**Weiss Associates**

Environmental and Geologic Services

5500 Shellmound Street, Emeryville, CA 94608-2411

Fax: 510-547-5043 Phone: **510-450-6000**



January 13, 1994

Susan Hugo
Alameda County Department of
Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621-1426

LOP 3618

Re: Shell Service Station
WIC #204-5510-0303
5755 Broadway
Oakland, California 94606
WA Job #81-619-203

Dear Ms. Hugo:

This letter describes recently completed and anticipated activities at the Shell service station referenced above (Figure 1). This status report satisfies the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Chapter 3, Subchapter 16, Article 5, Section 265.d. Included below are descriptions and results of activities performed in the fourth quarter 1993 and proposed work for the first quarter 1994.

Fourth Quarter 1993 Activities:

- Blaine Tech Services, Inc. (BTS) of San Jose, California measured ground water depths and collected ground water samples from two of the three site wells. MW-3 was inaccessible during this sampling event and was therefore not sampled. BTS' report describing these activities and the analytic report for the ground water samples are included as Attachment A.

- Since ground water depths were not available for all three wells, Weiss Associates (WA) gauged the wells on December 16, 1993.

- WA calculated ground water elevations, compiled the analytic data (Tables 1 and 2) and prepared a ground water elevation contour map (Figure 2).

- Shell installed a water sensor in one of the tank fill manways to notify WA when ground water rose to within about 2.5 ft. of the ground surface in the tank backfill. On December 12, 1993, the sensor was triggered and WA arranged to have Crosby and Overton pump 5,000 gallons of ground water from tank backfill well T-1. Ground water fell approximately 1.5 ft. in the tank backfill due to the pumping. Ground water depression was measured in all site wells. Five days after the pumping the groundwater in the tank backfill had only risen 0.5 ft. Therefore the

intermittent groundwater pumping appears to be sufficient to maintain ground water deeper than 2.5 ft. below ground surface in the tank backfill. The ground water was transported to the Shell refinery in Martinez, California for recycling.

- Approximately 0.02 ft of floating hydrocarbons were measured in each of the tank backfill observation wells. BTS purged approximately 0.06 gallons of floating hydrocarbons from the wells.

Anticipated First Quarter 1994 Activities:

- WA will submit a report presenting the results of the first quarter 1994 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results, ground water elevations and a ground water elevation contour map.

Conclusion and Recommendations:

Total petroleum hydrocarbons reported as gasoline (TPH-G) and benzene, ethylbenzene, toluene and xylenes (BETX) concentrations detected in ground water samples collected from well S-2 decreased this quarter compared to the second and third quarter results. We will continue monitoring hydrocarbon concentrations to assess whether these trends continue.

Please call if you have any questions.


Sincerely,
Weiss Associates

John Wolf
Technical Assistant

N. Scott MacLeod, R.G.
Project Geologist

JAW/NSM:jaw

J:\SHELL\600\QMRPTS\619QMAU3.WP

Attachments: A - Blaine Tech's Ground Water Monitoring Report

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998
John Jang, Regional Water Quality Control Board - San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, California 94612

