

 **CAMBRIA**

FACSIMILE

Date: June 7, 1999
To: **Mr. Tom Peacock**
Alameda County Health Care Services Agency
FAX: (510) 337-9335
From: **Aubrey Cool**, Cambria Environmental Technology, Inc.
Re: **Groundwater Monitoring Report – Second Quarter 1999**
2703 Martin Luther King Jr. Way
Oakland
Pages: 1, including cover

Dear Mr. Peacock:

This letter has been prepared to advise you that the report referenced above was not issued by May 31, 1999 because we received the field data and analytical report late from Blaine Tech Services, Inc. We will issue this report by June 11, 1999.

Subsequent reports will be issued according to the established schedule.

If you have any questions regarding the contents of this document, please Joe Neely at (707) 935-4854.

Sincerely,
Cambria Environmental Technology, Inc.



Aubrey K. Cool
Staff Geologist

5010 4 57

CAMBRIA

May 31, 1999

Mr. Tom Peacock
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, #250
Alameda, CA 94502-6577

Re: **Groundwater Monitoring Report - Second Quarter 1999**
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California
Incident #97093397



Dear Mr. Peacock:

This Quarterly Monitoring Report describes the recently completed activities associated with groundwater monitoring and sampling at the referenced site (Plates 1 and 2). This report was prepared to meet quarterly reporting guidelines issued by the Regional Water Quality Control Board, San Francisco Bay Region and the Alameda County Health Care Services Agency.

Quarterly Monitoring & Sampling Summary

Groundwater monitoring and well sampling for the second quarter of 1999 are summarized below:

- Blaine Tech Services, Inc. (Blaine) of San Jose, California measured water depths and collected groundwater samples from Wells MW-1, MW-2, V-1, and V-2 on April 29, 1999. Groundwater samples were transported to Sequoia Analytical of San Carlos, California for laboratory analysis.
- Cambria Environmental Technology, Inc. (Cambria) evaluated water-level measurement data and prepared a groundwater contour/chemical concentration map (Plate 2). Groundwater flow direction ranges from southwesterly to southeasterly at an approximate hydraulic gradient of 0.02.
- Wells MW-1, MW-2, and V-1 did not contain detectable levels of TPPH, benzene or MTBE. Well V-2 contained 65,000 ppb TPPH, 6,100 ppb benzene and 540 ppb MTBE.

Oakland, CA
Sonoma, CA
Portland, OR
Seattle, WA

**Cambria
Environmental
Technology, Inc.**

270 Perkins Street
P.O. Box 259
Sonoma, CA 95476
Tel (707)935-4850
Fax (707)935-6649

99 JUN 15 PM 4:40
ENVIRONMENTAL
PROTECTION

C A M B R I A

Quarterly Sampling

Monitoring Wells MW-1, MW-2, V-1, and V-2 were sampled and analyzed for total purgeable petroleum hydrocarbons as gasoline (TPPH) according to EPA Method 8015 (Modified) and benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl-tertiary-butyl-ether (MTBE) according to EPA Method 8020.

Field monitoring data and chemical analytical data are presented in a summary table in Blaine's groundwater monitoring report (Appendix A).



Conclusions

Groundwater analytical results for this quarter indicate that petroleum hydrocarbon and MTBE concentrations are within the historical norm for this site.

Recommendations

We recommend that quarterly monitoring, sampling, and reporting continue on the established schedule for this site.

If you have any questions regarding the contents of this document, please call Joe Neely at (707) 935-4854.

Sincerely,
Cambria Environmental Technology, Inc.

Aubrey K. Cool

FOR:

Lisa Summers
Staff Scientist

Diane M. Lundquist, P.E.
Principal Engineer
C46725



C A M B R I A

Attachments:

Plate 1. Vicinity Map

Plate 2. Groundwater Contour/Chemical Concentration Map

Appendix A

Blaine Tech Services Inc. - Groundwater Monitoring Report



cc: Ms. Karen Petryna, Equiva Services LLC
Mr. Matthew Dudley, Burnham and Brown

Subject Site



BASE MAP: CALIFORNIA STATE AUTOMOBILE ASSOCIATION

PLATE

1

VICINITY MAP

Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

CAMBRIA

240-0781

Drawn By: DML

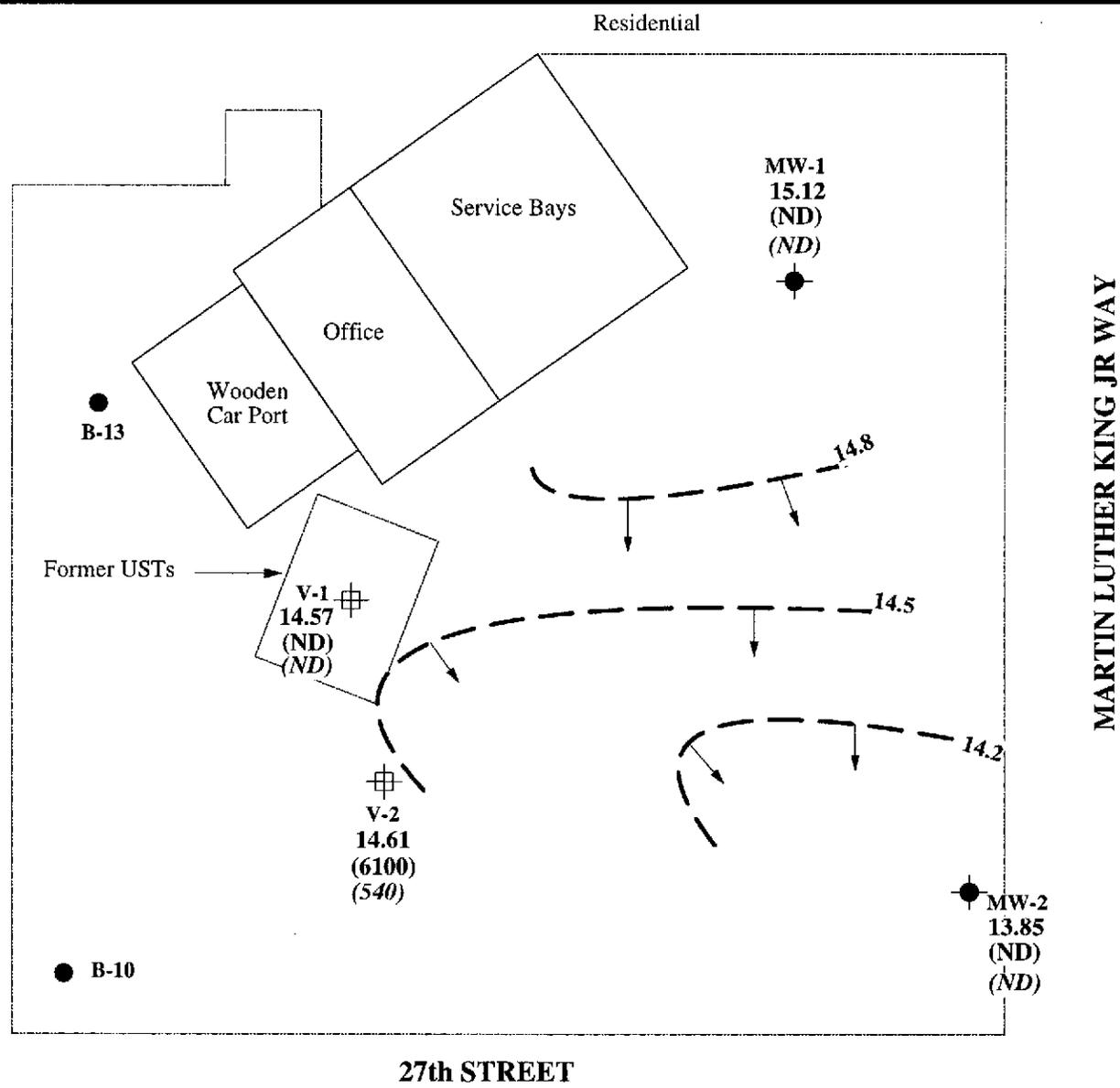
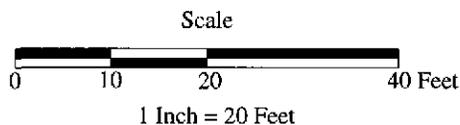
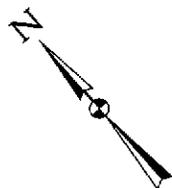
Date: 12-28-95

