

# LUST CLEANUP REPORT REVIEW

LUST# 2078

UST # 8415

Site Name Unocal Service Station #1726

Change in Status of Release & Date (Awaiting Cleanup) (Cleanup Started) (Monitoring)  
(Reported Cleaned Up) (No Further Action) (Unknown)

Date no change

Cause of Release (Overfill) (Piping Failure) (Spill) (Tank Failure) (Unknown)

Remediation Technologies Used

Report Title Dec. 2000 Quarterly GW Monitor Report Date 1/19/01

Report Type (Interim) (Monitoring) (Final) (Site Characterization) (Unknown)

Date Received 1/22/01 Contractor Geo Engineers

Comments MW's were not purged prior to sampling. Does not appear to have GW monitoring wells down gradient of tanks.

MW-1 @ 2.64 ppm TPH-G; MW-6 @ 143 ppb PCE (increase), dry cleaners to west of site.

Fund Source (LUST Trust Fund) (PLIA) (Responsible Party) (State Fund)

VCP/IRAP Status (Requested) (Not Requested) (Complete) Reviewed by CD Ryan

Date 2/7/01

Nov. 4, 1999 (GG)

ENTERED  
FEB 23 2001

LUST #2078

December 2000 Quarterly  
Ground Water Monitoring

Unocal Service Station 1726

3301 West McGraw Street

Seattle, Washington

Ecology LUST Incident No. 2078

January 18, 2001

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JAN 22 2001

DEPT. OF ECOLOGY

For

Unocal AMG - West Division

|                                             |                                     |
|---------------------------------------------|-------------------------------------|
| DEPARTMENT OF ECOLOGY<br>NWRO/TCP TANK UNIT |                                     |
| INTERIM CLEANUP REPORT                      | <input checked="" type="checkbox"/> |
| SITE CHARACTERIZATION                       | <input type="checkbox"/>            |
| FINAL CLEANUP REPORT                        | <input type="checkbox"/>            |
| OTHER _____                                 | <input type="checkbox"/>            |
| AFFECTED MEDIA: SOIL                        | <input type="checkbox"/>            |
| OTHER _____ GW                              | <input checked="" type="checkbox"/> |
| INSPECTOR (INIT.)                           | DATE 2/7/01                         |

## INTRODUCTION

December 2000 Quarterly Ground Water Monitoring

January 18, 2001

Unocal Service Station 1726

Unocal AMG PM: Dr. Mark Brearley, R.G.

3301 West McGraw Street, Seattle, WA

GeoEngineers' PM: Lisa Bona

Ecology LUST Incident No.: 2078

GeoEngineers' File No: 9161-278-00

## COMMENTS FOR THIS MONITORING EVENT (DECEMBER 12, 2000)

- Completed ground water monitoring and sampling of wells MW-1, MW-2, MW-4, MW-5 and MW-6. ~~The monitoring wells were not purged prior to sampling.~~
- Ground water levels generally were consistent with previous measurements. The December 2000 chemical analytical results generally were similar to data from previous events, with one exception. PCE was not detected in the December sample from MW-5.

## FUTURE MONITORING

- Ground water samples are obtained quarterly from MW-1 for chemical analysis of halogenated volatile organic compounds (HVOCs) and benzene, ethylbenzene, toluene and xylenes (BETX) by EPA Method 8021B; gasoline-range hydrocarbons by WTPH-G; and diesel- and heavy oil-range hydrocarbons by WTPH-D extended using a sulfuric acid/silica gel cleanup. Ground water samples are obtained quarterly from MW-2, MW-4, MW-5 and MW-6 for chemical analysis of HVOCs. The next sampling event is scheduled for March 2001.

Attachments: Table 1: Ground Water Elevations and Combustible Vapor Concentrations  
Table 2: Summary of Ground Water Chemical Analytical Data  
Figure 1: Ground Water Elevations  
Figure 2: Summary of Ground Water Analytical Data  
Attachment A: Chemical Analytical Laboratory Report

Signed By:

Title:

Lisa J. Bona  
Lisa J. Bona, Senior Geologist

Dana C. Carlisle  
for Dana Carlisle, P.E., Associate

cc: Steve Bremer  
Washington State Dept. of Ecology Northwest Regional Office

Jeffrey Wishko (2 copies)  
Bell & Ingram

**Limitations:** We have prepared this report for use by Unocal. This report may be made available to regulatory agencies and for review by the property owner. This report is not intended for use by others and the information contained herein is not applicable to other sites. Our interpretation of subsurface conditions is based on field observations and chemical analytical data from discrete locations. Within the limitations, of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

**GeoEngineers**

8410 - 154<sup>th</sup> Avenue NE  
Redmond, Washington 98052  
(425) 861-6000

# TABLE 1

## GROUND WATER ELEVATIONS AND COMBUSTIBLE VAPOR CONCENTRATIONS

UNOCAL SERVICE STATION 1726  
SEATTLE, WASHINGTON

| Monitoring Well <sup>1</sup> | Date Measured | Depth to Water From Ground Surface (feet) | Ground Water Elevation <sup>2</sup> (feet) | Combustible Vapor Concentration <sup>3</sup> (ppm) |
|------------------------------|---------------|-------------------------------------------|--------------------------------------------|----------------------------------------------------|
| MW-1                         | 03/08/00      | 4.45                                      | 97.26                                      | 9,000                                              |
|                              | 06/08/00      | 3.97                                      | 97.74                                      | 10,000                                             |
|                              | 09/07/00      | 5.39                                      | 96.32                                      | 6,000                                              |
|                              | 12/12/00      | 4.53                                      | 97.18                                      | >10,000                                            |
| MW-2                         | 03/08/00      | 2.01                                      | 97.86                                      | <400                                               |
|                              | 06/08/00      | 2.20                                      | 97.67                                      | <400                                               |
|                              | 09/07/00      | 3.37                                      | 96.50                                      | <400                                               |
|                              | 12/12/00      | 2.78                                      | 97.09                                      | <400                                               |
| MW-4                         | 03/08/00      | 3.02                                      | 100.85                                     | <400                                               |
|                              | 06/08/00      | 3.47                                      | 100.40                                     | <400                                               |
|                              | 09/07/00      | 5.20                                      | 98.67                                      | <400                                               |
|                              | 12/12/00      | 4.37                                      | 99.50                                      | <400                                               |
| MW-5                         | 03/08/00      | 3.71                                      | 103.48                                     | <400                                               |
|                              | 06/08/00      | 5.44                                      | 101.75                                     | <400                                               |
|                              | 09/07/00      | 6.71                                      | 100.48                                     | <400                                               |
|                              | 12/12/00      | 5.68                                      | 101.51                                     | <400                                               |
| MW-6                         | 03/08/00      | 4.14                                      | 102.77                                     | <400                                               |
|                              | 06/08/00      | 5.94                                      | 100.97                                     | <400                                               |
|                              | 09/07/00      | 7.14                                      | 99.77                                      | <400                                               |
|                              | 12/12/00      | 6.05                                      | 100.86                                     | <400                                               |

### Notes:

<sup>1</sup> Approximate monitoring well locations are shown in Figures 1 and 2.

<sup>2</sup> Elevations are measured relative to the temporary benchmark shown in Figure 1. The benchmark is at an assumed elevation of 100.00 feet.

<sup>3</sup> Measured in the well casing airspace with a Bacharach TLV Sniffer combustible gas indicator (CGI) calibrated to hexane. The TLV has a lower threshold of significance of 400 ppm in this application.

ppm = parts per million

-- = not measured

Bolding indicates measurement was obtained during the current reporting period.

TABLE 2 (Page 1 of 2)  
SUMMARY OF GROUND WATER CHEMICAL ANALYTICAL DATA  
UNOCAL SERVICE STATION 1726  
SEATTLE, WASHINGTON

| Monitoring Well                           | Date Sampled            | BETX <sup>1</sup><br>(EPA Method 8020 or 8021B)<br>(µg/l) |       |       |       | Gasoline-range Hydrocarbons<br>(Ecology Method WTPH-G)<br>(mg/l) | Diesel-range Hydrocarbons<br>(Ecology Method WTPH-D ext)<br>(mg/l) | Heavy Oil-range Hydrocarbons<br>(Ecology Method WTPH-D ext)<br>(mg/l) | Halogenated Volatile Organic Compounds <sup>2</sup><br>(EPA Method 8010 or 8021B)<br>(µg/l) |       |                 |
|-------------------------------------------|-------------------------|-----------------------------------------------------------|-------|-------|-------|------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------|-----------------|
|                                           |                         | B                                                         | E     | T     | X     |                                                                  |                                                                    |                                                                       | PCE                                                                                         | TCE   | DCE             |
| MW-1                                      | 03/08/00 <sup>3</sup>   | 58.3                                                      | 28.5  | <8.00 | 28.8  | 3.98                                                             | <0.437                                                             | <1.31                                                                 | <1.00                                                                                       | <1.00 | <1.00           |
|                                           | 06/08/00 <sup>3</sup>   | 47.1                                                      | 10.8  | <2.10 | <8.70 | 2.87                                                             | <0.479                                                             | <1.44                                                                 | <1.00                                                                                       | <1.00 | <1.00           |
|                                           | 09/07/00 <sup>3,4</sup> | 55.4                                                      | <12.0 | <7.58 | <9.90 | 2.80                                                             | 0.267                                                              | <0.738                                                                | <1.00                                                                                       | <1.00 | <1.00           |
|                                           | 12/12/00 <sup>3</sup>   | <12.2                                                     | 19.7  | <8.50 | 9.95  | 2.64                                                             | <0.250                                                             | <0.750                                                                | <1.00                                                                                       | <1.00 | 1.78            |
| MW-2                                      | 03/08/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 3.47                                                                                        | 2.66  | 1.51            |
|                                           | 06/08/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 4.32                                                                                        | 4.41  | <1.00           |
|                                           | 09/07/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 2.03                                                                                        | 2.38  | <1.00           |
|                                           | 12/12/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 4.18                                                                                        | 4.80  | 3.41            |
| MW-4                                      | 03/08/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 189                                                                                         | 1.68  | <1.00           |
|                                           | 06/08/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 120                                                                                         | 1.63  | <1.00           |
|                                           | 09/07/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 148                                                                                         | 2.05  | <1.00           |
|                                           | 12/12/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 82.2                                                                                        | 1.86  | <1.00           |
| MW-5                                      | 03/08/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 2.77                                                                                        | <1.00 | <1.00           |
|                                           | 06/08/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 6.15                                                                                        | <1.00 | <1.00           |
|                                           | 09/07/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 5.14                                                                                        | <1.00 | <1.00           |
|                                           | 12/12/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | <1.00                                                                                       | <1.00 | <1.00           |
| MW-6                                      | 03/08/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 41.1                                                                                        | <1.00 | <1.00           |
|                                           | 06/08/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 147                                                                                         | 2.71  | 2.40            |
|                                           | 09/07/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 52.9                                                                                        | 1.73  | 33.7            |
|                                           | 12/12/00 <sup>3</sup>   | --                                                        | --    | --    | --    | --                                                               | --                                                                 | --                                                                    | 143                                                                                         | 3.62  | 3.21            |
| MTCA Method A Cleanup Levels <sup>5</sup> |                         | 5.0                                                       | 30    | 40    | 20    | 1.0 <sup>6</sup>                                                 |                                                                    |                                                                       | 5.0                                                                                         | 5.0   | 80 <sup>7</sup> |