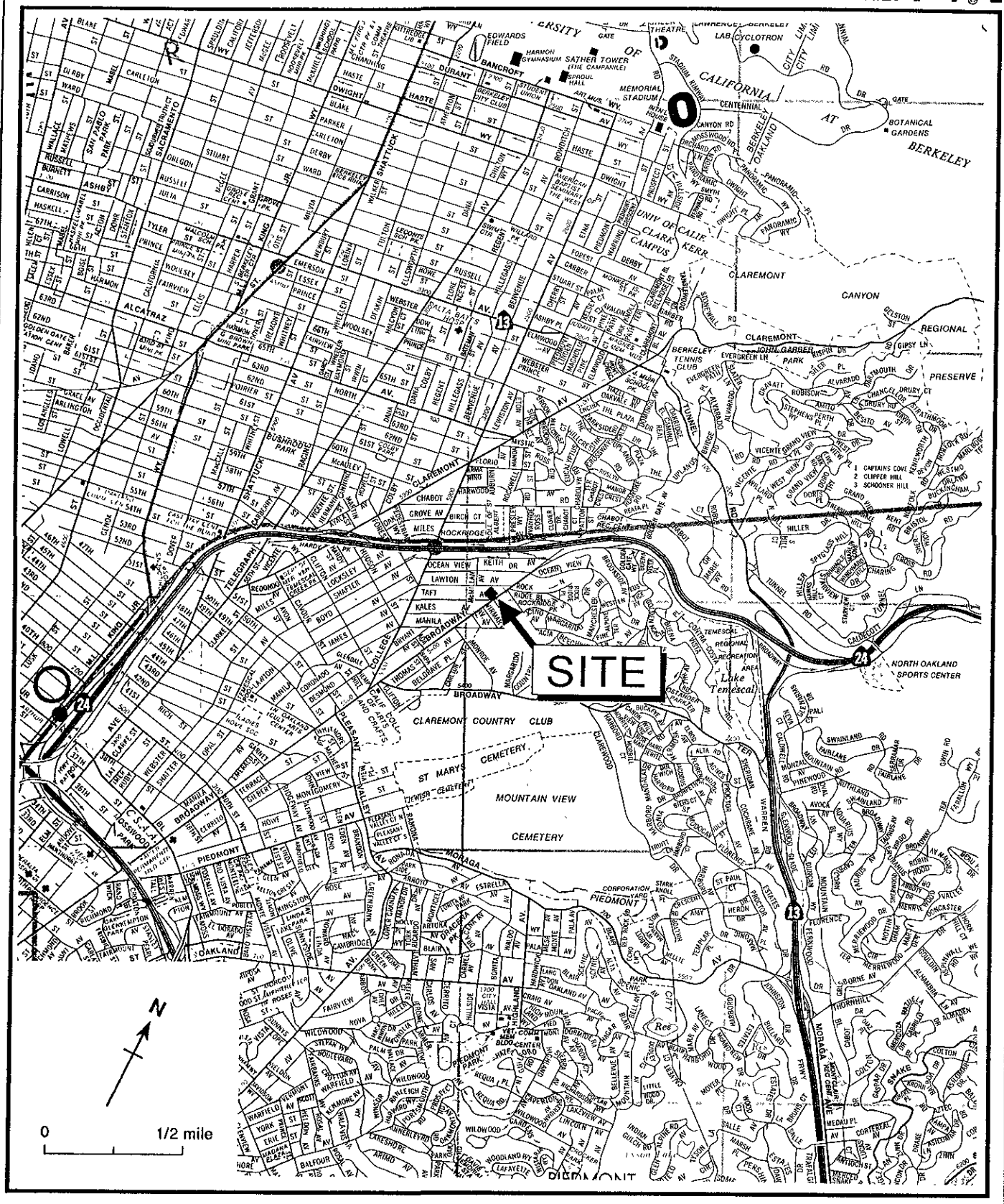


Figure 1. Site Location Map - Shell Service Station WIC #204-5510-0303, 5755 Broadway, Oakland, California

