Chevron

**Chevron U.S.A. Products Company**
6001 Bollinger Canyon Rd., Bldg. L
P.O. Box 5004
San Ramon, CA 94583-0804

**Site Assessment & Remediation Group**
Phone (510) 842-9500

November 15, 1994

Ms. Jennifer Eberle
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

**Re: Former Chevron Service Station #9-4587**
**609 Oak Street, Oakland, CA**

Dear Ms. Eberle:

Enclosed is the Groundwater Monitoring and Sampling Activities report dated October 14, 1994, 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.

Concentrations of dissolved hydrocarbon constituents in the ground water samples collected were consistent with previous observations at the site. Separate-phase hydrocarbons were detected in monitor well C-1, extraction well CR-1, and tank pit backfill wells C-B and C-C at measured thicknesses of 0.01, 0.02, 0.49 and 0.13 feet, respectively. Depth to ground water was measured at approximately 8.9 to 15.3 feet below grade and the direction of flow is locally influenced by the ground water extraction system towards CR-1.

The ground water extraction system was restarted on April 28, 1994, following carbon changeout activities. To date the system has removed approximately 167,000 gallons of hydrocarbon impacted ground water.

Removal of the underground storage tanks and product lines occurred on October 17, 1994. We anticipate submitting a report documenting the tank removal shortly. Chevron will continue to monitor and sample this site on a quarterly basis.

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

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Ms. Kate McCutchen, Geraghty & Miller - Richmond
Ms. B.C. Owen

Mr. Dewey Bargiacchi
The Paris Company
8520 Pardee
Oakland, CA 94621

Mr. James Kimberlin
1100 Howe Avenue #415
Sacramento, CA 94825

Mr. William Kimberlin
51 Eureka Street
Kensington, CA 94707

File: 9-4587 QM7

GROUNDWATER
TECHNOLOGY, INC.

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

October 14, 1994

Project No. 020104111

Mr. Mark Miller
Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583-0804

SUBJECT: *Groundwater Monitoring and Sampling Activities*
Chevron Service Station No. 9-4587
609 Oak Street, Oakland, California

Dear Mr. Miller:

Groundwater Technology, Inc. presents the quarterly groundwater monitoring and sampling data collected on September 12, 1994. 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. Measurable thickness of separate-phase hydrocarbons were detected in monitoring wells CR-1, C-1, C-B, and C-C at a thickness of 0.02, 0.01, 0.49 and 0.13 feet respectively. An accurate measurement of DTW was unattainable due to roots in monitoring well C-3. A potentiometric surface map and a summary of groundwater monitoring data are presented in attachments 1 and 2, respectively. After the DTW was measured, each monitoring well, except monitoring wells CR-1, C-1, C-B, C-C and C-3, was purged and sampled. Groundwater monitoring and sampling protocol and field data sheets are presented in attachment 3. The groundwater samples were analyzed for benzene, toluene, ethylbenzene, xylenes, and for total petroleum hydrocarbons-as-gasoline. Results of the chemical analyses are summarized in attachment 2. The laboratory report and chain-of-custody record are included in attachment 4. The results of a monthly product bailing program for monitoring wells CR-1, C-1, C-C, and C-B are presented in Table 2. 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

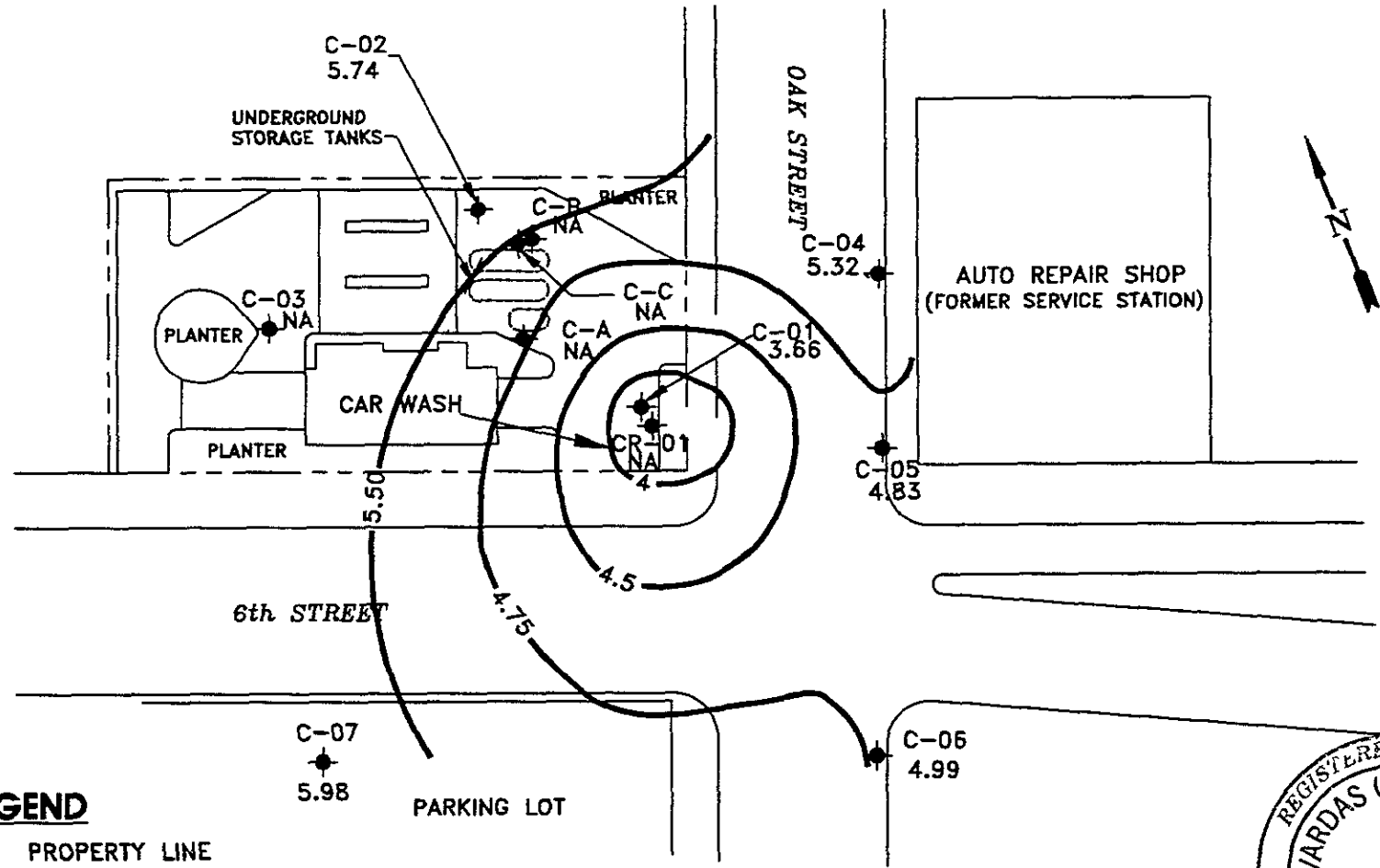
Kenneth P. Johnson
Project Manager
For:
Wendell C. Lattz
Vice President, General Manager
West Region

PR

Attachment 1 Figure
Attachment 2 Table
Attachment 3 Protocol and Field Data Sheets
Attachment 4 Laboratory Report

## ATTACHMENT 1

**Figure**




## LEGEND

| | |
|---|---|
| ——— | PROPERTY LINE |
| ✦ | MONITORING WELL |
| NA | NOT AVAILABLE |
| X.XX | POTENTIOMETRIC SURFACE ELEVATION (FT) |
| ⌒ | POTENTIOMETRIC SURFACE CONTOUR |
| ← | GROUNDWATER FLOW DIRECTION |

NOTE:
1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS ABOVE MEAN SEA LEVEL.