Notes appear on page 2 of 2.

TABLE 2 (Page 2 of 2)

Notes:

<sup>1</sup>B = benzene, E = ethylbenzene, T = toluene, X = total xylenes

<sup>2</sup>Only compounds detected are listed. See Attachment A for a complete list of analytes and detection limits. PCE = tetrachloroethene, TCE = trichloroethene, DCE = cis-1,2-dichloroethene.

<sup>3</sup>The monitoring well was not purged prior to sampling.

<sup>4</sup>1,1,2-trichloroethane also detected in sample at a concentration of 29.6 µg/l.

<sup>5</sup>Except where noted.

<sup>6</sup>The MTCA Method A ground water cleanup level for the sum of gasoline-, diesel- and heavy oil-range hydrocarbon concentrations is 1.0 mg/l when quantified using gas chromatography methods.

<sup>7</sup>MTCA Method B single component value for noncarcinogen (Reference: MTCA CLARC II Update; February 1996).

µg/l = micrograms per liter.

mg/l = milligrams per liter

"-" = not tested

Chemical analyses conducted by North Creek Analytical of Bothell, Washington. The laboratory report for the current reporting period is presented in Attachment A.

Shading indicates a concentration exceeding the MTCA Method A ground water cleanup level.

Bolding indicates that the sample was obtained during the current reporting period.

WEST McGRAW STREET

34TH AVENUE WEST

33RD AVENUE WEST

WEST LYNN STREET

EXPLANATION:

**MW-1** ● MONITORING WELL  
97.18 GROUND WATER ELEVATION (FEET)  
ON 12/12/00

**B-1** ⊕ BORING

➡ GENERAL DIRECTION OF SHALLOW GROUND WATER FLOW  
ON 12/12/00

TBM ⊕ TEMPORARY BENCHMARK AT RIM OF UTILITY  
COVER; ASSUMED ELEVATION OF 100.00 FEET

UST UNDERGROUND STORAGE TANK

-- NOT MEASURED

Note: The locations of all features shown are approximate.

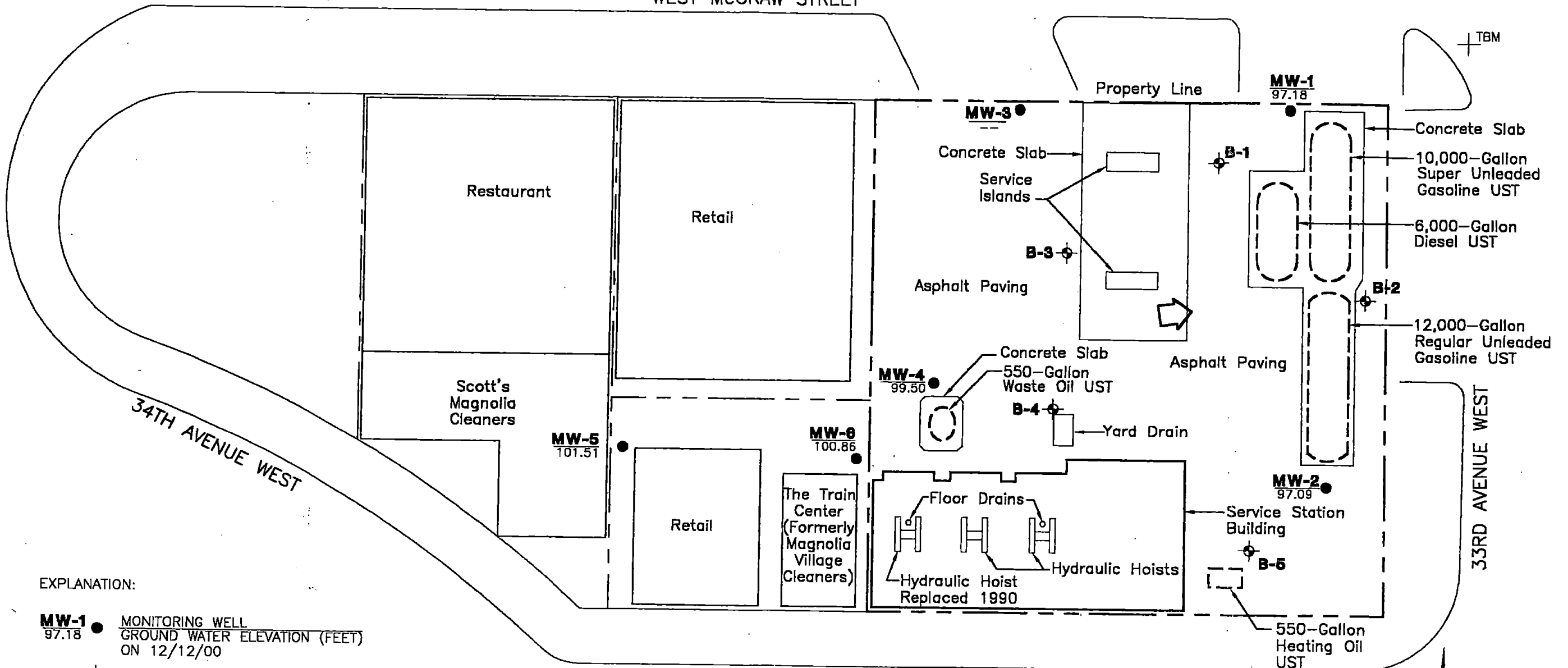
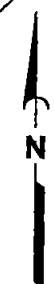
Reference: Drawing entitled "General Arrangement, Unocal Service Station 1726, Seattle, Washington,"  
by Unocal, dated 10/17/85.

GeoEngineers

GROUND WATER ELEVATIONS  
12/12/00

FIGURE 1

0 20 40  
SCALE IN FEET



01/02/01

P:\9161278\CAD\9161278F.DWG

LJB:SYF

WEST McGRAW STREET

34TH AVENUE WEST

33RD AVENUE WEST

WEST LYNN STREET

EXPLANATION:

**MW-1** ● MONITORING WELL

**B-1** ⊕ BORING

G GASOLINE-RANGE HYDROCARBONS (mg/l)

B BENZENE (μg/l) BY EPA METHOD 8021B

PCE TETRACHLOROETHENE (μg/l) BY EPA METHOD 8021B

TCE TRICHLOROETHENE (μg/l) BY EPA METHOD 8021B

DCE Cis 1,2-DICHLOROETHENE (μg/l) BY EPA METHOD 8021B

MTCA MODEL TOXICS CONTROL ACT METHOD A OR METHOD B SINGLE COMPONENT GROUND WATER CLEANUP LEVELS

μg/l MICROGRAMS PER LITER

mg/l MILLIGRAMS PER LITER

-- NOT ANALYZED

| MW-5     | PCE   | TCE   | DCE   |
|----------|-------|-------|-------|
| 03/08/00 | 2.77  | <1.00 | <1.00 |
| 06/08/00 | 6.15  | <1.00 | <1.00 |
| 09/07/00 | 5.14  | <1.00 | <1.00 |
| 12/12/00 | <1.00 | <1.00 | <1.00 |
| MTCA     | 5.0   | 5.0   | 80    |

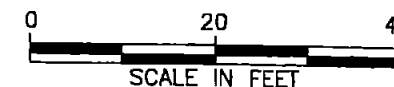
| MW-8     | PCE  | TCE   | DCE   |
|----------|------|-------|-------|
| 03/08/00 | 41.1 | <1.00 | <1.00 |
| 06/08/00 | 147  | 2.71  | 2.40  |
| 09/07/00 | 52.9 | 1.73  | 33.7  |
| 12/12/00 | 143  | 3.62  | 3.21  |
| MTCA     | 5.0  | 5.0   | 80    |

| MW-4     | PCE  | TCE  | DCE   |
|----------|------|------|-------|
| 03/08/00 | 189  | 1.68 | <1.00 |
| 06/08/00 | 120  | 1.63 | <1.00 |
| 09/07/00 | 148  | 2.05 | <1.00 |
| 12/12/00 | 82.2 | 1.86 | <1.00 |
| MTCA     | 5.0  | 5.0  | 80    |

| MW-1     | G    | B     | PCE   | TCE   | DCE   |
|----------|------|-------|-------|-------|-------|
| 03/08/00 | 3.98 | 58.3  | <1.00 | <1.00 | <1.00 |
| 06/08/00 | 2.87 | 47.1  | <1.00 | <1.00 | <1.00 |
| 09/07/00 | 2.80 | 55.4  | <1.00 | <1.00 | <1.00 |
| 12/12/00 | 2.64 | <12.2 | <1.00 | <1.00 | 1.78  |
| MTCA     | 1.0  | 5.0   | 5.0   | 5.0   | 80    |

| MW-2     | PCE  | TCE  | DCE   |
|----------|------|------|-------|
| 03/08/00 | 3.47 | 2.66 | 1.51  |
| 06/08/00 | 4.32 | 4.41 | <1.00 |
| 09/07/00 | 2.03 | 2.38 | <1.00 |
| 12/12/00 | 4.18 | 4.80 | 3.41  |
| MTCA     | 5.0  | 5.0  | 80    |

- Notes: 1. The locations of all features shown are approximate.  
2. See Figure 1 for site facilities identification.