2/28/92

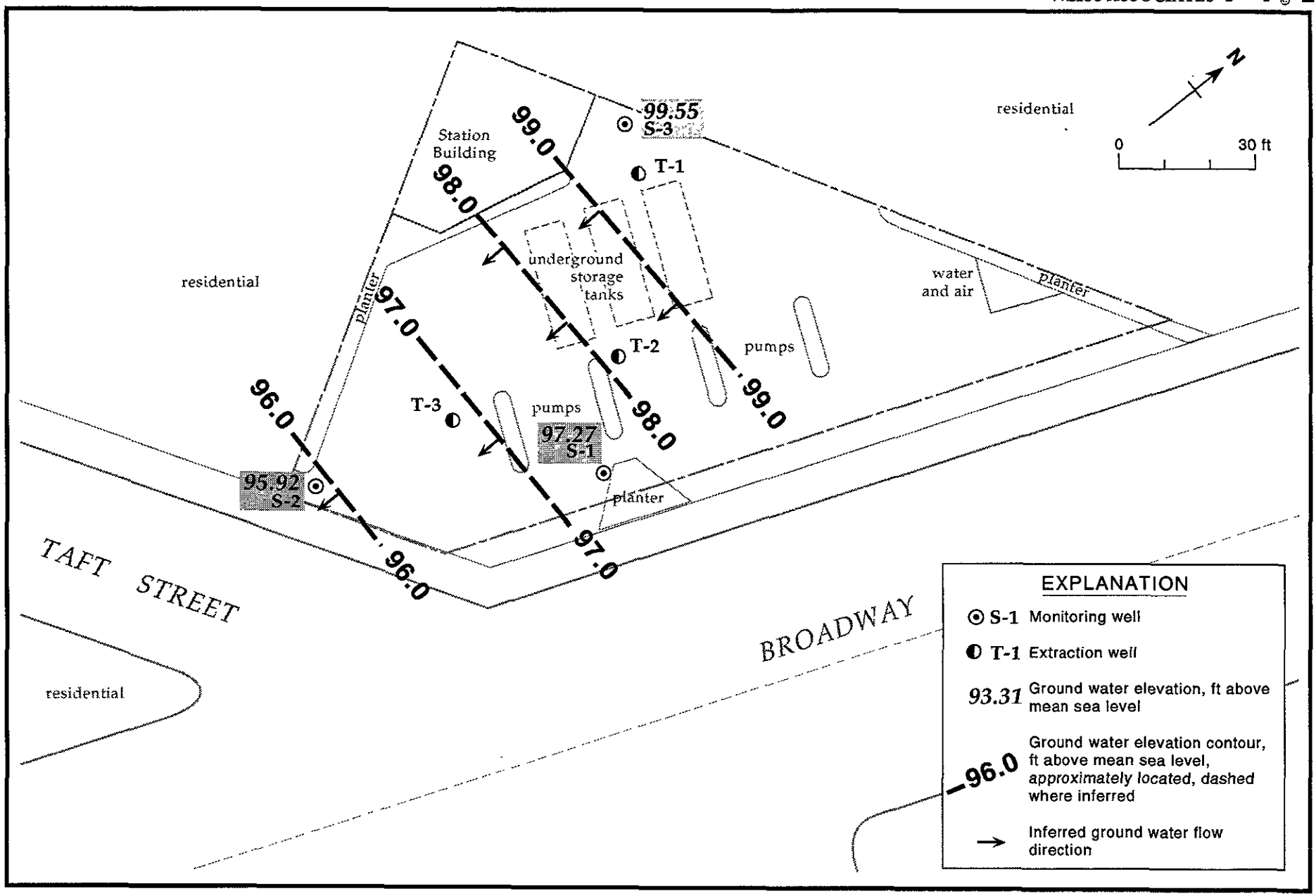


Figure 2. Monitoring Well Locations and Ground Water Elevation Contours - December 16, 1993 - Shell Service Station WIC#204-2004-0204, 5755 Broadway, Oakland, California

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5510-0303, 5755 Broadway, Oakland, California

| Well ID | Date | Top-of-Casing Elevation* | Depth to Water (ft) | Ground Water Elevation (ft above msl) |
|---|---|---|---|---|
| S-1 | 06/03/91 | 100.00 | 3.51 | 96.49 |
| | 08/30/91 | | 4.24 | 95.76 |
| | 11/22/91 | | 4.29 | 95.71 |
| | 03/13/92 | | 2.87 | 97.13 |
| | 05/28/92 | | 3.79 | 96.21 |
| | 08/19/92 | | 4.43 | 95.57 |
| | 11/18/92 | | 4.34 | 95.66 |
| | 02/10/93 | | 4.20 | 95.80 |
| | 06/11/93 | | 3.39 | 96.61 |
| | 08/03/93 | | 3.69 | 96.31 |
| | **11/02/93** | | **4.26** | **95.74** |
| | **12/16/93[a]** | | **2.73** | **97.27** |
| S-2 | 06/03/91 | 98.92 | 4.02 | 94.90 |
| | 08/30/91 | | 4.70 | 94.22 |
| | 11/22/91 | | 4.72 | 94.20 |
| | 03/13/92 | | 3.47 | 95.45 |
| | 05/28/92 | | 4.45 | 94.45 |
| | 08/19/92 | | 4.84 | 94.08 |
| | 11/18/92 | | 4.73 | 94.19 |
| | 02/10/93 | | 4.83 | 94.09 |
| | 06/11/93 | | 3.74 | 95.18 |
| | 08/03/93 | | 4.23 | 94.69 |
| | **11/02/93** | | **4.72** | **94.20** |
| | **12/16/93[a]** | | **3.00** | **95.92** |
| S-3 | 06/03/91 | 101.67 | 3.25 | 98.42 |
| | 08/03/91 | | 4.73 | 96.94 |
| | 11/22/91 | | 4.81 | 96.86 |
| | 03/13/92 | | 2.29 | 99.38 |
| | 05/28/92 | | 3.62 | 98.05 |
| | 08/19/92 | | 4.66 | 97.01 |
| | 11/18/92 | | 4.51 | 97.16 |
| | 02/10/93 | | 4.36 | 97.31 |
| | 06/11/93 | | 2.91 | 98.76 |
| | 08/03/93 | | 3.70 | 97.97 |
| | **11/02/93[b]** | | **---** | **---** |
| | **12/16/93[a]** | | **2.12** | **99.55** |

