**Weiss Associates** Environmental and Geologic Services

5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: **510-450-6000**

November 17, 1994



Kevin Graves
Regional Water Quality Control Board-
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

Re: Shell Service Station
WIC #204-6138-0501
3790 Hopyard Road
Pleasanton, California
WA Job #81-0795-104

Dear Mr. Graves:

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 2652.d. Included below are descriptions and results of activities performed in the third quarter 1994 and proposed work for the fourth quarter 1994.

## Third Quarter 1994 Activities:

- Blaine Tech Services, Inc. (BTS) of San Jose, California measured ground water depths and collected ground water samples from the site wells. BTS' report describing these activities and the analytical report for the ground water samples are included as Attachment A.

- Weiss Associates (WA) calculated ground water elevations and compiled the analytic data (Table 1 and Attachment B) and prepared a ground water elevation contour map (Figure 2).

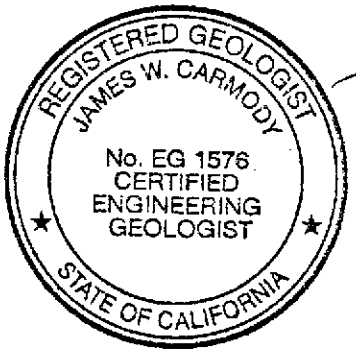
- WA recommended sampling frequency modifications for the site's ground water monitoring wells in our second quarter 1994 status report. Because hydrocarbons in the subsurface are fully assessed as indicated by the past seven years of ground water analytic data, and because the low permeability of the site's soils appears to be sufficiently impeding hydrocarbon migration, we recommend sampling and gauging all site wells annually. (Attachment B)

## Anticipated Fourth Quarter 1994 Activities:

- WA will submit a report presenting a summary of recent and proposed site activities.
- Unless we hear otherwise from you, WA will implement annual well gauging and sampling beginning in the fourth quarter 1994. We will implement site-wide annual sampling beginning in the fourth quarter 1994, sampling only during the second quarter when ground water elevations and dissolved hydrocarbon concentrations are potentially highest.

Please call if you have any questions.

Sincerely,
Weiss Associates




J. Michael Asport
Staff Scientist I

James W. Carmody, C.E.G.
Senior Project Hydrogeologist

Attachments: A - Blaine Tech's Ground Water Monitoring Report
B - Sampling Frequency Modification Criteria

cc: Dan Kirk, Shell Oil Company, P.O. Box 4023, Concord, California 94524
W.F. Stiles, 516 McGrath Court, Pleasant Hill, California 94523
Ted Klenk, Pleasanton Fire Department, 4444 Railroad Street, Pleasanton, California 94566

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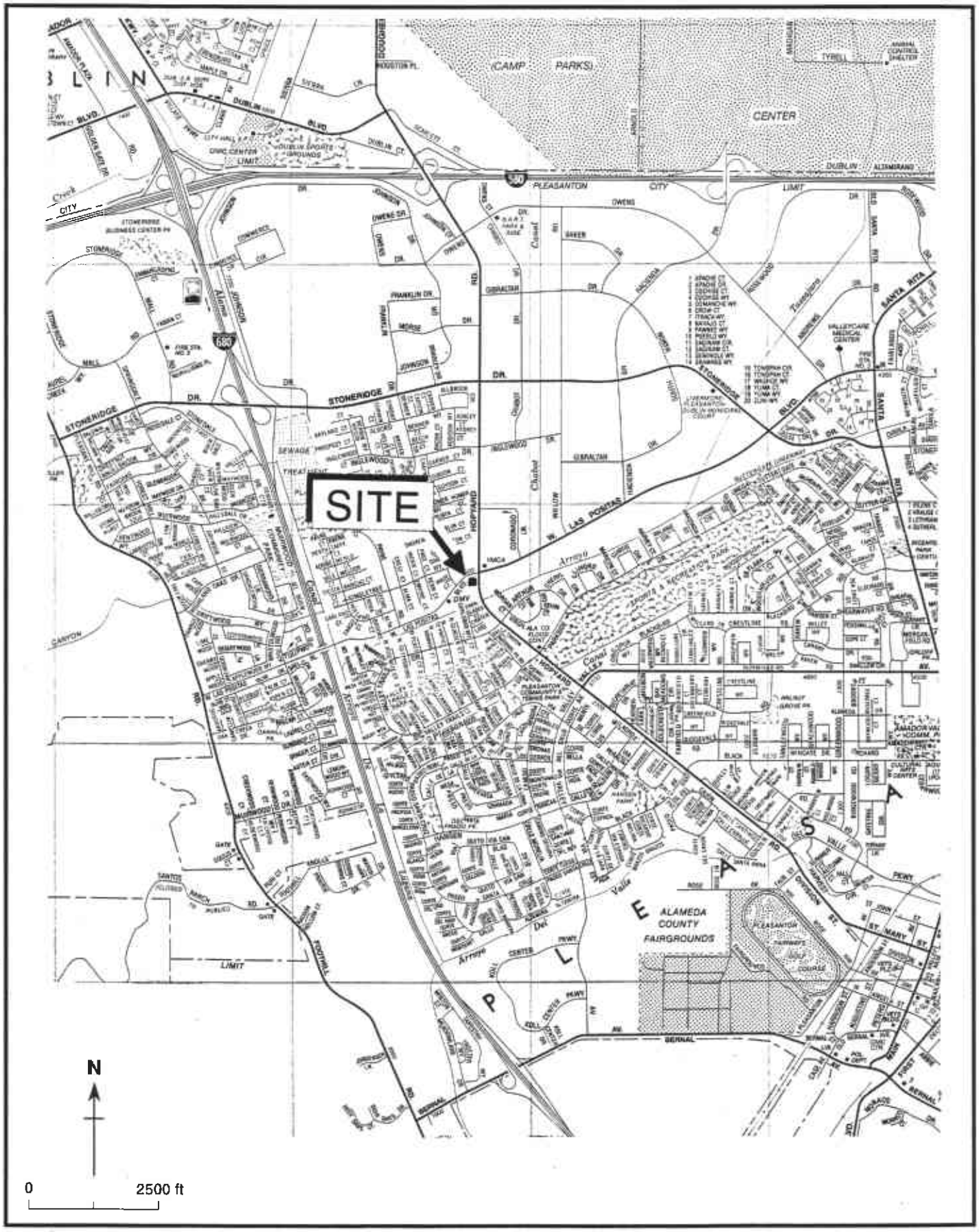



Figure 1. Site Location Map - Shell Service Station WIC# 204-6138-0501, 3790 Hopyard Road, Pleasanton, California