Reference: Drawing entitled "General Arrangement, Unocal Service Station 1726, Seattle, Washington," by Unocal, dated 10/17/85.

GeoEngineers

SUMMARY OF GROUND WATER ANALYTICAL DATA

FIGURE 2

## ATTACHMENT A

Geo Engineers-Everett  
2924 Colby Avenue  
Everett WA, 98201-4011

Project: Unocal 1726  
Project Number: 9161-278-00  
Project Manager: Lisa Bona

**Reported:**  
12/28/00 12:01

### ANALYTICAL REPORT FOR SAMPLES

| Sample ID   | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|-------------|---------------|--------|----------------|----------------|
| MW-1 121200 | B0L0293-01    | Water  | 12/12/00 11:10 | 12/12/00 17:00 |
| MW-2 121200 | B0L0293-02    | Water  | 12/12/00 11:30 | 12/12/00 17:00 |
| MW-4 121200 | B0L0293-03    | Water  | 12/12/00 11:50 | 12/12/00 17:00 |
| MW-5 121200 | B0L0293-04    | Water  | 12/12/00 12:10 | 12/12/00 17:00 |
| MW-6 121200 | B0L0293-05    | Water  | 12/12/00 12:30 | 12/12/00 17:00 |

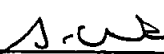
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GEO ENGINEERS

North Creek Analytical - Bothell

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

  
Scott A. Woerman, Project Manager

North Creek Analytical, Inc.  
Environmental Laboratory Network

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Geo Engineers-Everett  
 2924 Colby Avenue  
 Everett WA, 98201-4011

Project: Unocal 1726  
 Project Number: 9161-278-00  
 Project Manager: Lisa Bona

Reported:  
 12/28/00 12:01

**Gasoline Range Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8021B**  
**North Creek Analytical - Bothell**

| Analyte                                                                         | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method       | Notes |
|---------------------------------------------------------------------------------|--------|-----------------|-------|----------|---------|----------|----------|--------------|-------|
| MW-1 121200 (B0L0293-01) Water Sampled: 12/12/00 11:10 Received: 12/12/00 17:00 |        |                 |       |          |         |          |          |              |       |
| Gasoline Range Hydrocarbons                                                     | 2640   | 250             | ug/l  | 5        | 0L19031 | 12/19/00 | 12/20/00 | WTPH-G/8021B |       |
| Benzene                                                                         | ND     | 12.2            | "     | "        | "       | "        | "        | "            | R-03  |
| Toluene                                                                         | ND     | 8.50            | "     | "        | "       | "        | "        | "            | R-03  |
| Ethylbenzene                                                                    | 19.7   | 2.50            | "     | "        | "       | "        | "        | "            |       |
| Xylenes (total)                                                                 | 9.95   | 5.00            | "     | "        | "       | "        | "        | "            |       |
| Surrogate: 4-BFB (FID)                                                          | 93.5 % | 50-150          |       |          | "       | "        | "        | "            |       |
| Surrogate: 4-BFB (PID)                                                          | 81.7 % | 50-150          |       |          | "       | "        | "        | "            |       |

North Creek Analytical - Bothell

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 Scott A. Woerman, Project Manager

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 Environmental Laboratory Network

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Geo Engineers-Everett  
 2924 Colby Avenue  
 Everett WA, 98201-4011

Project: Unocal 1726  
 Project Number: 9161-278-00  
 Project Manager: Lisa Bona

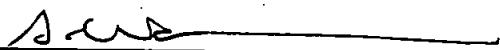
Reported:  
 12/28/00 12:01

**Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C36 by WTPH-D (extended) with Silica Gel Clean-up**  
**North Creek Analytical - Bothell**

| Analyte                                                                                | Result | Reporting<br>Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method | Notes |
|----------------------------------------------------------------------------------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| <b>MW-1 121200 (B0L0293-01) Water</b> Sampled: 12/12/00 11:10 Received: 12/12/00 17:00 |        |                    |       |          |         |          |          |        |       |
| Diesel Range Hydrocarbons                                                              | ND     | 0.250              | mg/l  | 1        | 0L16003 | 12/16/00 | 12/19/00 | WTPH-D |       |
| Heavy Oil Range Hydrocarbons                                                           | ND     | 0.750              | "     | "        | "       | "        | "        | "      |       |
| Surrogate: 2-FBP                                                                       | 84.7 % | 50-150             |       |          | "       | "        | "        | "      |       |
| Surrogate: Octacosane                                                                  | 82.7 % | 50-150             |       |          | "       | "        | "        | "      |       |

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of  
 custody document. This analytical report must be reproduced in its entirety.

  
 Scott A. Woerman, Project Manager

North Creek Analytical, Inc.  
 Environmental Laboratory Network

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Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8223  
425.420.9200 fax 425.420.9210  
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776  
509.924.9200 fax 509.924.9290  
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132  
503.906.9200 fax 503.906.9210  
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711  
541.383.9310 fax 541.382.7588

Geo Engineers-Everett  
2924 Colby Avenue  
Everett WA, 98201-4011

Project: Unocal 1726  
Project Number: 9161-278-00  
Project Manager: Lisa Bona

Reported:  
12/28/00 12:01

**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Bothell**

| Analyte                                                                         | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------------------------------------------------------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| MW-1 121200 (B0L0293-01) Water Sampled: 12/12/00 11:10 Received: 12/12/00 17:00 |        |                 |       |          |         |          |          |           |       |
| Bromodichloromethane                                                            | ND     | 1.00            | ug/l  | 1        | 0L20031 | 12/20/00 | 12/22/00 | EPA 8260B |       |
| Bromoform                                                                       | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Bromomethane                                                                    | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Carbon tetrachloride                                                            | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chlorobenzene                                                                   | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloroethane                                                                    | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloroform                                                                      | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloromethane                                                                   | ND     | 5.00            | "     | "        | "       | "        | "        | "         |       |
| Dibromochloromethane                                                            | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichlorobenzene                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,3-Dichlorobenzene                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,4-Dichlorobenzene                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1-Dichloroethane                                                              | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichloroethane                                                              | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1-Dichloroethene                                                              | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| cis-1,2-Dichloroethene                                                          | 1.78   | 1.00            | "     | "        | "       | "        | "        | "         |       |
| trans-1,2-Dichloroethene                                                        | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichloropropane                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| cis-1,3-Dichloropropene                                                         | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| trans-1,3-Dichloropropene                                                       | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Methylene chloride                                                              | ND     | 5.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1,2,2-Tetrachloroethane                                                       | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Tetrachloroethene                                                               | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1,1-Trichloroethane                                                           | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1,2-Trichloroethane                                                           | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Trichloroethene                                                                 | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Trichlorofluoromethane                                                          | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Vinyl chloride                                                                  | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Surrogate: 1,2-DCA-d4                                                           | 114 %  | 60-130          |       |          | "       | "        | "        | "         |       |
| Surrogate: Toluene-d8                                                           | 93.5 % | 80-120          |       |          | "       | "        | "        | "         |       |
| Surrogate: 4-BFB                                                                | 98.3 % | 80-120          |       |          | "       | "        | "        | "         |       |

North Creek Analytical - Bothell

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Geo Engineers-Everett  
2924 Colby Avenue  
Everett WA, 98201-4011

Project: Unocal 1726  
Project Number: 9161-278-00  
Project Manager: Lisa Bona

Reported:  
12/28/00 12:01

**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Bothell**

| Analyte                                                                         | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------------------------------------------------------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| MW-2 121200 (BOL0293-02) Water Sampled: 12/12/00 11:30 Received: 12/12/00 17:00 |        |                 |       |          |         |          |          |           |       |
| Bromodichloromethane                                                            | ND     | 1.00            | ug/l  | 1        | 0L20031 | 12/20/00 | 12/22/00 | EPA 8260B |       |
| Bromoform                                                                       | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Bromomethane                                                                    | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Carbon tetrachloride                                                            | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chlorobenzene                                                                   | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloroethane                                                                    | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloroform                                                                      | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloromethane                                                                   | ND     | 5.00            | "     | "        | "       | "        | "        | "         |       |
| Dibromochloromethane                                                            | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichlorobenzene                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,3-Dichlorobenzene                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,4-Dichlorobenzene                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1-Dichloroethane                                                              | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichloroethane                                                              | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1-Dichloroethene                                                              | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| cis-1,2-Dichloroethene                                                          | 3.41   | 1.00            | "     | "        | "       | "        | "        | "         |       |
| trans-1,2-Dichloroethene                                                        | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichloropropane                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| cis-1,3-Dichloropropene                                                         | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| trans-1,3-Dichloropropene                                                       | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Methylene chloride                                                              | ND     | 5.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1,2,2-Tetrachloroethane                                                       | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Tetrachloroethene                                                               | 4.18   | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1,1-Trichloroethane                                                           | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1,2-Trichloroethane                                                           | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Trichloroethene                                                                 | 4.80   | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Trichlorofluoromethane                                                          | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Vinyl chloride                                                                  | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Surrogate: 1,2-DCA-d4                                                           | 108 %  | 60-130          |       |          | "       | "        | "        | "         |       |
| Surrogate: Toluene-d8                                                           | 92.8 % | 80-120          |       |          | "       | "        | "        | "         |       |
| Surrogate: 4-BFB                                                                | 99.3 % | 80-120          |       |          | "       | "        | "        | "         |       |