Note:
* = Top of casing elevations referenced to arbitrary elevation of 100 ft
a = Depth to water measured by Weiss Associates
b = Well innaccessible

Table 2. Analytic Results for Ground Water, Shell Service Station, WIC #204-5510-0303, 5755 Broadway, Oakland, California

| Sample ID | Date | Depth to Water (ft) | TPH-G | B | E | T | X |
|---|---|---|---|---|---|---|---|
| | | | <----------parts per billion (ug/L)----------> | | | | |
| S-1 | 06/03/91 | 3.51 | <30 | <0.3 | <0.3 | <0.3 | <0.3 |
| | 08/30/91 | 4.24 | <30 | <0.3 | <0.3 | <0.3 | <0.3 |
| | 11/22/91 | 4.29 | <30 | 2.3 | 0.3 | <0.46 | <0.65 |
| | 03/13/92 | 2.87 | <30 | <0.52 | <0.3 | <0.3 | <0.3 |
| | 05/28/92 | 3.79 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 08/19/92 | 4.43 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 11/18/92 | 4.34 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 02/10/93 | 4.20 | 51 | 1.4 | <0.5 | <0.5 | <0.5 |
| | 02/10/93 dup | 4.20 | <50 | 1.2 | <0.5 | <0.5 | <0.5 |
| | 06/11/93 | 3.39 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 08/03/93 | 3.69 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 11/02/93 | 4.26 | 70[a] | <0.5 | <0.5 | <0.5 | <0.5 |
| S-2 | 06/03/91 | 4.02 | 490 | 150 | 8.2 | 2.7 | 7 |
| | 08/30/91 | 4.70 | 70 | 0.37 | <0.3 | <0.3 | <0.3 |
| | 11/22/91 | 4.72 | 1,600 | 110 | 29 | 9.3 | 150 |
| | 03/13/92 | 3.47 | 1,300 | 210 | 34 | 5.7 | 79 |
| | 05/28/92 | 4.45 | 100 | 28 | <0.5 | <0.5 | <0.5 |
| | 08/19/92 | 4.84 | 470 | 42 | 8.3 | <0.5 | 4.0 |
| | 11/18/92 | 4.73 | 490 | 43 | 17 | 39 | 29 |
| | 02/10/93 | 4.83 | 19,000 | 710 | 80 | 760 | 370 |
| | 06/11/93 | 3.74 | 33,000 | 3,100 | 370 | 1,600 | 1,100 |
| | 08/03/93 | 4.23 | 18,000 | 1,400 | 81 | 130 | 130 |
| | 08/03/93 dup | 4.23 | 19,000 | 1,400 | 86 | 140 | 150 |
| | 11/02/93 | 4.72 | 12,000[a] | 470 | 31 | 47 | 92 |
| | 11/02/93 dup | 4.72 | 13,000[a] | 530 | 35 | 47 | 96 |
| S-3 | 06/03/91 | 3.25 | <30 | <0.3 | 0.3 | 0.3 | 0.3 |
| | 08/30/91 | 4.73 | <30 | <0.3 | <0.3 | <0.3 | <0.3 |
| | 11/22/91 | 4.81 | <30 | <0.3 | <0.3 | <0.3 | <0.3 |
| | 03/13/92 | 2.29 | <30 | <0.3 | 0.3 | 0.3 | 0.3 |
| | 05/28/92 | 3.62 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 08/19/92 | 4.66 | <50 | <0.5 | <0.5 | <0.5 | 0.5 |
| | 11/18/92 | 4.51 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 02/10/93 | 4.36 | 30 | 1.9 | 2.4 | 3.2 | 5.6 |
| | 06/11/93 | 2.91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 06/11/93 dup | 2.91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 08/03/93 | 3.70 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 11/02/93[b] | --- | --- | --- | --- | --- | --- |
| Bailer Blank | 08/19/92 | | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 11/22/91 | | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| Trip | 03/13/92 | | <50 | <0.3 | <0.3 | <0.3 | <0.3 |

