

# EXXON COMPANY, U.S.A.

P.O. BOX 4032 • CONCORD, CA 94524-4032  
MARKETING DEPARTMENT • ENVIRONMENTAL ENGINEERING

DARIN L. ROUSE  
ENVIRONMENTAL ENGINEER

(925) 246-8768  
(925) 246-8798 FAX

\$136

February 17, 2000

Mr. Barney Chan  
Alameda County Health Care Services Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway, Room 250  
Alameda, California 94502-6577

**RE: Former Exxon RAS #7-3006/720 High Street, Oakland, California.**

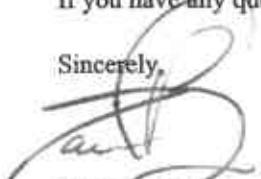
Dear Mr. Chan:

Attached for your review and comment is a report entitled *Quarterly Groundwater Monitoring and Remediation Status Report, Fourth Quarter 1999*, dated February 7, 2000, for the above referenced site. The report was prepared by Environmental Resolutions, Inc. (ERI) of Novato, California, and details the results of groundwater monitoring, sampling, and remedial activities at the subject site.

In response to a letter from Alameda County Health Care Services Agency, dated January 26, 2000, Exxon will submit a plan to destroy select wells and continue monitoring and sampling remaining wells to evaluate plume stability and subsequently obtain case closure.

If you have any questions or comments, please contact me at (925) 246-8768.

Sincerely,

  
Darin L. Rouse  
Environmental Engineer

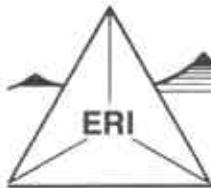
Attachment: ERI's Quarterly Groundwater Monitoring and Remediation Status Report, Fourth Quarter 1999,  
dated February 7, 2000.

cc: w/attachment  
Mr. Stephen Hill - California Regional Water Quality Control Board-San Francisco Bay Region

w/o attachment  
Mr. James F. Chappell - Environmental Resolutions, Inc.

00 FEB 24 PM 3:00

PHOTOCOPY  
REPRODUCTION  
NOT ALLOWED



## ENVIRONMENTAL RESOLUTIONS, INC.

February 7, 2000  
ERI 201013.R22

Mr. Darin L. Rouse  
Exxon Company, U.S.A.  
P.O. Box 4032  
Concord, California 94524-4032

Subject: Quarterly Groundwater Monitoring and Remediation Status Report, Fourth Quarter 1999, Former Exxon Service Station 7-3006, 720 High Street, Oakland, California.

Mr. Rouse:

At the request of Exxon Company, U.S.A. (Exxon), Environmental Resolutions, Inc. (ERI) is reporting the results of fourth quarter 1999 groundwater monitoring and sampling activities at the subject site. The location of the site is shown on the Site Vicinity Map (Plate 1). The purpose of quarterly monitoring and sampling is to evaluate concentrations of dissolved hydrocarbons in groundwater and the effectiveness of remedial actions. The locations of selected site features are shown on the Generalized Site Plan (Plate 2). Blaine Tech Services, Inc. (Blaine Tech) performed the groundwater monitoring and sampling activities and ERI performed operation and maintenance activities.

### GROUNDWATER MONITORING AND SAMPLING

On December 21, 1999, Blaine Tech measured the depth to water (DTW) and collected groundwater samples from select wells for laboratory analysis. Groundwater monitoring and sampling were performed in accordance with Blaine Tech's groundwater sampling protocol (Attachment A).

On January 26, 2000, ERI measured depth to water (DTW) and collected confirmation samples from groundwater monitoring wells MW3 and MW4 for laboratory analysis. Groundwater monitoring and sampling were performed in accordance with ERI's groundwater sampling protocol (Attachment A).

Due to recent air sparge/soil vapor extraction (AS/SVE) remediation activities, groundwater elevations and gradient may not be indicative of actual conditions. Therefore, a hydraulic gradient and flow direction have not been calculated.

I thought  
they were  
short down?

### Laboratory Analyses and Results

Groundwater samples were submitted to Southern Petroleum Laboratories, Inc. (SPL), a state-certified laboratory, under Chain of Custody protocol. The samples were analyzed for total purgeable petroleum hydrocarbons as gasoline (TPPHg), benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertiary butyl ether (MTBE), and total extractable petroleum hydrocarbons as diesel (TEPHd). Confirmation samples were analyzed for TEPHd with silica gel cleanup. The specific methods of analysis are listed in the notes in Table 1. The results of analyses are presented in Table 1

and are shown on Plate 2. The laboratory analysis report and Chain of Custody record are attached (Attachment B).

## SOIL AND GROUNDWATER REMEDIATION

### Air Sparging/Soil Vapor Extraction

ERI initiated operation of the AS/SVE system in August 1996, utilizing the thermal/catalytic oxidizer. The AS/SVE system was shut down July 28, 1999. Cumulative operational and performance data are presented in Table 2. Copies of the laboratory analysis reports and Chain of Custody records for soil vapor extraction system samples collected during the reporting period are attached (Attachment B).

The AS/SVE system currently consists of six AS wells for air injection and six vadose wells for SVE within an on-site interceptor trench, a water knock-out tank, a Thermtech VAC-25 thermal/catalytic oxidizer, a Gast® air compressor, and a propane tank for supplemental fuel.

### Groundwater Extraction and Treatment

The groundwater remediation system (GRS) is designed to treat separate-phase and dissolved hydrocarbons in groundwater extracted from the interceptor trench beneath the site. Pneumatic pumps are installed in extraction wells RW2 and RW5, in order to recover groundwater from the interceptor trench. Subsurface and above-ground collection piping were used to transfer extracted groundwater to a holding tank. A transfer pump and polyvinyl chloride (PVC) piping were used to direct the water stream from the holding tank through water filters, an air stripper, and subsequently through liquid-phase granular activated carbon (GAC) canisters connected in series. The treated groundwater was discharged to the sanitary sewer regulated by East Bay Municipal Utilities District (EBMUD).

The GRS system was shut down on December 23, 1998. Cumulative GRS flow rates, total volume extracted, and influent, intermediate, and effluent sample concentrations are presented in Table 3.

## SUMMARY AND STATUS OF INVESTIGATION

Site closure is being pursued and quarterly groundwater monitoring and sampling will continue. The table below presents the estimated amounts of hydrocarbons removed by the AS/SVE system since the last reporting period and since startup.

| Period   | Pounds of Hydrocarbons Removed | Gallons of Hydrocarbons Removed |
|----------|--------------------------------|---------------------------------|
| To Date: | 5,144                          | 845                             |

The GRS was not operational during the fourth quarter 1999. Based on data collected to date, ERI estimates that the GRS has removed the following amounts of hydrocarbons at the subject site.

| Period   | Pounds of Hydrocarbons Removed | Gallons of Hydrocarbons Removed |
|----------|--------------------------------|---------------------------------|
| To Date: | 10                             | 2                               |

## LIMITATIONS

This report was prepared in accordance with generally accepted standards of environmental practice in California at the time this investigation was performed. This report has been prepared for Exxon Company, U.S.A., and any reliance on this report by third parties shall be at such party's sole risk.

ERI recommends forwarding copies of this report to:

Mr. Barney Chan  
Alameda County Health Care Services Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway, Room 250  
Alameda, California 94502-6577

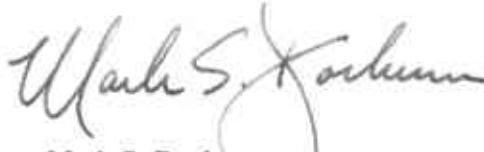
Mr. Stephen Hill  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612

Please call Mr. James Chappell at (415) 382-4323 with any questions regarding this project.

