



Chevron U.S.A. Products Company

2410 Camino Ramon, San Ramon, California • Phone (510) 842-9500
Mail Address: PO Box 5004, San Ramon, CA 94583-0804

93 OCT 20 AM 11:08

October 19, 1993

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 October 7, 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 and BTEX. C-5 was not sampled during this event due to the presence of a hornets nest. The nest will be removed prior to the next sampling episode. Benzene was detected at concentrations ranging from ND to ~~58,000~~ 50,000 ppb. Separate-phase hydrocarbons again were not observed during this monitoring event. Depth to ground water was measured at approximately 20-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. A work plan outlining the proposed enhancements to the system to address the dissolved phase hydrocarbons will be submitted to your office within the next few weeks. If you have any questions or comments, please do not hesitate to contact me at (510) 842-9581.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY


Nancy Vukelich
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Rich Hiatt, RWQCB
Mr. Tom Berry, Weiss Associates
Mr. J.N. Robbins, CHVPK/V1156
Ms B.C. Owen
File (9-4816Q9)

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

OCT 15 '93 J.M.M.



GROUNDWATER TECHNOLOGY, INC.

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

FAX: (415) 685-9148

October 7, 1993

Project No. 020204084

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

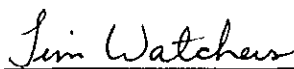
SUBJECT: *Groundwater Monitoring and Sampling Activities*
Chevron Service Station No.9-4816
301 14th Street, Oakland, California

Dear Ms. Vukelich:


Groundwater Technology, Inc. presents the attached quarterly groundwater monitoring and sampling data collected on September 7, 1993. Ten of the eleven 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 C-5 was not gauged or sampled because it was buried by a hornet nest. 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 xylenes and for 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. 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 contact our Concord office at (510) 671-2387.

Sincerely,
Groundwater Technology, Inc.
Written/Submitted by

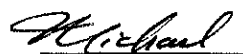


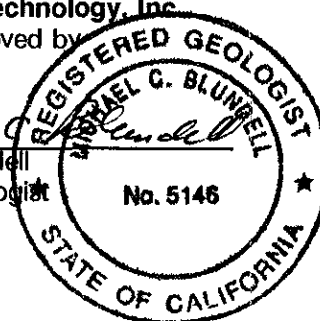
Tim Watchers
Project Geologist

PR 

Attachment 1 Figure
Attachment 2 Table
Attachment 3 Laboratory Report

Groundwater Technology, Inc.
Reviewed/Approved by


Michael C. Blundell
Registered Geologist
No.5146



For:
Wendell C. Lattz
Vice President, General Manager
West Region

ATTACHMENT 1

Figure

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-4816
301 14th Street, Oakland, California

| Well ID/ Elevation | Date | TPH-G | Benzene | Toluene | Ethyl- benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|-----------------------|----------|---------|---------|---------|-------------------|---------|-------------|-------------|-------------|
| C-3 | 06/13/90 | -- | -- | -- | -- | -- | 24.75 | 3.00 | -- |
| | 10/30/90 | -- | -- | -- | -- | -- | 23.81 | 2.50 | -- |
| | 01/04/91 | -- | -- | -- | -- | -- | 24.15 | 2.70 | -- |
| | 01/07/91 | -- | -- | -- | -- | -- | 24.13 | 2.50 | -- |
| | 01/11/91 | -- | -- | -- | -- | -- | 24.35 | 2.66 | -- |
| | 02/15/91 | -- | -- | -- | -- | -- | 24.70 | 2.93 | -- |
| | 05/02/91 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 05/30/91 | -- | -- | -- | -- | -- | 24.08 | 2.49 | -- |
| | 06/13/91 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/12/91 | -- | -- | -- | -- | -- | -- | -- | -- |
| 30.79 | 08/07/91 | -- | -- | -- | -- | -- | -- | 2.64 | -- |
| | 09/24/91 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/18/91 | -- | -- | -- | -- | -- | 24.44 | 2.50 | --# |
| | 11/05/91 | -- | -- | -- | -- | -- | 24.31 | 2.46 | --# |
| | 01/06/92 | -- | -- | -- | -- | -- | 24.25 | 2.39 | --# |
| | 01/16/92 | -- | -- | -- | -- | -- | 24.02 | 2.29 | --# |
| | 01/22/92 | -- | -- | -- | -- | -- | 24.10 | 2.28 | --# |
| | 01/28/92 | -- | -- | -- | -- | -- | 24.06 | 2.29 | --# |
| | 02/04/92 | -- | -- | -- | -- | -- | 24.04 | 2.31 | --# |
| | 02/14/92 | -- | -- | -- | -- | -- | 23.93 | 2.31 | --# |
| | 02/21/92 | -- | -- | -- | -- | -- | 24.61 | 3.05 | --# |
| | 02/25/92 | -- | -- | -- | -- | -- | 23.69 | 2.23 | --# |
| | 03/06/92 | -- | -- | -- | -- | -- | 23.69 | 2.23 | --# |
| 03/19/92 | -- | -- | -- | -- | -- | 22.98 | 2.26 | --# | |
| 05/06/92 | -- | -- | -- | -- | -- | 22.74 | 1.93 | --# | |
| 08/31/92 | -- | -- | -- | -- | -- | 21.77 | 1.93 | --# | |
| 12/01/92 | -- | -- | -- | -- | -- | 22.63 | 1.32 | --# | |
| 33.28 | 03/15/93 | 530,000 | 69,000 | 58,000 | 6,000 | 32,000 | 20.76 | 0.00 | 12.52 |
| | 06/08/93 | 310,000 | 56,000 | 58,000 | 7,000 | 41,000 | 19.97 | 0.00 | 13.31 |
| | 09/07/93 | 160,000 | 48,000 | 43,000 | 3,300 | 24,000 | 20.28 | 0.00 | 13.00 |