-- Table 2 continues on next page --

Table 2. Analytic Results for Ground Water, Shell Service Station, WIC #204-5510-0303, 5755 Broadway, Oakland, California (continued)

| Sample ID | Date | Depth to Water (ft) | TPH-G | B | E | T | X |
|---|---|---|---|---|---|---|---|
| | | | <----------parts per billion (ug/L)----------> | | | | |
| Blank | 05/28/92 | | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 08/19/92 | | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 11/18/92 | | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 02/10/93 | | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 08/03/93 | | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 11/02/93 | | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| DTSC MCLs | | | NE | 1 | 680 | 100[c] | 1750 |

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
B = Benzene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
T = Toluene by EPA Method 8020
X = Xylenes by EPA Method 602 or 8020
--- = Not analyzed
DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water
NE = Not established
<n = Not detected at detection limits of n ppb
dup = Duplicate sample

Notes:

a = Concentrations reported as gasoline are primarily due to presence of a discrete peak not indicative of gasoline.
b = Wells inaccessible.
c = DTSC recommended action level for drinking water; MCL not established

Table 3. Floating Hydrocarbon Removal - Shell Service Station WIC #204-5510-0303, 5755 Broadway, Oakland, California

| Well ID | Date | Floating Hydrocarbon Thickness (ft) | Volume of Hydrocarbons Removed (gal) | Cumulative Volume of Hydrocarbons Removed (gal) |
|---|---|---|---|---|
| T-1 | 02/10/93 | <0.01 | 0.40 | 0.01 |
| | 06/11/93 | <0.01 | 0.01 | 0.02 |
| | 08/03/93 | 0.01 | <0.01 | 0.03 |
| | 11/02/93 | 0.02 | 0.03 | 0.06 |
| T-2 | 02/10/93 | 0.43 | 0.40 | 0.40 |
| | 06/11/93 | <0.01 | 0.01 | 0.41 |
| | 08/03/93 | 0.01 | <.01 | 0.41 |
| | 11/02/93 | 0.02 | 0.02 | 0.43 |
| T-3 | 08/03/93 | 0.03 | 0.02 | 0.02 |
| | 11/02/93 | 0.02 | 0.01 | 0.03 |
| | Total Volume of Hydrocarbons Removed: | | | 0.52 |

**ATTACHMENT A**

GROUND WATER MONITORING REPORT AND ANALYTIC REPORT

BLAINE
TECH SERVICES INC.

985 TIMOTHY DRIVE
SAN JOSE, CA 95133
(408) 995-5535
FAX (408) 293-8773

November 29, 1993

Shell Oil Company
P.O. Box 5278
Concord, CA 94520-9998

Attn: Daniel T. Kirk

SITE:
Shell WIC #204-5510-0303
5755 Broadway
Oakland, California

QUARTER:
4th quarter of 1993

## QUARTERLY GROUNDWATER SAMPLING REPORT 931102-J-1

This report contains data collected during routine inspection, gauging and sampling of groundwater monitoring wells performed by Blaine Tech Services, Inc. in reponse to the request of the consultant who is overseeing work at this site on behalf of our mutual client, Shell Oil Company. Data collected in the course of our field work is presented in a TABLE OF WELL GAUGING DATA. The field information was collected during our preliminary gauging and inspection of the wells, the subsequent evacuation of each well prior to sampling, and at the time of sampling.

Measurements taken include the total depth of the well and the depth to water. The surface of water was further inspected for the presence of immiscibles which may be present as a thin film (a sheen on the surface of the water) or as a measurable free product zone (FPZ). At intervals during the evacuation phase, the purge water was monitored with instruments that measure electrical conductivity (EC), potential hydrogen (pH), temperature (degrees Fahrenheit), and turbidity (NTU). In the interest of simplicity, fundamental information is tabulated here, while the bulk of the information is turned over directly to the consultant who is making professional interpretations and evaluations of the conditions at the site.

## STANDARD PROCEDURES

### Evacuation

Groundwater wells are thoroughly purged before sampling to insure that the sample is collected from water that has been newly drawn into the well from the surrounding geologic formation. The selection of equipment to evacuate each well is based on the physical characteristics of the well and what is known about the performance of the formation in which the well has been installed. There are several suitable devices which can be used for evacuation. The most commonly employed devices are air or gas actuated pumps, electric submersible pumps, and hand or mechanically actuated bailers. Our personnel frequently employ USGS/Middleburg positive displacement pumps or similar air actuated pumps which do not agitate the water standing in the well.