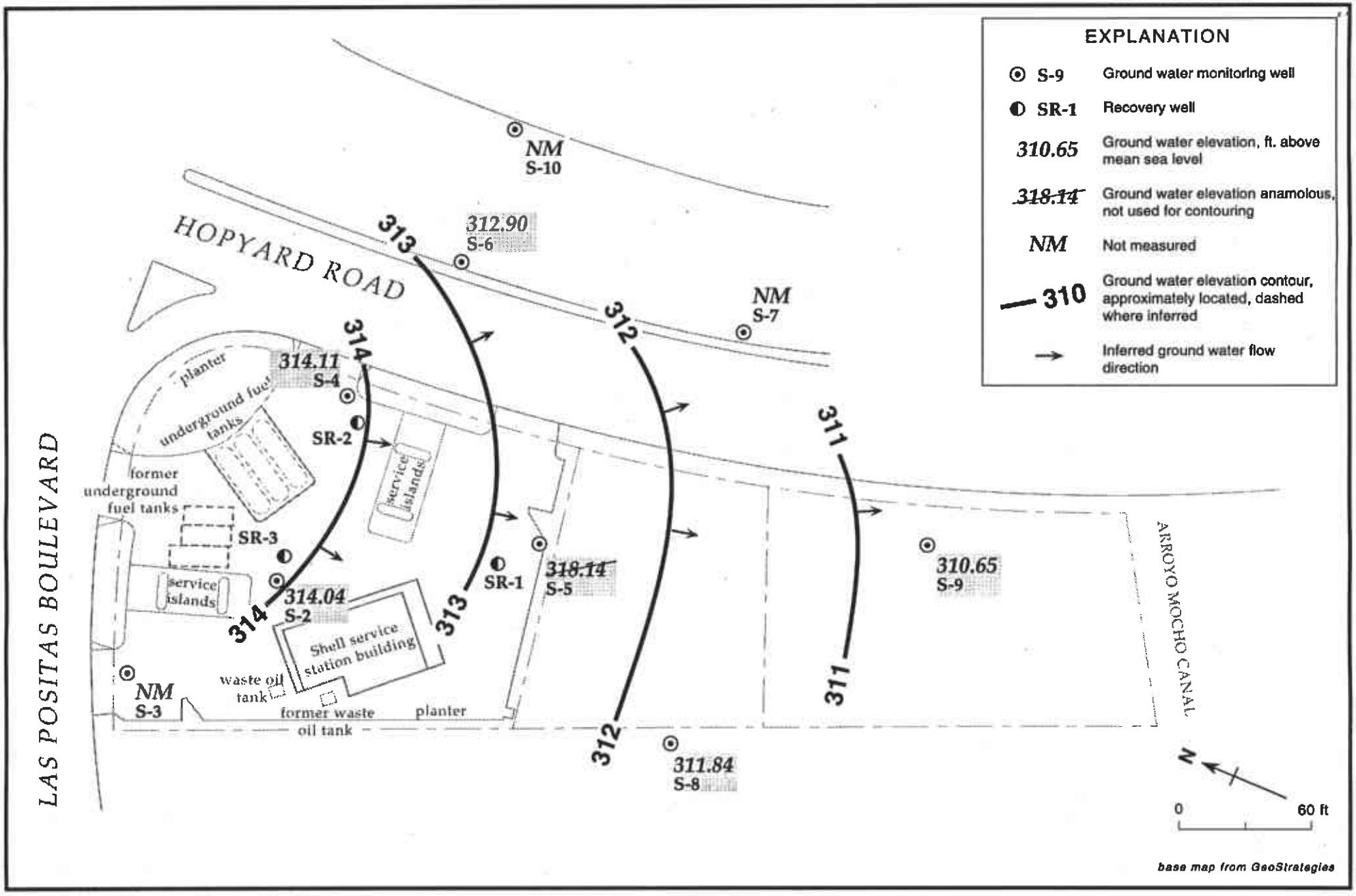



Figure 2. Monitoring Well Locations and Ground Water Elevation Contours -September 13, 1994 - Shell Service Station WIC# 204-6138-0501
3790 Hopyard Road, Pleasanton, California

Table 1. Ground Water Elevations and Analytic Results - Shell Service Station WIC# 204-6138-0501, 3790 Hopyard Road, Pleasanton, California

| Well ID | Sampling Date | Top-of-Casing (ft/msl) | Depth to Water (ft) | Ground Water Elevation (ft/msl) | TPH-G | TPH-D | B | T | E | X |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ← parts per billion (µg/L) → | | | | | |
| S-2 | 03/20/91 | 329.21 | --- | --- | 110 | --- | 30 | 2.2 | 10 | 7.0 |
| | 06/26/91 | | --- | --- | 50[a] | --- | 6.3 | <0.5 | 3.3 | 1.3 |
| | 09/05/91 | | --- | --- | 90 | --- | 12 | 3.2 | 2.5 | 2.3 |
| | 12/13/91 | | --- | --- | <50 | --- | 12 | <0.5 | <0.5 | <0.5 |
| | 03/11/92 | | --- | --- | <30 | --- | <0.3 | <0.3 | <0.3 | <0.3 |
| | 06/15/92 | | --- | --- | <50 | --- | 0.9 | <0.5 | <0.5 | <0.5 |
| | 09/17/92 | | --- | --- | 78 | --- | 2.6 | 1.3 | 1.3 | 0.9 |
| | 12/11/92 | | --- | --- | <50 | --- | 0.8 | <0.5 | <0.5 | <0.5 |
| | 02/04/93 | | --- | --- | 55 | --- | 1.3 | 0.7 | 0.7 | <0.5 |
| | 06/03/93 | | --- | --- | <50 | --- | 0.7 | <0.5 | <0.5 | <0.5 |
| | 09/15/93 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 12/09/93 | | 14.70 | 314.51 | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 06/16/94 | | 14.94 | 314.27 | <50 | --- | 0.8 | <0.5 | 0.7 | <0.5 |
| | **09/13/94** | | **15.17** | **314.04** | **<50** | **---** | **<0.5** | **<0.5** | **<0.5** | **<0.5** |
| S-3 | 03/20/91 | 327.67 | --- | --- | 70 | --- | 2.3 | 8.9 | 4.0 | 23 |
| | 06/26/91 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 09/05/91 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 12/13/91 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 03/11/92 | | --- | --- | <30 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 06/15/92 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 09/17/92 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 12/11/92 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 02/04/93 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 06/03/93 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 09/15/93 | | --- | --- | --- | --- | --- | --- | --- | --- |
| | 12/09/93 | | --- | --- | --- | --- | --- | --- | --- | --- |
| | **09/13/94** | | **15.17** | **312.50** | **---** | **---** | **---** | **---** | **---** | **---** |

— Table 1 continues on next page —

Table 1. Ground Water Elevations and Analytic Results - Shell Service Station WIC# 204-6138-0501, 3790 Hopyard Road, Pleasanton, California (continued)

| Well ID | Sampling Date | Top-of-Casing (ft/msl) | Depth to Water (ft) | Ground Water Elevation (ft/msl) | TPH-G | TPH-D | B | T | E | X |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ← parts per billion (µg/L) → | | | | | |
| S-4 | 03/20/91 | 328.53 | --- | --- | 1,200 | --- | 100 | <2.0 | 210 | 130 |
| | 06/26/91 | | --- | --- | 220 | --- | 14 | <0.5 | 34 | 17 |
| | 09/05/91 | | --- | --- | 580 | --- | 31 | 0.8 | 53 | 26 |
| | 12/13/91 | | --- | --- | 370 | --- | 24 | 0.9 | 1.3 | 46 |
| | 03/11/92 | | --- | --- | 1,600 | --- | 23 | 1.2 | 12 | 20 |
| | 06/15/92 | | --- | --- | 480 | --- | 48 | <1.0 | 95 | 22 |
| | 09/17/92 | | --- | --- | 260 | --- | 35 | 1.2 | 51 | 7.8 |
| | 12/11/92 | | --- | --- | 270 | --- | 34 | 0.8 | 28 | 4.5 |
| | 02/04/93 | | --- | --- | 1,100 | --- | 12 | <5.0 | 89 | 100 |
| | 06/03/93 | | --- | --- | 210 | --- | 48 | 1.1 | 42 | 4.0 |
| | 09/15/93 | | --- | --- | 700 | --- | 21 | <1.0 | 110 | 91 |
| | 12/09/93 | | 14.16 | 314.37 | 250 | --- | 39 | <0.5 | 3.8 | 2.6 |
| | 03/04/94 | | 14.17 | 314.36 | 150 | --- | 25 | 1.4 | 6.8 | 2.8 |
| | 03/04/94[dup] | | 14.17 | 314.36 | 140 | --- | 28 | 0.8 | 7.9 | 3.2 |
| | 06/16/94 | | 14.14 | 314.39 | 90 | --- | 12 | <0.5 | 1.8 | 2.4 |
| | 06/16/94[dup] | | 14.14 | 314.39 | 80 | --- | 5.9 | <0.5 | 1.5 | 0.9 |
| | **09/13/94** | | **14.42** | **314.11** | **<50** | **---** | **23** | **<0.5** | **4.9** | **2.4** |
| | **09/13/94[dup]** | | **14.42** | **314.11** | **<50** | **---** | **23** | **<0.5** | **4.0** | **2.3** |
| S-5 | 03/20/91 | 329.66 | --- | --- | 310 | --- | 39 | 12 | 18 | 30 |
| | 06/26/91 | | --- | --- | 1,300 | --- | 250 | 62 | 120 | 180 |
| | 09/05/91 | | --- | --- | 4,700 | --- | 660 | 150 | 170 | 280 |
| | 12/13/91 | | --- | --- | 1,400 | --- | 580 | 19 | 110 | 80 |
| | 03/11/92 | | --- | --- | <30 | --- | <0.3 | <0.3 | <0.3 | <0.3 |
| | 06/15/92 | | --- | --- | 1,800 | --- | 380 | 52 | 120 | 180 |
| | 09/17/92 | | --- | --- | 2,200 | --- | 750 | 91 | 170 | 170 |
| | 12/11/92 | | --- | --- | 8,700 | --- | 1,600 | 66 | 48 | 340 |
| | 02/04/93 | | --- | --- | 150 | --- | 156 | 0.7 | 4.7 | 4.0 |
| | 06/03/93 | | --- | --- | 480 | --- | 140 | 3.4 | 17 | 14 |
| | 09/15/93 | | --- | --- | 80 | --- | 2.4 | 0.5 | 1.4 | 2.9 |