Sincerely,  
Environmental Resolutions, Inc.



James F. Chappell  
Senior Staff Scientist



Mark S. Dockum  
R.G. 4412  
C.E.G. 1675



**TABLE 2**  
**CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR**  
**SOIL VAPOR EXTRACTION SYSTEM**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 5 of 9)

| DATE     | SAMPLE | Field Measurements |        |                           |          | Laboratory Analytical Results |                         | TPPHg Removal             |                   | Benzene Removal   |                   | Benzene           |                        |
|----------|--------|--------------------|--------|---------------------------|----------|-------------------------------|-------------------------|---------------------------|-------------------|-------------------|-------------------|-------------------|------------------------|
|          |        | ID                 | TEMP F | PRESS in H <sub>2</sub> O | FLOW cfm | INF ppmv                      | TPPHg mg/m <sup>3</sup> | Benzene mg/m <sup>3</sup> | Per Period Pounds | Cumulative Pounds | Per Period Pounds | Cumulative Pounds | Emitted per Day pounds |
| 5/28/97  |        |                    |        |                           | 176      | 42                            | 0                       | 178                       |                   |                   |                   |                   |                        |
| 6/4/97   | A-INF  |                    |        |                           | 176      |                               |                         | 360                       | 2.9               |                   |                   |                   |                        |
|          | A-EFF  |                    |        |                           |          |                               | < 10                    |                           | < 0.10            |                   |                   |                   | < 0.0016               |
| 6/11/97  |        |                    |        |                           | 176      | 40                            | 0                       | 169                       |                   |                   |                   |                   |                        |
| 6/18/97  |        |                    |        |                           | 158.4    | 38                            | 0                       | 161                       |                   |                   |                   |                   |                        |
| 6/25/97  |        |                    |        |                           | 167.2    | 36                            | 0                       | 152                       |                   |                   |                   |                   |                        |
| 7/2/97   | A-INF  |                    |        |                           | 167.2    |                               |                         | 350                       | 5.4               |                   |                   |                   |                        |
|          | A-EFF  |                    |        |                           |          |                               | < 10                    |                           | < 0.10            |                   |                   |                   | < 0.0015               |
| 7/9/97   |        |                    |        |                           | 202.4    | 29.4                          | 0                       | 124                       |                   |                   |                   |                   |                        |
| 7/18/97  |        |                    |        |                           | 246.4    | 14.7                          | 0                       | 62                        |                   |                   |                   |                   |                        |
| 7/22/97  |        |                    |        |                           | 246.4    | 54.2                          | 0                       | 229                       |                   |                   |                   |                   |                        |
| 7/30/97  |        |                    |        |                           | 220      | 36.1                          | 0                       | 153                       |                   |                   |                   |                   |                        |
| 8/7/97   | A-INF  |                    |        |                           | 220      |                               |                         | 160                       | < 0.50            |                   |                   |                   |                        |
|          | A-EFF  |                    |        |                           |          |                               |                         | 13                        | < 0.10            |                   |                   |                   | < 0.0020               |
| 8/11/97  |        |                    |        |                           | 220      | 19.1                          | 0                       | 81                        |                   |                   |                   |                   |                        |
| 8/20/97  |        |                    |        |                           | 167.2    | 13.1                          | 0                       | 55                        |                   |                   |                   |                   |                        |
| 8/27/97  |        |                    |        |                           | 158.4    | 20.0                          | 0                       | 85                        |                   |                   |                   |                   |                        |
| 9/3/97   | A-INF  |                    |        |                           | 158.4    |                               |                         | 400                       | < 1.0             |                   |                   |                   |                        |
|          | A-EFF  |                    |        |                           |          |                               | < 10                    |                           | < 0.10            |                   |                   |                   | < 0.0014               |
| 9/10/97  |        |                    |        |                           | 123.2    | 800                           | 4.0                     | 3386                      |                   |                   |                   |                   |                        |
| 9/17/97  |        |                    |        |                           | 158.4    | 131                           | 1.1                     | 554                       |                   |                   |                   |                   |                        |
| 9/24/97  |        |                    |        |                           | 176      | 40                            | 0                       | 169                       |                   |                   |                   |                   |                        |
| 10/8/97  | A-INF  |                    |        |                           | 176      |                               |                         | 200                       | 3.1               |                   |                   |                   |                        |
|          | A-EFF  |                    |        |                           |          |                               | < 10                    |                           | < 0.10            |                   |                   |                   | < 0.0016               |
| 10/15/97 |        |                    |        |                           | 193.6    | 50                            | 0.9                     | 212                       |                   |                   |                   |                   |                        |
| 10/22/97 |        |                    |        |                           | 176      | 50                            | 1.5                     | 212                       |                   |                   |                   |                   |                        |
| 10/30/97 |        |                    |        |                           | 158.4    | 30                            | 0                       | 127                       |                   |                   |                   |                   |                        |
| 11/5/97  |        |                    |        |                           | 167.2    | 65                            | 7.6                     | 275                       |                   |                   |                   |                   |                        |
| 11/12/97 | A-INF  |                    |        |                           | 176      |                               |                         | 880                       | < 0.10            |                   |                   |                   |                        |
|          | A-EFF  |                    |        |                           |          |                               | < 10                    |                           | < 0.10            |                   |                   |                   | < 0.0016               |
| 11/20/97 |        |                    |        |                           | 158.4    | 33                            | 3.2                     | 138                       |                   |                   |                   |                   |                        |
| 11/25/97 |        |                    |        |                           | 123.2    | 56                            | 3.0                     | 237                       |                   |                   |                   |                   |                        |
| 12/3/97  | A-INF  |                    |        |                           | 220      |                               |                         | NA                        | NA                |                   |                   | NA                |                        |
|          | A-EFF  |                    |        |                           |          |                               | < 10                    |                           | < 0.10            |                   |                   | NA                | < 0.0020               |
| 12/10/97 |        |                    |        |                           | 176      | 19                            | 0.5                     | 80                        |                   |                   |                   |                   |                        |
| 12/17/97 |        |                    |        |                           | 193.6    | 16                            | 0.6                     | 68                        |                   |                   |                   |                   |                        |
| 12/23/97 |        |                    |        |                           | 193.6    | 13                            | 0.0                     | 55                        |                   |                   |                   |                   |                        |
| 12/29/97 | A-INF  |                    |        |                           | 176      |                               |                         | 51                        | < 0.10            |                   |                   |                   |                        |
|          | A-EFF  |                    |        |                           |          |                               | < 10                    |                           | < 0.10            |                   |                   |                   | < 0.0016               |
|          |        |                    |        |                           |          |                               |                         | 345.64                    |                   | 4,913.3           | < 0.074           | < 55.27           |                        |