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 2924 Colby Avenue  
 Everett WA, 98201-4011

Project: Unocal 1726  
 Project Number: 9161-278-00  
 Project Manager: Lisa Bona

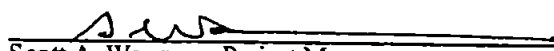
Reported:  
 12/28/00 12:01

**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Bothell**

| Analyte                                                                         | Result      | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------------------------------------------------------------------------|-------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| MW-4 121200 (B0L0293-03) Water Sampled: 12/12/00 11:50 Received: 12/12/00 17:00 |             |                 |       |          |         |          |          |           |       |
| Bromodichloromethane                                                            | ND          | 1.00            | ug/l  | 1        | 0L20031 | 12/20/00 | 12/22/00 | EPA 8260B |       |
| Bromoform                                                                       | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Bromomethane                                                                    | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Carbon tetrachloride                                                            | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chlorobenzene                                                                   | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloroethane                                                                    | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloroform                                                                      | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloromethane                                                                   | ND          | 5.00            | "     | "        | "       | "        | "        | "         |       |
| Dibromochloromethane                                                            | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichlorobenzene                                                             | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,3-Dichlorobenzene                                                             | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,4-Dichlorobenzene                                                             | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1-Dichloroethane                                                              | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichloroethane                                                              | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1-Dichloroethene                                                              | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| cis-1,2-Dichloroethene                                                          | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| trans-1,2-Dichloroethene                                                        | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichloropropane                                                             | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| cis-1,3-Dichloropropene                                                         | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| trans-1,3-Dichloropropene                                                       | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Methylene chloride                                                              | ND          | 5.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1,2,2-Tetrachloroethane                                                       | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| <b>Tetrachloroethene</b>                                                        | <b>82.2</b> | 2.00            | "     | 2        | "       | "        | 12/24/00 | "         |       |
| 1,1,1-Trichloroethane                                                           | ND          | 1.00            | "     | 1        | "       | "        | 12/22/00 | "         |       |
| 1,1,2-Trichloroethane                                                           | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| <b>Trichloroethene</b>                                                          | <b>1.86</b> | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Trichlorofluoromethane                                                          | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Vinyl chloride                                                                  | ND          | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Surrogate: 1,2-DCA-d4                                                           | 108 %       | 60-130          |       |          | "       | "        | "        | "         |       |
| Surrogate: Toluene-d8                                                           | 92.5 %      | 80-120          |       |          | "       | "        | "        | "         |       |
| Surrogate: 4-BFB                                                                | 98.3 %      | 80-120          |       |          | "       | "        | "        | "         |       |

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Geo Engineers-Everett  
 2924 Colby Avenue  
 Everett WA, 98201-4011

Project: Unocal 1726  
 Project Number: 9161-278-00  
 Project Manager: Lisa Bona

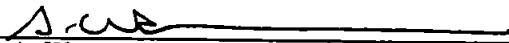
Reported:  
 12/28/00 12:01

**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Bothell**

| Analyte                                                                         | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------------------------------------------------------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| MW-5 121200 (B0L0293-04) Water Sampled: 12/12/00 12:10 Received: 12/12/00 17:00 |        |                 |       |          |         |          |          |           |       |
| Bromodichloromethane                                                            | ND     | 1.00            | ug/l  | 1        | 0L22040 | 12/22/00 | 12/24/00 | EPA 8260B |       |
| Bromoform                                                                       | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Bromomethane                                                                    | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Carbon tetrachloride                                                            | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chlorobenzene                                                                   | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloroethane                                                                    | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloroform                                                                      | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloromethane                                                                   | ND     | 5.00            | "     | "        | "       | "        | "        | "         |       |
| Dibromochloromethane                                                            | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichlorobenzene                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,3-Dichlorobenzene                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,4-Dichlorobenzene                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1-Dichloroethane                                                              | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichloroethane                                                              | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1-Dichloroethene                                                              | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| cis-1,2-Dichloroethene                                                          | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| trans-1,2-Dichloroethene                                                        | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichloropropane                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| cis-1,3-Dichloropropene                                                         | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| trans-1,3-Dichloropropene                                                       | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Methylene chloride                                                              | ND     | 5.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1,2,2-Tetrachloroethane                                                       | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Tetrachloroethene                                                               | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1,1-Trichloroethane                                                           | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1,2-Trichloroethane                                                           | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Trichloroethene                                                                 | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Trichlorofluoromethane                                                          | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Vinyl chloride                                                                  | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Surrogate: 1,2-DCA-d4                                                           | 108 %  | 60-130          |       |          | "       | "        | "        | "         |       |
| Surrogate: Toluene-d8                                                           | 91.3 % | 80-120          |       |          | "       | "        | "        | "         |       |
| Surrogate: 4-BFB                                                                | 96.5 % | 80-120          |       |          | "       | "        | "        | "         |       |

North Creek Analytical - Bothell

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Geo Engineers-Everett  
 2924 Colby Avenue  
 Everett WA, 98201-4011

Project: Unocal 1726  
 Project Number: 9161-278-00  
 Project Manager: Lisa Bona

Reported:  
 12/28/00 12:01

**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Bothell**

| Analyte                                                                         | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------------------------------------------------------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| MW-6 121200 (B0L0293-05) Water Sampled: 12/12/00 12:30 Received: 12/12/00 17:00 |        |                 |       |          |         |          |          |           |       |
| Bromodichloromethane                                                            | ND     | 1.00            | ug/l  | 1        | 0L20031 | 12/20/00 | 12/22/00 | EPA 8260B |       |
| Bromoform                                                                       | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Bromomethane                                                                    | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Carbon tetrachloride                                                            | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chlorobenzene                                                                   | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloroethane                                                                    | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloroform                                                                      | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Chloromethane                                                                   | ND     | 5.00            | "     | "        | "       | "        | "        | "         |       |
| Dibromochloromethane                                                            | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichlorobenzene                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,3-Dichlorobenzene                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,4-Dichlorobenzene                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1-Dichloroethane                                                              | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichloroethane                                                              | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1-Dichloroethene                                                              | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| cis-1,2-Dichloroethene                                                          | 3.21   | 1.00            | "     | "        | "       | "        | "        | "         |       |
| trans-1,2-Dichloroethene                                                        | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| 1,2-Dichloropropane                                                             | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| cis-1,3-Dichloropropene                                                         | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| trans-1,3-Dichloropropene                                                       | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Methylene chloride                                                              | ND     | 5.00            | "     | "        | "       | "        | "        | "         |       |
| 1,1,2,2-Tetrachloroethane                                                       | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Tetrachloroethene                                                               | 143    | 2.50            | "     | 2.5      | "       | "        | 12/24/00 | "         |       |
| 1,1,1-Trichloroethane                                                           | ND     | 1.00            | "     | 1        | "       | "        | 12/22/00 | "         |       |
| 1,1,2-Trichloroethane                                                           | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Trichloroethene                                                                 | 3.62   | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Trichlorofluoromethane                                                          | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Vinyl chloride                                                                  | ND     | 1.00            | "     | "        | "       | "        | "        | "         |       |
| Surrogate: 1,2-DCA-d4                                                           | 109 %  | 60-130          |       |          | "       | "        | "        | "         |       |
| Surrogate: Toluene-d8                                                           | 93.3 % | 80-120          |       |          | "       | "        | "        | "         |       |
| Surrogate: 4-BFB                                                                | 95.8 % | 80-120          |       |          | "       | "        | "        | "         |       |

North Creek Analytical - Bothell

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 Scott A. Woerman, Project Manager

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 Environmental Laboratory Network

Page 8 of 16



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Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711  
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Geo Engineers-Everett  
2924 Colby Avenue  
Everett WA, 98201-4011

Project: Unocal 1726  
Project Number: 9161-278-00  
Project Manager: Lisa Bona

Reported:  
12/28/00 12:01

**Gasoline Range Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8021B - Quality Control**  
**North Creek Analytical - Bothell**

| Analyte                                                       | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD  | RPD Limit | Notes |
|---------------------------------------------------------------|--------|-----------------|-------|-------------|---------------|------|-------------|------|-----------|-------|
| <b>Batch 0L19031: Prepared 12/19/00 Using EPA 5030B (P/T)</b> |        |                 |       |             |               |      |             |      |           |       |
| <b>Blank (0L19031-BLK1)</b>                                   |        |                 |       |             |               |      |             |      |           |       |
| Gasoline Range Hydrocarbons                                   | ND     | 50.0            | ug/l  |             |               |      |             |      |           |       |
| Benzene                                                       | ND     | 0.500           | "     |             |               |      |             |      |           |       |
| Toluene                                                       | ND     | 0.500           | "     |             |               |      |             |      |           |       |
| Ethylbenzene                                                  | ND     | 0.500           | "     |             |               |      |             |      |           |       |
| Xylenes (total)                                               | ND     | 1.00            | "     |             |               |      |             |      |           |       |
| Surrogate: 4-BFB (FID)                                        | 43.5   |                 | "     | 48.0        |               | 90.6 | 50-150      |      |           |       |
| Surrogate: 4-BFB (PID)                                        | 45.6   |                 | "     | 48.0        |               | 95.0 | 50-150      |      |           |       |
| <b>Blank (0L19031-BLK2)</b>                                   |        |                 |       |             |               |      |             |      |           |       |
| Gasoline Range Hydrocarbons                                   | ND     | 50.0            | ug/l  |             |               |      |             |      |           |       |
| Benzene                                                       | ND     | 0.500           | "     |             |               |      |             |      |           |       |
| Toluene                                                       | ND     | 0.500           | "     |             |               |      |             |      |           |       |
| Ethylbenzene                                                  | ND     | 0.500           | "     |             |               |      |             |      |           |       |
| Xylenes (total)                                               | ND     | 1.00            | "     |             |               |      |             |      |           |       |
| Surrogate: 4-BFB (FID)                                        | 45.0   |                 | "     | 48.0        |               | 93.8 | 50-150      |      |           |       |
| Surrogate: 4-BFB (PID)                                        | 42.4   |                 | "     | 48.0        |               | 88.3 | 50-150      |      |           |       |
| <b>LCS (0L19031-BS1)</b>                                      |        |                 |       |             |               |      |             |      |           |       |
| Gasoline Range Hydrocarbons                                   | 498    | 50.0            | ug/l  | 500         |               | 99.6 | 70-130      |      |           |       |
| Surrogate: 4-BFB (FID)                                        | 45.3   |                 | "     | 48.0        |               | 94.4 | 50-150      |      |           |       |
| Surrogate: 4-BFB (PID)                                        | 44.1   |                 | "     | 48.0        |               | 91.9 | 50-150      |      |           |       |
| <b>LCS (0L19031-BS2)</b>                                      |        |                 |       |             |               |      |             |      |           |       |
| Gasoline Range Hydrocarbons                                   | 494    | 50.0            | ug/l  | 500         |               | 98.8 | 70-130      |      |           |       |
| Surrogate: 4-BFB (FID)                                        | 46.2   |                 | "     | 48.0        |               | 96.3 | 50-150      |      |           |       |
| Surrogate: 4-BFB (PID)                                        | 41.7   |                 | "     | 48.0        |               | 86.9 | 50-150      |      |           |       |
| <b>Duplicate (0L19031-DUP1)</b>                               |        |                 |       |             |               |      |             |      |           |       |
| <b>Source: B0L0287-02</b>                                     |        |                 |       |             |               |      |             |      |           |       |
| Gasoline Range Hydrocarbons                                   | 38300  | 5000            | ug/l  |             | 39600         |      |             | 3.34 | 25        |       |
| Surrogate: 4-BFB (FID)                                        | 44.5   |                 | "     | 48.0        |               | 92.7 | 50-150      |      |           |       |