Table 1. Ground Water Elevations and Analytic Results - Shell Service Station WIC# 204-6138-0501, 3790 Hopyard Road, Pleasanton, California (continued)

| Well ID | Sampling Date | Top-of-Casing (ft/msl) | Depth to Water (ft) | Ground Water Elevation (ft/msl) | TPH-G | TPH-D | B | T | E | X |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ← parts per billion (µg/L) → | | | | | |
| | 12/09/93 | | 16.26 | 313.40 | 120 | --- | 0.56 | <0.5 | 2.2 | 1.2 |
| | 03/04/94 | | 16.25 | 313.41 | 70[b] | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 06/16/94 | | 16.04 | 313.62 | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | **09/13/94** | | **11.52** | **318.14** | **<50** | **---** | **<0.5** | **<0.5** | **<0.5** | **<0.5** |
| S-6 | 03/20/91 | 327.62 | --- | --- | 130[a] | --- | 606 | 0.6 | 0.7 | 3.0 |
| | 06/26/91 | | --- | --- | 120[a] | --- | 3.8 | 0.8 | <0.5 | 1.7 |
| | 09/05/91 | | --- | --- | 60 | --- | <0.5 | 0.8 | <0.5 | 0.5 |
| | 12/13/91 | | --- | --- | 150 | --- | 2.3 | <0.5 | <0.5 | 150 |
| | 03/11/92 | | --- | --- | <30 | --- | <0.3 | <0.3 | <0.5 | <0.3 |
| | 06/15/92 | | --- | --- | 170 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 09/17/92 | | --- | --- | 190 | --- | <0.5 | 1.6 | <0.5 | 1.2 |
| | 12/11/92 | | --- | --- | 180 | --- | <0.5 | 0.8 | <0.5 | 0.7 |
| | 02/04/93 | | --- | --- | 290 | --- | <0.5 | <0.5 | <0.5 | 0.7 |
| | 06/03/93 | | --- | --- | 100 | --- | 1.2 | <0.5 | <0.5 | <0.5 |
| | 09/15/93 | | --- | --- | 160 | --- | 1.4 | <0.5 | 0.9 | 2.0 |
| | 12/09/93 | | 14.68 | 312.94 | 130 | --- | 2.3 | 2.6 | 5.1 | 6.2 |
| | 03/04/94 | | 14.42 | 313.20 | 220 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 06/16/94 | | 14.92 | 312.70 | 60 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | **09/13/94** | | **14.72** | **312.90** | **<50** | **---** | **<0.5** | **6.0** | **<0.5** | **<0.5** |
| S-7 | 03/20/91 | 328.67 | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 06/26/91 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 09/05/91 | | --- | --- | <50 | --- | <0.5 | 0.6 | <0.5 | <0.5 |
| | 12/13/91 | | --- | --- | <50 | --- | <0.6 | <0.5 | <0.5 | <0.5 |
| | 03/11/92 | | --- | --- | <50 | --- | <0.3 | <0.3 | <0.3 | <0.3 |
| | 06/15/92 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 09/17/92 | | --- | --- | <50 | --- | 0.6 | 0.6 | <0.5 | <0.5 |
| | 12/11/92 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 02/04/93 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |

Table 1. Ground Water Elevations and Analytic Results - Shell Service Station WIC# 204-6138-0501, 3790 Hopyard Road, Pleasanton, California (continued)

| Well ID | Sampling Date | Top-of-Casing (ft/msl) | Depth to Water (ft) | Ground Water Elevation (ft/msl) | TPH-G | TPH-D | B | T | E | X |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ← parts per billion (µg/L) → | | | | | |
| | 12/09/93 | | 16.89 | 311.35 | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 03/04/94 | | 17.22 | 311.02 | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 06/16/94 | | 17.46 | 310.78 | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | **09/13/94** | | **17.59** | **310.65** | **<50** | **---** | **<0.5** | **<0.5** | **<0.5** | **<0.5** |
| S-10 | 03/20/91 | 326.55 | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 06/26/91 | | --- | --- | 50 | --- | 1.8 | 5.8 | 1.9 | 13 |
| | 09/05/91 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 12/13/91 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 03/11/92 | | --- | --- | <30 | --- | <0.3 | <0.3 | <0.3 | <0.3 |
| | 06/15/92 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 09/17/92 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 12/11/92 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 02/04/93 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 06/03/93 | | --- | --- | <50 | --- | <0.5 | <0.5 | <0.5 | <0.5 |
| | 09/15/93 | | --- | --- | --- | --- | --- | --- | --- | --- |
| | 12/09/93 | | --- | --- | --- | --- | --- | --- | --- | --- |
| | **09/13/94** | | **13.84** | **312.71** | **---** | **---** | **---** | **---** | **---** | **---** |
| SR-1 | 03/04/94 | 329.78 | 16.34 | 313.44 | --- | --- | --- | --- | --- | --- |
| | 06/16/94 | | 16.72 | 313.06 | --- | --- | --- | --- | --- | --- |
| SR-2 | 03/04/94 | 328.35 | 14.39 | 313.96 | --- | --- | --- | --- | --- | --- |
| | 06/16/94 | | 14.48 | 313.87 | --- | --- | --- | --- | --- | --- |

Table 1. Ground Water Elevations and Analytic Results - Shell Service Station WIC# 204-6138-0501, 3790 Hopyard Road, Pleasanton, California (continued)

| Well ID | Sampling Date | Top-of-Casing (ft/msl) | Depth to Water (ft) | Ground Water Elevation (ft/msl) | TPH-G | TPH-D | B | T | E | X |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ← parts per billion (µg/L) → | | | | | |
| SR-3 | 03/04/94 | 329.11 | 14.66 | 314.45 | --- | --- | --- | --- | --- | --- |
| | 06/16/94 | | 14.96 | 314.15 | --- | --- | --- | --- | --- | --- |
| Trip Blank | 06/16/94 | | | | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | **09/13/94** | | | | **<50** | **---** | **<0.5** | **<0.5** | **<0.5** | **<0.5** |
| DTSC MCLs | | | | | NE | NE | 1 | 100[b,c] | 680 | 1,750 |

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
TPH-D = Total petroleum hydrocarbons as diesel 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 8020
DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water
NE = Not established
--- = Not analyzed
<n = Not detected at detection limits of n ppb
dup = Duplicate sample

Notes:

a = Compounds detected within the chromatographic range of gasoline but not characteristic of the standard gasoline pattern
b = The result for gasoline is an unknown hydrocarbon which consists of a single peak
c = DTSC recommened action level; MCL not established

# ATTACHMENT A

GROUND WATER MONITORING REPORT AND ANALYTIC REPORT

BLAINE
TECH SERVICES INC.

985 TIMOTHY DRIVE
SAN JOSE, CA 9513
(408) 995-553
FAX (408) 293-877

September 30, 1994

Shell Oil Company
P.O. Box 4023
Concord, CA 94524

Attn: Daniel T. Kirk

SITE:
Shell WIC #204-6138-0501
3790 Hopyard Road
Pleasanton, California

QUARTER:
3rd quarter of 1994

## QUARTERLY GROUNDWATER SAMPLING REPORT 940913-L-2

This report contains data collected during routine inspection, gauging and sampling of groundwater monitoring wells performed by Blaine Tech Services, Inc. in response 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 removed in cases where more evacuation is needed to achieve stabilization of water parameters and 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 equipment 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 National Environmental Testing, Inc. in Santa Rosa, California. NET is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #178.