**TABLE 2**  
**CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR**  
**SOIL VAPOR EXTRACTION SYSTEMS**

Former Exxon Service Station 7-3006

720 High Street

**Oakland, California**

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**TABLE 2**  
**CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR**  
**SOIL VAPOR EXTRACTION SYSTEM**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
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**TABLE 2**  
**CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR**  
**SOIL VAPOR EXTRACTION SYSTEM**  
**Former Exxon Service Station 7-3006**  
**720 High Street**  
**Oakland, California**  
**(Page 8 of 9)**

| DATE    | SAMPLE   | Field Measurements |        |                           |          | Laboratory Analytical Results |                         | TPPHg Removal             |                   | Benzene Removal   |                   | Benzene           |                        |
|---------|--|--------------------|--------|---------------------------|----------|-------------------------------|-------------------------|---------------------------|-------------------|-------------------|-------------------|-------------------|------------------------|
|         |  | ID                 | TEMP F | PRESS in H <sub>2</sub> O | FLOW cfm | INF ppmv                      | TPPHg mg/m <sup>3</sup> | Benzene mg/m <sup>3</sup> | Per Period Pounds | Cumulative Pounds | Per Period Pounds | Cumulative Pounds | Emitted per Day pounds |
| 2/4/99  | A-INF  |                    |        |                           | 176      | 12.5                          | 6.7                     | < 50                      | < 33.65           | < 5,122.7         | < 0.076           | < 61.01           |                        |
|         | A-EFF  |                    |        |                           |          |                               |                         | < 50                      | < 0.5             |                   |                   |                   | < 0.0079               |
| 2/12/99 | A-INF  |                    |        |                           | 132      | 15.2                          | 0.8                     |                           |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 2/12/99 | System down on departure, compound full with rain water.           |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 3/18/99 | Pumped containment rain water into storage tank, restarted system. |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 3/18/99 | A-INF  |                    |        |                           | 246.4    | 16.2                          | 0                       | < 10                      | < 0.5             | < 4.55            | < 5,127.2         | < 0.076           | < 61.09                |
|         | A-EFF  |                    |        |                           |          |                               |                         | < 10                      | < 0.5             |                   |                   |                   | < 0.0111               |
| 3/30/99 | A-INF  |                    |        |                           | 132      | 11.5                          | 0                       |                           |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 4/9/99  | A-INF  |                    |        |                           | 154      | 2.4                           | 0                       |                           |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 4/16/99 | A-INF  |                    |        |                           | 140.8    | 0                             | 0.9                     | < 10                      | < 0.1             | < 5.04            | < 5,132.3         | < 0.151           | < 61.24                |
|         | A-EFF  |                    |        |                           |          |                               |                         | < 10                      | < 0.1             |                   |                   |                   | < 0.0013               |
| 4/21/99 | A-INF  |                    |        |                           | 123.2    | 5.5                           | 0                       |                           |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 4/28/99 | A-INF  |                    |        |                           | 123.2    | 10.1                          | 0                       |                           |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 5/4/99  | A-INF  |                    |        |                           | 132      | 0                             | 0                       |                           |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 5/13/99 | A-INF  |                    |        |                           | 176      | 1.3                           | 0                       | < 10                      | < 0.1             | < 3.84            | 5,136.1           | < 0.038           | < 61.28                |
|         | A-EFF  |                    |        |                           |          |                               |                         | < 10                      | < 0.1             |                   |                   |                   | < 0.0016               |
| 5/18/99 | A-INF  |                    |        |                           | 176      | 1.3                           | 0                       |                           |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 5/25/99 | A-INF  |                    |        |                           | 167.2    | 0                             | 0                       |                           |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 6/11/99 | System down upon arrival, emergency stop button was activated.     |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 6/11/99 | A-INF  |                    |        |                           | 167.2    | 4.9                           | 4.5                     |                           |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 6/17/99 | System operated for 24.3 day for removal calculations.             |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 6/17/99 | A-INF  |                    |        |                           | 167.2    | 1.3                           | 1                       | < 10                      | < 0.1             | < 3.74            | 5,139.9           | < 0.037           | < 61.32                |
|         | A-EFF  |                    |        |                           |          |                               |                         | < 10                      | < 0.1             |                   |                   |                   | < 0.0015               |
| 6/17/99 | System shut down for pulsing                                       |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 6/25/99 | System restarted   |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 6/25/99 | A-INF  |                    |        |                           | 176      | 3.3                           | 0                       |                           |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 6/29/99 | A-INF  |                    |        |                           | 176      | 2.9                           | 0                       |                           |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 7/6/99  | A-INF  |                    |        |                           | 123.2    | 0                             | 0                       | < 10                      | < 0.1             | < 1.43            | 5,141.3           | < 0.014           | < 61.33                |
|         | A-EFF  |                    |        |                           |          |                               |                         | < 10                      | < 0.1             |                   |                   |                   | < 0.0011               |

TABLE 2  
 CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR  
 SOIL VAPOR EXTRACTION SYSTEM  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
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| DATE    | SAMPLE                       | Field Measurements |        |                           |          | Laboratory Analytical Results |                         | TPPHg Removal             |                   | Benzene Removal   |                   | Benzene           |                        |
|---------|------------------------------|--------------------|--------|---------------------------|----------|-------------------------------|-------------------------|---------------------------|-------------------|-------------------|-------------------|-------------------|------------------------|
|         |                              | ID                 | TEMP F | PRESS in H <sub>2</sub> O | FLOW cfm | INF ppmv                      | TPPHg mg/m <sup>3</sup> | Benzene mg/m <sup>3</sup> | Per Period Pounds | Cumulative Pounds | Per Period Pounds | Cumulative Pounds | Emitted per Day pounds |
| 7/16/99 | A-INF                        |                    |        |                           | 158.4    | 1.6                           | 0.3                     |                           |                   |                   |                   |                   |                        |
|         | A-EFF                        |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 7/16/99 | System shut down for pulsing |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 7/22/99 | System restarted             |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 7/22/99 | A-INF                        |                    |        |                           | 176      | 0                             | 0.7                     |                           |                   |                   |                   |                   |                        |
|         | A-EFF                        |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 7/28/99 | A-INF                        |                    |        |                           | 167.2    | 5.4                           | 0                       | 15.5                      | < 0.1             | < 2.66            | 5,143.9           | < 0.018           | < 61.35                |
|         | A-EFF                        |                    |        |                           |          |                               |                         | < 10                      | < 0.1             |                   |                   |                   | < 0.0015               |
| 7/28/99 | System shut down for pulsing |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |

Notes:

|            |                               |        |  |
|------------|-------------------------------|--------|--|
| A-INF      | = Air Influent                | HC     | = Hydrocarbons measured as total purgeable petroleum hydrocarbons as gasoline analyzed using E |
| A-INT      | = Air Intermediate            | ug/l   | = micrograms per liter   |
| A-EFF      | = Air Effluent                | mg/cuM | = milligrams per cubic meter   |
| NA         | = Not Analyzed                | lb     | = pounds   |
| cu. ft/min | = cubic feet per minute       | acftn  | = actual cubic feet per minute   |
| ppmv       | = parts per million by volume | <      | = less than the laboratory method detection limit  |

\*If value is below laboratory detection limit, detection limit value is used.

\*Values calculated using ERI SOP-25 "Hydrocarbons Removed from a Vadose Well" (Attachment C)

**TABLE 3**  
**OPERATION AND PERFORMANCE DATA FOR**  
**GROUNDWATER REMEDIATION SYSTEM**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
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**TABLE 3**  
**OPERATION AND PERFORMANCE DATA FOR**  
**GROUNDWATER REMEDIATION SYSTEM**

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**OPERATION AND PERFORMANCE DATA FOR**  
**GROUNDWATER REMEDIATION SYSTEM**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
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**TABLE 3**  
**OPERATION AND PERFORMANCE DATA FOR**  
**GROUNDWATER REMEDIATION SYSTEM**