REGISTERED GEOLOGIST
EDVARDAS (ED) K. SIMONIS
No. 4422
STATE OF CALIFORNIA

GROUNDWATER TECHNOLOGY

0 FEET 40
SCALE

CLIENT: CHEVRON U.S.A. PRODUCTS CO.
SERVICE STATION No. 9-4587

LOCATION: 609 OAK STREET
OAKLAND, CALIFORNIA

# POTENTIOMETRIC SURFACE MAP (9/12/94)

| FILE: | PROJECT NO.: | REV.: | DES.: | DET.: | DATE: | PM: | PE/RG: | FIGURE: |
|---|---|---|---|---|---|---|---|---|
| 4111PSM, (1:40) | 02010-4111 | | KM | KM | 10/21/94 | | | 1 |

**ATTACHMENT 2**

**Table**

# TABLE 1
## HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
## Chevron Service Station No. 9-4587
## 609 Oak Street, Oakland, California

| Well ID/ Elevation | Sample Date | TPH-G | Benzene | Toluene | Ethyl-benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|---|---|---|---|---|---|---|---|---|---|
| C-A | 12/06/89 | 44,000 | 20,000 | 66 | 1,600 | 2,220 | --- | 0 00 | --- |
| | 10/30/90 | 31,000 | 23,000 | 110 | 1,100 | 160 | 11.20 | Sheen | --- |
| | 10/30/90 | 30,000 | 23,000 | 150 | 1,000 | 180 | 11.20 | Sheen | --- |
| | 01/14/91 | 12,000 | 30,000 | 540 | 1,400 | 560 | 11.25 | 0.00 | --- |
| | 04/03/91 | 59,000 | 33,000 | 2,400 | 2,200 | 3,100 | 9.82 | 0.00 | --- |
| | 07/17/91 | 52,000 | 38,000 | 380 | 1,300 | 500 | 10.93 | 0.00 | --- |
| | 10/07/91 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 06/25/92 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 09/17/92 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 12/16/92 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 03/18/93 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 06/11/93 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 09/08/93 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 09/17/93 | --- | --- | --- | --- | --- | 10 02 | 0 00 | --- |
| | 12/23/93 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 03/07/94 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 06/17/94 | 77,000 | 32,000 | 3,600 | 3,200 | 14,000 | 10.05 | 0.00 | --- |
| | 09/12/94 | 270 | 170 | 1.0 | 13 | 24 | 11.75 | 0.00 | --- |
| C-B | 12/06/89 | --- | --- | --- | --- | --- | --- | 0 01 | --- |
| | 10/30/90 | --- | --- | --- | --- | --- | 11.19 | 0.01 | --- |
| | 01/14/91 | --- | --- | --- | --- | --- | 11.40 | 0.01 | --- |
| | 04/03/91 | --- | --- | --- | --- | --- | 9 55 | 1.00 | --- |
| | 04/04/91 | --- | --- | --- | --- | --- | 10.54 | 1.06 | --- |
| | 07/17/91 | --- | --- | --- | --- | --- | 10.84 | 0.03 | --- |
| | 10/07/91 | --- | --- | --- | --- | --- | 11 10 | 0 04 | --- |
| | 02/04/92 | --- | --- | --- | --- | --- | 10 78 | 0.01 | --- |
| | 03/06/92 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 04/01/92 | --- | --- | --- | --- | --- | 10.33 | 1.02 | --- |
| | 06/25/92 | --- | --- | --- | --- | --- | 11 20 | 0.68 | --- |
| | 09/17/92 | --- | --- | --- | --- | --- | 11 07 | 0.13 | --- |
| | 12/16/92 | --- | --- | --- | --- | --- | 10.41 | 0 38 | --- |
| | 03/18/93 | --- | --- | --- | --- | --- | 9.19 | 0.05 | --- |
| | 06/11/93 | --- | --- | --- | --- | --- | 9.54 | 0.70 | --- |
| | 09/08/93 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 09/17/93 | --- | --- | --- | --- | --- | 9.85 | 0.52 | --- |
| | 12/23/93 | --- | --- | --- | --- | --- | 9.37 | 0.20 | --- |
| | 03/07/94 | --- | --- | --- | --- | --- | 9.24 | 0.85 | --- |
| | 06/17/94 | --- | --- | --- | --- | --- | 9.38 | 0.02 | --- |
| | 09/12/94 | --- | --- | --- | --- | --- | 11.13 | 0.49 | --- |



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# TABLE 1
## HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
### Chevron Service Station No. 9-4587
### 609 Oak Street, Oakland, California