**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/lp

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-2 | 9/13/94 | TOB | -- | NONE | -- | -- | 15.17 | 35.08 |
| S-4 * | 9/13/94 | TOB | ODOR | NONE | -- | -- | 14.42 | 36.02 |
| S-5 | 9/13/94 | TOB | -- | NONE | -- | -- | 11.52 | 35.90 |
| S-6 | 9/13/94 | TOB | ODOR | NONE | -- | -- | 14.72 | 34.72 |
| S-9 | 9/13/94 | TOB | -- | NONE | -- | -- | 17.59 | 34.74 |
| S-3 | 9/13/94 | TOB | -- | NONE | -- | -- | 13.32 | 34.95 |
| S-7 | 9/13/94 | TOB | -- | NONE | -- | -- | 16.83 | 34.88 |
| S-8 | 9/13/94 | TOB | -- | NONE | -- | -- | 15.16 | 34.48 |
| S-10 | 9/13/94 | TOB | -- | NONE | -- | -- | 13.84 | 34.32 |

* Sample DUP was a duplicate sample taken from well S-4.

2573

# SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

## CHAIN OF CUSTODY RECORD
Serial No: 940913-L2

Date: 9/13/93
Page 1 of 1

Site Address: 3790 Hopyard Rd., Pleasanton

WIC#: 204-6138-0501

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: LAD BOLVER

Printed Name: Lad Bolver

LAB: NET

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-2 | 9/13 | | | X | | 3 | | | | | | X | | | | | | | | |
| S-4 | | | | X | | 3 | | | | | | X | | | | | | | | |
| S-5 | | | | X | | 3 | | | | | | X | | | | | | | | |
| S-6 | | | | X | | 3 | | | | | | X | | | | | | | | |
| S-9 | | | | X | | 3 | | | | | | X | | | | | | | | |
| DUP. | | | | X | | 3 | | | | | | X | | | | | | | | |
| E.B. | | | | X | | 3 | | | | | | X | | | | | | | | |
| T.B. | ↓ | | | X | | 2 | | | 9/14 | | | X | | | | | | | | |

CHECK ONE (1) BOX ONLY — C1/D1

| | | | |
|---|---|---|---|
| Quarterly Monitoring | ☒ 6441 | 24 hours | ☐ |
| Site Investigation | ☐ 6441 | 48 hours | ☐ |
| Soil Classify/Disposal | ☐ 6442 | 10 days | ☒ (Normal) |
| Water Classify/Disposal | ☐ 6443 | Other | ☐ |
| Soil/Air Rem. or Sys. O & M | ☐ 6442 | NOTE: Notify Lab as soon as Possible of 24/48 hr. TAT. | |
| Water Rem. or Sys. O & M | ☐ 6443 | | |
| Other | ☐ | | |

CUSTODY SEALED 9/14/93

| Relinquished By (signature): | Printed Name: | Date: | Time: | Received (signature): | Printed Name: | Date: | Time: |
|---|---|---|---|---|---|---|---|
| | LAD BOLVER | 9/14 | 13:30 | | GT ZUMBRE | 9/14 | 13:30 |
| | GT ZUMBRE | 9/14 | 2100 | | | | |
| (via HCS) | | | | | R. Temple | 9/15/93 | 0920 |

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

NATIONAL ENVIRONMENTAL TESTING, INC.

Santa Rosa Division
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Jim Keller
Blaine Tech Services
985 Timothy Dr.
San Jose, CA 95133

Date: 09/27/1994
NET Client Acct. No: 1821
NET Pacific Job No: 94.04213
Received: 09/15/1994

Client Reference Information

SHELL, 3790 Hopyard Rd., Pleasanton, Job No. 940913-L2

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jody Ridley
Project Coordinator

Jim Hoch
Operations Manager

Enclosure(s)

Ref: SHELL, 3790 Hopyard Rd., Pleasanton, Job No. 940913-L2

SAMPLE DESCRIPTION: S-2
Date Taken: 09/13/1994
Time Taken:
NET Sample No: 216181

| Parameter | Results | Flags | Reporting Limit | Units | Method | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| TPH (Gas/BTXE,Liquid) | | | | | | | |
| METHOD 5030/M8015 | -- | | | | | | 09/18/1994 |
| DILUTION FACTOR* | 1 | | | | | | 09/18/1994 |
| as Gasoline | ND | | 50 | ug/L | 5030 | | 09/18/1994 |
| Carbon Range: | -- | | | | | | 09/18/1994 |
| METHOD 8020 (GC,Liquid) | -- | | | | | | 09/18/1994 |
| Benzene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Toluene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Ethylbenzene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Xylenes (Total) | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| SURROGATE RESULTS | -- | | | | | | 09/18/1994 |
| Bromofluorobenzene (SURR) | 89 | | | % Rec. | 5030 | | 09/18/1994 |

Ref: SHELL, 3790 Hopyard Rd., Pleasanton, Job No. 940913-L2

SAMPLE DESCRIPTION: S-4
Date Taken: 09/13/1994
Time Taken:
NET Sample No: 216182

| Parameter | Results | Flags | Reporting Limit | Units | Method | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| TPH (Gas/BTXE,Liquid) | | | | | | | |
| METHOD 5030/M8015 | -- | | | | | | 09/18/1994 |
| DILUTION FACTOR* | 1 | | | | | | 09/18/1994 |
| as Gasoline | ND | | 50 | ug/L | 5030 | | 09/18/1994 |
| Carbon Range: | -- | | | | | | 09/18/1994 |
| METHOD 8020 (GC,Liquid) | -- | | | | | | 09/18/1994 |
| Benzene | 23 | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Toluene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Ethylbenzene | 4.9 | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Xylenes (Total) | 2.4 | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| SURROGATE RESULTS | -- | | | | | | 09/18/1994 |
| Bromofluorobenzene (SURR) | 88 | | | % Rec. | 5030 | | 09/18/1994 |

Ref: SHELL, 3790 Hopyard Rd., Pleasanton, Job No. 940913-L2

SAMPLE DESCRIPTION: S-5
Date Taken: 09/13/1994
Time Taken:
NET Sample No: 216183

| Parameter | Results | Flags | Reporting Limit | Units | Method | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| TPH (Gas/BTXE,Liquid) | | | | | | | |
| METHOD 5030/M8015 | -- | | | | | | 09/18/1994 |
| DILUTION FACTOR* | 1 | | | | | | 09/18/1994 |
| as Gasoline | ND | | 50 | ug/L | 5030 | | 09/18/1994 |
| Carbon Range: | -- | | | | | | 09/18/1994 |
| METHOD 8020 (GC,Liquid) | -- | | | | | | 09/18/1994 |
| Benzene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Toluene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Ethylbenzene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Xylenes (Total) | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| SURROGATE RESULTS | -- | | | | | | 09/18/1994 |
| Bromofluorobenzene (SURR) | 90 | | | % Rec. | 5030 | | 09/18/1994 |

Ref: SHELL, 3790 Hopyard Rd., Pleasanton, Job No. 940913-L2

SAMPLE DESCRIPTION: S-6
Date Taken: 09/13/1994
Time Taken:
NET Sample No: 216184

| Parameter | Results | Flags | Reporting Limit | Units | Method | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| TPH (Gas/BTXE,Liquid) | | | | | | | |
| METHOD 5030/M8015 | -- | | | | | | 09/18/1994 |
| DILUTION FACTOR* | 1 | | | | | | 09/18/1994 |
| as Gasoline | ND | | 50 | ug/L | 5030 | | 09/18/1994 |
| Carbon Range: | -- | | | | | | 09/18/1994 |
| METHOD 8020 (GC,Liquid) | -- | | | | | | 09/18/1994 |
| Benzene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Toluene | 6.0 | C | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Ethylbenzene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Xylenes (Total) | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| SURROGATE RESULTS | -- | | | | | | 09/18/1994 |
| Bromofluorobenzene (SURR) | 87 | | | % Rec. | 5030 | | 09/18/1994 |

C: Positive result confirmed by secondary column or GC/MS analysis.