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**OPERATION AND PERFORMANCE DATA FOR**  
**GROUNDWATER REMEDIATION SYSTEM**  
**Former Exxon Service Station 7-3006**  
**720 High Street**  
**Oakland, California**  
**(Page 5 of 10)**

| Date     | Total                  | Average      | Sample ID                              | Laboratory Analytical Results |        |        |        |        | TPPHg Removal |                | Benzene Removal |                |                |
|----------|------------------------|--------------|--|-------------------------------|--------|--------|--------|--------|---------------|----------------|-----------------|----------------|----------------|
|          | Flow gal               | Flowrate gpd |  | TPPHg ug/l                    | B ug/l | T ug/l | E ug/l | X ug/l | Arsenic mg/l  | Per Period lbs | Cumulative lbs  | Per Period lbs | Cumulative lbs |
| 10/14/96 | 263,232                | 7            |  |                               |        |        |        |        |               |                |                 |                |                |
| 1/2/97   | 263,232                |              |  |                               |        |        |        |        |               |                |                 |                |                |
| 1/31/97  | 290,045                | 925          | W-INF                                  | 5,500                         | 1,700  | 580    | 120    | 740    | NA            | 0.6208         | 4.1095          | 0.1902         | 0.9475         |
|          |                        |              | W-INT1                                 | 190                           | 39     | 12     | 2.1    | 13     | NA            |                |                 |                |                |
|          |                        |              | W-INT2                                 | <50                           | <0.5   | <0.5   | <0.5   | <0.5   | NA            |                |                 |                |                |
|          |                        |              | W-EFF                                  | <50                           | <0.5   | <0.5   | <0.5   | <0.5   | NA            |                |                 |                |                |
| 2/6/97   | 313,800                | 3,959        | W-INF1                                 | 5,100                         | 910    | 160    | 45     | 910    | NA            | 1.0504         | 5.1600          | 0.2586         | 1.2061         |
|          |                        |              | W-INT2                                 | 570                           | 62     | 12     | 2.9    | 86     | NA            |                |                 |                |                |
|          |                        |              | W-INT                                  | <50                           | <0.5   | <0.5   | <0.5   | <0.5   | NA            |                |                 |                |                |
|          |                        |              | W-EFF                                  | <50                           | <0.5   | <0.5   | <0.5   | <0.5   | NA            |                |                 |                |                |
| 2/14/97  | 323,820                | 1,253        |  |                               |        |        |        |        |               |                |                 |                |                |
| 2/18/97  | 327,856                | 1,009        |  |                               |        |        |        |        |               |                |                 |                |                |
| 2/28/97  | 335,480                | 762          |  |                               |        |        |        |        |               |                |                 |                |                |
| 3/5/97   | 340,178                | 940          | W-INF1                                 | 980                           | 100    | 5.0    | 2.1    | 54     | NA            | 0.6690         | 5.8290          | 0.1111         | 1.3172         |
|          |                        |              | W-INF2                                 | <50                           | 0.81   | <0.5   | <0.5   | <0.5   | NA            |                |                 |                |                |
|          |                        |              | W-INT1                                 | <50                           | <0.5   | <0.5   | <0.5   | <0.5   | NA            |                |                 |                |                |
|          |                        |              | W-EFF                                  | <50                           | <0.5   | <0.5   | <0.5   | <0.5   | NA            |                |                 |                |                |
| 3/12/97  | 344,977                | 686          |  |                               |        |        |        |        |               |                |                 |                |                |
| 3/19/97  | 346,176                | 171          |  |                               |        |        |        |        |               |                |                 |                |                |
| 3/26/97  | 346,927                | 107          |  |                               |        |        |        |        |               |                |                 |                |                |
| 4/2/97   | 351,729                | 686          | W-INF                                  | 430                           | 120    | 1.8    | 5.3    | 19     | NA            | 0.0679         | 5.8969          | 0.0106         | 1.3278         |
|          |                        |              | W-INT1                                 | <50                           | <0.5   | <0.5   | <0.5   | <0.5   | NA            |                |                 |                |                |
|          |                        |              | W-EFF                                  | <50                           | <0.5   | <0.5   | <0.5   | <0.5   | NA            |                |                 |                |                |
| 4/9/97   | 356,009                | 611          |  |                               |        |        |        |        |               |                |                 |                |                |
| 4/16/97  | 358,700                | 384          |  |                               |        |        |        |        |               |                |                 |                |                |
| 4/23/97  | System down on arrival |              |  |                               |        |        |        |        |               |                |                 |                |                |
| 4/30/97  | 361,241                | 182          |  |                               |        |        |        |        |               |                |                 |                |                |
| 5/8/97   | 365,440                | 525          |  |                               |        |        |        |        |               |                |                 |                |                |
| 5/14/97  | 368,270                | 472          | System down, bad float on air stripper |                               |        |        |        |        |               |                |                 |                |                |
| 5/21/97  | 370,444                | 311          | W-INF                                  | 1,300                         | 360    | <5.0   | 16     | 21     | NA            | 0.1351         | 6.0320          | 0.0375         | 1.3653         |
|          |                        |              | W-INT                                  | <50                           | <0.5   | <0.5   | <0.5   | <0.5   | NA            |                |                 |                |                |
|          |                        |              | W-EFF                                  | <50                           | <0.5   | <0.5   | <0.5   | <0.5   | NA            |                |                 |                |                |
|          |                        |              | System down, bad float on air stripper |                               |        |        |        |        |               |                |                 |                |                |
| 5/28/97  | 372,219                | 254          | System down, bad float on air stripper |                               |        |        |        |        |               |                |                 |                |                |