| Well ID/ Elevation | Sample Date | TPH-G | Benzene | Toluene | Ethyl-benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|---|---|---|---|---|---|---|---|---|---|
| C-C | 12/06/89 | --- | --- | --- | --- | --- | --- | 0 15 | --- |
| | 10/30/90 | --- | --- | --- | --- | --- | 10.84 | 0.03 | --- |
| | 01/14/91 | --- | --- | --- | --- | --- | 11.01 | 0.11 | --- |
| | 04/03/91 | --- | --- | --- | --- | --- | 9.19 | 0.02 | --- |
| | 07/17/91 | --- | --- | --- | --- | --- | 10.53 | 0.03 | --- |
| | 10/07/91 | --- | --- | --- | --- | --- | 10 98 | 0.08 | --- |
| | 02/04/92 | --- | --- | --- | --- | --- | 10.45 | 0.09 | --- |
| | 03/06/92 | --- | --- | --- | --- | --- | 8.83 | 0.09 | --- |
| | 04/01/92 | --- | --- | --- | --- | --- | 9 23 | 0.16 | --- |
| | 06/25/92 | --- | --- | --- | --- | --- | 10.40 | 0.12 | --- |
| | 09/17/92 | --- | --- | --- | --- | --- | 10 84 | 0.12 | --- |
| | 12/16/92 | --- | --- | --- | --- | --- | 10.02 | 0.12 | --- |
| | 03/18/93 | --- | --- | --- | --- | --- | 8.70 | 0.15 | --- |
| | 06/11/93 | --- | --- | --- | --- | --- | 9.25 | 0.13 | --- |
| | 09/08/93 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 09/17/93 | --- | --- | --- | --- | --- | 9.83 | Sheen | --- |
| | 12/23/93 | --- | --- | --- | --- | --- | 9 66 | 0.07 | --- |
| | 03/07/94 | --- | --- | --- | --- | --- | 8.93 | 0 28 | --- |
| | 06/17/94 | --- | --- | --- | --- | --- | 10 13 | 0.03 | --- |
| | 09/12/94 | --- | --- | --- | --- | --- | 11.20 | 0.13 | --- |
| C-1 | 12/06/89 | --- | --- | --- | --- | --- | --- | 0 20 | --- |
| | 10/30/90 | --- | --- | --- | --- | --- | 10 79 | 0.02 | 5.30 |
| 16 07 | 01/14/91 | --- | --- | --- | --- | --- | 11.39 | 0 02 | 4.70 |
| | 04/03/91 | --- | --- | --- | --- | --- | 9.43 | 0.02 | 6.66 |
| | 07/17/91 | --- | --- | --- | --- | --- | 10.46 | 0.04 | 5 64 |
| | 10/07/91 | --- | --- | --- | --- | --- | 10.74 | 0.04 | 5 36 |
| | 02/04/92 | --- | --- | --- | --- | --- | 10.37 | 0 01 | 5.71 |
| | 03/06/92 | --- | --- | --- | --- | --- | 9 20 | 0.00 | 6.87 |
| | 04/01/92 | | | | | | 9.28 | 0 00 | 6.79 |
| | 06/25/92 | 100,000 | 8,800 | 7,000 | 2,800 | 19,000 | 9 98 | 0.01 | 6.10 |
| | 09/17/92 | --- | --- | --- | --- | --- | 10 51 | Sheen | 5.56 |
| | 12/16/92 | --- | --- | --- | --- | --- | 9.81 | Sheen | 6.26 |
| | 03/18/93 | --- | --- | --- | --- | --- | 8.88 | Sheen | 7.19 |
| | 06/11/93 | --- | --- | --- | --- | --- | 9.31 | 0.02 | 6.78 |
| | 09/08/93 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 09/17/93 | --- | --- | --- | --- | --- | 9.72 | 0.02 | 6.37 |
| | 12/23/93 | 41,000 | 5,400 | 590 | 710 | 5,600 | 9.49 | 0.00 | 6 58 |
| | 03/07/94 | --- | --- | --- | --- | --- | 8.96 | 0 26 | 7 32 |
| | 06/17/94 | --- | --- | --- | --- | --- | 9 70 | 0.02 | 6.39 |
| | 09/12/94 | | | | | | 12 42 | 0 01 | 3.66 |



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# TABLE 1
## HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
## Chevron Service Station No. 9-4587
## 609 Oak Street, Oakland, California

| Well ID/ Elevation | Sample Date | TPH-G | Benzene | Toluene | Ethyl-benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|---|---|---|---|---|---|---|---|---|---|
| C-2 | 12/06/89 | 16,000 | 250 | 1,200 | 550 | 1,400 | --- | 0.00 | --- |
| | 10/30/90 | 28,000 | 3,700 | 1,900 | 1,200 | 4,300 | 11.16 | 0.00 | 5.68 |
| 16 84 | 01/14/91 | 24,000 | 3,300 | 1,200 | 1,100 | 4,100 | 11 11 | 0 00 | 5.73 |
| | 01/14/91 | 30,000 | 3,900 | 1,500 | 1,500 | 5,000 | 11.11 | 0 00 | 5.73 |
| | 04/03/91 | 12,000 | 1,100 | 840 | 650 | 1,800 | 9 53 | 0.00 | 7.31 |
| | 04/03/91 | 14,000 | 1,100 | 990 | 680 | 1,800 | 9.53 | 0 00 | 7.31 |
| | 07/17/91 | 13,000 | 1,700 | 560 | 650 | 1,700 | 10.68 | 0.00 | 6.16 |
| | 07/17/91 | 14,000 | 1,700 | 640 | 720 | 1,900 | 10.68 | 0 00 | 6.16 |
| | 10/07/91 | 25,000 | 3,700 | 1,300 | 1,400 | 3,800 | 11.02 | 0.00 | 5.82 |
| | 02/04/92 | 16,000 | 2,600 | 300 | 880 | 1,900 | 10 60 | 0 00 | 6.24 |
| | 04/01/92 | 15,000 | 1,900 | 300 | 700 | 1,500 | 9.30 | 0.00 | 7.54 |
| | 06/25/92 | 23,000 | 3,400 | 740 | 1,300 | 3,400 | 10 45 | 0.00 | 6 39 |
| | 09/17/92 | 18,000 | 3,500 | 550 | 1,400 | 3,900 | 10.78 | 0 00 | 6.06 |
| | 12/16/92 | 12,000 | 1,200 | 120 | 460 | 1,100 | 9 94 | 0.00 | 6 90 |
| | 03/18/93 | 5,200 | 990 | 130 | 290 | 430 | 8.80 | 0.00 | 8.04 |
| | 06/11/93 | 34,000 | 6,200 | 910 | 2,400 | 6,600 | 9.43 | 0.00 | 7 41 |
| | 09/08/93 | 3,400 | 690 | 26 | 190 | 330 | --- | --- | --- |
| | 09/17/93 | --- | --- | --- | --- | --- | 9.91 | 0.00 | 6.93 |
| | 12/23/93 | 2,500 | 830 | 26 | 130 | 260 | 9.69 | 0.00 | 7.15 |
| | 03/07/94 | 1,100 | 420 | 6.5 | 110 | 69 | 8 97 | 0.00 | 7.87 |
| | 06/17/94 | 1,400 | 290 | 8 6 | 60 | 63 | 9.86 | 0.00 | 6.98 |
| | 09/12/94 | 370 | 96 | 1.3 | 9 4 | 16 | 11 10 | 0.00 | 5 74 |
| C-3 | 12/06/89 | <500 | <0.5 | <0.5 | <0.5 | 0.74 | --- | 0.00 | --- |
| | 10/30/90 | 410 | 4 | 4 | 2 | 9 | 10.44 | 0 00 | 6.04 |
| 16.48 | 01/14/91 | 80 | <0.5 | <0 5 | <0.5 | 1 | 10 34 | 0.00 | 6.14 |
| | 04/03/91 | 53 | <0.5 | <0.5 | <0.5 | 2 | 9.01 | 0 00 | 7.47 |
| | 07/17/91 | <50 | 5.9 | <0 5 | <0.5 | <0 5 | 10 00 | 0.00 | 6.48 |
| | 10/07/91 | <50 | <0 5 | <0.5 | <0.5 | <0.5 | 10.38 | 0.00 | 6 10 |
| | 02/04/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 10.00 | 0.00 | 6 48 |
| | 04/01/92 | <50 | <0 5 | <0.5 | <0.5 | <0.5 | 8.83 | 0.00 | 7.65 |
| | 06/25/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 9.85 | 0.00 | 6 63 |
| | 09/17/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 10.20 | 0.00 | 6.28 |
| | 12/16/92 | <50 | <0 5 | <0.5 | <0.5 | <0.5 | 9.40 | 0.00 | 7.08 |
| | 03/18/93 | <50 | <0 5 | <0.5 | <0 5 | <1.5 | 8.12 | 0.00 | 8.36 |
| | 06/11/93 | <50 | <0 5 | <0.5 | <0.5 | <0.5 | 8.59 | 0.00 | 7.89 |
| | 09/08/93 | <50 | <0 5 | <0.5 | <0.5 | <1.5 | --- | --- | --- |
| | 09/17/93 | --- | --- | --- | --- | --- | 9.00 | 0 00 | 7.48 |
| | 12/23/93 | <50 | <0 5 | 0.8 | <0.5 | 2.9 | 8.83 | 0.00 | 7 65 |
| | 03/07/94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 8.19 | 0.00 | 8 29 |
| | 06/17/94 | <50 | <0 5 | <0.5 | <0.5 | <0.5 | 9.05 | 0.00 | 7.43 |
| Blocked | 09/12/94 | --- | --- | --- | --- | --- | --- | --- | --- |