Normal evacuation removes three case volumes of water from the well. More than three case volumes of water are in cases where more evacuation is needed to achieve stabilization of water parameters when requested by the local implementing agency. Less water may be removed in cases where the well dewaters and does not recharge to 80% of its original volume within two hours and any additional time our personnel have reason to remain at the site. In such cases, our personnel return to the site within twenty four hours and collect sample material from the water which has recharged into the well case.

### Decontamination

All apparatus is brought to the site in clean and serviceable condition. The equipment is decontaminated after each use and before leaving the site. Effluent water from purging and on-site cleaning is collected and transported to Shell's Martinez Manufacturing Complex in Martinez, California.

### Free Product Skimmer

The column headed, VOLUME OF IMMISCIBLES REMOVED (ml) is included in the TABLE OF WELL GAUGING DATA to cover situations where a free product skimming device must be removed from the well prior to gauging. Skimmers are installed in wells with a free product zone on the surface of the water. The skimmer is a free product recovery device which often prevents normal well gauging and free product zone measurements. The 2.0" and 3.0" PetroTraps fall into the category of devices that obstruct normal gauging. In cases where the consultant elects to have our personnel pull the skimmers out of the well and gauge the well, our personnel perform the additional task of draining the accumulated free product out of the PetroTrap before putting it back in the well. This

recovered free product is measured and logged in the VOLUME OF IMMISCIBLES REMOVED column. Gauging at such sites is performed in accordance with specific directions from the professional consulting firm overseeing work at the site on Shell's behalf.

**Sample Containers**

Sample material is collected in specially prepared containers which are provided by the laboratory that performs the analyses.

**Sampling**

Sample material is collected in stainless steel bailer type devices normally fitted with both a top and a bottom check valve. Water is promptly decanted into new sample containers in a manner which reduces the loss of volatile constituents and follows the applicable EPA standard for handling volatile organic and semi-volatile compounds.

Following collection, samples are promptly placed in an ice chest containing prefrozen blocks of an inert ice substitute such as Blue Ice or Super Ice. The samples are maintained in either an ice chest or a refrigerator until delivered into the custody of the laboratory.

**Sample Designations**

All sample containers are identified with a site designation and a discrete sample identification number specific to that particular groundwater well. Additional standard notations (e.g. time, date, sampler) are also made on the label.

**Chain of Custody**

Samples are continuously maintained in an appropriate cooled container while in our custody and until delivered to the laboratory under a standard Shell Oil Company chain of custody. If the samples are taken charge of by a different party (such as another person from our office, a courier, etc.) prior to being delivered to the laboratory, appropriate release and acceptance records are made on the chain of custody (time, date, and signature of the person releasing the samples followed by the time, date and signature of the person accepting custody of the samples).

**Hazardous Materials Testing Laboratory**

The samples obtained at this site were delivered to Anametrix, Inc. in San Jose, California. Anametrix, Inc. is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #1234.

**Objective Information Collection**

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. performs no consulting and does not become involved in the marketing or installation of remedial systems of any kind. Blaine Tech Services, Inc. is concerned only with the generation of objective information, not with the use of that information to support evaluations and recommendations concerning the environmental condition of the site. Even the straightforward interpretation of objective analytical data is better performed by interested regulatory agencies, and those engineers and geologists who are engaged in the work of providing professional opinions about the site and proposals to perform additional investigation or design remedial systems.

**Reportage**

Submission of this report and the attached laboratory report to interested regulatory agencies is handled by the consultant in charge of the project. Any professional evaluations or recommendations will be made by the consultant under separate cover.

Please call if we can be of any further assistance.