**TABLE 3**  
**OPERATION AND PERFORMANCE DATA FOR**  
**GROUNDWATER REMEDIATION SYSTEM**  
**Former Exxon Service Station 7-3006**  
**720 High Street**  
**Oakland, California**  
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**TABLE 3**  
**OPERATION AND PERFORMANCE DATA FOR**  
**GROUNDWATER REMEDIATION SYSTEM**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
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**OPERATION AND PERFORMANCE DATA FOR**  
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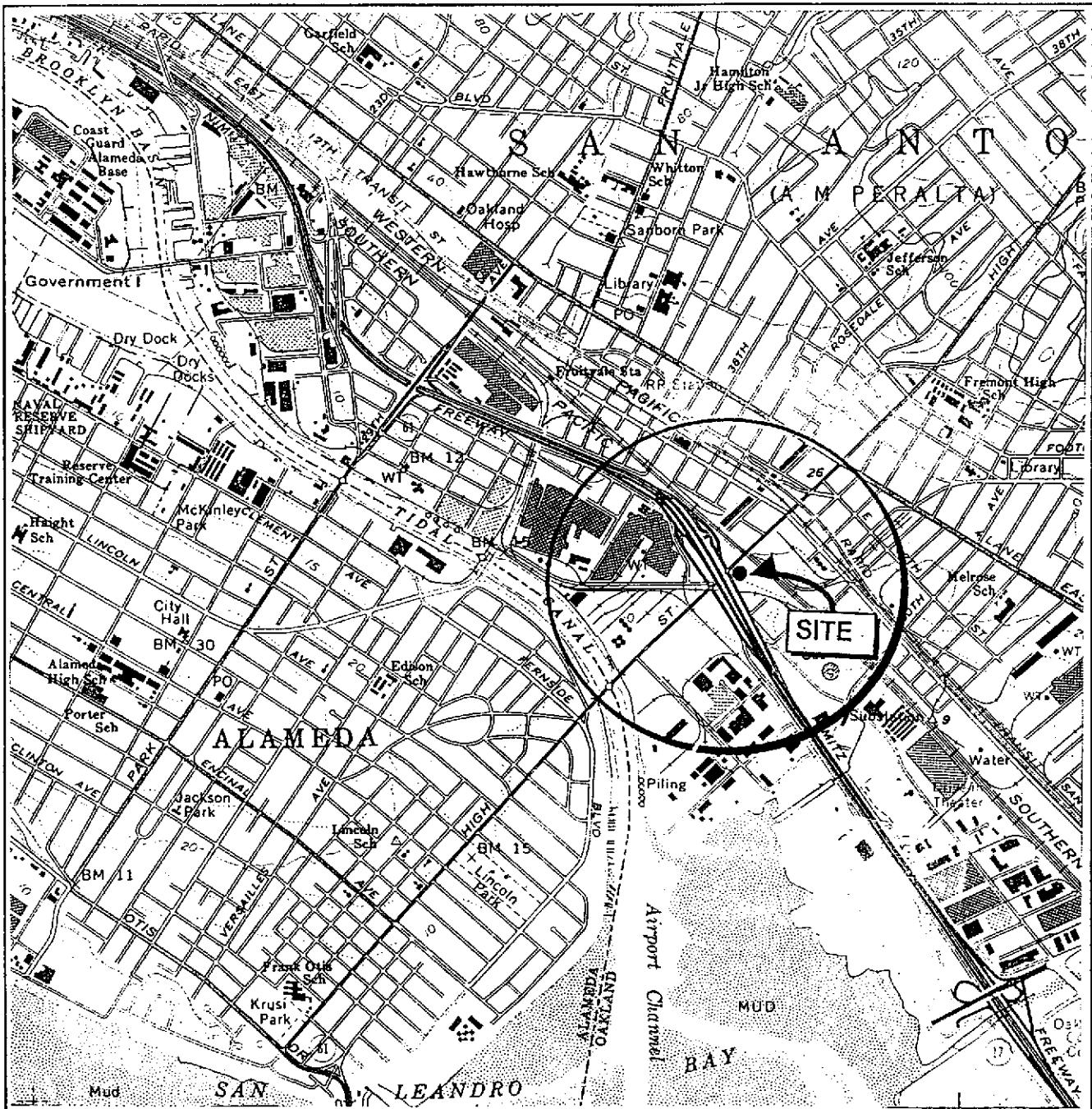
| Date    | Total  | Average                  |  | Laboratory Analytical Results |           |           |           |           | TPPHg Removal   |                   | Benzene Removal   |                   |                   |
|---------|--|--------------------------|--|-------------------------------|-----------|-----------|-----------|-----------|-----------------|-------------------|-------------------|-------------------|-------------------|
|         | Flow<br>gal  | Flowrate<br>gpd          | Sample<br>ID   | TPPHg<br>ug/l                 | B<br>ug/l | T<br>ug/l | E<br>ug/l | X<br>ug/l | Arsenic<br>mg/l | Per Period<br>lbs | Cumulative<br>lbs | Per Period<br>lbs | Cumulative<br>lbs |
| 4/7/98  | Replaced solinoid and restarted system   |                          |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 4/7/98  | 547,022  | 160                      | W-INF1   | 2,100                         | 380       | 65        | 76        | 350       | NA              | 0.0738            | 8.1031            | 0.0756            | 2.1886            |
|         |  |                          | W-INF2   | 130                           | 2.6       | 0.65      | <0.5      | 4.3       | NA              |                   |                   |                   |                   |
|         |  |                          | W-INT  | <50                           | <0.5      | <0.5      | <0.5      | <0.5      | NA              |                   |                   |                   |                   |
|         |  |                          | W-EFF  | <50                           | <0.5      | <0.5      | <0.5      | <0.5      | NA              |                   |                   |                   |                   |
| 4/17/98 | 583,780  | 3,676                    |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 4/21/98 | 585,720  | 485                      |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 4/28/98 | 598,920  | 1,886                    |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 5/5/98  | 606,610  | 1,099                    | W-INF1   | 2,300                         | 380       | 27        | 26        | 390       | NA              | 1.0938            | 9.1968            | 0.1889            | 2.3775            |
|         |  |                          | W-INF2   | 130                           | 2.6       | 0.65      | <0.5      | 4.3       | NA              |                   |                   |                   |                   |
|         |  |                          | W-INT  | <50                           | <0.5      | <0.5      | <0.5      | <0.5      | NA              |                   |                   |                   |                   |
|         |  |                          | W-EFF  | <50                           | <0.5      | <0.5      | <0.5      | <0.5      | NA              |                   |                   |                   |                   |
| 5/12/98 | 613,920  | 1,044                    |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 5/19/98 | 621,120  | 1,029                    |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 5/28/98 | 628,580  | 829                      |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 6/2/98  | 634,760  | 1,236                    | Samples were collected but inadvertently not analyzed by the laboratory. |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 6/9/98  | 635,740  | 140                      |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 6/17/98 | 642,810  | 884                      |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 6/24/98 | 645,760  | 421                      |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 7/8/98  | 645,800  | 3                        |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 7/14/98 | 649,980  | 697                      | W-INF1   | 2700                          | 480       | <25       | 92        | 270       | NA              | 0.9046            | 10.1015           | 0.1556            | 2.5331            |
|         |  |                          | W-INF2   | NS                            | NS        | NS        | NS        | NS        | NS              |                   |                   |                   |                   |
|         |  |                          | W-INT  | <50                           | <0.5      | <0.5      | <0.5      | <0.5      | NA              |                   |                   |                   |                   |
|         |  |                          | W-EFF  | <50                           | <0.5      | <0.5      | <0.5      | <0.5      | NA              |                   |                   |                   |                   |
| 7/14/98 | 649,980  | System down on departure |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 7/16/98 | System run manually for the East Bay Municipal Utility District Inspection, effluent split samples taken. System still down. |                          |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 7/16/98 |  |                          | W-EFF  | <50                           | <0.5      | <0.5      | <0.5      | <0.5      | NA              |                   |                   |                   |                   |
| 7/21/98 | 650,180  | 29                       |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 7/27/98 | 655,260  | 847                      |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 7/27/98 | System shutdown until propane can be refilled to restart the Thermtech Vac 25.   |                          |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 8/5/98  | Restarted system   |                          |  |                               |           |           |           |           |                 |                   |                   |                   |                   |
| 8/5/98  | 655,260  | 0                        | W-INF1   | 510                           | 240       | 4.7       | 3.5       | 27        | NA              | 0.0707            | 10.1722           | 0.0159            | 2.5490            |
|         |  |                          | W-INF2   | <50                           | <0.5      | <0.5      | <0.5      | <0.5      | NA              |                   |                   |                   |                   |
|         |  |                          | W-INT  | <50                           | <0.5      | <0.5      | <0.5      | <0.5      | NA              |                   |                   |                   |                   |
|         |  |                          | W-EFF  | <50                           | <0.5      | <0.5      | <0.5      | <0.5      | NA              |                   |                   |                   |                   |