ATTACHMENT 2

Table

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-4816
301 14th Street, Oakland, California

| Well ID/ Elevation | Date | TPH-G | Benzene | Toluene | Ethyl- benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|-----------------------|----------|---------|---------|---------|-------------------|---------|-------------|-------------|-------------|
| C-1 | 06/13/90 | 26,000 | 2,800 | 5,100 | 400 | 2,600 | 21.97 | --- | 8.85 |
| | 10/30/90 | 67,000 | 6,700 | 8,700 | 900 | 5,000 | 21.72 | --- | 9.10 |
| 30.82 | 01/04/91 | --- | --- | --- | --- | --- | 21.84 | --- | 8.98 |
| | 01/07/91 | 100,000 | 12,000 | 20,000 | 1,600 | 11,000 | 21.95 | --- | 8.87 |
| | 01/11/91 | --- | --- | --- | --- | --- | 21.99 | --- | 8.83 |
| | 02/15/91 | --- | --- | --- | --- | --- | 22.12 | --- | 8.70 |
| | 05/02/91 | 59,000 | 5,600 | 7,700 | 700 | 5,200 | 22.06 | --- | 8.76 |
| | 05/30/91 | --- | --- | --- | --- | --- | 22.04 | --- | 8.78 |
| | 06/13/91 | --- | --- | --- | --- | --- | 21.80 | --- | 9.02 |
| | 07/12/91 | --- | --- | --- | --- | --- | 22.01 | --- | 8.81 |
| | 08/07/91 | 7,900 | 2,000 | 150 | 240 | 330 | --- | --- | --- |
| | 09/24/91 | --- | --- | --- | --- | --- | --- | --- | --- |
| 30.87 | 10/18/91 | --- | --- | --- | --- | --- | 22.42 | --- | 8.45 |
| | 11/05/91 | 8,700 | 1,500 | 1,200 | 150 | 580 | 22.36 | --- | 8.51 |
| | 01/06/92 | --- | --- | --- | --- | --- | 22.34 | --- | 8.53 |
| | 01/16/92 | --- | --- | --- | --- | --- | 22.28 | 0.03 | 8.61 |
| | 01/22/92 | --- | --- | --- | --- | --- | 22.43 | 0.09 | 8.51 |
| | 01/28/92 | --- | --- | --- | --- | --- | 22.28 | 0.02 | 8.61 |
| | 02/04/92 | --- | --- | --- | --- | --- | 22.24 | 0.01 | 8.64 |
| | 02/14/92 | --- | --- | --- | --- | --- | 22.16 | Sheen | 8.71 |
| | 02/21/92 | --- | --- | --- | --- | --- | 22.07 | Sheen | 8.80 |
| | 02/25/92 | --- | --- | --- | --- | --- | 21.95 | Sheen | 8.92 |
| | 03/06/92 | --- | --- | --- | --- | --- | 21.85 | 0.00 | 9.02 |
| | 03/19/92 | --- | --- | --- | --- | --- | 20.54 | 0.00 | 10.33 |
| | 05/06/92 | --- | --- | --- | --- | --- | 21.39 | Sheen | 9.48 |
| | 08/31/92 | --- | --- | --- | --- | --- | 21.51 | Sheen | 9.36 |
| 12/01/92 | --- | --- | --- | --- | --- | 21.88 | Sheen | 8.99 | |
| 32.81 | 03/15/93 | 130,000 | 8,900 | 13,000 | 1,800 | 11,000 | 20.90 | 0.00 | 11.91 |
| | 06/08/93 | 23,000 | 2,300 | 2,900 | 540 | 3,300 | 19.46 | 0.00 | 13.35 |
| | 09/07/93 | 14,000 | 1,300 | 2,100 | 340 | 2,800 | 19.83 | 0.00 | 12.98 |