Ref: SHELL, 3790 Hopyard Rd., Pleasanton, Job No. 940913-L2

SAMPLE DESCRIPTION: S-9
Date Taken: 09/13/1994
Time Taken:
NET Sample No: 216185

| Parameter | Results | Flags | Reporting Limit | Units | Method | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| TPH (Gas/BTXE,Liquid) | | | | | | | |
| METHOD 5030/M8015 | -- | | | | | | 09/18/1994 |
| DILUTION FACTOR* | 1 | | | | | | 09/18/1994 |
| as Gasoline | ND | | 50 | ug/L | 5030 | | 09/18/1994 |
| Carbon Range: | -- | | | | | | 09/18/1994 |
| METHOD 8020 (GC,Liquid) | -- | | | | | | 09/18/1994 |
| Benzene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Toluene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Ethylbenzene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Xylenes (Total) | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| SURROGATE RESULTS | -- | | | | | | 09/18/1994 |
| Bromofluorobenzene (SURR) | 88 | | | % Rec. | 5030 | | 09/18/1994 |

Ref: SHELL, 3790 Hopyard Rd., Pleasanton, Job No. 940913-L2

SAMPLE DESCRIPTION: DUP
Date Taken: 09/13/1994
Time Taken:
NET Sample No: 216186

| Parameter | Results | Flags | Reporting Limit | Units | Method | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| TPH (Gas/BTXE,Liquid) | | | | | | | |
| METHOD 5030/M8015 | -- | | | | | | 09/18/1994 |
| DILUTION FACTOR* | 1 | | | | | | 09/18/1994 |
| as Gasoline | ND | | 50 | ug/L | 5030 | | 09/18/1994 |
| Carbon Range: | -- | | | | | | 09/18/1994 |
| METHOD 8020 (GC,Liquid) | -- | | | | | | 09/18/1994 |
| Benzene | 23 | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Toluene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Ethylbenzene | 4.0 | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Xylenes (Total) | 2.3 | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| SURROGATE RESULTS | -- | | | | | | 09/18/1994 |
| Bromofluorobenzene (SURR) | 97 | | | % Rec. | 5030 | | 09/18/1994 |

Ref: SHELL, 3790 Hopyard Rd., Pleasanton, Job No. 940913-L2

SAMPLE DESCRIPTION: EB
Date Taken: 09/13/1994
Time Taken:
NET Sample No: 216187

| Parameter | Results | Flags | Reporting Limit | Units | Method | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| TPH (Gas/BTXE,Liquid) | | | | | | | |
| METHOD 5030/M8015 | -- | | | | | | 09/18/1994 |
| DILUTION FACTOR* | 1 | | | | | | 09/18/1994 |
| as Gasoline | ND | | 50 | ug/L | 5030 | | 09/18/1994 |
| Carbon Range: | -- | | | | | | 09/18/1994 |
| METHOD 8020 (GC,Liquid) | -- | | | | | | 09/18/1994 |
| Benzene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Toluene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Ethylbenzene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Xylenes (Total) | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| SURROGATE RESULTS | -- | | | | | | 09/18/1994 |
| Bromofluorobenzene (SURR) | 92 | | | % Rec. | 5030 | | 09/18/1994 |

Ref: SHELL, 3790 Hopyard Rd., Pleasanton, Job No. 940913-L2

SAMPLE DESCRIPTION: TB
Date Taken: 09/13/1994
Time Taken:
NET Sample No: 216188

| Parameter | Results | Flags | Reporting Limit | Units | Method | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| TPH (Gas/BTXE,Liquid) | | | | | | | |
| METHOD 5030/M8015 | -- | | | | | | 09/18/1994 |
| DILUTION FACTOR* | 1 | | | | | | 09/18/1994 |
| as Gasoline | ND | | 50 | ug/L | 5030 | | 09/18/1994 |
| Carbon Range: | -- | | | | | | 09/18/1994 |
| METHOD 8020 (GC,Liquid) | -- | | | | | | 09/18/1994 |
| Benzene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Toluene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Ethylbenzene | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| Xylenes (Total) | ND | | 0.5 | ug/L | 8020 | | 09/18/1994 |
| SURROGATE RESULTS | -- | | | | | | 09/18/1994 |
| Bromofluorobenzene (SURR) | 93 | | | % Rec. | 5030 | | 09/18/1994 |

Ref: SHELL, 3790 Hopyard Rd., Pleasanton, Job No. 940913-L2

# METHOD BLANK REPORT

| Parameter | Method Blank Amount Found | Reporting Limit | Units | Date Analyzed | Analyst Initials |
|---|---|---|---|---|---|
| TPH (Gas/BTXE,Liquid) | | | | | |
| as Gasoline | ND | 0.05 | mg/L | 09/18/1994 | mfa |
| Benzene | ND | 0.5 | ug/L | 09/18/1994 | mfa |
| Toluene | ND | 0.5 | ug/L | 09/18/1994 | mfa |
| Ethylbenzene | ND | 0.5 | ug/L | 09/18/1994 | mfa |
| Xylenes (Total) | ND | 0.5 | ug/L | 09/18/1994 | mfa |
| Bromofluorobenzene (SURR) | 90 | | % Rec. | 09/18/1994 | mfa |

Ref: SHELL, 3790 Hopyard Rd., Pleasanton, Job No. 940913-L2

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE

| Parameter | Matrix Spike % Rec. | Matrix Spike Dup % Rec. | RPD | Spike Amount | Sample Conc. | Matrix Spike Conc. | Matrix Spike Dup. Conc. | Units | Date Analyzed | Analyst Initials |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH (Gas/BTXE,Liquid) | | | | | | | | | | |
| Benzene | 116.3 | 110.0 | 5.6 | 8.0 | ND | 9.3 | 8.8 | ug/L | 09/18/1994 | mfa |
| Toluene | 116.3 | 105.0 | 10.2 | 8.0 | ND | 9.3 | 8.4 | ug/L | 09/18/1994 | mfa |

# KEY TO ABBREVIATIONS and METHOD REFERENCES

| | | |
|---|---|---|
| < | : | Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit. |
| * | : | Reporting Limits are a function of the dilution factor for any given sample. Actual reporting limits and results have been multiplied by the listed dilution factor. **Do not** multiply the reporting limits or reported values by the dilution factor. |
| dw | : | Result expressed as dry weight. |
| mean | : | Average; sum of measurements divided by number of measurements. |
| mg/Kg (ppm) | : | Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million). |
| mg/L | : | Concentration in units of milligrams of analyte per liter of sample. |
| mL/L/hr | : | Milliliters per liter per hour. |
| MPN/100 mL | : | Most probable number of bacteria per one hundred milliliters of sample. |
| N/A | : | Not applicable. |
| NA | : | Not analyzed. |
| ND | : | Not detected; the analyte concentration is less than the applicable listed reporting limit. |
| NTU | : | Nephelometric turbidity units. |
| RPD | : | Relative percent difference, 100 [Value 1 - Value 2]/mean value. |
| SNA | : | Standard not available. |
| ug/Kg (ppb) | : | Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion). |
| ug/L | : | Concentration in units of micrograms of analyte per liter of sample. |
| umhos/cm | : | Micromhos per centimeter. |

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, Rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, Rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986., Rev. 1, December 1987.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

Revised September, 1993
abb.93

COOLER RECEIPT FORM

Project: Shell, Pleasanton, 940913-L2 Log No: 2573
Cooler received on: 9-15-94 and checked on 9-15-94 by J. Sorensen
(signature)

Were custody papers present?..... (YES) NO
Were custody papers properly filled out?..... (YES) NO
Were the custody papers signed?..... (YES) NO
Was sufficient ice used?..... (YES) NO 4.5°C
Did all bottles arrive in good condition (unbroken)?..... (YES) NO
Did bottle labels match COC?..... (YES) NO
Were proper bottles used for analysis indicated?..... (YES) NO
Correct preservatives used?..... (YES) NO
VOA vials checked for headspace bubbles?..... (YES) NO
Note which voas (if any) had bubbles:*

| Sample descriptor: | Number of vials: |
|---|---|
| TB | 1 of 2 |

*All VOAs with headspace bubbles have been set aside so they will not be used for analysis.....YES NO

List here all other jobs received in the same cooler:

| Client Job # | NET log # |
|---|---|

(coolerrec)