by roots



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# TABLE 1
## HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
## Chevron Service Station No. 9-4587
## 609 Oak Street, Oakland, California

| Well ID/ Elevation | Sample Date | TPH-G | Benzene | Toluene | Ethyl-benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|---|---|---|---|---|---|---|---|---|---|
| C-4 | 12/06/89 | --- | --- | --- | --- | --- | --- | 0 00 | --- |
| | 10/30/90 | <50 | <0.5 | <0.5 | <0 5 | <0.5 | 11.56 | 0.00 | 4.97 |
| 16.53 | 01/14/91 | <50 | <0 5 | <0.5 | <0.5 | <0.5 | 11.44 | 0.00 | 5.09 |
| | 04/03/91 | 150 | 3 | <0.5 | 12 | 9 | 10.00 | 0 00 | 6.53 |
| | 07/17/91 | 290 | 2 3 | 0.4 | 52 | 0.4 | 11.16 | 0.00 | 5.37 |
| | 10/07/91 | <50 | <0.5 | <0.5 | 4 6 | <0.5 | 11.39 | 0.00 | 5.14 |
| | 02/04/92 | <50 | <0 5 | <0.5 | 2 8 | <0.5 | 11.02 | 0.00 | 5.51 |
| | 02/04/92 | <50 | <0.5 | <0.5 | 2.5 | 0.5 | 11.02 | 0.00 | 5.51 |
| | 04/01/92 | 480 | 4.9 | <0.5 | 64 | 4 3 | 9.83 | 0.00 | 6.70 |
| | 06/25/92 | <50 | <0 5 | <0.5 | <0.5 | <0.5 | 10.88 | 0.00 | 5.65 |
| | 09/17/92 | <50 | <0.5 | <0.5 | <0 5 | <0 5 | 11.24 | 0.00 | 5.29 |
| | 12/16/92 | 56 | <0.5 | <0.5 | 1.0 | <0.5 | 10.40 | 0 00 | 6.13 |
| | 03/18/93 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | 9.48 | 0.00 | 7.05 |
| | 06/11/93 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | 9.61 | 0 00 | 6.92 |
| | 09/08/93 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | --- | --- | --- |
| | 09/17/93 | --- | --- | --- | --- | --- | 10 07 | 0.00 | 6 46 |
| | 12/23/93 | <50 | 1 2 | 1.5 | <0.5 | 3 2 | 9.83 | 0.00 | 6.70 |
| | 03/07/94 | 60 | 0.7 | 1 1 | 6 7 | 1 8 | 9.20 | 0.00 | 7 33 |
| | 06/17/94 | <50 | <0 5 | <0.5 | <0.5 | <0.5 | 9.97 | 0.00 | 6.56 |
| | 09/12/94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 11 21 | 0 00 | 5.32 |
| C-5 | 12/06/89 | --- | --- | --- | --- | --- | 9.97 | 0.00 | 4 73 |
| | 10/30/90 | <50 | 0.8 | <0.5 | <0.5 | 0.5 | --- | 0.00 | --- |
| 14.70 | 01/14/91 | 54 | <0 5 | <0.5 | <0 5 | <0 5 | 9.87 | 0.00 | 4.83 |
| | 04/03/91 | 1,800 | 330 | 200 | 52 | 170 | 8.72 | 0.00 | 5.98 |
| | 07/17/91 | 170 | 120 | 5.3 | 12 | 20 | 9 63 | 0 00 | 5.07 |
| | 10/07/91 | <50 | 1.1 | <0.5 | <0.5 | <0.5 | 9.83 | 0 00 | 4.87 |
| | 02/04/92 | 91 | 16 | <0.5 | 2.4 | 2.0 | 9 53 | 0 00 | 5.17 |
| | 04/01/92 | 960 | 200 | 5 4 | 21 | 33 | 8.57 | 0.00 | 6 13 |
| | 06/25/92 | 800 | 2 5 | <0.5 | 1.3 | 7 3 | 9 44 | 0 00 | 5.26 |
| | 09/17/92 | <50 | <0 5 | <0 5 | <0.5 | <0.5 | 9.72 | 0.00 | 4.98 |
| | 12/16/92 | 81 | 5.4 | 1 2 | 1.5 | 4 3 | 9 07 | 0 00 | 5.63 |
| | 03/18/93 | <50 | <0 5 | <0 5 | <0 5 | <1.5 | 8.44 | 0.00 | 6.26 |
| | 06/11/93 | <50 | 1.6 | <0.5 | <0.5 | <1 5 | 8.53 | 0.00 | 6.17 |
| | 09/08/93 | <50 | <0 5 | <0 5 | <0.5 | <1.5 | --- | --- | --- |
| | 09/17/93 | --- | --- | --- | --- | --- | 8.89 | 0.00 | 5.81 |
| | 12/23/93 | <50 | 5.5 | 1.3 | 0 7 | 4.0 | 8.68 | 0.00 | 6.02 |
| | 03/07/94 | 460 | 180 | 21 | 27 | 70 | 8.18 | 0.00 | 6.52 |
| | 06/17/94 | <50 | 10 | 0 5 | 1 4 | 3 3 | 8.81 | 0.00 | 5.89 |
| | 09/12/94 | <50 | 6.4 | <0 5 | <0 5 | <0 5 | 9.87 | 0.00 | 4 83 |