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
 Chevron Service Station No. 9-4816
 301 14th Street, Oakland, California

| Well ID/ Elevation | Date | TPH-G | Benzene | Toluene | Ethyl- benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|-----------------------|----------|--------|---------|---------|-------------------|---------|-------------|-------------|-------------|
| C-2 | 06/13/90 | 15,000 | 1,100 | 1,900 | 260 | 1,700 | 22.08 | — | 8.83 |
| | 10/30/90 | 13,000 | 2,800 | 1,900 | 240 | 1,000 | 21.81 | — | 9.10 |
| 30.91 | 01/04/91 | — | — | — | — | — | 21.90 | — | 9.01 |
| | 01/07/91 | 15,000 | 3,400 | 2,500 | 340 | 1,400 | 22.03 | — | 8.88 |
| | 01/11/91 | — | — | — | — | — | 22.13 | — | 8.78 |
| | 02/15/91 | — | — | — | — | — | 22.36 | — | 8.55 |
| | 05/02/91 | 19,000 | 4,500 | 3,200 | 660 | 2,900 | 22.44 | — | 8.47 |
| | 05/02/91 | 21,000 | 3,200 | 2,200 | 410 | 2,000 | 22.44 | — | 8.47 |
| | 05/30/91 | — | — | — | — | — | 22.44 | — | 8.47 |
| | 06/13/91 | — | — | — | — | — | — | — | — |
| | 07/12/91 | — | — | — | — | — | 22.57 | 0.01 | 8.35 |
| | 08/07/91 | — | — | — | — | — | — | 0.11 | — |
| 30.72 | 09/24/91 | — | — | — | — | — | — | — | — |
| | 10/18/91 | — | — | — | — | — | 22.34 | 0.07 | 8.44 |
| | 11/05/91 | — | — | — | — | — | 22.26 | 0.04 | 8.49 |
| | 01/06/92 | — | — | — | — | — | 22.25 | — | 8.47 |
| | 01/16/92 | — | — | — | — | — | 22.16 | 0.01 | 8.57 |
| | 01/22/92 | — | — | — | — | — | 22.25 | 0.02 | 8.49 |
| | 01/28/92 | — | — | — | — | — | 22.18 | 0.01 | 8.55 |
| | 02/04/92 | — | — | — | — | — | 22.15 | 0.01 | 8.58 |
| | 02/14/92 | — | — | — | — | — | 22.09 | 0.00 | 8.63 |
| | 02/21/92 | — | — | — | — | — | 22.06 | Sheen | 8.66 |
| | 02/25/92 | — | — | — | — | — | 21.96 | 0.00 | 8.76 |
| | 03/06/92 | — | — | — | — | — | 21.80 | 0.00 | 8.92 |
| | 03/19/92 | — | — | — | — | — | 21.12 | 0.00 | 9.60 |
| 05/06/92 | — | — | — | — | — | 21.30 | Sheen | 9.42 | |
| 08/31/92 | — | — | — | — | — | 21.43 | Sheen | 9.29 | |
| 12/01/92 | — | — | — | — | — | 21.74 | Sheen | 8.98 | |
| 33.27 | 03/15/93 | 66,000 | 2,200 | 3,900 | 1,300 | 7,300 | 20.92 | 0.00 | 12.35 |
| | 06/08/93 | 23,000 | 1,400 | 2,300 | 680 | 4,000 | 20.05 | 0.00 | 13.22 |
| | 09/07/93 | 22,000 | 1,900 | 2,000 | 620 | 4,000 | 20.37 | 0.00 | 12.90 |

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-4816
301 14th Street, Oakland, California

| Well ID/ Elevation | Date | TPH-G | Benzene | Toluene | Ethyl- benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|-----------------------|----------|-------|---------|---------|-------------------|---------|-------------|-------------|-------------|
| C-4 | 06/13/90 | 440 | 47 | 47 | 3 | 61 | 22.73 | — | 8.69 |
| | 10/30/90 | 210 | 72 | 13 | 1 | 11 | 22.48 | — | 8.94 |
| 31.42 | 01/04/91 | — | — | — | — | — | 22.64 | — | 8.78 |
| | 01/07/91 | 890 | 100 | 130 | 15 | 88 | 22.74 | — | 8.68 |
| | 01/11/91 | — | — | — | — | — | 22.81 | — | 8.61 |
| | 02/15/91 | — | — | — | — | — | 22.55 | — | 8.87 |
| | 05/02/91 | 330 | 140 | 11 | 2 | 9 | 22.54 | — | 8.88 |
| | 05/30/91 | — | — | — | — | — | 22.55 | — | 8.87 |
| | 06/13/91 | — | — | — | — | — | — | — | — |
| | 07/12/91 | — | — | — | — | — | — | — | — |
| 31.20 | 08/07/91 | 1,500 | 400 | 79 | 13 | 61 | — | — | — |
| | 09/24/91 | — | — | — | — | — | — | — | — |
| | 10/18/91 | — | — | — | — | — | 22.97 | — | 8.23 |
| | 11/05/91 | 310 | 130 | 11 | 2.6 | 6.8 | 22.90 | — | 8.30 |
| | 01/06/92 | — | — | — | — | — | 22.84 | — | 8.36 |
| | 01/16/92 | — | — | — | — | — | 22.75 | — | 8.45 |
| | 01/22/92 | — | — | — | — | — | 22.81 | — | 8.39 |
| | 01/28/92 | — | — | — | — | — | 22.77 | — | 8.43 |
| | 02/04/92 | 300 | 100 | 26 | 2.4 | 14 | 22.72 | — | 8.48 |
| | 02/14/92 | — | — | — | — | — | 22.58 | — | 8.62 |
| | 02/21/92 | — | — | — | — | — | 22.60 | — | 8.60 |
| | 02/25/92 | — | — | — | — | — | 22.50 | — | 8.70 |
| | 03/06/92 | — | — | — | — | — | — | — | — |
| | 03/19/92 | — | — | — | — | — | 21.75 | — | 9.45 |
| 33.85 | 05/06/92 | 200 | 26 | <0.5 | 1.2 | 1.4 | 21.82 | — | 9.38 |
| | 08/31/92 | 190 | 20 | 1.2 | 1.7 | 1.7 | 21.88 | — | 9.32 |
| | 12/01/92 | 72 | 5 | 0.5 | ND<0.5 | 1.3 | 22.23 | — | 8.97 |
| | 03/15/93 | 84 | 2.1 | 0.9 | <0.5 | <1.5 | 33.85 | — | 12.47 |
| | 06/08/93 | 74 | 1 | <0.5 | <0.5 | 0.5 | 20.55 | 0.00 | 13.30 |
| | 09/07/93 | <50 | 1 | <0.5 | <0.5 | <0.5 | 20.85 | 0.00 | 13.00 |