# WELL GAUGING DATA

Project # 940913-L2 Date 9/13/94 Client SHELL WIC# 204613805O1

Site 3790 HOPYARD RD, PLEASANTON, CA

| Well I.D. | Well Size (in.) | Sheen/ Odor | Depth to Immiscible Liquid (feet) | Thickness of Immiscible Liquid (ft.) | Volume of Immiscibles Removed (ml) | Depth to Water (feet) | Depth to Well Bottom (feet) | Survey Point: TOB or TOC |
|---|---|---|---|---|---|---|---|---|
| S-2 | 3 | | | | | 15.17 | 35.08 | TOB |
| S-4 | 3 | SLIGHT ODOR | | | | 14.42 | 36.02 | |
| S-5 | 3 | | | | | 11.52 | 35.90 | |
| S-6 | 3 | SLIGHT ODOR | | | | 14.72 | 34.72 | |
| S-9 | 3 | | | | | 17.59 | 34.74 | |
| S-3 | 3 | | | | | 13.32 | 34.95 | |
| S-7 | 3 | | | | | 16.83 | 34.88 | |
| S-8 | 3 | | | | | 15.16 | 34.48 | |
| S-10 | 3 | | | | | 13.84 | 34.32 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 940913-L2 | Wic # 204 6138 0501 |
| Sampler: LAD | Date Sampled: 9/13/94 |
| Well I.D.: S-2 | Well Diameter: (circle one) 2 (3) 4 6 ___ |
| Total Well Depth: Before 35.08 After | Depth to Water: Before 15.17 After |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Measurements referenced to: PVC (Grade) Other -- | |

Volume Conversion Factor (VCF):
$(12 \times (d^2/4) \times \pi)/231$
where
12 = in./foot
d = diameter (in.)
π = 3.1416
231 = in.³/gal

| Well dia. | VCF |
|---|---|
| 2" | = 0.16 |
| 3" | = 0.37 |
| 4" | = 0.65 |
| 6" | = 1.47 |
| 10" | = 4.08 |
| 12" | = 5.87 |

| 7.4 | x | 3 | | 22.2 |
|---|---|---|---|---|
| 1 Case Volume | | Specified Volumes | = | gallons |

Purging: Bailer ☐ Middleburg ☐ Electric Submersible ☒ Suction Pump ☐ Type of Installed Pump ___

Sampling: Bailer ☒ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Installed Pump ☐

| TIME | TEMP. (F) | pH | COND. | TURBIDITY: | VOLUME REMOVED: | OBSERVATIONS: |
|---|---|---|---|---|---|---|
| 1400 | 66.2 | 7.1 | 4070. | >200. | 8. | |
| 1402 | 65.8 | 7.0 | 4290. | >200. | 15. | |
| 1406 | 65.4 | 6.9 | 4300. | >200. | 23. | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 23

Sampling Time: 1410

Sample I.D.: S-2 Laboratory: NET

Analyzed for: TPHG, BTEX

Duplicate I.D.: Cleaning Blank I.D.: EB AT 1345

Analyzed for: TPHG, BTEX AFTER S-9

Shipping Notations:

Additional Notations: D.O. 3.5 mg/l.

# WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 940913-LZ | Client: SHELL WIC# 204 6138 0501 |
| Sampler: LAD | Date Sampled: 9/13/94 |
| Well I.D.: S-3 | Well Diameter: (circle one) 2 (3) 4 6 ___ |
| Total Well Depth: Before 34.95 After | Depth to Water: Before 13.32 After |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Measurements referenced to: PVC (Grade) Other -- | |

Volume Conversion Factor (VCF):

$VCF = (d^2/4) \times \pi / 231$

Where

12 = in/foot
d = diameter (in.)
π = 3.1416
231 = in3/gal

| Well dia. | VCF |
|---|---|
| 2" | = 0.16 |
| 3" | = 0.37 |
| 4" | = 0.65 |
| 6" | = 1.47 |
| 10" | = 4.08 |
| 12" | = 5.87 |

| 1 Case Volume | X | Specified Volumes | = | gallons |
|---|---|---|---|---|
| ___ | | ___ | | ___ |

Purging: Bailer ☐
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Type of Installed Pump ___

Sampling: Bailer ~~☐~~ ✓
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

| TIME | TEMP. (F) | pH | COND. | TURBIDITY: | VOLUME REMOVED: | OBSERVATIONS: |
|---|---|---|---|---|---|---|
| | D.O. | ONLY | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did Well Dewater? If yes, gals. Gallons Actually Evacuated:

Sampling Time:

Sample I.D.: Laboratory:

Analyzed for:

Duplicate I.D.: Cleaning Blank I.D.:

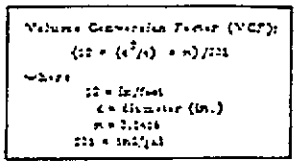
Analyzed for:

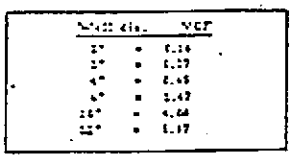
Shipping Notations:

Additional Notations: D.O. 3.5 mg/l.

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 940913-L2 | Wic # 204 6138 0501 |
| Sampler: LAD | Date Sampled: 9/13/94 |
| Well I.D.: S-4 | Well Diameter: (circle one) 2 (3) 4 6 ___ |
| Total Well Depth: Before 36.02 After | Depth to Water: Before 14.42 After |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Measurements referenced to: PVC (Grade) Other -- | |




8.0 (1 Case Volume) x 3 (Specified Volumes) = 24.0 gallons

Purging: Bailer ☐
Middleburg ☐
Electric Submersible ☒
Suction Pump ☐
Type of Installed Pump _____

Sampling: Bailer ~~☒~~
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

| TIME | TEMP. (F) | pH | COND. | TURBIDITY: | VOLUME REMOVED: | OBSERVATIONS: |
|---|---|---|---|---|---|---|
| 1540 | 65.4 | 7.0 | 3480. | 185. | 8. | ODOR |
| 1542 | 65.4 | 6.8 | 2570. | >200. | 16. | |
| 1545 | 65.4 | 6.8 | 2910. | 185. | 24. | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 24.

Sampling Time: 1550

Sample I.D.: S-4 Laboratory: NET

Analyzed for: TPHG, BTEX

Duplicate I.D.: DUP Cleaning Blank I.D.:

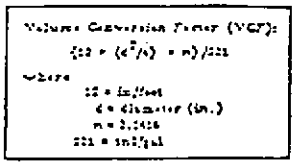
Analyzed for: TPHG, BTEX

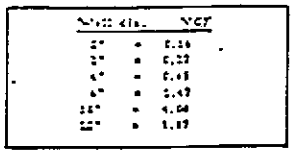
Shipping Notations:

Additional Notations: DO 3.2 mg/l

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 940913-22 | Wic # 204 6138 0501 |
| Sampler: LAD | Date Sampled: 9/13/94 |
| Well I.D.: S-5 | Well Diameter: (circle one) 2 (3) 4 6 ___ |
| Total Well Depth: Before 35.90 After | Depth to Water: Before 11.52 After |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Measurements referenced to: PVC (Grade) Other -- | |





| 9.0 | x | 3 | = | 27.0 |
|---|---|---|---|---|
| 1 Case Volume | | Specified Volumes | | Gallons |

Purging: Bailer ☐ Middleburg ☐ Electric Submersible ☒ Suction Pump ☐ Type of Installed Pump ___

Sampling: Bailer ☒ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Installed Pump ☐

| TIME | TEMP. (F) | pH | COND. | TURBIDITY: | VOLUME REMOVED: | OBSERVATIONS: |
|---|---|---|---|---|---|---|
| 1420 | 65.2 | 6.9 | 2450. | 161. | 9. | |
| 1422 | 65.0 | 6.8 | 2350. | >200. | 18. | |
| 1426 | 66.0 | 6.8 | 2410 | >200 | 27. | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 27.

Sampling Time: 1430

Sample I.D.: S-5 Laboratory: NET

Analyzed for: TPHG, BTEX

Duplicate I.D.: Cleaning Blank I.D.:

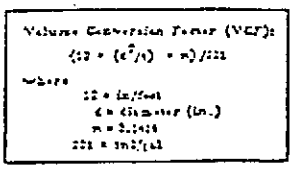
Analyzed for:

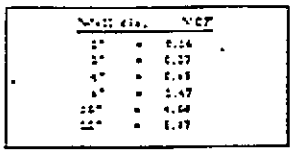
Shipping Notations:

Additional Notations: D.O. 3.4 mg/l.