Richard C. Blaine

RCB/lpn

attachments: table of well gauging data
chain of custody
certified analytical report

cc: Weiss Associates
5500 Shellmound Street
Emeryville, CA 94608-2411
ATTN: Michael Asport

# TABLE OF WELL GAUGING DATA

| WELL I.D. | DATA COLLECTION DATE | MEASUREMENT REFERENCED TO | QUALITATIVE OBSERVATIONS (sheen) | DEPTH TO FIRST IMMISCIBLES LIQUID (FPZ) (feet) | THICKNESS OF IMMISCIBLES LIQUID ZONE (feet) | VOLUME OF IMMISCIBLES REMOVED (ml) | DEPTH TO WATER (feet) | DEPTH TO WELL BOTTOM (feet) |
|---|---|---|---|---|---|---|---|---|
| S-1 | 11/2/93 | TOC | – | NONE | – | – | 4.26 | 11.51 |
| S-2 * | 11/2/93 | TOC | – | NONE | – | – | 4.72 | 9.46 |
| S-3 | 11/2/93 | TOC | INACCESSIBLE | | | | | |
| T-1 | 11/2/93 | TOC | FREE PRODUCT | 4.13 | 0.02 | 120 | 4.15 | – |
| T-2 | 11/2/93 | TOC | FREE PRODUCT | 3.25 | 0.02 | 80 | 3.27 | – |
| T-3 | 11/2/93 | TOC | FREE PRODUCT | 3.54 | 0.02 | 40 | 3.56 | – |

* Sample DUP was a duplicate sample taken from well S-2.

#65 9311069

# SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

## CHAIN OF CUSTODY RECORD
Serial No: 931102-J1

Date:
Page 1 of 1

Site Address: 5755 Broadway, Oakland

WIC#: 204-5510-0303

Shell Engineer: Dan Kirk — Phone No.: (510) 675-6168 Fax #: 675-6160

Consultant Name & Address: Blaine Tech Services, Inc. 985 Timothy Drive San Jose, CA 95133

Consultant Contact: Jim Keller — Phone No.: (408) 995-5535 Fax #: 293-8773

Comments:

Sampled by:

Printed Name: JERRY BOTTORFF

LAB: Anametrix

Analysis Required

| Sample ID | Date | Sludge | Soil | Water | Air | No. of conts. | TPH (EPA 8015 Mod. Gas) | TPH (EPA 8015 Mod. Diesel) | BTEX (EPA 8020/602) | Volatile Organics (EPA 8240) | Test for Disposal | Combination TPH 8015 & BTEX 8020 | | | Asbestos | Container Size | Preparation Used | Composite Y/N | MATERIAL DESCRIPTION | SAMPLE CONDITION/ COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 S-1 | 11/2 | | | X | | 3 | | | | | | X | | | | | | | | |
| 02 S-2 | 11/2 | | | X | | 3 | | | | | | X | | | | | | | | |
| 03 DUP | 11/2 | | | X | | 3 | | | | | | X | | | | | | | | |
| 04 EB | 11/2 | | | X | | 6 | | | | | | X | | | | | | | | |
| 05 TB | 11/2 | | | X | | 2 | | | | | | X | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

CHECK ONE (1) BOX ONLY | CT/DI | TURN AROUND TIME

- Quarterly Monitoring ☒ 8441 — 24 hours ☐
- Site Investigation ☐ 8441 — 48 hours ☐
- Soil Closure/Disposal ☐ 8442 — 10 days ☒ (Normal)
- Water Closure/Disposal ☐ 8443 — Other ☐ ____
- Soil/Air Rem. or Sys. O & M ☐ 8452
- Water Rem. or Sys. O & M ☐ 8453
- Other ☐

NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.

| Relinquished By (signature): | Printed Name: | Date: 11/3/93 Time: 1629 | Received (signature): | Printed Name: Aaron Cole | Date: 11/03/93 Time: 1629 |
|---|---|---|---|---|---|
| Relinquished By (signature): | Printed Name: Aaron Cole | Date: 11/3/93 Time: 1652 | Received (signature): | Printed Name: Kuma DeSai | Date: 11/03/93 Time: 16:52 |
| Relinquished By (signature): | Printed Name: | Date: Time: | Received (signature): | Printed Name: | Date: Time: |

# Inchcape Testing Services
## Anametrix Laboratories

1961 Concourse Drive
Suite E
San Jose, CA 95131
Tel: 408-432-8192
Fax: 408-432-8198


MR. JIM KELLER
BLAINE TECH
985 TIMOTHY DRIVE
SAN JOSE, CA 95133

Workorder # : 9311069
Date Received : 11/03/93
Project ID : 204-5510-0303
Purchase Order: MOH-B813