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# TABLE 1
## HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
## Chevron Service Station No. 9-4587
## 609 Oak Street, Oakland, California

| Well ID/ Elevation | Sample Date | TPH-G | Benzene | Toluene | Ethyl-benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|---|---|---|---|---|---|---|---|---|---|
| C-6 | 12/06/89 | --- | --- | --- | --- | --- | --- | 0 00 | --- |
| | 10/30/90 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 9.43 | 0.00 | 4.44 |
| 13.87 | 01/14/91 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 9.41 | 0.00 | 4.46 |
| | 04/03/91 | <0.5 | <0.5 | <0 5 | <0.5 | <0.5 | 8.66 | 0.00 | 5.21 |
| | 07/17/91 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 9.25 | 0.00 | 4.62 |
| | 10/07/91 | 67 | <0.5 | 0 6 | <0.5 | 0.6 | 9.34 | 0.00 | 4.53 |
| | 02/04/92 | <50 | <0 5 | <0.5 | <0.5 | <0.5 | 9.16 | 0.00 | 4.71 |
| | 04/01/92 | <50 | <0.5 | <0 5 | <0.5 | <0.5 | 8.59 | 0.00 | 5 28 |
| | 06/25/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 9.11 | 0.00 | 4.76 |
| | 09/17/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 9.28 | 0.00 | 4 59 |
| | 12/16/92 | 120 | 9.3 | 1 9 | 2.7 | 7.4 | 8.88 | 0.00 | 4.99 |
| | 03/18/93 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | 8.35 | 0 00 | 5 52 |
| | 06/11/93 | <50 | <0.5 | 0.7 | <0.5 | <1.5 | 8.21 | 0.00 | 5.66 |
| | 09/08/93 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | --- | --- | --- |
| | 09/17/93 | --- | --- | --- | --- | --- | 8.37 | 0.00 | 5.50 |
| | 12/23/93 | <50 | 1 4 | 1.0 | <0.5 | 3.5 | 8.29 | 0 00 | 5.58 |
| | 03/07/94 | <50 | 0.8 | <0.5 | <0.5 | <0 5 | 8 00 | 0.00 | 5.87 |
| | 06/17/94 | <50 | <0 5 | <0.5 | <0.5 | <0.5 | 8.41 | 0.00 | 5.46 |
| | 09/12/94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 8.88 | 0.00 | 4.99 |
| C-7 | 02/07/91 | <50 | <0.5 | 0.8 | <0 5 | <0 5 | 9 88 | 0.00 | 5.90 |
| | 04/03/91 | <50 | <0 5 | <0.5 | <0.5 | <0.5 | 9.04 | 0 00 | 6.74 |
| 15.78 | 07/17/91 | <50 | <0.5 | <0.5 | <0 5 | <0 5 | 9 86 | 0.00 | 5.92 |
| | 10/07/91 | <50 | <0 5 | <0.5 | <0.5 | <0.5 | 10.10 | 0.00 | 5.68 |
| | 02/04/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 9.74 | 0.00 | 6 04 |
| | 04/01/92 | <50 | <0.5 | <0 5 | <0.5 | <0.5 | 8.96 | 0.00 | 6.82 |
| | 06/25/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 9.62 | 0.00 | 6 16 |
| | 09/17/92 | <50 | <0.5 | <0 5 | <0.5 | <0.5 | 9.75 | 0.00 | 6.03 |
| | 12/16/92 | --- | --- | --- | --- | --- | 9 41 | 0 00 | 6.37 |
| | 03/18/93 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | 8.45 | 0.00 | 7.33 |
| | 06/11/93 | <50 | <0 5 | <0.5 | <0 5 | <1 5 | 8 71 | 0 00 | 7.07 |
| | 09/08/93 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | --- | --- | --- |
| | 09/17/93 | --- | --- | --- | --- | --- | 9.05 | 0.00 | 6.73 |
| | 12/23/93 | <50 | 1.9 | 1 4 | <0.5 | 3.6 | 8.85 | 0.00 | 6.93 |
| | 03/07/94 | <50 | 2 4 | 1.3 | <0 5 | 0.6 | 8.43 | 0.00 | 7.35 |
| | 06/17/94 | <50 | <0.5 | <0.5 | <0.5 | 1.2 | 9.07 | 0 00 | 6.71 |
| | 09/12/94 | <50 | <0 5 | <0.5 | <0.5 | <0.5 | 9.80 | 0.00 | 5 98 |



GROUNDWATER TECHNOLOGY ®

# TABLE 1
## HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
## Chevron Service Station No. 9-4587
## 609 Oak Street, Oakland, California

| Well ID/ Elevation | Sample Date | TPH-G | Benzene | Toluene | Ethyl-benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|---|---|---|---|---|---|---|---|---|---|
| CR-1 | 10/30/90 | 9,600 | 7,100 | 65 | 610 | 190 | 10.51 | 0.00 | --- |
| | 01/14/91 | 1,500 | 3,200 | 52 | 190 | 77 | 10.29 | 0.00 | --- |
| | 07/17/91 | 15,000 | 9,300 | 220 | 680 | 530 | 10.19 | 0.00 | --- |
| | 10/07/91 | 17,000 | 7,600 | 50 | 440 | 68 | 10.46 | 0.00 | --- |
| | 10/07/91 | 14,000 | 9,400 | 52 | 430 | 110 | 10.46 | 0.00 | --- |
| | 02/04/92 | 19,000 | 6,100 | 32 | 350 | 100 | 10.12 | 0.00 | --- |
| | 04/01/92 | 29,000 | 5,300 | 820 | 360 | 1,200 | 9.24 | 0.00 | --- |
| | 06/25/92 | 12,000 | 3,300 | 280 | 210 | 460 | 10.03 | 0.00 | --- |
| | 09/17/92 | --- | --- | --- | --- | --- | 10.30 | 0.00 | --- |
| | 12/16/92 | --- | --- | --- | --- | --- | 9.59 | Sheen | --- |
| | 03/18/93 | --- | --- | --- | --- | --- | 8.82 | 0.05 | --- |
| | 06/11/93 | --- | --- | --- | --- | --- | 9.58 | 0.87 | --- |
| | 09/08/93 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 09/17/93 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 12/23/93 | --- | --- | --- | --- | --- | 9.02 | 0.02 | --- |
| | 03/07/94 | --- | --- | --- | --- | --- | 8.41 | 0.04 | --- |
| | 06/17/94 | --- | --- | --- | --- | --- | --- | * | --- |
| | 09/12/94 | --- | --- | --- | --- | --- | 15.32 | 0.02 | --- |
| TBLB | 10/30/90 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 01/14/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 02/07/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 04/03/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 07/17/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 10/07/91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 02/04/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 04/01/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 06/25/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 09/17/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 12/16/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 03/18/93 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | --- | --- | --- |
| | 06/11/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 09/08/93 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | --- | --- | --- |
| | 09/17/93 | --- | --- | --- | --- | --- | --- | --- | --- |
| | 12/23/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 03/07/94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 06/17/94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 09/12/94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |



GROUNDWATER TECHNOLOGY ®

# TABLE 1
## HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
## Chevron Service Station No. 9-4587
## 609 Oak Street, Oakland, California

| Well ID/ Elevation | Sample Date | TPH-G | Benzene | Toluene | Ethyl-benzene | Xylenes | DTW (ft) | SPT (ft) | WTE (ft) |
|---|---|---|---|---|---|---|---|---|---|
| Rinsate | 10/30/90 | <50 | <0.5 | 0.6 | <0.5 | <0.5 | --- | --- | --- |
| | 10/07/91 | <50 | <0 5 | 0 5 | <0.5 | <0.5 | --- | --- | --- |
| | 02/04/92 | <50 | <0.5 | <0.5 | <0 5 | <0 5 | --- | --- | --- |
| | 04/01/92 | <50 | <0.5 | <0 5 | <0.5 | <0.5 | --- | --- | --- |
| | 06/25/92 | <50 | <0 5 | <0.5 | <0.5 | <0 5 | --- | --- | --- |
| | 09/17/92 | <50 | <0.5 | <0.5 | <0 5 | <0.5 | --- | --- | --- |
| | 12/16/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 06/11/93 | <50 | <0.5 | <0.5 | <0 5 | <0.5 | --- | --- | --- |
| | 12/23/93 | <50 | 0.8 | 1 0 | <0.5 | 0.6 | --- | --- | --- |
| | 03/07/94 | <50 | <0.5 | <0 5 | <0 5 | <0.5 | --- | --- | --- |

TPH-G = Total petroleum hydrocarbons-as-gasoline
DTW = Depth to water
SPT = Separate-phase hydrocarbon thickness
WTE = Water table elevation
--- = Not applicable, not sampled, not measured
* = Depth to product 9 27 feet on 06/17/94, unable to determine thickness due to pumping equipment inhibiting access.