**TABLE 3**  
**OPERATION AND PERFORMANCE DATA FOR**  
**GROUNDWATER REMEDIATION SYSTEM**  
**Former Exxon Service Station 7-3006**  
**720 High Street**  
**Oakland, California**  
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**TABLE 3**  
**OPERATION AND PERFORMANCE DATA FOR**  
**GROUNDWATER REMEDIATION SYSTEM**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 10 of 10)

| Date     | Total   | Average  |  | Laboratory Analytical Results |       |      |      |      | TPPHg Removal |         | Benzene Removal |            |            |            |
|----------|---------|----------|--|-------------------------------|-------|------|------|------|---------------|---------|-----------------|------------|------------|------------|
|          | Flow    | Flowrate | Sample   | ID                            | TPPHg | B    | T    | E    | X             | Arsenic | Per Period      | Cumulative | Per Period | Cumulative |
|          | gal     | gpd      |  |                               | ug/l  | ug/l | ug/l | ug/l | ug/l          | mg/l    | lbs             | lbs        | lbs        | lbs        |
| 12/9/98  | 695,800 |          | W-INF1   |                               | 1500  | 480  | 19   | 49   | 120           | NA      | 0.0626          | 10,4380    | 0.0189     | 2.6332     |
|          |         |          | W-INF2   |                               | 310   | 95   | 3.1  | 3.9  | 32            | NA      |                 |            |            |            |
|          |         |          | W-INT  |                               | <50   | <0.5 | <0.5 | <0.5 | <0.5          | NA      |                 |            |            |            |
|          |         |          | W-EFF  |                               | <50   | <0.5 | <0.5 | <0.5 | <0.5          | NA      |                 |            |            |            |
| 12/16/98 | 695,800 |          | System down upon arrival. System restarted on departure.         |                               |       |      |      |      |               |         |                 |            |            |            |
| 12/23/98 | 702,994 |          | System down on departure, pending a permit renewal from EBMUD.   |                               |       |      |      |      |               |         |                 |            |            |            |
| 1/6/99   | 702,994 |          | System down on departure, pending a permit renewal from EBMUD.   |                               |       |      |      |      |               |         |                 |            |            |            |
| 1/12/99  | 702,994 |          | System down on departure, pending a permit renewal from EBMUD.   |                               |       |      |      |      |               |         |                 |            |            |            |
| 1/18/99  | 702,994 |          | System down on departure, pending a permit renewal from EBMUD.   |                               |       |      |      |      |               |         |                 |            |            |            |
| 1/26/99  | 702,994 |          | System down on departure, pending a permit renewal from EBMUD.   |                               |       |      |      |      |               |         |                 |            |            |            |
| 2/4/99   | 702,994 |          | System down on departure, pending a permit renewal from EBMUD.   |                               |       |      |      |      |               |         |                 |            |            |            |
| 2/12/99  | 702,994 |          | System down on departure, pending a permit renewal from EBMUD.   |                               |       |      |      |      |               |         |                 |            |            |            |
| 3/18/99  | 702,994 |          | System down on departure, pending a permit renewal from EBMUD.   |                               |       |      |      |      |               |         |                 |            |            |            |
| 3/30/99  | 702,994 |          | System down on departure, pending a permit renewal from EBMUD.   |                               |       |      |      |      |               |         |                 |            |            |            |
| 4/9/99   | 702,994 |          | System down on departure, pending a permit renewal from EBMUD.   |                               |       |      |      |      |               |         |                 |            |            |            |
| 4/16/99  | 702,994 |          | System down on departure, pending a permit renewal from EBMUD.   |                               |       |      |      |      |               |         |                 |            |            |            |
| 5/4/99   | 702,994 |          | System down for the month of May. No Permit renewal from EBMUD.  |                               |       |      |      |      |               |         |                 |            |            |            |
| 6/11/99  | 702,994 |          | System down for the month of June. No Permit renewal from EBMUD. |                               |       |      |      |      |               |         |                 |            |            |            |
| 7/28/99  | 702,994 |          | System shutdown pending closure.                                 |                               |       |      |      |      |               |         |                 |            |            |            |

|        |  |      |  |    |                  |
|--------|--|------|--|----|------------------|
| W-INF1 | = water influent before stripper or before tank      | B    | = Benzene  | NA | = Not applicable |
| W-INF2 | = water influent after stripper or after filters     | T    | = Toluene  | NS | = Not sampled    |
| W-INT  | = water intermediate samples                         | E    | = Ethylbenzene   |    |                  |
| W-EFF  | = water effluent samples                             | X    | = Total Xylenes  |    |                  |
| TPPHg  | = Total purgeable petroleum hydrocarbons as gasoline | <    | = less than the laboratory method detection limit as indicated |    |                  |
| gpd    | = gallons per day                                    | ug/l | = micrograms per liter   |    |                  |
| gal    | = gallons  | mg/L | = milligrams per liter   |    |                  |



Fn 20100001



APPROXIMATE SCALE



SOURCE: U.S.G.S. 7.5 minute  
topographic quadrangle map  
Oakland East, California  
(Photorevised 1990)



PROJECT

ERI 2010

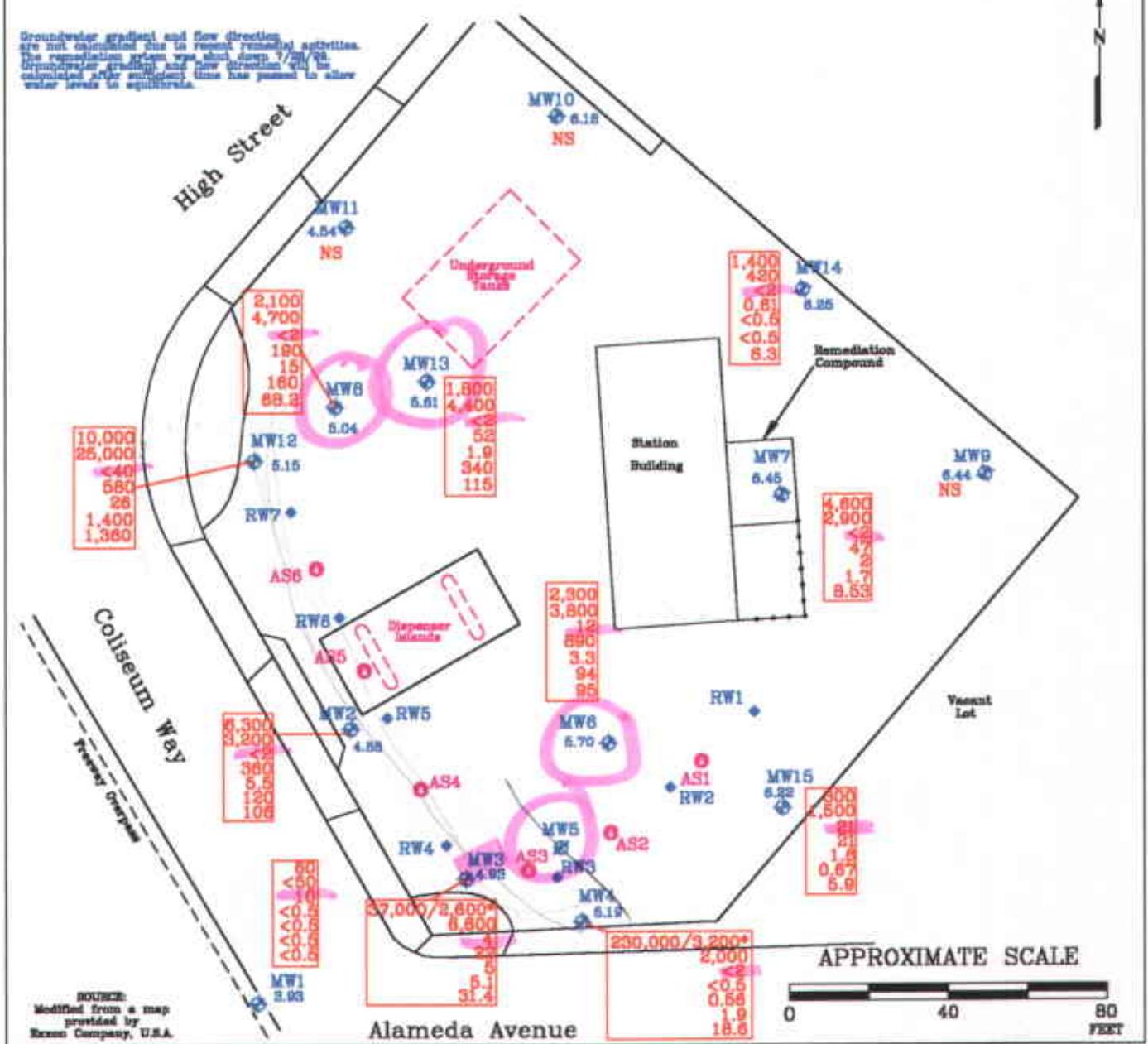
SITE VICINITY MAP

FORMER EXXON SERVICE STATION 7-3006  
720 High Street  
Oakland, California

PLATE

1

Groundwater gradient and flow direction are not calculated due to recent remedial activities. The remediation grout was placed down 7/20/00. Groundwater gradient and flow direction will be calculated after sufficient time has passed to allow water levels to equilibrate.