The following samples were received at Anametrix, Inc. for analysis :

| ANAMETRIX ID | CLIENT SAMPLE ID |
|---|---|
| 9311069- 1 | S-1 |
| 9311069- 2 | S-2 |
| 9311069- 3 | DUP |
| 9311069- 4 | E. BLANK |
| 9311069- 5 | T. BLANK |

This report consists of 5 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Corinne Pham for
Sarah Schoen, Ph.D.
Laboratory Director

11/15/93
Date

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JIM KELLER
BLAINE TECH
985 TIMOTHY DRIVE
SAN JOSE, CA 95133

Workorder # : 9311069
Date Received : 11/03/93
Project ID : 204-5510-0303
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

| ANAMETRIX SAMPLE ID | CLIENT SAMPLE ID | MATRIX | DATE SAMPLED | METHOD |
|---|---|---|---|---|
| 9311069- 1 | S-1 | WATER | 11/02/93 | TPHgBTEX |
| 9311069- 2 | S-2 | WATER | 11/02/93 | TPHgBTEX |
| 9311069- 3 | DUP | WATER | 11/02/93 | TPHgBTEX |
| 9311069- 4 | E. BLANK | WATER | 11/02/93 | TPHgBTEX |
| 9311069- 5 | T. BLANK | WATER | 11/02/93 | TPHgBTEX |

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JIM KELLER
BLAINE TECH
985 TIMOTHY DRIVE
SAN JOSE, CA 95133

Workorder # : 9311069
Date Received : 11/03/93
Project ID : 204-5510-0303
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentrations reported as gasoline for samples S-1, S-2 and DUP are primarily due to the presence of a discrete peak not indicative of gasoline.

Cheryl Bateman 11/11/93
Department Supervisor Date

Charlotte Burch 11-11-93
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9311069
Matrix : WATER
Date Sampled : 11/02/93

Project Number : 204-5510-0303
Date Released : 11/11/93

| | Reporting Limit | Sample I.D.# S-1 | Sample I.D.# S-2 | Sample I.D.# DUP | Sample I.D.# E. BLANK | Sample I.D.# T. BLANK |
|---|---|---|---|---|---|---|
| COMPOUNDS | (ug/L) | -01 | -02 | -03 | -04 | -05 |
| Benzene | 0.5 | ND | 470 | 530 | ND | ND |
| Toluene | 0.5 | ND | 47 | 47 | ND | ND |
| Ethylbenzene | 0.5 | ND | 31 | 35 | ND | ND |
| Total Xylenes | 0.5 | ND | 92 | 96 | ND | ND |
| TPH as Gasoline | 50 | 70 | 12000 | 13000 | ND | ND |
| % Surrogate Recovery | | 101% | 116% | 113% | 99% | 107% |
| Instrument I.D. | | HP8 | HP8 | HP8 | HP8 | HP8 |
| Date Analyzed | | 11/06/93 | 11/06/93 | 11/06/93 | 11/06/93 | 11/06/93 |
| RLMF | | 1 | 50 | 50 | 1 | 1 |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor (Dilution).

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Peggie Dawson 11/12/93
Analyst Date

Cheryl Balmer 11/12/93
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9311069
Matrix : WATER
Date Sampled : N/A

Project Number : 204-5510-0303
Date Released : 11/11/93

| COMPOUNDS | Reporting Limit (ug/L) | Sample I.D.# BN0502E2 BLANK |
|---|---|---|
| Benzene | 0.5 | ND |
| Toluene | 0.5 | ND |
| Ethylbenzene | 0.5 | ND |
| Total Xylenes | 0.5 | ND |
| TPH as Gasoline | 50 | ND |
| % Surrogate Recovery | | 101% |
| Instrument I.D. | | HP8 |
| Date Analyzed | | 11/05/93 |
| RLMF | | 1 |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor (Dilution).

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Charlotte Bruck 11.11.93
Analyst Date

Cheryl Bateman 11/11/93
Supervisor Date

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Analyzed : 11/05/93

Anametrix I.D. : MN0503E1
Analyst : CMB
Supervisor : CS
Date Released : 11/10/93
Instrument I.D.: HP8

| COMPOUND | SPIKE AMT. (ug/L) | REC LCS (ug/L) | %REC LCS | % REC LIMITS * |
|---|---|---|---|---|
| GASOLINE | 500 | 410 | 82% | 67-127 |
| p-BFB | | | 95% | 61-139 |

* Quality control limits established by Anametrix, Inc.