-G	B	T	E	X	LAB
CR-1	10/30/90	---	23.81	2.50	---	---	---	---	---	---	NA
CR-1	01/04/91	---	24.08	2.70	---	---	---	---	---	---	NA
CR-1	01/07/91	---	23.30	3.00	---	---	---	---	---	---	NA
CR-1	01/11/91	---	24.24	2.64	---	---	---	---	---	---	NA
CR-1	02/15/91	---	24.72	2.92	---	---	---	---	---	---	NA
CR-1 *	05/02/91	---	---	---	---	---	---	---	---	---	NA
CR-1	05/30/91	---	23.07	2.42	---	---	---	---	---	---	NA
CR-1	06/13/91	---	---	---	---	---	---	---	---	---	NA
CR-1	07/12/91	---	---	---	---	---	---	---	---	---	NA
CR-1	08/07/91	---	---	2.69	---	---	---	---	---	---	NA
CR-1	09/24/91	---	---	---	---	---	---	---	---	---	NA
CR-1	10/18/91	30.17 ***	23.75	2.50	---	#	---	---	---	---	NA
CR-1	11/05/91	30.17	23.64	2.43	---	#	---	---	---	---	NA
CR-1	01/06/92	30.17	23.57	---	---	#	---	---	---	---	NA
CR-1	01/16/92	30.17	23.41	2.30	---	#	---	---	---	---	NA
CR-1	01/22/92	30.17	23.44	2.24	---	#	---	---	---	---	NA
CR-1	01/28/92	30.17	23.40	2.29	---	#	---	---	---	---	NA
CR-1	02/14/92	30.17	23.31	2.34	---	#	---	---	---	---	NA
CR-1	02/21/92	30.17	24.10	3.19	---	#	---	---	---	---	NA
CR-1	02/25/92	30.17	23.15	1.03	---	#	---	---	---	---	NA
CR-1	## 03/06/92	30.17	---	---	---	---	---	---	---	---	NA
CR-1	## 03/19/92	30.17	---	---	---	---	---	---	---	---	NA
CR-1	## 05/06/92	30.17	---	---	---	---	---	---	---	---	NA
CR-1	!! 08/31/92	30.17	21.84	0.41	---	---	---	---	---	---	NA
CR-1	!! 12/01/92	30.17	22.06	0.21	---	---	---	---	---	---	NA
CR-1	!! 03/15/93	33.40	20.34	---	---	410000	28000	42000	5200	37000	SAL
MW-10	01/21/93	31.59	21.27	---	10.32	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
MW-10	03/15/93	33.28	21.10	---	12.18	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.5	SAL

SVE

Table 1  
 Summary of Results of Ground Water Sampling  
 Former Chevron Service Station No. 9-4816  
 301 14th Street, Oakland, California

Concentrations in parts per billion (ppb)

WELL ID	DATE OF SAMPLING/ MONITORING	TOP OF WELL BOX ELEVATION	DEPTH TO WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH-G	B	T	E	X	LAB
TB	05/02/91	NA	NA	NA	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
TB	08/07/91	NA	NA	NA	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
TB	11/05/91	NA	NA	NA	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
TB	02/04/92	NA	NA	NA	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
TB	05/06/92	NA	NA	NA	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
TB	08/31/92	NA	NA	NA	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
TB	12/01/92	NA	NA	NA	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
TB	03/15/93	NA	NA	NA	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.5	SAL
RINSATE	08/07/91	NA	NA	NA	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
RINSATE	11/05/91	NA	NA	NA	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
RINSATE	02/04/92	NA	NA	NA	NA	ND<50	ND<0.5	1.1	ND<0.5	ND<0.5	SAL
RINSATE	05/06/92	NA	NA	NA	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
RINSATE	08/31/92	NA	NA	NA	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL
RINSATE	12/01/92	NA	NA	NA	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	SAL

EXPLANATION OF ABBREVIATIONS:

TPH-G :Total Petroleum Hydrocarbons as Gasoline (EPA method 8015 modified)  
 B :Benzene (EPA method 8020 or 8240)  
 T :Toluene (EPA method 8020 or 8240)  
 E :Ethylbenzene (EPA method 8020 or 8240)  
 X :Xylenes (EPA method 8020 or 8240)  
 --- :Not Analyzed/ Not Measured  
 ND :Not Detected  
 TB :Trip Blank  
 D :Duplicate  
 NA :Not Applicable/Not Available

\* :Not monitored or sampled due to onsite excavation work  
 \*\* :Car with flat tire parked over well, could not purge or sample.  
 \*\*\* :Top of well box elevations resurveyed following excavation activities.  
 # :Ground water elevation not computed for wells containing greater than 0.20 feet of free product.  
 ## :Unable to access. Remediation equipment in monitoring well.  
 ! :Unable to access. Standing water over well.  
 !! :Monitoring wells need to be resurveyed.  
 + :All wells resurveyed to top of casing.

Note: Top of well box and ground water elevations are expressed as feet above mean sea level (NGVD - 1929).  
 Free product thickness expressed in feet.  
 Weekly product bailing discontinued on 3-19-92 by Nancy Vukelich of Chevron USA Products Company.



**APPENDIX A**  
**OFFICIAL LABORATORY RESULTS**  
**AND**  
**CHAIN OF CUSTODY FORMS**



Alton Geoscience  
Attn: JON VAIL

Project 31-0557  
Reported 03/24/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
14269- 1	TB-LB	03/15/93	03/22/93 Water
14269- 2	C-1	03/15/93	03/22/93 Water
14269- 3	MW-10	03/15/93	03/22/93 Water
14269- 4	C-2	03/15/93	03/22/93 Water
14269- 5	CR-1	03/15/93	03/22/93 Water
14269- 6	C-3	03/15/93	03/23/93 Water
14269- 7	C-4	03/15/93	03/23/93 Water
14269- 8	C-6	03/15/93	03/23/93 Water
14269- 9	C-8	03/15/93	03/22/93 Water
14269-10	C-9	03/15/93	03/22/93 Water

RESULTS OF ANALYSIS

Laboratory Number: 14269- 1 14269- 2 14269- 3 14269- 4 14269- 5

Gasoline:	ND<50	130000	ND<50	66000	410000
Benzene:	ND<0.5	8900	ND<0.5	2200	28000
Toluene:	ND<0.5	13000	ND<0.5	3900	42000
Ethyl Benzene:	ND<0.5	1800	ND<0.5	1300	5200
Xylenes:	ND<1.5	11000	ND<1.5	7300	37000
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number: 14269- 6 14269- 7 14269- 8 14269- 9 14269-10

Gasoline:	530000	84	ND<50	4200	ND<50
Benzene:	69000	2.1	ND<0.5	ND<0.5	ND<0.5
Toluene:	58000	0.9	ND<0.5	20	ND<0.5
Ethyl Benzene:	6000	ND<0.5	ND<0.5	54	ND<0.5
Xylenes:	32000	ND<1.5	ND<1.5	33	ND<1.5
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L



Alton Geoscience  
Attn: JON VAIL

Project 31-0557  
Reported 03/24/93

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TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
14269-11	C-7	03/15/93	03/22/93 Water

RESULTS OF ANALYSIS

Laboratory Number: 14269-11

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Gasoline: ND<50  
Benzene: ND<0.5  
Toluene: ND<0.5  
Ethyl Benzene: ND<0.5  
Xylenes: ND<1.5

Concentration: ug/L



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 3 of 3  
QA/QC INFORMATION  
SET: 14269

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:	99/96	3%	76-111
Benzene:	78/80	3%	78-110
Toluene:	98/99	1%	78-111
Ethyl Benzene:	107/108	1%	78-118
Xylenes:	103/103	0%	73-113

Richard Srna, Ph.D.

*Richard Srna*  
Laboratory Director