North Creek Analytical - Bothell

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Environmental Laboratory Network

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Geo Engineers-Everett  
 2924 Colby Avenue  
 Everett WA, 98201-4011

Project: Unocal 1726  
 Project Number: 9161-278-00  
 Project Manager: Lisa Bona

Reported:  
 12/28/00 12:01

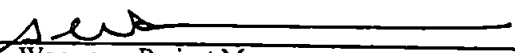
**Gasoline Range Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8021B - Quality Control**

**North Creek Analytical - Bothell**

| Analyte                                                       | Result | Reporting Limit | Units | Spike Level | Source Result             | %REC | %REC Limits | RPD   | RPD Limit | Notes |
|---------------------------------------------------------------|--------|-----------------|-------|-------------|---------------------------|------|-------------|-------|-----------|-------|
| <b>Batch 0L19031: Prepared 12/19/00 Using EPA 5030B (P/T)</b> |        |                 |       |             |                           |      |             |       |           |       |
| <b>Duplicate (0L19031-DUP2)</b>                               |        |                 |       |             | <b>Source: B0L0230-03</b> |      |             |       |           |       |
| Gasoline Range Hydrocarbons                                   | ND     | 50.0            | ug/l  |             | ND                        |      |             | 8.47  | 25        |       |
| Surrogate: 4-BFB (FID)                                        | 41.6   |                 | "     | 48.0        |                           | 86.7 | 50-150      |       |           |       |
| <b>Matrix Spike (0L19031-MS1)</b>                             |        |                 |       |             | <b>Source: B0L0287-05</b> |      |             |       |           |       |
| Benzene                                                       | 9.54   | 0.500           | ug/l  | 10.0        | ND                        | 94.3 | 70-130      |       |           |       |
| Toluene                                                       | 9.57   | 0.500           | "     | 10.0        | ND                        | 94.1 | 70-130      |       |           |       |
| Ethylbenzene                                                  | 9.49   | 0.500           | "     | 10.0        | ND                        | 93.8 | 70-130      |       |           |       |
| Xylenes (total)                                               | 27.9   | 1.00            | "     | 30.0        | ND                        | 91.8 | 70-130      |       |           |       |
| Surrogate: 4-BFB (PID)                                        | 41.7   |                 | "     | 48.0        |                           | 86.9 | 50-150      |       |           |       |
| <b>Matrix Spike Dup (0L19031-MSD1)</b>                        |        |                 |       |             | <b>Source: B0L0287-05</b> |      |             |       |           |       |
| Benzene                                                       | 9.56   | 0.500           | ug/l  | 10.0        | ND                        | 94.5 | 70-130      | 0.209 | 15        |       |
| Toluene                                                       | 9.58   | 0.500           | "     | 10.0        | ND                        | 94.2 | 70-130      | 0.104 | 15        |       |
| Ethylbenzene                                                  | 9.61   | 0.500           | "     | 10.0        | ND                        | 95.0 | 70-130      | 1.26  | 15        |       |
| Xylenes (total)                                               | 28.7   | 1.00            | "     | 30.0        | ND                        | 94.5 | 70-130      | 2.83  | 15        |       |
| Surrogate: 4-BFB (PID)                                        | 42.3   |                 | "     | 48.0        |                           | 88.1 | 50-150      |       |           |       |

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541.383.9310 fax 541.382.7588

Geo Engineers-Everett  
2924 Colby Avenue  
Everett WA, 98201-4011

Project: Unocal 1726  
Project Number: 9161-278-00  
Project Manager: Lisa Bona

Reported:  
12/28/00 12:01

**Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C36 by WTPH-D (extended) with Silica Gel Clean-up -  
Quality Control  
North Creek Analytical - Bothell**

| Analyte                                                            | Result | Reporting<br>Limit | Units | Spike<br>Level | Source<br>Result | %REC<br>Limits | RPD    | RPD<br>Limit | Notes |
|--------------------------------------------------------------------|--------|--------------------|-------|----------------|------------------|----------------|--------|--------------|-------|
| <b>Batch 0L16003: Prepared 12/16/00 Using EPA 3520C/600 Series</b> |        |                    |       |                |                  |                |        |              |       |
| <b>Blank (0L16003-BLK1)</b>                                        |        |                    |       |                |                  |                |        |              |       |
| Diesel Range Hydrocarbons                                          | ND     | 0.250              | mg/l  |                |                  |                |        |              |       |
| Heavy Oil Range Hydrocarbons                                       | ND     | 0.750              | "     |                |                  |                |        |              |       |
| Surrogate: 2-FBP                                                   | 0.244  |                    | "     | 0.320          |                  | 76.3           | 50-150 |              |       |
| Surrogate: Octacosane                                              | 0.255  |                    | "     | 0.320          |                  | 79.7           | 50-150 |              |       |
| <b>LCS (0L16003-BS1)</b>                                           |        |                    |       |                |                  |                |        |              |       |
| Diesel Range Hydrocarbons                                          | 1.64   | 0.250              | mg/l  | 2.00           |                  | 82.0           | 50-150 |              |       |
| Surrogate: 2-FBP                                                   | 0.274  |                    | "     | 0.320          |                  | 85.6           | 50-150 |              |       |
| <b>Duplicate (0L16003-DUP1) Source: B0L0293-01</b>                 |        |                    |       |                |                  |                |        |              |       |
| Diesel Range Hydrocarbons                                          | ND     | 0.250              | mg/l  |                | ND               |                | 18.5   | 44           |       |
| Heavy Oil Range Hydrocarbons                                       | ND     | 0.750              | "     |                | ND               |                |        | 44           |       |
| Surrogate: 2-FBP                                                   | 0.383  |                    | "     | 0.656          |                  | 58.4           | 50-150 |              |       |
| Surrogate: Octacosane                                              | 0.449  |                    | "     | 0.656          |                  | 68.4           | 50-150 |              |       |
| <b>Duplicate (0L16003-DUP2) Source: B0L0308-06</b>                 |        |                    |       |                |                  |                |        |              |       |
| Diesel Range Hydrocarbons                                          | ND     | 0.250              | mg/l  |                | ND               |                | 14.2   | 44           |       |
| Heavy Oil Range Hydrocarbons                                       | ND     | 0.750              | "     |                | ND               |                |        | 44           |       |
| Surrogate: 2-FBP                                                   | 0.520  |                    | "     | 0.713          |                  | 72.9           | 50-150 |              |       |
| Surrogate: Octacosane                                              | 0.634  |                    | "     | 0.713          |                  | 88.9           | 50-150 |              |       |

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Environmental Laboratory Network

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Geo Engineers-Everett  
 2924 Colby Avenue  
 Everett WA, 98201-4011

Project: Unocal 1726  
 Project Number: 9161-278-00  
 Project Manager: Lisa Bona

Reported:  
 12/28/00 12:01

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**North Creek Analytical - Bothell**

| Analyte                                                       | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------------------------------------------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
| <b>Batch 0L20031: Prepared 12/20/00 Using EPA 5030B [P/T]</b> |        |                 |       |             |               |      |             |     |           |       |
| <b>Blank (0L20031-BLK1)</b>                                   |        |                 |       |             |               |      |             |     |           |       |
| Bromodichloromethane                                          | ND     | 1.00            | ug/l  |             |               |      |             |     |           |       |
| Bromoform                                                     | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Bromomethane                                                  | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Carbon tetrachloride                                          | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Chlorobenzene                                                 | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Chloroethane                                                  | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Chloroform                                                    | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Chloromethane                                                 | ND     | 5.00            | "     |             |               |      |             |     |           |       |
| Dibromochloromethane                                          | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,2-Dichlorobenzene                                           | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,3-Dichlorobenzene                                           | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,4-Dichlorobenzene                                           | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,1-Dichloroethane                                            | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,2-Dichloroethane                                            | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,1-Dichloroethene                                            | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| cis-1,2-Dichloroethene                                        | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| trans-1,2-Dichloroethene                                      | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,2-Dichloropropane                                           | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| cis-1,3-Dichloropropene                                       | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| trans-1,3-Dichloropropene                                     | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Methylene chloride                                            | ND     | 5.00            | "     |             |               |      |             |     |           |       |
| 1,1,2,2-Tetrachloroethane                                     | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Tetrachloroethene                                             | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,1,1-Trichloroethane                                         | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,1,2-Trichloroethane                                         | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Trichloroethene                                               | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Trichlorofluoromethane                                        | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Vinyl chloride                                                | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Surrogate: 1,2-DCI-d4                                         | 43.8   |                 | "     | 40.2        |               | 109  | 60-130      |     |           |       |
| Surrogate: Toluene-d8                                         | 37.6   |                 | "     | 40.2        |               | 93.5 | 80-120      |     |           |       |
| Surrogate: 4-BFB                                              | 39.1   |                 | "     | 40.2        |               | 97.3 | 80-120      |     |           |       |