Approved By: *[Signature]*

Date: 5-31-99

EXPLANATION

- Exploratory Boring
 - ⊕ Soil Vapor Extraction Well
 - ⊙ Groundwater Monitoring Well
 -  Groundwater elevation contours in feet referenced to mean sea level (MSL). Arrows indicate approximate ground water flow direction.
 - 13.85 Ground water elevation in feet above MSL
 - (ND) Benzene concentration in ppb
ND = Not Detected
 - (ND) MTBE concentration in ppb
ND =Not Detected
- Notes: Monitoring performed 29-Apr-99.
Approximate hydraulic gradient = 0.02



PLATE

2

GROUNDWATER CONTOUR/CHEMICAL CONCENTRATION MAP

Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

CAMBRIA

241-0781

Drawn By: LS

Date: 28-May-99

Approved By: 

Date: 5-31-99

Appendix A

**Blaine Tech Services, Inc.
Groundwater Monitoring Report**

BLAINE
TECH SERVICES INC.



1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
(408) 573-7771 FAX
(408) 573-0555 PHONE

May 19, 1999

Karen Petryna
Equiva Services LLC
P.O. Box 6249
Carson, CA 90749-6249

RECEIVED

MAY 24 1999

BY: _____

Second Quarter 1999 Groundwater Monitoring at
Shell-branded Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Monitoring performed on April 29, 1999

Groundwater Monitoring Report **990429-R-4**

This report covers the routine monitoring of groundwater wells at this Shell-branded facility. In accordance with standard procedures that conform to Regional Water Quality Control Board requirements, routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, appropriate calculated purge volume (if applicable), elapsed evacuation time (if applicable), total volume of water removed (if applicable), and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater (if applicable) is, likewise, collected and transported to the Martinez Refining Company.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

At a minimum, Blaine Tech Services, Inc. field personnel are certified on completion of a forty hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type 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. concentrates on objective data collection and does not participate in the interpretation of analytical results, the definition of geological or hydrological conditions, the formulation of recommendations, or the marketing of remedial systems.

Please call if you have any questions.

Yours truly,

A handwritten signature in black ink, appearing to read "Deidre Kerwin", with a long horizontal flourish extending to the right.

Deidre Kerwin
Operations Manager

DK/mt

attachments: Cumulative Table of WELL CONCENTRATIONS
Certified Analytical Report
Field Data Sheets

cc: Joe Neely
Cambria Environmental Technology, Inc.
270 Perkins Street
Sonoma, CA 95476-0259

WELL CONCENTRATIONS
Shell-branded Service Station
2703 Martin Luther King Way
Oakland, CA
Wic #204-5508-1701

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | SPH Thickness (ft.) |
|---------|------|----------------|-------------|-------------|-------------|-------------|---------------------|------------------------|--------------|----------------------------|--------------------------|---------------------------|
|---------|------|----------------|-------------|-------------|-------------|-------------|---------------------|------------------------|--------------|----------------------------|--------------------------|---------------------------|

| | | | | | | | | | | | | |
|-------------|------------|-------|--------|-------|--------|--------|------|----|-------|------|-------|------|
| MW-1 (B-11) | 08/02/1996 | NA | NA | NA | NA | NA | NA | NA | 23.53 | NA | NA | NA |
| MW-1 (B-11) | 08/05/1996 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.53 | 8.76 | 14.77 | 0.00 |
| MW-1 (B-11) | 10/17/1996 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.53 | 9.88 | 13.65 | 0.00 |
| MW-1 (B-11) | 01/08/1997 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.53 | 6.82 | 16.71 | 0.00 |
| MW-1 (B-11) | 04/07/1997 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.53 | 7.89 | 15.64 | 0.00 |
| MW-1 (B-11) | 07/02/1997 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.53 | 8.71 | 14.82 | 0.00 |
| MW-1 (B-11) | 10/24/1997 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.53 | 9.26 | 14.27 | 0.00 |
| MW-1 (B-11) | 01/09/1998 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.53 | 7.94 | 15.59 | 0.00 |
| MW-1 (B-11) | 04/02/1998 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.53 | 7.21 | 16.32 | 0.00 |
| MW-1 (B-11) | 07/14/1998 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.53 | 7.78 | 15.75 | 0.00 |
| MW-1 (B-11) | 10/01/1998 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.53 | 8.39 | 15.14 | 0.00 |
| MW-1 (B-11) | 01/18/1999 | <50.0 | <0.500 | 0.785 | <0.500 | <0.500 | 2.36 | NA | 23.53 | 8.28 | 15.25 | 0.00 |
| MW-1 (B-11) | 04/29/1999 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.53 | 8.41 | 15.12 | 0.00 |