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 940913-L2 | Wic # 204 6138 0501 |
| Sampler: LAD | Date Sampled: 9/13/94 |
| Well I.D.: S-6 | Well Diameter: (circle one) 2 (3) 4 6 ___ |
| Total Well Depth: Before 34.72 After | Depth to Water: Before 14.72 After |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Measurements referenced to: PVC (Grade) Other -- | |





| | | | | |
|---|---|---|---|---|
| 7.4 | x | 3 | = | 22.2 |
| 1 Case Volume | | Specified Volumes | | gallons |

Purging: Bailer ☐ Middleburg ☐ Electric Submersible ☒ Suction Pump ☐ Type of Installed Pump ___

Sampling: Bailer ☒ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Installed Pump ☐

| TIME | TEMP. (F) | pH | COND. | TURBIDITY: | VOLUME REMOVED: | OBSERVATIONS: |
|---|---|---|---|---|---|---|
| 1508 | 64.4 | 7.1 | 2220. | >200. | 8. | SLIGHT ODOR |
| 1511 | 63.2 | 7.0 | 2010. | >200 | 15. | |
| 1515 | 63.2 | 6.9 | 2160. | >200. | 23. | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 23.

Sampling Time: 1520

Sample I.D.: S-6 Laboratory: NET

Analyzed for: TPHG, BTEX

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations: D.O 3.1 mg/L, 5.9.

# WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 940913-LZ | Client: SHELL WIC#204613805O1 |
| Sampler: LAD | Date Sampled: 9/13/94 |
| Well I.D.: S-7 | Well Diameter: (circle one) 2 (3) 4 6 ___ |
| Total Well Depth: Before 34.88 After | Depth to Water: Before 16.83 After |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Measurements referenced to: PVC (Grade) Other -- | |

Volume Conversion Factor (VCF):
(12 = (d²/4) × π)/231
Where
12 = in/foot
d = diameter (in.)
π = 3.1416
231 = in³/gal

| Well dia. | | VCF |
|---|---|---|
| 2" | = | 0.16 |
| 3" | = | 0.37 |
| 4" | = | 0.65 |
| 6" | = | 1.47 |
| 10" | = | 4.08 |
| 12" | = | 5.87 |

___ X ___ = ___

1 Case Volume | Specified Volumes | gallons

Purging: Bailer ☐
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Type of Installed Pump ___

Sampling: Bailer ☒
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

| TIME | TEMP. (F) | pH | COND. | TURBIDITY: | VOLUME REMOVED: | OBSERVATIONS: |
|---|---|---|---|---|---|---|
| | * D.O | ONLY | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did Well Dewater? If yes, gals. Gallons Actually Evacuated:

Sampling Time:

Sample I.D.: Laboratory:

Analyzed for:

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations: D.O. 3.7 mg/l.

# WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 940913-L2 | Client: SHELL WIC# 204 6138 0501 |
| Sampler: LAD | Date Sampled: 9/13/94 |
| Well I.D.: 5-8 | Well Diameter: (circle one) 2 (3) 4 6 ___ |
| Total Well Depth: Before 34.48 After | Depth to Water: Before 15.16 After |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Measurements referenced to: PVC (Grade) Other -- | |

Volume Conversion Factor (VCF):

$(12 \times (d^2/4) \times \pi)/231$

Where
12 = in/foot
d = diameter (in.)
π = 3.1416
231 = in³/gal

| Well dia. | VCF |
|---|---|
| 2" | = 0.16 |
| 3" | = 0.37 |
| 4" | = 0.65 |
| 6" | = 1.47 |
| 10" | = 4.08 |
| 12" | = 5.87 |

___ X ___ = ___

1 Case Volume | Specified Volumes | gallons

Purging: Bailer ☐
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Type of Installed Pump ___

Sampling: Bailer ☒
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

| TIME | TEMP. (F) | pH | COND. | TURBIDITY: | VOLUME REMOVED: | OBSERVATIONS: |
|---|---|---|---|---|---|---|
| X | D.O. | ONLY | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did Well Dewater? If yes, gals. Gallons Actually Evacuated:

Sampling Time:

Sample I.D.: Laboratory:

Analyzed for:

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations: D.O. 3.1 mg/l.

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 940913-LZ | Wic # 204 6138 0501 |
| Sampler: LAD | Date Sampled: 9/13/94 |
| Well I.D.: S-9 | Well Diameter: (circle one) 2 (3) 4 6 ___ |
| Total Well Depth: Before 34.74 After | Depth to Water: Before 17.59 After |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Measurements referenced to: PVC (Grade) Other -- | |

Volume Conversion Factor (VCF):
(12 × (d²/4) × π)/231
Where
12 = in./foot
d = diameter (in.)
π = 3.1416
231 = cu.in./gal

| Well dia. | VCF |
|---|---|
| 2" | = 0.16 |
| 3" | = 0.37 |
| 4" | = 0.65 |
| 6" | = 1.47 |
| 10" | = 4.08 |
| 12" | = 5.87 |

| 6.3 | x | 3 | = | 18.9 |
|---|---|---|---|---|
| 1 Case Volume | | Specified Volumes | | gallons |

Purging: Bailer ☐
Middleburg ☐
Electric Submersible ☒
Suction Pump ☐
Type of Installed Pump _____

Sampling: Bailer ☒
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

| TIME | TEMP. (F) | pH | COND. | TURBIDITY: | VOLUME REMOVED: | OBSERVATIONS: |
|---|---|---|---|---|---|---|
| 1329 | 65.2 | 7.0 | 4630. | >200 | 7. | |
| 1331 | 64.0 | 6.8 | 4620. | >200. | 13. | |
| 1334 | 64.0 | 7.0 | 4540. | >200. | 19. | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 19.

Sampling Time: 1340

Sample I.D.: S-9 Laboratory: NET

Analyzed for: TPH6, BTEX

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations: D.O. 5.5 mg/l.

# WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 940913-L2 | Client: SHELL WIC# 204 6138 0501 |
| Sampler: LAD | Date Sampled: 9/13/94 |
| Well I.D.: S-10 | Well Diameter: (circle one) 2 (3) 4 6 ___ |
| Total Well Depth: Before 34.32 After | Depth to Water: Before 13.84 After |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Measurements referenced to: PVC (Grade) Other -- | |

Volume Conversion Factor (VCF):

$(22 \times (d^2/4) \times \pi)/231$

where

22 = in/foot
d = diameter (in.)
π = 3.1416
231 = $in^3$/gal

| Well dia. | VCF |
|---|---|
| 2" | = 0.16 |
| 3" | = 0.37 |
| 4" | = 0.65 |
| 6" | = 1.47 |
| 10" | = 4.08 |
| 12" | = 5.87 |

| | | | | |
|---|---|---|---|---|
| ___ | x | ___ | = | ___ |
| 1 Case Volume | | Specified Volumes | | gallons |

Purging: Bailer ☐
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Type of Installed Pump ___

Sampling: Bailer ☒
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

| TIME | TEMP. (F) | pH | COND. | TURBIDITY: | VOLUME REMOVED: | OBSERVATIONS: |
|---|---|---|---|---|---|---|
| | * D.O | ONLY | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did Well Dewater? If yes, gals. Gallons Actually Evacuated:

Sampling Time:

Sample I.D.: Laboratory:

Analyzed for:

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations: D.O. 5.1 mg/l.

WELL HEAD INSPECTION CHECKLIST AND REPAIR ORDER

Client SHELL Site # 204-6138-0501 Inspection date: 9/13/94

Site address 3790 HOPYARD Inspected by: LAD

BTS Event # 940913-LL2

| | | |
|---|---|---|
| 1. Lid on the box? Yes No | 5. Water standing in the well box? | 7. Can cap be pulled loose? |
| 2. Lid whole? | 5a. Standing above well top? | 8. Can cap seal out water? |
| 3. Lid secure? | 5b. Standing below well top? | 9. Padlock present? |
| 4. Lid seal intact? | 5c. Water even with top of well cap? | 10. Padlock found locked? |
| | 6. Well cap/plug present? | 11. Padlock functional? |

☐ Check box if *no deficiences* were found. Note below deficiencies you were able to correct.

| Well I.D. | Deficiency | Corrective Action Taken |
|---|---|---|
| S-6 | 5A. | BAILED |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Note below all deficiences that could not be corrected and *still need to be corrected.*

| Well I.D. | Persisting Deficiency | BTS Office assigns or defers Correction to: | Date assigned | Date corrected |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
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| | | | | |
| | | | | |
| | | | | |

Office review and assignments made by _____ date _____

# ATTACHMENT B

## SAMPLING FREQUENCY MODIFICATION CRITERIA

# SAMPLING FREQUENCY CRITERIA

Weiss Associates (WA) has developed a technical approach for determining appropriate ground water monitoring well sampling frequencies for service station monitoring programs. Ground water monitoring wells are typically sampled quarterly at service stations to monitor the concentration and extent of hydrocarbons and/or volatile organic compounds (VOCs) in ground water. This satisfies California Regional Water Quality Control Board (RWQCB) ground water monitoring guidelines which state: "Quarterly (ground water) monitoring is the maximum sampling interval typically allowed when ground water contamination is present unless other arrangements are made with Regional (Water Quality Control) Board staff"[1]. San Francisco Bay RWQCB personnel have indicated that the RWQCB will allow well sampling frequency reductions on a site specific basis if the frequency reductions are justified by site conditions. Presented below are generalized criteria we have developed for determining the appropriate well sampling frequencies based on specific site conditions.