TABLE 1
 HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
 Chevron Service Station No. 9-4816
 301 14th Street, Oakland, California

| Well ID/ Elevation | Date | TPH-G | Benzene | Toluene | Ethyl- benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|-----------------------|----------|--------|---------|---------|-------------------|---------|-------------|-------------|-------------|
| C-5 | 10/30/90 | 20,000 | 2,500 | 3,300 | 320 | 2,200 | 22.11 | — | 9.14 |
| | 01/04/91 | — | — | — | — | — | 22.55 | 0.31 | — |
| 31.25 | 01/07/91 | — | — | — | — | — | 22.36 | 0.04 | 9.26 |
| | 01/11/91 | — | — | — | — | — | 23.08 | 0.73 | — |
| | 02/15/91 | — | — | — | — | — | 24.70 | 2.74 | — |
| | 05/02/91 | — | — | — | — | — | 22.02 | 2.00 | — |
| | 05/30/91 | — | — | — | — | — | 24.78 | 2.70 | — |
| | 06/13/91 | — | — | — | — | — | 24.70 | 2.77 | — |
| | 07/12/91 | — | — | — | — | — | 25.10 | 2.72 | — |
| | 08/07/91 | — | — | — | — | — | — | 2.69 | — |
| 30.16 | 09/24/91 | — | — | — | — | — | — | — | — |
| | 10/18/91 | — | — | — | — | — | 24.71 | 2.51 | —# |
| | 11/05/91 | — | — | — | — | — | 24.47 | 2.29 | —# |
| | 01/06/92 | — | — | — | — | — | 24.68 | — | —# |
| | 01/16/92 | — | — | — | — | — | 24.03 | 1.82 | —# |
| | 01/22/92 | — | — | — | — | — | 24.01 | 1.67 | —# |
| | 01/28/92 | — | — | — | — | — | 23.79 | 1.46 | —# |
| | 02/04/92 | — | — | — | — | — | 23.81 | 1.54 | —# |
| | 02/14/92 | — | — | — | — | — | 22.79 | 1.59 | —# |
| | 02/21/92 | — | — | — | — | — | 24.40 | 2.22 | —# |
| | 02/25/92 | — | — | — | — | — | 23.25 | 1.03 | —# |
| | 03/06/92 | — | — | — | — | — | 23.20 | 1.19 | —# |
| | 03/19/92 | — | — | — | — | — | — | — | — |
| | 05/06/92 | — | — | — | — | — | — | — | — |
| | 08/31/92 | — | — | — | — | — | 21.86 | Sheen | — |
| 12/01/92 | — | — | — | — | — | 22.24 | Sheen | — | |
| 33.85 | 03/15/93 | — | — | — | — | — | 20.96 | — | 20.96 |
| | 06/08/93 | 90,000 | 26,000 | 11,000 | 2,000 | 16,000 | 20.65 | 0.00 | 13.20 |
| | 09/07/93 | — | — | — | — | — | — | — | — |

hornets nest

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-4816
301 14th Street, Oakland, California