| | | | | | | | | | | | | |
|-----------------|------------|-----|-------|-------|-------|-------|------|----|-------|----|----|----|
| MW-1 (B-11) (D) | 08/05/1996 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.53 | NA | NA | NA |
|-----------------|------------|-----|-------|-------|-------|-------|------|----|-------|----|----|----|

| | | | | | | | | | | | | |
|--------------|------------|-----|-------|-------|-------|-------|------|----|-------|------|-------|------|
| MW-2 (B-12)* | 07/17/1996 | <50 | <0.50 | 0.69 | <0.50 | <0.50 | <2.5 | NA | 22.47 | NA | NA | NA |
| MW-2 (B-12)* | 08/05/1996 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 22.47 | 8.35 | 14.12 | 0.00 |
| MW-2 (B-12)* | 10/17/1996 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 22.47 | 9.32 | 13.15 | 0.00 |
| MW-2 (B-12)* | 01/08/1997 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 22.47 | 6.80 | 15.67 | 0.00 |
| MW-2 (B-12)* | 04/07/1997 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 22.47 | 7.81 | 14.66 | 0.00 |
| MW-2 (B-12)* | 07/02/1997 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 22.47 | 8.27 | 14.20 | 0.00 |
| MW-2 (B-12)* | 10/24/1997 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 22.47 | 9.12 | 13.35 | 0.00 |
| MW-2 (B-12)* | 01/09/1998 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | 6.3 | NA | 22.47 | 7.41 | 15.06 | 0.00 |
| MW-2 (B-12)* | 04/02/1998 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 22.47 | 6.59 | 15.88 | 0.00 |
| MW-2 (B-12)* | 07/14/1998 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 22.47 | 7.49 | 14.98 | 0.00 |
| MW-2 (B-12)* | 10/01/1998 | <50 | <0.50 | <0.50 | <0.50 | 0.59 | <2.5 | NA | 22.47 | 8.58 | 13.89 | 0.00 |

WELL CONCENTRATIONS
Shell-branded Service Station
2703 Martin Luther King Way
Oakland, CA
Wic #204-5508-1701