Concentrations in parts per billion
Data from December 6, 1989, to December 16, 1992, are from Alton GeoSciences report dated January 26, 1993

**TABLE 2**
**PRODUCT RECOVERY PROGRAM**
**Chevron Service Station No. 9-4587**
**609 Oak Street, Oakland, California**

| Date | Well ID | Amount Product Bailed (gallons) | Total Product Bailed (gallons) |
|---|---|---|---|
| 10/01/93 | CR1* | 0 | 0 |
| 10/01/93 | C-1 | 0.01 | 0.01 |
| 10/01/93 | C-C | 0.01 | 0.01 |
| 10/01/93 | C-B | 0.03 | 0.03 |

* Pumping well, unable to bail product.

## ATTACHMENT 3

**Groundwater Monitoring and Sample Collection Protocol**
**and**
**Field Data Sheets**

# GROUNDWATER TECHNOLOGY GROUNDWATER MONITORING AND SAMPLE COLLECTION PROTOCOL

## Groundwater Monitoring

Groundwater monitoring is accomplished using a INTERFACE PROBE™ Well Monitoring System. The INTERFACE PROBE™ Well Monitoring System is a hand held, battery operated device for measuring the depth to separate-phase hydrocarbons and depth to water. The INTERFACE PROBE™ Well Monitoring System consists of a dual-sensing probe which utilizes an optical liquid sensor and electrical conductivity to distinguish between water and petroleum products.

Monitoring is accomplished by measuring from the surveyed top of well casing or grade to groundwater and separate-phase hydrocarbons if present. The static water elevation is then calculated for each well and a potentiometric surface map is constructed. If separate-phase hydrocarbons are detected the water elevation is adjusted by the following calculation:

(Product thickness) x (0.8) + (Water elevation) = Corrected water elevation

Groundwater monitoring wells are monitored in order of wells with lowest concentrations of volatile organic compounds to wells with the highest concentrations, based upon historical concentrations. If separate-phase hydrocarbons are encountered in a well, the product is visually inspected to confirm and note color, amount, and viscosity. Monitoring equipment is washed with laboratory grade detergent and rinsed with distilled or deionized water before monitoring each well.

## Groundwater Sampling

Before groundwater samples are collected, sufficient water is purged from each well to ensure representative formation water is entering the well. Wells are purged and sampled in the same order as monitoring, from wells with the lowest concentrations of volatile organic compounds to wells with the highest concentrations. Wells are purged using either a polyvinyl chloride (PVC) bailer fitted with a check valve or with a stainless steel submersible Grundfos pump. The purge equipment is decontaminated before use in each well by washing with laboratory grade detergent and tripled rinsing with deionized or distilled water. A minimum of 3 well-casing volumes of water are removed from each well while pH, electrical conductivity, and temperature are recorded to verify that "fresh" formation water is being sampled and the parameters have stabilized. If the well is low yielding, it may be purged dry and sampled before 3 casing volumes are purged. The wells are then allowed to recharge to approximately 80 percent of the initial water level before a sample is collected.

Groundwater samples are collected from each well using a new, prepackaged disposable bailer and string. The water sample is decanted from the bailer into laboratory-provided containers (appropriate for the analyses required) so that there is no headspace in the containers. Samples collected for benzene, toluene, ethylbenzene, xylene, and total petroleum hydrocarbons (TPH)-as-gasoline analyses are collected in 40-milliliter vials fitted with Teflon® septum lids. Samples are preserved with hydrochloric acid (HCL) to a pH of less than 2. Dissolved metals samples are filtered through a 0.45-micron paper filter in the field and preserved as required before submitting to the laboratory for analyses. All samples are labeled immediately upon collection and logged on the chain-of-custody record. Sample label and chain-of-custody recorded information includes the project name and number, sample identification, date and time of collection, analyses requested, and the sampler's name. Sample bottles are placed in plastic bags (to protect the bottles and labels) and on ice (frozen water) in an insulated cooler and are shipped under chain-of-custody protocol to the laboratory.

The chain-of-custody record documents who has possession of the samples until the analyses is performed. Other pertinent information is also noted for the laboratory use on the chain-of-custody record.

Trip blanks (TBLBs) are used for each project as a quality assurance/quality control measure. The TBLBs are prepared by the laboratory and are placed in the insulated cooler and accompany the field samples throughout the sampling event.

Project Name: Chevron - Oak

Site Address: 609 Oak St., Oakland

Project Number: 020104084.0610

Date: 9/12/94

Page 1 of 11

Project Manager: Ken Johnson

Well ID: C-3

Well Diameter: 3

DTW Measurements:
Initial: _____ Calc Well Volume: _____ gal
Recharge: _____ Well Volume: _____ gal

**Purge Method**
Peristaltic_____
Gear Drive_____
Submersible_____

**Pump Depth**_____ ft.
Hand Bailed_____
Air Lift_____
Other_____

**Instruments Used**
YSI: X
Hydac: _____
Omega: _____

Other: _____

| Time | Temp X C / F | Conductivity | pH | Purge Volume Gallons | Turbidity | Comments |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
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| | | | | | | |
| | | | | | | |

Project Name: Chevron - Oak. Date: 9/12/94

Site Address: 609 Oak St., Oakland Page 2 of 11

Project Number: 020104084.0610 Project Manager: Ken Johnson

Well ID: C-7

Well Diameter: 2

DTW Measurements:
Initial: 9.80 Calc Well Volume: ____ gal
Recharge: ____ Well Volume: 9 gal

**Purge Method**
Peristaltic ____
Gear Drive ____
Submersible ____

**Pump Depth** ____ ft.
Hand Bailed X
Air Lift ____
Other ____

**Instruments Used**
YSI: X
Hydac: ____
Omega: ____
Other: ____

| Time | Temp X C / ( F | Conductivity | pH | Purge Volume Gallons | Turbidity | Comments |
|---|---|---|---|---|---|---|
| 12:45 | 21.6 | 0.52 | 6.30 | 2 | Brown | Silty, Roots |
| 12:48 | 22.0 | 0.49 | 6.32 | 4 | ↓ | ↓ |
| | | | | | | Unable to take full amount out |
| | | | | | | Roots in well would not allow it. |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Project Name: Chevron - Oak.