## CRITERIA FOR REDUCING SAMPLING FREQUENCY

Sampling frequency modifications may be modified either uniformly across a site, based on how site-specific data satisfies our site criteria, or by each individual well, based on how data from each well satisfies our well criteria. The criteria are presented below.

[1] North Coast, San Francisco Bay, Central Valley Regional Water Quality Control Boards, June 2, 1988 (revised May 18, 1989), "Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks; pg. 12

Site Criteria

The following technical site criteria are assessed to determine if site-wide sampling frequency modifications are appropriate:

- Reliability of previous ground water analytic data from all site wells;
- Spatial definition of the contaminant plume and the extent to which natural or engineered processes have controlled contaminant migration; and
- The magnitude of contaminant concentrations in ground water from all the site wells.

Each of these factors is discussed below.

Reliability of Ground Water Analytic Data

The reproducibility of ground water analytic data is highly sensitive to geologic conditions, ground water elevations, field sampling procedures and laboratory analytic procedures. Of these controlling factors, ground water fluctuations usually have the greatest impact on data reproducibility. Since ground water elevations at most sites fluctuate during the course of a year, ground water should be monitored for at least one year to assess the impact of ground water fluctuations on data reproducibility. RWQCB guidelines also stipulate sampling all monitoring wells at least quarterly for one year when hydrocarbons are detected in the well. Therefore, WA recommends reducing the sampling frequency only for wells which:

- Have been sampled at least four times over a period of one year, and
- Have consistent historical analytic results allowing a reliable assessment of the representative hydrocarbon concentrations in the ground water.

If the variability of the analytic data prevents a reliable assessment of concentrations, then we recommend sampling the well(s) quarterly until a reliable assessment can be made.

Plume Definition and Migration Control

The extent of contaminants in the subsurface must be assessed and migration control of these contaminants must be attained before site-wide sampling frequency modifications can be justified. A number of natural and engineered phenomena may control the migration of contaminants in the subsurface:

- Soils with low permeabilities;
- Natural or enhanced contaminant biodegradation; and
- Remedial measures such as ground water extraction and subsurface containment walls.

If the plume is sufficiently assessed and controlled, we recommend annual sampling for all site wells, preferably in the winter or spring months when water levels are typically high and therefore dissolved contaminant concentrations may be at their maximum.

Overall Dissolved Contaminant Concentrations

If dissolved contaminant concentrations for all site wells have consistently been near or below California Department of Toxic Substances Control (DTSC) maximum contaminant levels (MCLs) for drinking water, then there probably is no significant risk to ground water quality. Therefore, we recommend annual sampling in the winter or spring for all site wells until any detectable contaminants biodegrade to concentrations acceptable for regulatory case closure.

Well Criteria

The generalized criteria we have developed for determining the sampling frequency for a given well include:

- The reliability of the ground water analytic data;
- The trend of the dissolved contaminant concentrations in samples from the well; and
- The location of the well in relation to the contaminant source.

These criteria are discussed below, expect for the reliability of the ground water analytic data, which was discussed previously.

Concentration Trends

Sampling frequency should be reduced only for wells showing stable or decreasing concentration trends. Wells showing increasing concentration trends should be sampled quarterly to monitor the trends and determine whether the hydrocarbon concentration in a particular well is approaching a threshold, such as the saturation concentration, DTSC MCL or the recommended action level.

Well Location

For most sites, four to ten ground water monitoring wells are typically required to fully define the extent of contaminants in ground water. These wells generally fall into one of four classifications relative to the contaminant source:

1) Clean upgradient and crossgradient wells;

2) Source-area wells with high contaminant concentrations;

3) Intermediate wells with low to high contaminant concentrations located between the source area wells and clean crossgradient and downgradient wells, and

4) Clean downgradient wells.

WA's recommended sampling frequency for each of these classifications is as follows:

1) If no hydrocarbons are detected in the upgradient and crossgradient wells, and if no offsite sources are suspected upgradient or crossgradient of the site, WA recommends sampling these wells annually.

2) Source area wells are used to monitor concentrations from source area releases and determine the effectiveness of natural biodegradation and/or site remediation. To ensure that increasing source area concentration trends are detected, WA recommends sampling these wells semiannually.

3) Intermediate wells are used to track dissolved hydrocarbon concentrations and the rates of natural biodegradation or the effectiveness of site remediation. However, because the number of intermediate wells and their proximity to other wells may determine the usefulness of data from these wells, WA will recommend sampling frequencies for these wells on a case by case basis.

4) Since clean downgradient wells define the "leading edge" of dissolved hydrocarbons in ground water and are used to determine hydrocarbon breakthrough, WA recommends sampling these wells quarterly. If a downgradient well is not clean, we will assess the appropriate sampling frequency on a case by case basis.

Other Considerations

Several other factors may influence our sampling frequency recommendations:

- Wells located near each other often produce redundant data and therefore we may recommend staggering samplings among these wells or ceasing sampling from some wells altogether.

- Large fluctuations in ground water depths or an inconsistent ground water flow gradient or direction may not allow us to confidently predict contaminant concentration trends. Therefore, quarterly sampling may be necessary.

- Upgradient and/or crossgradient wells may contain detectable contaminant concentrations. These wells should be sampled semiannually to assess if an offsite source is contributing contaminants to the site.

A decision flow chart graphically presenting the recommended sampling frequency based on these criteria is included. Although there may be wells that do not fall into the location and concentration classifications listed in the flow chart, the generalized criteria may be used to evaluate the appropriate sampling frequency on a case by case basis.

## SUMMARY

In summary, WA recommends site-wide sampling modifications for sites with reliable ground water analytic data from all ground water monitoring wells and that have:

- Fully defined plumes and contaminant migration control; or
- Contaminant concentrations near or below DTSC MCLs in all site wells.

Sampling frequency modifications are appropriate for an individual site well if:

- Ground water analytic data from the well is reliable;

- Data from the well shows that contaminant concentrations in ground water from the well are stable and decreasing.

The sampling frequency for individual wells should be modified based on the well location relative to the contaminant source, as follows:

- Annually for clean upgradient and crossgradient wells,

- Semiannually for upgradient and crossgradient wells containing hydrocarbons or other contaminants from an offsite, upgradient source,
- Semiannually for high concentration source-area wells,
- On a case by case basis for intermediate wells, and
- Quarterly for clean downgradient wells.

COOLER RECEIPT FORM

Project: 950621-KJ Log No: 7296
Cooler received on: 6/23/95 and checked on 6/23/95 by
(signature)

Were custody papers present?.....~~YES~~ NO

Were custody papers properly filled out?.....~~YES~~ NO

Were the custody papers signed?.....~~YES~~ NO

Was sufficient ice used?.....~~YES~~ NO TEMP. 1.00C

Did all bottles arrive in good condition (unbroken)?.....~~YES~~ NO

Did bottle labels match COC?.....~~YES~~ NO

Were proper bottles used for analysis indicated?.....~~YES~~ NO

Correct preservatives used?.....~~YES~~ NO

VOA vials checked for headspace bubbles?.....YES NO
Note which voas (if any) had bubbles:*

| Sample descriptor: | Number of vials: |
|---|---|
| S3 | 2 |

*All VOAs with headspace bubbles have been set aside so they will not be used for analysis.....YES NO

List here all other jobs received in the same cooler:

| Client Job # | NET log # |
|---|---|

(coolerrec)