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | SPH Thickness (ft.) |
|-----------------|------------|----------------|-------------|-------------|-------------|-------------|---------------------|------------------------|--------------|----------------------------|--------------------------|---------------------------|
| MW-2 (B-12)* | 01/18/1999 | <50.0 | <0.500 | 0.971 | <0.500 | <0.500 | 2.47 | NA | 22.47 | 8.68 | 13.79 | 0.00 |
| MW-2 (B-12)* | 04/29/1999 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 22.47 | 8.62 | 13.85 | 0.00 |
| MW-2 (B-12) (D) | 10/17/1996 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 22.47 | NA | NA | NA |
| MW-2 (B-12) (D) | 01/08/1997 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 22.47 | NA | NA | NA |
| B-10 * | 07/17/1996 | 20000 | 400 | <100 | <100 | 870 | <500 | NA | NA | NA | NA | NA |
| B-13* | 07/17/1996 | 290000 | 34000 | 21000 | 9900 | 47000 | <2500 | NA | NA | NA | NA | NA |
| V-1 | 08/02/1996 | NA | NA | NA | NA | NA | NA | NA | 23.26 | NA | NA | NA |
| V-1 | 08/05/1996 | NA | NA | NA | NA | NA | NA | NA | 23.26 | 8.58 | 14.68 | 0.00 |
| V-1 | 10/17/1996 | NA | NA | NA | NA | NA | NA | NA | 23.26 | 10.02 | 13.24 | 0.00 |
| V-1 | 01/16/1997 | 9500 | 1200 | 250 | 280 | 880 | <50 | NA | 23.26 | 5.55 | 17.71 | 0.00 |
| V-1 | 04/07/1997 | 2200 | 42 | <5.0 | 130 | 15 | <25 | NA | 23.26 | 7.40 | 15.86 | 0.00 |
| V-1 | 07/02/1997 | 2600 | 340 | 5.8 | 49 | 12 | 74 | <4.0 | 23.26 | 8.94 | 14.32 | 0.00 |
| V-1 | 10/24/1997 | 57000 | 5200 | 2300 | 3600 | 16000 | 1900 | <200 | 23.26 | 9.43 | 13.83 | 0.00 |
| V-1 | 01/09/1998 | 23000 | 2400 | 1700 | 1300 | 2300 | 310 | NA | 23.26 | 6.81 | 16.45 | 0.00 |
| V-1 | 04/02/1998 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.26 | 4.58 | 18.68 | 0.00 |
| V-1 | 07/14/1998 | 160 | 1.9 | <0.50 | 4.2 | <0.50 | 6.1 | NA | 23.26 | 7.51 | 15.75 | 0.00 |
| V-1 | 10/01/1998 | 440.00 | 18.00 | <0.50 | 11.00 | 0.80 | 7.90 | NA | 23.26 | 8.49 | 14.77 | 0.00 |
| V-1 | 01/18/1999 | 697 | 55.7 | 0.839 | 28.2 | <0.500 | 9.35 | NA | 23.26 | 8.59 | 14.67 | 0.00 |
| V-1 | 04/29/1999 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.26 | 8.69 | 14.57 | 0.00 |
| V-1 (D) | 01/09/1998 | 24000 | 2500 | 1800 | 1400 | 2400 | 450 | NA | 23.26 | NA | NA | NA |
| V-1 (D) | 04/02/1998 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 23.26 | NA | NA | NA |

WELL CONCENTRATIONS
Shell-branded Service Station
2703 Martin Luther King Way
Oakland, CA
Wic #204-5508-1701

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | SPH Thickness (ft.) |
|---------|------|----------------|-------------|-------------|-------------|-------------|---------------------|------------------------|--------------|----------------------------|--------------------------|---------------------------|
|---------|------|----------------|-------------|-------------|-------------|-------------|---------------------|------------------------|--------------|----------------------------|--------------------------|---------------------------|

| | | | | | | | | | | | | |
|-----|------------|-------|------|------|------|-------|-------|------|-------|-------|-------|------|
| V-2 | 08/02/1996 | NA | NA | NA | NA | NA | NA | NA | 22.80 | NA | NA | NA |
| V-2 | 08/05/1996 | NA | NA | NA | NA | NA | NA | NA | 22.80 | 7.94 | 14.86 | 0.00 |
| V-2 | 10/17/1996 | NA | NA | NA | NA | NA | NA | NA | 22.80 | 9.30 | 13.50 | 0.00 |
| V-2 | 01/08/1997 | 69000 | 4800 | 2800 | 2700 | 13000 | 750 | NA | 22.80 | 5.82 | 16.98 | 0.00 |
| V-2 | 04/07/1997 | 90000 | 4400 | 1900 | 3300 | 14000 | <500 | NA | 22.80 | 7.10 | 15.70 | 0.00 |
| V-2 | 07/02/1997 | 82000 | 5500 | 2700 | 3500 | 16000 | 530 | <100 | 22.80 | 8.35 | 14.45 | 0.00 |
| V-2 | 10/24/1997 | 7300 | 1100 | 97 | 230 | 180 | 91 | <12 | 22.80 | 10.03 | 12.77 | 0.00 |
| V-2 | 01/09/1998 | 40000 | 4100 | 1500 | 2500 | 9000 | 280 | NA | 22.80 | 6.94 | 15.86 | 0.00 |
| V-2 | 04/02/1998 | 62000 | 6800 | 2400 | 3400 | 14000 | <250 | NA | 22.80 | 5.35 | 17.45 | 0.00 |
| V-2 | 07/14/1998 | 43000 | 4700 | 1100 | 2500 | 6600 | <250 | NA | 22.80 | 6.48 | 16.32 | 0.00 |
| V-2 | 10/01/1998 | 53000 | 5200 | 1800 | 3200 | 10000 | 83.00 | NA | 22.80 | 8.41 | 14.39 | 0.00 |
| V-2 | 01/18/1999 | 47100 | 5800 | 1960 | 3450 | 10200 | <100 | NA | 22.80 | 8.29 | 14.51 | 0.00 |
| V-2 | 04/29/1999 | 65000 | 6100 | 2800 | 3200 | 12000 | 540 | NA | 22.80 | 8.19 | 14.61 | 0.00 |