North Creek Analytical - Bothell

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 Scott A. Woerman, Project Manager

Geo Engineers-Everett  
 2924 Colby Avenue  
 Everett WA, 98201-4011

Project: Unocal 1726  
 Project Number: 9161-278-00  
 Project Manager: Lisa Bona

Reported:  
 12/28/00 12:01

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**North Creek Analytical - Bothell**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

**Batch 0L20031: Prepared 12/20/00 Using EPA 5030B [P/T]**

**LCS (0L20031-BS1)**

|                       |      |      |      |      |  |      |        |  |  |  |
|-----------------------|------|------|------|------|--|------|--------|--|--|--|
| Chlorobenzene         | 17.7 | 1.00 | ug/l | 20.0 |  | 88.5 | 80-120 |  |  |  |
| 1,1-Dichloroethene    | 21.1 | 1.00 | "    | 20.0 |  | 106  | 60-140 |  |  |  |
| Trichloroethene       | 18.6 | 1.00 | "    | 20.0 |  | 93.0 | 70-130 |  |  |  |
| Surrogate: 1,2-DCA-d4 | 43.6 |      | "    | 40.2 |  | 108  | 60-130 |  |  |  |
| Surrogate: Toluene-d8 | 37.9 |      | "    | 40.2 |  | 94.3 | 80-120 |  |  |  |
| Surrogate: 4-BFB      | 38.9 |      | "    | 40.2 |  | 96.8 | 80-120 |  |  |  |

**Matrix Spike (0L20031-MS1)**

**Source: B0L0398-04**

|                       |      |      |      |      |    |      |        |  |  |  |
|-----------------------|------|------|------|------|----|------|--------|--|--|--|
| Chlorobenzene         | 19.8 | 1.00 | ug/l | 20.0 | ND | 99.0 | 80-120 |  |  |  |
| 1,1-Dichloroethene    | 26.6 | 1.00 | "    | 20.0 | ND | 133  | 60-140 |  |  |  |
| Trichloroethene       | 21.7 | 1.00 | "    | 20.0 | ND | 109  | 70-130 |  |  |  |
| Surrogate: 1,2-DCA-d4 | 44.4 |      | "    | 40.2 |    | 110  | 60-130 |  |  |  |
| Surrogate: Toluene-d8 | 37.3 |      | "    | 40.2 |    | 92.8 | 80-120 |  |  |  |
| Surrogate: 4-BFB      | 39.3 |      | "    | 40.2 |    | 97.8 | 80-120 |  |  |  |

**Matrix Spike Dup (0L20031-MSD1)**

**Source: B0L0398-04**

|                       |      |      |      |      |    |      |        |       |    |  |
|-----------------------|------|------|------|------|----|------|--------|-------|----|--|
| Chlorobenzene         | 19.7 | 1.00 | ug/l | 20.0 | ND | 98.5 | 80-120 | 0.506 | 15 |  |
| 1,1-Dichloroethene    | 27.8 | 1.00 | "    | 20.0 | ND | 139  | 60-140 | 4.41  | 30 |  |
| Trichloroethene       | 22.1 | 1.00 | "    | 20.0 | ND | 111  | 70-130 | 1.83  | 20 |  |
| Surrogate: 1,2-DCA-d4 | 44.0 |      | "    | 40.2 |    | 109  | 60-130 |       |    |  |
| Surrogate: Toluene-d8 | 37.1 |      | "    | 40.2 |    | 92.3 | 80-120 |       |    |  |
| Surrogate: 4-BFB      | 39.3 |      | "    | 40.2 |    | 97.8 | 80-120 |       |    |  |

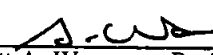
**Batch 0L22040: Prepared 12/22/00 Using EPA 5030B [P/T]**

**Blank (0L22040-BLK1)**

|                      |    |      |      |  |  |  |  |  |  |  |
|----------------------|----|------|------|--|--|--|--|--|--|--|
| Bromodichloromethane | ND | 1.00 | ug/l |  |  |  |  |  |  |  |
| Bromoform            | ND | 1.00 | "    |  |  |  |  |  |  |  |
| Bromomethane         | ND | 1.00 | "    |  |  |  |  |  |  |  |
| Carbon tetrachloride | ND | 1.00 | "    |  |  |  |  |  |  |  |
| Chlorobenzene        | ND | 1.00 | "    |  |  |  |  |  |  |  |
| Chloroethane         | ND | 1.00 | "    |  |  |  |  |  |  |  |
| Chloroform           | ND | 1.00 | "    |  |  |  |  |  |  |  |
| Chloromethane        | ND | 5.00 | "    |  |  |  |  |  |  |  |
| Dibromochloromethane | ND | 1.00 | "    |  |  |  |  |  |  |  |
| 1,2-Dichlorobenzene  | ND | 1.00 | "    |  |  |  |  |  |  |  |
| 1,3-Dichlorobenzene  | ND | 1.00 | "    |  |  |  |  |  |  |  |

North Creek Analytical - Bothell

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 Environmental Laboratory Network

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Geo Engineers-Everett  
 2924 Colby Avenue  
 Everett WA, 98201-4011

Project: Unocal 1726  
 Project Number: 9161-278-00  
 Project Manager: Lisa Bona

Reported:  
 12/28/00 12:01

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**North Creek Analytical - Bothell**

| Analyte                                                       | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------------------------------------------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
| <b>Batch 0L22040: Prepared 12/22/00 Using EPA 5030B [P/T]</b> |        |                 |       |             |               |      |             |     |           |       |
| <b>Blank (0L22040-BLK1)</b>                                   |        |                 |       |             |               |      |             |     |           |       |
| 1,4-Dichlorobenzene                                           | ND     | 1.00            | ug/l  |             |               |      |             |     |           |       |
| 1,1-Dichloroethane                                            | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,2-Dichloroethane                                            | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,1-Dichloroethene                                            | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| cis-1,2-Dichloroethene                                        | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| trans-1,2-Dichloroethene                                      | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,2-Dichloropropane                                           | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| cis-1,3-Dichloropropene                                       | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| trans-1,3-Dichloropropene                                     | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Methylene chloride                                            | ND     | 5.00            | "     |             |               |      |             |     |           |       |
| 1,1,2,2-Tetrachloroethane                                     | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Tetrachloroethene                                             | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,1,1-Trichloroethane                                         | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| 1,1,2-Trichloroethane                                         | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Trichloroethene                                               | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Trichlorofluoromethane                                        | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Vinyl chloride                                                | ND     | 1.00            | "     |             |               |      |             |     |           |       |
| Surrogate: 1,2-DCA-d4                                         | 43.8   |                 | "     | 40.0        |               | 109  | 60-130      |     |           |       |
| Surrogate: Toluene-d8                                         | 36.0   |                 | "     | 40.0        |               | 90.0 | 80-120      |     |           |       |
| Surrogate: 4-BFB                                              | 39.3   |                 | "     | 40.0        |               | 98.2 | 80-120      |     |           |       |
| <b>LCS (0L22040-BS1)</b>                                      |        |                 |       |             |               |      |             |     |           |       |
| Chlorobenzene                                                 | 18.2   | 1.00            | ug/l  | 20.0        |               | 91.0 | 80-120      |     |           |       |
| 1,1-Dichloroethene                                            | 23.7   | 1.00            | "     | 20.0        |               | 119  | 60-140      |     |           |       |
| Trichloroethene                                               | 20.0   | 1.00            | "     | 20.0        |               | 100  | 70-130      |     |           |       |
| Surrogate: 1,2-DCA-d4                                         | 44.5   |                 | "     | 40.0        |               | 111  | 60-130      |     |           |       |
| Surrogate: Toluene-d8                                         | 37.0   |                 | "     | 40.0        |               | 92.5 | 80-120      |     |           |       |
| Surrogate: 4-BFB                                              | 38.6   |                 | "     | 40.0        |               | 96.5 | 80-120      |     |           |       |

North Creek Analytical - Bothell

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 Scott A. Woerman, Project Manager

North Creek Analytical, Inc.  
 Environmental Laboratory Network

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Geo Engineers-Everett  
 2924 Colby Avenue  
 Everett WA, 98201-4011

Project: Unocal 1726  
 Project Number: 9161-278-00  
 Project Manager: Lisa Bona

Reported:  
 12/28/00 12:01

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**North Creek Analytical - Bothell**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

**Batch 0L22040: Prepared 12/22/00 Using EPA 5030B [P/T]**

**Matrix Spike (0L22040-MS1)**

**Source: B0L0398-08**

|                       |      |      |      |      |    |      |        |  |  |  |
|-----------------------|------|------|------|------|----|------|--------|--|--|--|
| Chlorobenzene         | 18.0 | 1.00 | ug/l | 20.0 | ND | 90.0 | 80-120 |  |  |  |
| 1,1-Dichloroethene    | 26.9 | 1.00 | "    | 20.0 | ND | 134  | 60-140 |  |  |  |
| Trichloroethene       | 21.0 | 1.00 | "    | 20.0 | ND | 105  | 70-130 |  |  |  |
| Surrogate: 1,2-DCA-d4 | 43.2 |      | "    | 40.0 |    | 108  | 60-130 |  |  |  |
| Surrogate: Toluene-d8 | 36.4 |      | "    | 40.0 |    | 91.0 | 80-120 |  |  |  |
| Surrogate: 4-BFB      | 39.1 |      | "    | 40.0 |    | 97.7 | 80-120 |  |  |  |