Date: 9/12/94

Site Address: 609 Oak St., Oakland

Page 3 of 11

Project Number: 020104084.0610

Project Manager: Ken Johnson

Well ID: C4

Well Diameter: 2

DTW Measurements:
Initial: 11.21
Recharge:

Calc Well Volume: gal
Well Volume: 8 gal

**Purge Method**
Peristaltic
Gear Drive
Submersible X

**Pump Depth** ft.
Hand Bailed
Air Lift
Other

**Instruments Used**
YSI: X
Hydac:
Omega:
Other:

| Time | Temp X C F | Conductivity | pH | Purge Volume Gallons | Turbidity | Comments |
|---|---|---|---|---|---|---|
| 10:30 | 20.9 | 0.56 | 6.61 | 2 | cloudy | |
| 10:32 | 21.2 | 0.50 | 6.57 | 4 | ↓ | |
| 10:34 | 21.5 | 0.52 | 6.48 | 6 | ↓ | |
| 10:36 | 21.8 | 0.52 | 6.39 | 8 | clear | |
| 10:38 | 21.9 | 0.51 | 6.36 | 10 | ↓ | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Project Name: Chevron - Oak.

Site Address: 609 Oak St., Oakland

Project Number: 020104084.0610

Date: 9/12/94

Page 4 of 11

Project Manager: Ken Johnson

Well ID: C5

Well Diameter: 2

DTW Measurements:
Initial: 9.89
Recharge:

Calc Well Volume: gal
Well Volume: 9 gal

**Purge Method**
Peristaltic
Gear Drive
Submersible X

**Pump Depth** ft.
Hand Bailed
Air Lift
Other

**Instruments Used**
YSI: X
Hydac:
Omega:

Other:

| Time | Temp C / F | Conductivity | pH | Purge Volume Gallons | Turbidity | Comments |
|---|---|---|---|---|---|---|
| 10:46 | 21.9 | 0.57 | 6.32 | 2 | cloudy | |
| 10:48 | 21.9 | 0.55 | 6.39 | 4 | ↓ | |
| 10:50 | 22.0 | 0.59 | 6.38 | 6 | | |
| 10:52 | 22.1 | 0.60 | 6.37 | 8 | clear | |
| 10:54 | 22.0 | 0.56 | 6.34 | 10 | ↓ | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Project Name: Chevron - Oak.

Site Address: 609 Oak St., Oakland

Project Number: 020104084.0610

Date: 9/12/94

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Project Manager: Ken Johnson

Well ID: CC6

Well Diameter: 2

DTW Measurements:
Initial: 8.88
Recharge:

Calc Well Volume: gal
Well Volume: 9 gal

**Purge Method**
Peristaltic
Gear Drive
Submersible X

**Pump Depth** ft.
Hand Bailed
Air Lift
Other

**Instruments Used**
YSI: X
Hydac:
Omega:
Other:

| Time | Temp X C / F | Conductivity | pH | Purge Volume Gallons | Turbidity | Comments |
|---|---|---|---|---|---|---|
| 11:25 | 21.9 | 0.51 | 6.33 | 2 | | |
| 11:27 | 21.9 | 0.50 | 6.35 | 4 | | |
| 11:29 | 21.9 | 0.52 | 6.33 | 6 | | |
| 11:32 | 21.8 | 0.52 | 6.28 | 8 | | |
| 11:33 | 22.1 | 0.53 | 6.31 | 10 | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Project Name: Chevron - Oak

Site Address: 609 Oak St., Oakland

Project Number: 020104084.0610

Date: 9/12/94

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Project Manager: Ken Johnson

Well ID: CR1

Well Diameter: 6

DTW Measurements:
Initial: _____ Calc Well Volume: _____ gal
Recharge: _____ Well Volume: _____ gal

**Purge Method**
Peristaltic _____
Gear Drive _____
Submersible _____

**Pump Depth** _____ ft.
Hand Bailed _____
Air Lift _____
Other _____

**Instruments Used**
YSI: X
Hydac: _____
Omega: _____
Other: _____

| Time | Temp X C / F | Conductivity | pH | Purge Volume Gallons | Turbidity | Comments |
|---|---|---|---|---|---|---|
| | | | | | | Product in VE4 .02 |
| | | | | | | Not Sampled |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Project Name: Chevron - Oak.

Site Address: 609 Oak St., Oakland

Project Number: 020104084.0610

Date: 9/12/94

Page 7 of 11

Project Manager: Ken Johnson

Well ID: C2

Well Diameter: 3

DTW Measurements:
Initial: 11.10
Recharge:

Calc Well Volume: gal
Well Volume: 9 gal

**Purge Method**
Peristaltic
Gear Drive
Submersible X

**Pump Depth** ft.
Hand Bailed X
Air Lift
Other

**Instruments Used**
YSI: X
Hydac:
Omega:
Other:

| Time | Temp X C F | Conductivity | pH | Purge Volume Gallons | Turbidity | Comments |
|---|---|---|---|---|---|---|
| 11:45 | 20.0 | 0.75 | 5.99 | 2 | cloudy | |
| 11:47 | 20.2 | 0.72 | 6.23 | 4 | ↓ | |
| 11:49 | 20.3 | 0.70 | 6.21 | 6 | | |
| 11:50 | 20.4 | 0.74 | 6.16 | 8 | | |
| 11:51 | 20.6 | 0.76 | 6.17 | 10 | ↓ | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Project Name: Chevron - Oak. Date: 9/12/94

Site Address: 609 Oak St., Oakland Page 8 of 11

Project Number: 020104084.0610 Project Manager: Ken Johnson

Well ID: CA DTW Measurements:

Well Diameter: 2 Initial: 11.75 Calc Well Volume: _____ gal

Recharge: _____ Well Volume: 4 gal

**Purge Method**
Peristaltic_____
Gear Drive_____
Submersible_____

**Pump Depth**_____ ft.
Hand Bailed X
Air Lift_____
Other_____

**Instruments Used**
YSI: X
Hydac: _____
Omega: _____
Other: _____

| Time | Temp X C / F | Conductivity | pH | Purge Volume Gallons | Turbidity | Comments |
|---|---|---|---|---|---|---|
| 12:10 | 22.1 | 1.10 | 6.53 | 0 | DEL GRE | ODOR |
| 12:11 | 22.0 | 1.11 | 6.56 | 1 | ↓ | |
| 12:12 | 22.1 | 1.10 | 6.54 | 2 | ↓ | DRY at 2 gallons |
| | | | | 3 | | |
| | | | | 4 | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Project Name: Chevron - Oak. Date: 9/12/94

Site Address: 609 Oak St., Oakland Page 9 of 11

Project Number: 020104084.0610 Project Manager: Ken Johnson

---

Well ID: C1

Well Diameter: 3

DTW Measurements:
Initial: _____ Calc Well Volume: _____ gal
Recharge: _____ Well Volume: _____ gal

---

**Purge Method**
Peristaltic_____
Gear Drive_____
Submersible_____

**Pump Depth**_____ft.
Hand Bailed_____
Air Lift_____
Other_____

**Instruments Used**
YSI: X
Hydac: _____
Omega: _____
Other: _____

| Time | Temp X C / F | Conductivity | pH | Purge Volume Gallons | Turbidity | Comments |
|---|---|---|---|---|---|---|
| | | | | | | Product in well .001 |
| | | | | | | Not Sampled |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Project Name: Chevron - Oak.