| | | | | | | | | | | | | |
|---------|------------|-------|------|------|------|-------|------|------|-------|----|----|----|
| V-2 (D) | 04/07/1997 | 77000 | 4400 | 2000 | 3200 | 14000 | <250 | NA | 22.80 | NA | NA | NA |
| V-2 (D) | 07/02/1997 | 85000 | 5600 | 2800 | 3600 | 17000 | 520 | <100 | 22.80 | NA | NA | NA |
| V-2 (D) | 10/24/1997 | 12000 | 1700 | 340 | 650 | 630 | 120 | <20 | 22.80 | NA | NA | NA |
| V-2 (D) | 07/14/1998 | 48000 | 5100 | 1300 | 2600 | 8100 | <250 | NA | 22.80 | NA | NA | NA |
| V-2 (D) | 10/01/1998 | 55000 | 5300 | 1900 | 3300 | 11000 | 65 | NA | 22.80 | NA | NA | NA |

Abbreviations:

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015

BTEX = benzene, toluene, ethylbenzene, xylenes by EPA Method 8020

MTBE = methyl-tertiary-butyl ether

TOC = Top of Casing Elevation

WELL CONCENTRATIONS
Shell-branded Service Station
2703 Martin Luther King Way
Oakland, CA
Wic #204-5508-1701

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | SPH Thickness (ft.) |
|---------|------|----------------|-------------|-------------|-------------|-------------|---------------------|------------------------|--------------|----------------------------|--------------------------|---------------------------|
|---------|------|----------------|-------------|-------------|-------------|-------------|---------------------|------------------------|--------------|----------------------------|--------------------------|---------------------------|

SPH = Separate-Phase Hydrocarbons

GW = Groundwater

ug/L = parts per billion

msl = Mean sea level

ft = Feet

<n = Below detection limit

D = Duplicate sample

Notes:

* = Water sample from Boring



Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954

(650) 364-9600
(925) 988-9600
(916) 921-9600
(707) 792-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112
Attention: Fran Thie

Project: Shell 2703 Martin Luther King

Enclosed are the results from samples received at Sequoia Analytical on April 30, 1999.
The requested analyses are listed below:

| <u>SAMPLE #</u> | <u>SAMPLE DESCRIPTION</u> | <u>DATE COLLECTED</u> | <u>TEST METHOD</u> |
|-----------------|---------------------------|-----------------------|-------------------------|
| 9904B90 -01 | LIQUID, MW-1 | 04/29/99 | Purgeable TPH/BTEX/MTBE |
| 9904B90 -02 | LIQUID, MW-2 | 04/29/99 | Purgeable TPH/BTEX/MTBE |
| 9904B90 -03 | LIQUID, V-1 | 04/29/99 | Purgeable TPH/BTEX/MTBE |
| 9904B90 -04 | LIQUID, V-2 | 04/29/99 | Purgeable TPH/BTEX/MTBE |

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL


Project Manager



Sequoia
Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite B
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954

(650) 364-9600
(925) 988-9600
(916) 921-9600
(707) 792-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112
Attention: Fran Thie

Client Proj. ID: Shell 2703 Martin Luther King

Received: 04/30/99

Lab Proj. ID: 9904B90

Reported: 05/14/99

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 7 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

EPA Method 8015Mod/8020:

Sample 9904B90-04 was analyzed at a 200X dilution due to target analytes in the sample.