**Matrix Spike Dup (0L22040-MSD1)**

**Source: B0L0398-08**

|                       |      |      |      |      |    |      |        |      |    |  |
|-----------------------|------|------|------|------|----|------|--------|------|----|--|
| Chlorobenzene         | 18.2 | 1.00 | ug/l | 20.0 | ND | 91.0 | 80-120 | 1.10 | 15 |  |
| 1,1-Dichloroethene    | 26.5 | 1.00 | "    | 20.0 | ND | 133  | 60-140 | 1.50 | 30 |  |
| Trichloroethene       | 20.5 | 1.00 | "    | 20.0 | ND | 103  | 70-130 | 2.41 | 20 |  |
| Surrogate: 1,2-DCA-d4 | 43.2 |      | "    | 40.0 |    | 108  | 60-130 |      |    |  |
| Surrogate: Toluene-d8 | 36.6 |      | "    | 40.0 |    | 91.5 | 80-120 |      |    |  |
| Surrogate: 4-BFB      | 39.1 |      | "    | 40.0 |    | 97.7 | 80-120 |      |    |  |

North Creek Analytical - Bothell

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 Environmental Laboratory Network

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Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8223  
425.420.9200 fax 425.420.9210  
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776  
509.924.9200 fax 509.924.9290  
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132  
503.906.9200 fax 503.906.9210  
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711  
541.383.9310 fax 541.382.7588

Geo Engineers-Everett  
2924 Colby Avenue  
Everett WA, 98201-4011

Project: Unocal 1726  
Project Number: 9161-278-00  
Project Manager: Lisa Bona

Reported:  
12/28/00 12:01

### Notes and Definitions

- R-03 The reporting limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

North Creek Analytical - Bothell

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North Creek Analytical, Inc.  
Environmental Laboratory Network

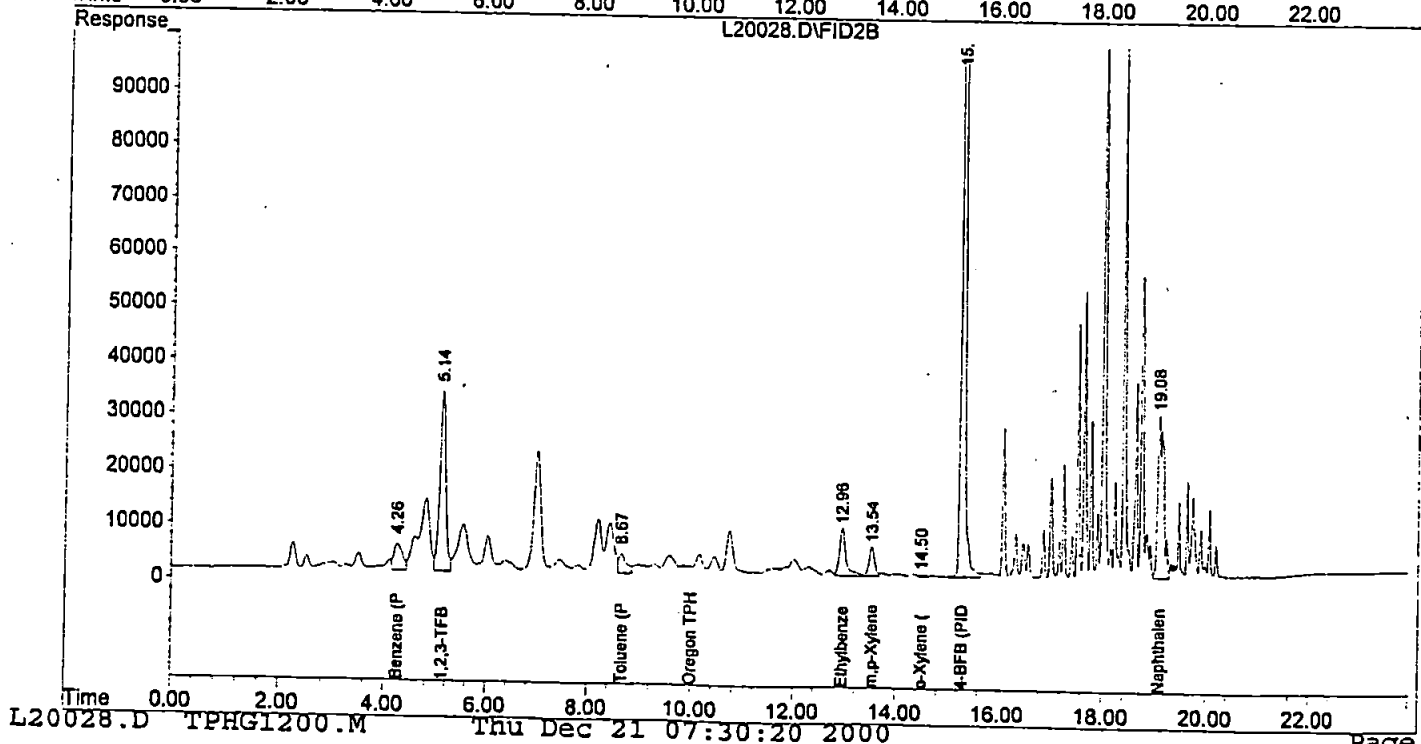
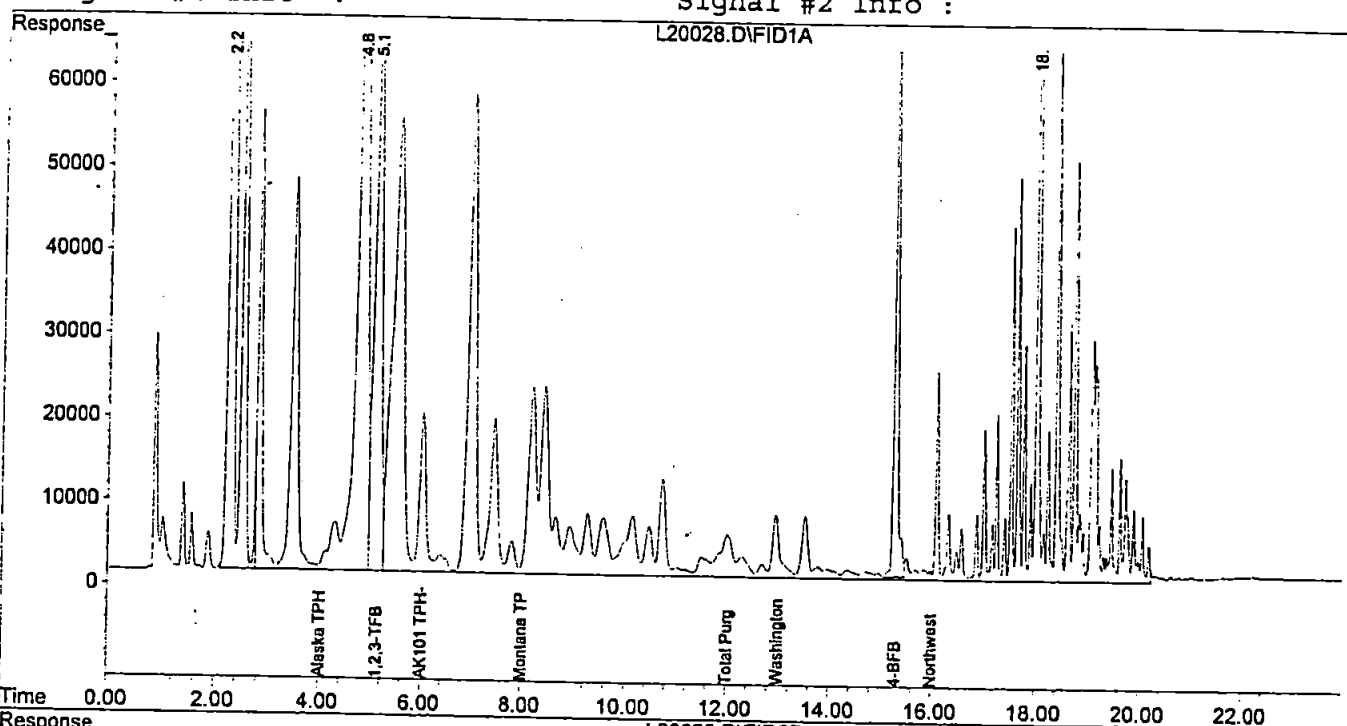
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# Quantitation Report

Signal #1 : D:\HPCHEM\2\DATA\122000\L20028.D\FID1A.CH Vial: 28  
 Signal #2 : D:\HPCHEM\2\DATA\122000\L20028.D\FID2B.CH  
 Acq On : 20 Dec 2000 10:06 pm  
 Sample : b0L0293-01 r1 Operator: GAP  
 Misc : 1 mL Inst : GC #12  
 IntFile Signal #1: SURR.E Multiplr: 5.00  
 IntFile Signal #2: SURR2.E  
 Quant Time: Dec 20 22:31 2000 Quant Results File: TPHG1200.RES

Quant Method : D:\HPCHEM\2\METHODS\TPHG1200.M (Chemstation Integrator)  
 Title : DB-MTBE Method  
 Last Update : Tue Dec 19 16:49:16 2000  
 Response via : Multiple Level Calibration  
 DataAcq Meth : TPHG1200.M

Volume Inj. :  
 Signal #1 Phase :  
 Signal #1 Info :  
 Signal #2 Phase :  
 Signal #2 Info :



Data File : D:\HPCHEM\1\DATA\SEC L19059.D  
Acq On : 12-19-00 16:54:21  
Sample : b0L0293-01  
Misc : W