| Well ID/ Elevation | Date | TPH-G | Benzene | Toluene | Ethyl- benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|-----------------------|----------|-------|---------|---------|-------------------|---------|-------------|-------------|-------------|
| C-6 30.41 | 05/02/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 21.84 | -- | 8.57 |
| | 05/30/91 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/12/91 | -- | -- | -- | -- | -- | 22.86 | -- | 7.55 |
| | 08/07/91 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 09/24/91 | -- | -- | -- | -- | -- | 21.88 | -- | 8.53 |
| | 10/18/91 | -- | -- | -- | -- | -- | 22.18 | -- | 8.23 |
| | 11/05/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 22.14 | -- | 8.27 |
| | 01/06/92 | -- | -- | -- | -- | -- | 22.09 | -- | 8.32 |
| | 01/16/92 | -- | -- | -- | -- | -- | 22.04 | -- | 8.37 |
| | 01/22/92 | -- | -- | -- | -- | -- | 22.04 | -- | 8.37 |
| | 01/28/92 | -- | -- | -- | -- | -- | 21.99 | -- | 8.42 |
| | 02/04/92 | <50 | <0.5 | <0.5 | <0.5 | 0.6 | 21.94 | -- | 8.47 |
| | 02/14/92 | -- | -- | -- | -- | -- | 21.87 | -- | 8.54 |
| | 02/21/92 | -- | -- | -- | -- | -- | 21.83 | -- | 8.58 |
| | 02/25/92 | -- | -- | -- | -- | -- | 21.71 | -- | 8.70 |
| | 03/06/92 | -- | -- | -- | -- | -- | 21.53 | -- | 8.88 |
| | 03/19/92 | -- | -- | -- | -- | -- | 20.92 | -- | 9.49 |
| 05/06/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 21.02 | -- | 9.39 | |
| 08/31/92 | 80 | <0.5 | <0.5 | <0.5 | <0.5 | 21.14 | -- | 9.27 | |
| 01/21/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 20.91 | -- | 9.50 | |
| 33.09 | 03/15/93 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | 20.00 | -- | 13.09 |
| | 06/08/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 19.72 | 0.00 | 13.37 |
| | 09/07/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 19.75 | 0.00 | 13.34 |

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-4816
301 14th Street, Oakland, California

| Well ID/ Elevation | Date | TPH-G | Benzene | Toluene | Ethyl- benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|-----------------------|----------|-------|---------|---------|-------------------|---------|-------------|-------------|-------------|
| C-7 30.56 | 05/02/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 21.81 | -- | 8.75 |
| | 05/30/91 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/12/91 | -- | -- | -- | -- | -- | 22.15 | -- | 8.41 |
| | 08/07/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- |
| | 09/24/91 | -- | -- | -- | -- | -- | 21.53 | -- | 9.03 |
| | 10/18/91 | -- | -- | -- | -- | -- | 22.07 | -- | 8.49 |
| | 11/05/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 22.01 | -- | 8.55 |
| | 01/06/92 | -- | -- | -- | -- | -- | 22.03 | -- | 8.53 |
| | 01/16/92 | -- | -- | -- | -- | -- | 21.98 | -- | 8.58 |
| | 01/22/92 | -- | -- | -- | -- | -- | 22.05 | -- | 8.51 |
| | 01/28/92 | -- | -- | -- | -- | -- | 22.01 | -- | 8.55 |
| | 02/14/92 | -- | -- | -- | -- | -- | 21.94 | -- | 8.62 |
| | 02/21/92 | -- | -- | -- | -- | -- | 21.94 | -- | 8.62 |
| | 02/25/92 | -- | -- | -- | -- | -- | 21.82 | -- | 8.74 |
| | 03/06/92 | -- | -- | -- | -- | -- | 21.65 | -- | 8.91 |
| | 03/19/92 | -- | -- | -- | -- | -- | 20.92 | -- | 9.64 |
| | 05/06/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 21.21 | -- | 9.35 |
| 08/31/92 | <50 | <0.5 | 0.7 | <0.5 | <0.5 | 21.39 | -- | 9.17 | |
| 12/01/92 | <50 | <0.5 | <0.5 | <0.5 | 0.9 | 21.79 | -- | 8.77 | |
| 33.06 | 03/15/93 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | 20.94 | -- | 12.12 |
| | 06/08/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 19.99 | 0.00 | 13.07 |
| | 09/07/93 | 2,800 | 63 | 36 | 41 | 40 | 20.00 | 0.00 | 13.06 |

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-4816
301 14th Street, Oakland, California