SEQUOIA ANALYTICAL

Margaret S. Foster

Project Manager





| | | |
|--|--|---|
| Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 | Client Proj. ID: Shell 2703 Martin Luther King Sample Descript: MW-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9904B90-01 | Sampled: 04/29/99 Received: 04/30/99 Analyzed: 05/04/99 Reported: 05/14/99 |
| Attention: Fran Thie | | |

QC Batch Number: GC050499BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

| Analyte | Detection Limit ug/L | Sample Results ug/L |
|-----------------------|-----------------------------|------------------------|
| TPPH as Gas | 50 | N.D. |
| Methyl t-Butyl Ether | 2.5 | N.D. |
| Benzene | 0.50 | N.D. |
| Toluene | 0.50 | N.D. |
| Ethyl Benzene | 0.50 | N.D. |
| Xylenes (Total) | 0.50 | N.D. |
| Chromatogram Pattern: | | |
| Surrogates | Control Limits % | % Recovery |
| Trifluorotoluene | 70 130 | 81 |

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Margaret S. Foster

Project Manager





| | | |
|--|--|---|
| Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Fran Thie | Client Proj. ID: Shell 2703 Martin Luther King Sample Descript: MW-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9904B90-02 | Sampled: 04/29/99 Received: 04/30/99 Analyzed: 05/04/99 Reported: 05/14/99 |
|--|--|---|

QC Batch Number: GC050499BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

| Analyte | Detection Limit ug/L | Sample Results ug/L |
|-----------------------|-----------------------------|------------------------|
| TPPH as Gas | 50 | N.D. |
| Methyl t-Butyl Ether | 2.5 | N.D. |
| Benzene | 0.50 | N.D. |
| Toluene | 0.50 | N.D. |
| Ethyl Benzene | 0.50 | N.D. |
| Xylenes (Total) | 0.50 | N.D. |
| Chromatogram Pattern: | | |
| Surrogates | Control Limits % | % Recovery |
| Trifluorotoluene | 70 130 | 78 |

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mayant S. Folsom

Project Manager





| | | |
|--|---|---|
| Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 | Client Proj. ID: Shell 2703 Martin Luther King Sample Descript: V-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9904B90-03 | Sampled: 04/29/99 Received: 04/30/99 Analyzed: 05/04/99 Reported: 05/14/99 |
| Attention: Fran Thie | | |

QC Batch Number: GC050499BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

| Analyte | Detection Limit ug/L | Sample Results ug/L |
|-----------------------|-----------------------------|------------------------|
| TPPH as Gas | 50 | N.D. |
| Methyl t-Butyl Ether | 2.5 | N.D. |
| Benzene | 0.50 | N.D. |
| Toluene | 0.50 | N.D. |
| Ethyl Benzene | 0.50 | N.D. |
| Xylenes (Total) | 0.50 | N.D. |
| Chromatogram Pattern: | | |
| Surrogates | Control Limits % | % Recovery |
| Trifluorotoluene | 70 130 | 81 |

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Margaret S. Zote

Project Manager





| | | |
|--|---|---|
| Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 | Client Proj. ID: Shell 2703 Martin Luther King Sample Descript: V-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9904B90-04 | Sampled: 04/29/99 Received: 04/30/99 Analyzed: 05/05/99 Reported: 05/14/99 |
|--|---|---|

QC Batch Number: GC050599BTEX30A
Instrument ID: GCHP30

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

| Analyte | Detection Limit ug/L | Sample Results ug/L |
|-----------------------|-----------------------------|------------------------|
| TPPH as Gas | 10000 | 65000 |
| Methyl t-Butyl Ether | 500 | 540 |
| Benzene | 100 | 6100 |
| Toluene | 100 | 2800 |
| Ethyl Benzene | 100 | 3200 |
| Xylenes (Total) | 100 | 12000 |
| Chromatogram Pattern: | | GAS |
| Surrogates | Control Limits % | % Recovery |
| Trifluorotoluene | 70 130 | 100 |

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Margaret S. Fite

Project Manager





Sequoia Analytical

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FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112
Attention: Fran Thie

Client Project ID: Shell, 2703 Martin Luther King

QC Sample Group: 9904B90-01 thru -04

Reported: May 14, 1999

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 8015
Analyst: JAB

ANALYTE Gasoline

QC Batch #: GC050499BTEX03A

Sample No.: GW9904B96-5

Date Prepared: 5/4/99

Date Analyzed: 5/4/99

Instrument I.D.#: GCHP03

Sample Conc., ug/L: N.D.