Vial: 18  
Operator: EP  
Inst : GC# 9  
Multiplr: 1.00  
Sample Amount: 0.00

IntFile : SURR.E

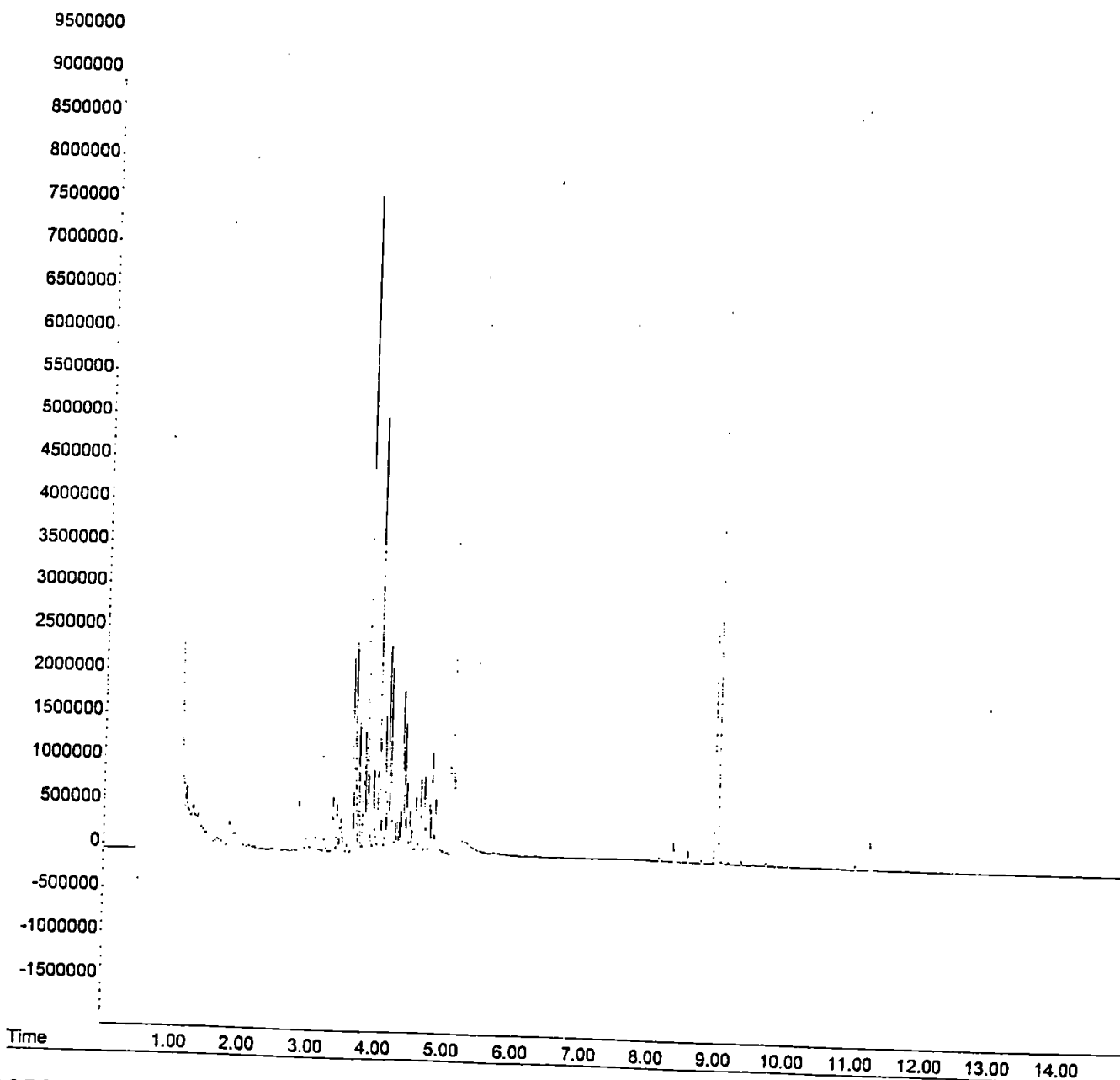
Quant Time: Dec 19 17:09 2000 Quant Results File: TPHD2.RES

Quant Method : D:\HPCHEM\1\METHODS\TPHD2.M (Chemstation Integrator)  
Title : TPH-D Rear Method  
Last Update : Thu Dec 14 06:44:20 2000  
Response via : Multiple Level Calibration  
DataAcq Meth : TPHD.M

Volume Inj. :  
Signal Phase :  
Signal Info :

Response

L19059.D\FID2B



L19059.D TPHD2.M

Wed Dec 20 06:11:25 2000

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## UNOCAL CHAIN OF CUSTODY REPORT

| UNOCAL INFORMATION     |                                                                                                                                                                                                                                          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Facility Number:       | 1726                                                                                                                                                                                                                                     |
| Site Address:          | 3301 W. McGRAW ST.                                                                                                                                                                                                                       |
| City, State, ZIP:      | SEATTLE WA.                                                                                                                                                                                                                              |
| Site Release Number:   |                                                                                                                                                                                                                                          |
| Unocal Manager:        | DR. MARK BEARLEY                                                                                                                                                                                                                         |
| CERT INFO: (check one) | <input type="checkbox"/> Evaluation<br><input checked="" type="checkbox"/> Remediation<br><input type="checkbox"/> Detection <input type="checkbox"/> Demolition <input type="checkbox"/> Closure <input type="checkbox"/> Miscellaneous |

| CONSULTANT INFORMATION |                                    |
|------------------------|------------------------------------|
| Firm:                  | GEO ENGINEERS Project# 9161-278-00 |
| Address:               | EVERETT OFFICE                     |
| Phone:                 | 425-252-4565 Fax: 425-252-4586     |
| Project Manager:       | LISA BONA                          |
| Sample Collection by:  | BRIAN ANDERSON                     |

| Chain of Custody Record #:            |                                                                                  |
|---------------------------------------|----------------------------------------------------------------------------------|
| BOL0293                               |                                                                                  |
| Quality Assurance Data Level:         |                                                                                  |
| <input checked="" type="checkbox"/> A | <input checked="" type="checkbox"/> B                                            |
| A: Standard Summary                   |                                                                                  |
| B: Standard + Chromatograms           |                                                                                  |
| Laboratory Turnaround Days:           |                                                                                  |
| <input checked="" type="checkbox"/> 5 | <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 |

| SAMPLE IDENTIFICATION | SAMPLING DATE / TIME | MATRIX (W,S,O) | # OF CON-TAINERS |
|-----------------------|----------------------|----------------|------------------|
| 1. MW-1 121200        | 121200/1110          | W              | 3                |
| 2. MW-2 121200        | 121200/1130          | W              | 2                |
| 3. MW-4 121200        | 121200/1150          | W              | 2                |
| 4. MW-5 121200        | 121200/1210          | W              | 2                |
| 5. MW-6 121200        | 121200/1230          | W              | 2                |
| 6.                    |                      |                |                  |
| 7.                    |                      |                |                  |
| 8.                    |                      |                |                  |
| 9.                    |                      |                |                  |
| 10.                   |                      |                |                  |

| <input type="radio"/> OR <input checked="" type="radio"/> WA <input type="radio"/> AK <input type="radio"/> NW Series |         |                    |                |            |                     |                              |                              |                              |                          |                          |                         |                          |                         |
|-----------------------------------------------------------------------------------------------------------------------|---------|--------------------|----------------|------------|---------------------|------------------------------|------------------------------|------------------------------|--------------------------|--------------------------|-------------------------|--------------------------|-------------------------|
| TPH-HCID                                                                                                              | TPH-Gas | BTEX EPA 8021 Mod. | TPH-Gas + BTEX | TPH-Diesel | TPH-Diesel Extended | TPH-Diesel-Ext. w/SG Cleanup | Halogen Volatiles EPA 8021 B | Pesticides/PCBs or PCBs Only | GC/MS Volatiles EPA 8260 | GC/MS SemiVols. EPA 8270 | PAH's: 8270 SIM or 8310 | Lead: Total or Dissolved | TCLP or RCRA Metals (8) |
|                                                                                                                       |         | X                  |                |            | X                   | X                            | X                            |                              |                          |                          |                         |                          |                         |
|                                                                                                                       |         |                    |                |            |                     |                              | X                            |                              |                          |                          |                         |                          |                         |
|                                                                                                                       |         |                    |                |            |                     |                              | X                            |                              |                          |                          |                         |                          |                         |
|                                                                                                                       |         |                    |                |            |                     |                              | X                            |                              |                          |                          |                         |                          |                         |
|                                                                                                                       |         |                    |                |            |                     |                              | X                            |                              |                          |                          |                         |                          |                         |
|                                                                                                                       |         |                    |                |            |                     |                              |                              |                              |                          |                          |                         |                          |                         |
|                                                                                                                       |         |                    |                |            |                     |                              |                              |                              |                          |                          |                         |                          |                         |
|                                                                                                                       |         |                    |                |            |                     |                              |                              |                              |                          |                          |                         |                          |                         |
|                                                                                                                       |         |                    |                |            |                     |                              |                              |                              |                          |                          |                         |                          |                         |

| NCA SAMPLE NUMBER |
|-------------------|
| BOL0293 -01       |
| 02                |
| 03                |
| 04                |
| 05                |
|                   |
|                   |
|                   |
|                   |

| Relinquished by:  | Firm: | Date & Time   | Received by: | Firm: | Date & Time   |
|-------------------|-------|---------------|--------------|-------|---------------|
| 1. Brian Anderson | GEL   | 12-12-00 1700 | Sandy Torky  | NCA   | 12/12/00 1700 |
| 2.                |       |               |              |       |               |
| 3.                |       |               |              |       |               |

| Final Report Approval                     |                                                                              |
|-------------------------------------------|------------------------------------------------------------------------------|
| Were all requested results provided?      | <input checked="" type="checkbox"/> yes <input type="checkbox"/> no   Define |
| Were results within requested turnaround? | <input checked="" type="checkbox"/> yes <input type="checkbox"/> no   "No"   |
| Final Approval Signature: _____ on back   |                                                                              |
| Firm: _____                               | Date: _____                                                                  |