EN 20100002

## **EXPLANATION**

- MW16      • Groundwater Monitoring Well
  - 0.22      Groundwater Elevation in feet  
                above mean sea level
  - MW5      • Groundwater Monitoring Well (Destroyed)
  - RW7      • Recovery Monitoring Well

AS6      • Air Sparging/Vapor Extraction Well

**Groundwater Concentrations in ug/L**  
**Sampled December 21, 1999, and January 26, 2000**

|         |   |
|---------|---|
| 230,000 | Total Extractable Petroleum Hydrocarbons<br>as diesel/TEPHd with silica gel cleanup |
| 25,000  | Total Purgeable Petroleum Hydrocarbons<br>as gasoline                               |
| 540     | Methyl Tertiary Butyl Ether   |
| 580     | Benzene   |
| 26      | Toluene   |
| 1,400   | Ethylbenzene  |
| 1,360   | Total Xylenes   |
| <       | Less Than the Stated Laboratory<br>Detection Limit                                  |
| ug/L    | Micrograms per Liter  |
| NS      | Not Sampled   |



# **GENERALIZED SITE PLAN**

**FORMER EXXON SERVICE STATION 7-3006**  
720 High Street  
Oakland, California

**PROJECT NO.**  
**2010**  
**PLATE**  
**2**  
January 10, 2000

**ATTACHMENT A**

**GROUNDWATER SAMPLING PROTOCOL**

# **BLAINE TECH SERVICES, INC. METHODS AND PROCEDURES FOR THE ROUTINE MONITORING OF GROUNDWATER WELLS AT EXXON STATIONS**

Blaine Tech Services, Inc. performs environmental sampling and documentation as an independent third party. We specialize in groundwater monitoring assignments and intentionally limit the scope of our services to those centered on the generation of objective information.

To avoid conflicts of interest, Blaine Tech Services, Inc. personnel do not evaluate or interpret the information we collect. As a state licensed contractor (C-57 well drilling –water – 746684 ) performing strictly technical services, we do not make any professional recommendations and perform no consulting of any kind.

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## **SAMPLING PROCEDURES OVERVIEW**

### **SAFETY**

All groundwater monitoring assignments performed for Exxon comply with Exxon's safety guidelines, 29 CFR 1910.120 and SB-198 Injury and Illness Prevention Program (IIPP). All Field Technicians receive the full 40 hour 29CFR 1910.120 OSHA SARA HAZWOPER course, medical clearance and on-the-job training prior to commencing any work on any Exxon site.

### **INSPECTION AND GAUGING**

Wells are inspected prior to evacuation and sampling. The condition of the wellhead is checked and noted according to a wellhead inspection checklist.

Standard measurements include the depth to water (DTW) and the total well depth (TD) obtained with industry standard electronic sounders which are graduated in increments of hundredths of a foot.

The water in each well is inspected for the presence of immiscibles or sheen and when free product is suspected, it is confirmed using an electronic interface probe (e.g. MMC). If sheen or product is found in a well, the Project Coordinator notifies the appropriate party (e.g. Exxon employee or consultant).

No samples are collected from a well containing sheen or product.

### **EVACUATION**

Depth to water measurements are collected by our personnel prior to purging and minimum purge volumes are calculated anew for each well based on the height of the water column and the diameter of the well. Expected purge volumes are never less than three case volumes and

are set at no less than four case volumes in some jurisdictions.

Well purging devices are selected on the basis of the well diameter and the total volume to be evacuated. In most cases the well will be purged using an electric submersible pump (i.e. Grundfos) suspended near (but not touching) the bottom of the well. Small volumes of purgewater are often removed by hand bailing with a disposable bailer.

## PARAMETER STABILIZATION

Well purging completion standards include minimum purge volumes, but additionally require stabilization of specific groundwater parameters prior to sample collection. Typical groundwater parameters used to measure stability are electrical conductivity, pH, and temperature. Instrument readings are obtained at regular intervals during the evacuation process (no less than once per case volume).

Stabilization standards for routine quarterly monitoring of fuel sites include the following: Temperature is considered to have stabilized when successive readings do not fluctuate more than +/- 1 degree Celsius. Electrical conductivity is considered stable when successive readings are within 10%. pH is considered to be stable when successive readings remain constant or vary no more than 0.2 of a pH unit.

## DEWATERED WELLS

Normal evacuation removes no less than three case volumes of water from the well. However, less water may be removed in cases where the well dewatered and does not recharge.

Wells known to dewater are evacuated as early as possible during each site visit in order to allow for the greatest amount of recovering. Any well that does not recharge to 80% of its original volume will be sampled prior to the departure of our personnel from the site in order to eliminate the need of a return visit.

In jurisdictions where a certain percentage of recovery is included in the local completion standard, our personnel follow the regulatory expectation.

## PURGEWATER CONTAINMENT

All non-hazardous purgewater evacuated from each groundwater monitoring well is captured and contained in on-board storage tanks on the Sampling Vehicle and/or special water hauling trailers. Effluent from the decontamination of reusable apparatus (sounders, electric pumps and hoses etc.), consisting of groundwater combined with deionized water and non-phosphate soap, is also captured and pumped into effluent tanks.

Non hazardous purgewater is transported under standard Bill of Lading documentation to a Blaine Tech Services, Inc. facility before being transported to an Exxon approved disposal facility (e.g. Romic Environmental Technologies Corporation in East Palo Alto, California).

## SAMPLE COLLECTION DEVICES

All samples are collected using a disposable bailer.

## SAMPLE CONTAINERS

Sample material is decanted directly from the sampling bailer into sample containers provided by the laboratory which will analyze the samples. The transfer of sample material from the bailer to the sample container conforms to specifications contained in the USEPA T.E.G.D. The type of sample container, material of construction, method of closure and filling requirements are specific to the intended analysis. Chemicals needed to preserve the sample material are commonly placed inside the sample containers by the laboratory or glassware vendor prior to delivery of the bottle to our personnel. The laboratory sets the number of replicate containers.

## TRIP BLANKS

A Trip Blank is carried to each site and is kept inside the cooler for the duration of the sampling event. It is turned over to the laboratory for analysis with the samples from that site.

## SAMPLE STORAGE

All sample containers are promptly placed in food grade ice chests for storage in the field and transport (direct or via our facility) to the analytical laboratory that will perform the intended analytical procedures. These ice chests contain quantities of restaurant grade ice as a refrigerant material. The samples are maintained in either an ice chest or a refrigerator until relinquished into the custody of the laboratory or laboratory courier.

## DOCUMENTATION CONVENTIONS

Each and every sample container has a label affixed to it. In most cases these labels are generated by our office personnel and are partially preprinted. Labels can also be hand written by our field personnel. The site is identified with the station number and site address, as is the particular groundwater well from which the sample is drawn (e.g. MW-1, MW-2, S-1 etc.). The time at which the sample was collected and the initials of the person collecting the sample are handwritten onto the label.

Chain of Custody records are created using client specific preprinted forms following USEPA specifications.

Bill of Lading records are contemporaneous records created in the field at the site where the non-hazardous purgewater is generated. Field Technicians use preprinted Bill of Lading forms.