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 250

% Recovery: 100.0

Matrix

Spike Duplicate, ug/L: 240

% Recovery: 96

Relative % Difference: 4.1

RPD Control Limits: 0-25

LCS Batch#: GC050499BTEX03A

Date Prepared: 5/4/99

Date Analyzed: 5/4/99

Instrument I.D.#: GCHP03

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 220

LCS % Recovery: 88

Percent Recovery Control Limits:

MS/MSD 60-140

LCS 70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Margaret S. Foster

Kayvan Kimyai
Project Manager





SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 990429R4

Date: 4-29-99

Page 1 of 1

Site Address: 2703 Martin Luther King Junior Way,
Oakland, CA

WIC#: 254-5508-1701

Shell Engineer: Alex Perez
Phone No.: (510) 675-6168
Fax #: 675-6172

Consultant Name & Address:
Blaine Tech Services, Inc.
1680 Rogers Ave., San Jose, CA 95112

Consultant Contact: Fran Thie
Phone No.: (408) 573-0555
Fax #: 573-7771

Comments: 990429R4

Sampled by: Jm Rosa
Printed Name: Jm Rosa

Analysis Required

| | | | | | | | | | |
|-------------------------|----------------------------|---------------------|------------------------------|-------------------|--|----------|----------------|------------------|---------------|
| 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 / <u>MTBE</u> | Asbestos | Container Size | Preparation Used | Composite Y/N |
|-------------------------|----------------------------|---------------------|------------------------------|-------------------|--|----------|----------------|------------------|---------------|

LAB: Sequa

| CHECK ONE (1) BOX ONLY | CT/DT | TURN AROUND TIME |
|--|-------|---|
| G.W. Monitoring <input checked="" type="checkbox"/> | 4441 | 24 hours <input type="checkbox"/> |
| Site Investigation <input type="checkbox"/> | 4441 | 48 hours <input type="checkbox"/> |
| Soil Classify/Disposal <input type="checkbox"/> | 4442 | 16 days <input checked="" type="checkbox"/> (Normal) |
| Water Classify/Disposal <input type="checkbox"/> | 4443 | Other <input type="checkbox"/> |
| Soil/Air Rem. or Sys. O & M <input type="checkbox"/> | 4452 | NOTE: Notify Lab as soon as possible of 24/48 hrs. IAT. |
| Water Rem. or Sys. O & M <input type="checkbox"/> | 4453 | |
| Other <input type="checkbox"/> | | |

UST AGENCY: _____

| Sample ID | Date | Sludge | Soil | Water | Air | No. of conds. | 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 / <u>MTBE</u> | Asbestos | Container Size | Preparation Used | Composite Y/N | MATERIAL DESCRIPTION | SAMPLE CONDITION/ COMMENTS |
|-------------|----------------|--------|------|----------|-----|---------------|-------------------------|----------------------------|---------------------|------------------------------|-------------------|--|----------|----------------|------------------|---------------|----------------------|----------------------------|
| <u>MW-1</u> | <u>4/29/99</u> | | | <u>W</u> | | <u>3</u> | | | | | | <u>X</u> | | | | | <u>01</u> | |
| <u>MW-2</u> | <u>4/29/99</u> | | | <u> </u> | | <u>3</u> | | | | | | <u>X</u> | | | | | <u>02</u> | |
| <u>V-1</u> | <u>4/29/99</u> | | | <u> </u> | | <u>3</u> | | | | | | <u>X</u> | | | | | <u>03</u> | |
| <u>V-2</u> | <u>4/29/99</u> | | | <u> </u> | | <u>3</u> | | | | | | <u>X</u> | | | | | <u>04</u> | |

| | | | | | |
|---|------------------------------|--------------------|--|------------------------------------|----------------------|
| Relinquished By (signature): <u>[Signature]</u> | Printed Name: <u>Jm Rosa</u> | Date: <u>4/30</u> | Received (signature): <u>[Signature]</u> | Printed Name: <u>Laura Shapiro</u> | Date: <u>4-30</u> |
| Relinquished By (signature): <u>[Signature]</u> | Printed Name: _____ | Time: <u>10:45</u> | Received (signature): _____ | Printed Name: _____ | Time: <u>10:43</u> |
| Relinquished By (signature): _____ | Printed Name: _____ | Date: _____ | Received (signature): <u>Laura Shapiro</u> | Printed Name: <u>L. SHAPIRO</u> | Date: <u>4/30/99</u> |
| | | Time: _____ | | | Time: <u>11:30</u> |

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