Site Address: 609 Oak St., Oakland

Project Number: 020104084.0610

Date: 9/12/94

Page 10 of 11

Project Manager: Ken Johnson

Well ID: CB

Well Diameter: 2

DTW Measurements:
Initial: _____ Calc Well Volume: _____ gal
Recharge: _____ Well Volume: _____ gal

**Purge Method**
Peristaltic_____
Gear Drive_____
Submersible_____

**Pump Depth**_____ ft.
Hand Bailed_____
Air Lift_____
Other_____

**Instruments Used**
YSI: X
Hydac: _____
Omega: _____
Other: _____

| Time | Temp X C F | Conductivity | pH | Purge Volume Gallons | Turbidity | Comments |
|---|---|---|---|---|---|---|
| | | | | | | Product in well -049 |
| | | | | | | Not Sampled |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Project Name: Chevron - Oak.

Site Address: 609 Oak St., Oakland

Project Number: 020104084.0610

Date: 9/12/94

Page 11 of 11

Project Manager: Ken Johnson

Well ID: CC

Well Diameter: 4

DTW Measurements:
Initial: _____ Calc Well Volume: _____ gal
Recharge: _____ Well Volume: _____ gal

**Purge Method**
Peristaltic _____
Gear Drive _____
Submersible _____

**Pump Depth** _____ ft.
Hand Bailed _____
Air Lift _____
Other _____

**Instruments Used**
YSI: X
Hydac: _____
Omega: _____
Other: _____

| Time | Temp C / F | Conductivity | pH | Purge Volume Gallons | Turbidity | Comments |
|---|---|---|---|---|---|---|
| | | | | | | Product in well |
| | | | | | | 0.03 |
| | | | | | | not Sampled |
| | | | | | | |
| | | | | | | |
| | | | | | | |
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**ATTACHMENT 3**

**Laboratory Report**

**Superior Precision Analytical, Inc.**
*A member of ESSCON Environmental Support Service Consortium*

GROUNDWATER TECHNOLOGY, INC.
Attn: KEN JOHNSON

Project 9-4587
Reported 09/27/94

TOTAL PETROLEUM HYDROCARBONS

| Lab # | Sample Identification | Sampled | Analyzed | Matrix |
|---|---|---|---|---|
| 30752- 1 | TB-LB | 09/12/94 | 09/22/94 | Water |
| 30752- 2 | C-4 | 09/12/94 | 09/22/94 | Water |
| 30752- 3 | C-5 | 09/12/94 | 09/22/94 | Water |
| 30752- 4 | C-6 | 09/12/94 | 09/22/94 | Water |
| 30752- 5 | C-2 | 09/12/94 | 09/22/94 | Water |
| 30752- 6 | CA | 09/12/94 | 09/22/94 | Water |
| 30752- 7 | C7 | 09/12/94 | 09/22/94 | Water |

RESULTS OF ANALYSIS

| Laboratory Number: | 30752- 1 | 30752- 2 | 30752- 3 | 30752- 4 | 30752- 5 |
|---|---|---|---|---|---|
| Gasoline: | ND<50 | ND<50 | ND<50 | ND<50 | 370 |
| Benzene: | ND<0.5 | ND<0.5 | 6.4 | ND<0.5 | 96 |
| Toluene: | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 1.3 |
| Ethyl Benzene: | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 9.4 |
| Total Xylenes: | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 16 |
| Concentration: | ug/L | ug/L | ug/L | ug/L | ug/L |

| Laboratory Number: | 30752- 6 | 30752- 7 |
|---|---|---|
| Gasoline: | 270 | ND<50 |
| Benzene: | 170 | ND<0.5 |
| Toluene: | 1.0 | ND<0.5 |
| Ethyl Benzene: | 13 | ND<0.5 |
| Total Xylenes: | 24 | ND<0.5 |
| Concentration: | ug/L | ug/L |



Certified Laboratories

825 Arnold Dr., Suite 114
*Martinez, California 94553*
(510) 229-1513 / fax (510) 229-1526

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

309 S Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2993 / fax (206) 763-8429

**Superior Precision Analytical, Inc.**
*A member of ESSCON Environmental Support Service Consortium*

# 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


QA/QC INFORMATION
SET: 30752

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: | 84/92 | 9% | 56-117 |
| Benzene: | 99/99 | 0% | 59-149 |
| Toluene: | 102/108 | 6% | 59-149 |
| Ethyl Benzene: | 95/96 | 1% | 59-149 |
| Total Xylenes: | 104/112 | 7% | 59-149 |

Senior Chemist

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

3075C

# Chain-of-Custody-Recor

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

Chevron Facility Number: 9-4587
Facility Address: 609 OAK ST OAKLAND
Consultant Project Number: 020104111.0610
Consultant Name: GROUNDWATER TECHNOLOGY
Address: 4057 PORT CHICAGO HWY CONCORD, CA
Project Contact (Name): KEN JOHNSON
(Phone): 671-2387 (Fax Number):

Chevron Contact (Name): MARK MILLER
(Phone): (510) 842-8134
Laboratory Name: ~~NET~~ Superior
Laboratory Release Number: 832-7516
Samples Collected by (Name): STEPHEN MRAD
Collection Date: 9/12/94
Signature:

| 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) | 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) | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TB-LB | | 2 | W | G | | HCl | Yes | X | | | | | | | | | | | | NOTE: DO NOT BILL TB-LB SAMPLES |
| ~~MW~~4 | | 3 | | | 11:10 | | | X | | | | | | | | | | 0.9K | | |
| ~~MW~~5 | | 3 | | | 11:20 | | | X | | | | | | | | NJH | | | | |
| ~~MW~~6 | | 3 | | | 12:50 | | | X | | | | | | | | | U | | | |
| ~~MW~~-2 | | 3 | | | 12:10 | | | X | | | | | | | | | U | | | |
| CA | | 3 | | | 12:30 | | | X | | | | | | | | | U | | | |
| C7 | | 3 | ↓ | ↓ | 12:50 | ↓ | ↓ | X | | | | | | | | | | | | |

| Relinquished By (Signature) | Organization | Date/Time | Received By (Signature) | Organization | Date/Time |
|---|---|---|---|---|---|
| | GTI | 9/12/94 | | AERO | 9/13 3:56 |
| Relinquished By (Signature) | Organization | Date/Time | Received By (Signature) | Organization | Date/Time |
| | AERO | 9/13 4:23 | | Superior | 9/13/94 4:22 |
| 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