| Well ID/ Elevation | Date | TPH-G | Benzene | Toluene | Ethyl- benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|-----------------------|----------|-------|---------|---------|-------------------|---------|-------------|-------------|-------------|
| C-8 30.12 | 05/02/91 | 5,000 | <0.5 | 17 | 140 | 470 | 21.24 | -- | 8.88 |
| | 05/30/91 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/12/91 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 08/07/91 | 6,300 | <0.5 | 28 | 100 | 120 | -- | -- | -- |
| | 09/24/91 | -- | -- | -- | -- | -- | 21.33 | -- | 8.79 |
| | 10/18/91 | -- | -- | -- | -- | -- | 21.76 | -- | 8.36 |
| | 11/05/91 | 5,100 | <0.5 | 20 | 92 | 74 | 21.70 | -- | 8.42 |
| | 01/06/92 | -- | -- | -- | -- | -- | 21.73 | -- | 8.39 |
| | 01/16/92 | -- | -- | -- | -- | -- | 21.63 | -- | 8.49 |
| | 01/22/92 | -- | -- | -- | -- | -- | 21.70 | -- | 8.42 |
| | 01/28/92 | -- | -- | -- | -- | -- | 21.65 | -- | 8.47 |
| | 02/04/92 | 5,300 | <2.5 | 2.5 | 97 | 61 | 21.62 | -- | 8.50 |
| | 02/14/92 | -- | -- | -- | -- | -- | 21.53 | -- | 8.59 |
| | 02/21/92 | -- | -- | -- | -- | -- | 21.51 | -- | 8.61 |
| | 02/25/92 | -- | -- | -- | -- | -- | 21.39 | -- | 8.73 |
| | 03/06/92 | -- | -- | -- | -- | -- | 21.21 | -- | 8.91 |
| | 03/19/92 | -- | -- | -- | -- | -- | 20.57 | -- | 9.55 |
| 32.77 | 05/06/92 | 3,700 | <0.5 | 29 | 110 | 130 | 20.77 | -- | 9.35 |
| | 08/31/92 | 1,100 | 1.3 | 2.0 | 31 | 48 | 20.91 | -- | 9.21 |
| | 12/01/92 | 3,400 | <0.5 | 19 | 140 | 290 | 21.17 | -- | 8.95 |
| | 03/15/93 | 4,200 | <0.5 | 20 | 54 | 33 | 19.76 | -- | 13.01 |
| | 06/08/93 | 3,700 | 53 | 6 | 74 | 120 | 19.38 | 0.00 | 13.39 |
| | 09/07/93 | 2,900 | 70 | 46 | 39 | 55 | 19.38 | 0.00 | 13.39 |

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-4816
301 14th Street, Oakland, California

| Well ID/ Elevation | Date | TPH-G | Benzene | Toluene | Ethyl- benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|-----------------------|----------|-------|---------|---------|-------------------|---------|-------------|-------------|-------------|
| C-9 | 05/02/91 | <50 | <0.5 | <0.5 | <0.5 | 0.8 | 21.27 | — | 8.88 |
| | 05/30/91 | — | — | — | — | — | — | — | — |
| 30.15 | 07/12/91 | — | — | — | — | — | 21.57 | — | 8.58 |
| | 08/07/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | — | — | — |
| | 08/07/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | — | — | — |
| | 09/24/91 | — | — | — | — | — | 21.10 | — | 9.05 |
| | 10/18/91 | — | — | — | — | — | 21.67 | — | 8.48 |
| | 11/05/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 21.65 | — | 8.50 |
| | 11/05/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 21.65 | — | 8.50 |
| | 01/06/92 | — | — | — | — | — | 21.65 | — | 8.50 |
| | 01/16/92 | — | — | — | — | — | 21.58 | — | 8.57 |
| | 01/22/92 | — | — | — | — | — | 21.65 | — | 8.50 |
| | 01/28/92 | — | — | — | — | — | 21.63 | — | 8.52 |
| | 02/04/92 | <50 | <0.5 | 0.7 | <0.5 | 0.7<0.5 | 21.58 | — | 8.57 |
| | 02/04/92 | <50 | <0.5 | <0.5 | <0.5 | — | 21.58 | — | 8.57 |
| | 02/14/92 | — | — | — | — | — | 21.54 | — | 8.61 |
| | 02/21/92 | — | — | — | — | — | 21.52 | — | 8.63 |
| | 02/25/92 | — | — | — | — | — | 21.39 | — | 8.76 |
| | 03/06/92 | — | — | — | — | — | 21.21 | — | 8.94 |
| 03/19/92 | — | — | — | — | — | 20.47 | — | 9.68 | |
| 05/06/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 20.81 | — | 9.34 | |
| 08/31/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 20.97 | — | 9.18 | |
| 12/01/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 21.27 | — | 8.88 | |
| 32.70 | 03/15/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 20.42 | — | 12.28 |
| | 06/08/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 19.43 | 0.00 | 13.27 |
| | 09/07/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 19.40 | 0.00 | 13.30 |

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
 Chevron Service Station No. 9-4816
 301 14th Street, Oakland, California

| Well ID/ Elevation | Date | TPH-G | Benzene | Toluene | Ethyl- benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|-----------------------|----------|---------|---------|---------|-------------------|---------|-------------|-------------|-------------|
| CR-1 | 10/30/90 | -- | -- | -- | -- | -- | 23.81 | 2.50 | -- |
| | 01/04/91 | -- | -- | -- | -- | -- | 24.08 | 2.70 | -- |
| 30.17 | 01/07/91 | -- | -- | -- | -- | -- | 23.30 | 3.00 | -- |
| | 01/11/91 | -- | -- | -- | -- | -- | 24.24 | 2.64 | -- |
| | 02/15/91 | -- | -- | -- | -- | -- | 24.72 | 2.92 | -- |
| | 05/02/91 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 05/30/91 | -- | -- | -- | -- | -- | 23.07 | 2.42 | -- |
| | 06/13/91 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/12/91 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 08/07/91 | -- | -- | -- | -- | -- | -- | 2.69 | -- |
| | 09/24/91 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/18/91 | -- | -- | -- | -- | -- | 23.75 | 2.50 | --# |
| | 11/05/91 | -- | -- | -- | -- | -- | 23.64 | 2.43 | --# |
| | 01/06/92 | -- | -- | -- | -- | -- | 23.57 | -- | --# |
| | 01/16/92 | -- | -- | -- | -- | -- | 23.41 | 2.30 | --# |
| | 01/22/92 | -- | -- | -- | -- | -- | 23.44 | 2.24 | --# |
| | 01/28/92 | -- | -- | -- | -- | -- | 23.40 | 2.29 | --# |
| | 02/14/92 | -- | -- | -- | -- | -- | 23.31 | 2.34 | --# |
| | 02/21/92 | -- | -- | -- | -- | -- | 24.10 | 3.19 | --# |
| | 02/25/92 | -- | -- | -- | -- | -- | 23.15 | 1.03 | --# |
| | 03/06/92 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 03/19/92 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 05/06/92 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 08/31/92 | -- | -- | -- | -- | -- | 21.84 | 0.41 | -- |
| | 12/01/92 | -- | -- | -- | -- | -- | 22.06 | 0.21 | -- |
| 33.40 | 03/15/93 | 410,000 | 28,000 | 42,000 | 5,200 | 37,000 | 20.34 | -- | -- |
| | 06/08/93 | 85,000 | 10,000 | 21,000 | 3,200 | 20,000 | 20.07 | 0.00 | 13.33 |
| | 09/07/93 | 180,000 | 50,000 | 48,000 | 5,100 | 33,000 | 20.07 | 0.00 | 13.33 |
| MW-10 | 01/21/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 21.27 | -- | 10.32 |
| 31.59 | 03/15/93 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | 21.10 | -- | 12.18 |
| 33.28 | 06/08/93 | <50 | <0.5 | <0.5 | <0.5 | 1 | 19.95 | 0.00 | 13.33 |
| | 09/07/93 | <250 | <2.5 | <2.5 | <2.5 | <2.5 | 19.93 | 0.00 | 13.35 |

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-4816
301 14th Street, Oakland, California

| Well ID/ Elevation | Date | TPH-G | Benzene | Toluene | Ethyl- benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|-----------------------|----------|-------|---------|---------|-------------------|---------|-------------|-------------|-------------|
| TB-LB | 05/02/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA |
| | 08/07/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA |
| | 11/05/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA |
| | 02/04/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA |
| | 05/06/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA |
| | 08/31/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA |
| | 12/01/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA |
| | 03/15/93 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | NA | NA | NA |
| | 06/08/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | — | — | — |
| | 09/07/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | — | — | — |
| RINSATE | 08/07/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA |
| | 11/05/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA |
| | 02/04/92 | <50 | <0.5 | 1.1 | <0.5 | <0.5 | NA | NA | NA |
| | 05/06/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA |
| | 08/31/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA |
| | 12/01/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA |

TPH-G = Total petroleum hydrocarbons-as-gasoline
DTW = Depth to groundwater
SPT = Separate-phase hydrocarbon thickness
WTE = Water-table elevation
TB-LB = Trip blank, lab blank

Groundwater elevation not computed for wells containing greater than 0.20 feet of separate-phase hydrocarbons
Groundwater elevations not compiled for wells containing greater than 0.20 feet of separate-phase hydrocarbons
Concentrations in parts per billion
Data from June 13, 1990 to March 15, 1993 are from Aiton GeoSciences report dated April 27, 1993.

ATTACHMENT 3

Laboratory Report



Client Number: 020204084
Consultant Project Number: 020204084
Facility Number: 9-4816
Project ID: 301 14th Street, Oakland
Work Order Number: C3-09-0105

Northwest Region

4080 Pike Lane
Suite C
Concord, CA 94520
(510) 685-7852
(800) 544-3422 inside CA
FAX (510) 825-0720

September 23, 1993

Nicole Merchant
Groundwater Technology, Inc.
4057 Port Chicago Hwy.
Concord, CA 94520

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 09/07/93.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

GTEL Environmental Laboratories, Inc.

A handwritten signature in cursive script, appearing to read 'Eileen F. Bullen'.

Asst Lab Director for
Eileen F. Bullen
Laboratory Director

Client Number: 020204084
 Consultant Project Number: 020204084
 Facility Number: 9-4816
 Project ID: 301 14th Street, Oakland
 Work Order Number: C3-09-0105

Table 1

ANALYTICAL RESULTS

**Aromatic Volatile Organics and
 Total Petroleum Hydrocarbons as Gasoline in Water**

EPA Methods 5030, 8020, and Modified 8015^a

| GTEL Sample Number | | 01 | 03 ^b | 05 | 07 |
|----------------------------|-----------------------|---------------------|-----------------|----------|----------|
| Client Identification | | TB-LB | MW10 | C6 | C9 |
| Date Sampled | | 09/07/93 | 09/07/93 | 09/07/93 | 09/07/93 |
| Date Analyzed | | 09/18/93 | 09/21/93 | 09/18/93 | 09/18/93 |
| Analyte | Detection Limit, ug/L | Concentration, ug/L | | | |
| Benzene | 0.5 | <0.5 | <2.5 | <0.5 | <0.5 |
| Toluene | 0.5 | <0.5 | <2.5 | <0.5 | <0.5 |
| Ethylbenzene | 0.5 | <0.5 | <2.5 | <0.5 | <0.5 |
| Xylene, total | 0.5 | <0.5 | <2.5 | <0.5 | <0.5 |
| BTEX, total | -- | -- | -- | -- | -- |
| TPH as Gasoline | 50 | <50 | <250 | <50 | <50 |
| Detection Limit Multiplier | | 1 | 5 | 1 | 1 |
| BFB surrogate, % recovery | | 96.8 | 109 | 97.9 | 96.2 |

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.
- b. Detection limit raised due to surfactants.

Client Number: 020204084
 Consultant Project Number: 020204084
 Facility Number: 9-4816
 Project ID: 301 14th Street, Oakland
 Work Order Number: C3-09-0105

Table 1 (Continued)

ANALYTICAL RESULTS

**Aromatic Volatile Organics and
 Total Petroleum Hydrocarbons as Gasoline in Water**

EPA Methods 5030, 8020, and Modified 8015^a

| GTEL Sample Number | | 09 | 11 | 13 | 15 |
|----------------------------|-----------------------|---------------------|----------|----------|----------|
| Client Identification | | C7 | CR1 | C4 | C8 |
| Date Sampled | | 09/07/93 | 09/07/93 | 09/07/93 | 09/07/93 |
| Date Analyzed | | 09/18/93 | 09/20/93 | 09/18/93 | 09/18/93 |
| Analyte | Detection Limit, ug/L | Concentration, ug/L | | | |
| Benzene | 0.5 | 63 | 50000 | 1 | 70 |
| Toluene | 0.5 | 36 | 48000 | <0.5 | 46 |
| Ethylbenzene | 0.5 | 41 | 5100 | <0.5 | 39 |
| Xylene, total | 0.5 | 40 | 33000 | <0.5 | 55 |
| BTEX, total | -- | 188 | 140000 | 1 | 210 |
| TPH as Gasoline | 50 | 2800 | 180000 | <50 | 2900 |
| Detection Limit Multiplier | | 1 | 200 | 1 | 1 |
| BFB surrogate, % recovery | | 102 | 92.5 | 90.7 | 106 |

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.

Client Number: 020204084
 Consultant Project Number: 020204084
 Facility Number: 9-4816
 Project ID: 301 14th Street, Oakland
 Work Order Number: C3-09-0105

Table 1 (Continued)

ANALYTICAL RESULTS

**Aromatic Volatile Organics and
 Total Petroleum Hydrocarbons as Gasoline in Water**

EPA Methods 5030, 8020, and Modified 8015^a

| GTEL Sample Number | | 17 | 19 | 21 | M091793 |
|----------------------------|-----------------------|---------------------|----------|----------|--------------|
| Client Identification | | C3 | C2 | C1 | METHOD BLANK |
| Date Sampled | | 09/07/93 | 09/07/93 | 09/07/93 | -- |
| Date Analyzed | | 09/20/93 | 09/19/93 | 09/19/93 | 09/17/93 |
| Analyte | Detection Limit, ug/L | Concentration, ug/L | | | |
| Benzene | 0.5 | 48000 | 1900 | 1300 | <0.5 |
| Toluene | 0.5 | 43000 | 2000 | 2100 | <0.5 |
| Ethylbenzene | 0.5 | 3300 | 620 | 340 | <0.5 |
| Xylene, total | 0.5 | 24000 | 4000 | 2800 | <0.5 |
| BTEX, total | -- | 120000 | 8500 | 6500 | -- |
| TPH as Gasoline | 50 | 160000 | 22000 | 14000 | <50 |
| Detection Limit Multiplier | | 500 | 100 | 100 | 1 |
| BFB surrogate, % recovery | | 91.2 | 88.3 | 88.6 | 86.5 |

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.

Client Number: 020204084
Consultant Project Number: 020204084
Facility Number: 9-4816
Project ID: 301 14th Street, Oakland
Work Order Number: C3-09-0105

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

| Analyte | Sample ID | Spike Amount | Units | Recovery, % | Duplicate Recovery, % | RPD, % | Control Limits |
|---------------------------|-------------|--------------|-------|-------------|-----------------------|--------|----------------|
| Modified EPA 8020: | | | | | | | |
| Benzene | C3090119-14 | 20.0 | ug/L | 110 | 108 | 1.8 | 55 - 129 |
| Toluene | C3090119-14 | 20.0 | ug/L | 106 | 108 | 1.9 | 72 - 149 |
| Ethylbenzene | C3090119-14 | 20.0 | ug/L | 101 | 97.5 | 3.5 | 75 - 138 |
| Xylene, total | C3090119-14 | 60.0 | ug/L | 110 | 111 | 0.9 | 74 - 147 |