## DECONTAMINATION

All equipment is brought to the site in clean and serviceable condition and is cleaned after use in each well and before subsequent use in any other well. Equipment is decontaminated before

leaving the site.

The primary decontamination device is a commercial steam cleaner. The steam cleaner is detuned to function as a hot pressure washer which is then operated with high quality deionized water which is produced at our facility and stored onboard our sampling vehicle. Cleaning is facilitated by the use of proprietary fixtures and devices included in the patented workstation (U.S. Patent 5,535,775) that is incorporated in each sampling vehicle. The steam cleaner is used to decon reels, pumps and bailers.

Any sensitive equipment or parts (i.e. Dissolved Oxygen sensor membrane, sounder etc.) that cannot be washed using the hot high pressure water, will be sprayed with a non-phosphate soap and deionized water solution and rinsed with deionized water.

EXAMPLE: The sounder is cleaned between wells using the non-phosphate soap and deionized water solution followed by deionized water rinses. The sounder is then washed with the steam cleaner between sites or as necessitated by use in a particularly contaminated well.

#### DISSOLVED OXYGEN READINGS

All Dissolved Oxygen readings are taken using YSI meters (e.g. YSI Model 58 or equivalent YSI meter). These meters are equipped with a YSI stirring device that enables them to collect accurate in-situ readings. The probe/stirring devices are modified to allow downhole measurements to be taken from wells as small as two-inch diameter.

The probe and reel is decontaminated between wells as described above. The meter is calibrated between wells as per the instructions in the operating manual. The probe and stirrer is lowered into the water column allowed to stabilize before use.

#### OXYIDATON REDUCTION POTENTIAL READINGS

All readings are obtained with either Corning or Myron-L meters (e.g. Corning ORP-65 or a Myron-L Ultrameter GP). The meter is cleaned between wells as described above. The meter is calibrated at the start of each day according to the instruction manual. In use the probe is placed in a cup of freshly obtained monitoring well water and allowed to stabilize.

**ENVIRONMENTAL RESOLUTIONS, INC.  
GROUNDWATER SAMPLING PROTOCOL**

The static water level and separate-phase product level, if present, in each well that contained water and/or separate-phase product are measured with a MMC Interface Probe, which is accurate to the nearest 0.01 foot. To calculate groundwater elevations and evaluate groundwater flow direction and gradient, depth to water (DTW) levels are subtracted from wellhead elevations.

Water samples collected for subjective evaluation are collected by gently lowering approximately half the length of a clean Teflon® bailer past the air-water interface (if possible) and collecting a sample from near the surface of the water in the well. The samples were checked for measurable separate-phase hydrocarbon product or sheen. Any separate-phase product is removed from the well.

Before water samples are collected from the groundwater monitoring wells, the wells are purged until stabilization of the temperature, pH, and conductivity are obtained, or until a minimum of three well casing volumes are purged. Water samples from the wells that do not obtain stability of the temperature, pH, and conductivity are considered to be "grab samples". The quantity of water purged from each well is calculated as follows:

One well casing volume in gallons =  $\pi r^2 h(7.48)$  where:

- r = radius of the well casing in feet.
- h = column of water in the well in feet (depth to bottom - depth to water)
- 7.48 = conversion constant from cubic feet to gallons
- $\pi$  = ratio of the circumference of a circle to its diameter

gallons of water purged/gallons in one well casing volume = well casing volumes removed.

After purging, each well was allowed to recharge to at least 80% of the initial water level. Water samples from wells that do not recover to at least 80% (due to slow recharging of the well) between purging and sampling are considered to be "grab samples". Water samples were collected with a new, disposable Teflon® bailer, and were carefully poured into 40-milliliter (ml) glass vials, which are filled so as to produce a positive meniscus. Each vial is preserved with hydrochloric acid, sealed with a cap containing a Teflon® septum, and subsequently examined for air bubbles to avoid headspace, which would allow volatilization to occur. The samples are promptly transported in iced storage in a thermally insulated ice chest, accompanied by a Chain of Custody Record, to a California-certified laboratory.

**ATTACHMENT B**

**LABORATORY ANALYSIS REPORTS  
AND CHAIN OF CUSTODY RECORDS**



**HOUSTON LABORATORY**  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

**Case Narrative for:  
EXXON Company U.S.A.**

**Certificate of Analysis Number:**

00010660

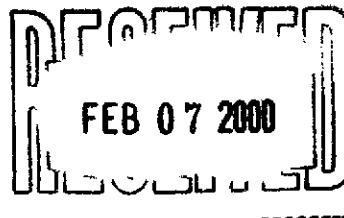
|  |                         |                               |
|--|-------------------------|-------------------------------|
| <u>Report To:</u>  | <u>Project Name:</u>    | 201013.X                      |
| Environmental Resolution, Inc.<br>Jim Chappell<br>73 Digital Drive Suite 100 | <u>Site:</u>            | 7-3006,19908556               |
| Novato<br>California<br>94949-   | <u>Site Address:</u>    | 720 High Street<br>Oakland CA |
| ph: (415) 382-9105      fax: (415) 382-1856                                  | <u>PO Number:</u>       |                               |
|  | <u>State:</u>           | California                    |
|  | <u>State Cert. No.:</u> | 1903                          |
|  | <u>Date Reported:</u>   | 2/3/00                        |

Any data flags or quality control exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.



Sonia West

~~West, Sonia~~  
Senior Project Manager

2/3/00

Date



**HOUSTON LABORATORY**  
**8880 INTERCHANGE DRIVE**  
**HOUSTON, TEXAS 77054**  
**(713) 669-0901**

**EXXON Company U.S.A.**

**Certificate of Analysis Number:**

00010660

|                   |   |                         |  |
|-------------------|---|-------------------------|--|
| <u>Report To:</u> | Environmental Resolution, Inc.<br>Jim Chappell<br>73 Digital Drive Suite 100<br><br>Novato<br>California<br>94949.<br>ph: (415) 382-9105      fax: (415) 382-1856 | <u>Project Name:</u>    | 201013.X   |
|                   |   | <u>Site:</u>            | 7-3006,19908556                                  |
|                   |   | <u>Site Address:</u>    | 720 High Street<br>Oakland                    CA |
| <u>Fax To:</u>    | <br><i>Environmental Resolution, Inc.</i><br>Jim Chappell                fax: (415) 382-1856  | <u>PO Number:</u>       |  |
|                   |   | <u>State:</u>           | California                                       |
|                   |   | <u>State Cert. No.:</u> | 1903   |
|                   |   | <u>Date Reported:</u>   | 2/3/00   |

| Client Sample ID | Lab Sample ID | Matrix | Date Collected     | Date Received       | COC ID | HOLD                     |
|------------------|---------------|--------|--------------------|---------------------|--------|--------------------------|
| W-15-MW3         | 00010660-01   | Water  | 1/26/00 1:35:00 PM | 1/28/00 10:00:00 AM |        | <input type="checkbox"/> |

2/3/00

Date \_\_\_\_\_

West, Sonia  
Senior Project Manager

West, Sonia

#### **Senior Project Manager**

**Joel Grice**  
**Laboratory Director**

**Ted Yen**  
**Quality Assurance Officer**

00010660 Page 1

2/3/00 7:00:27 PM



HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-8901

Client Sample ID W-15-MW3

Collected: 1/26/00 1:35:00 SPL Sample ID: 00010660-01

Site: 7-3006,19908556

| Analyses/Method              | Result | Rep.Limit | Dil. Factor | QUAL | Date Analyzed  | Analyst        | Seq. # |        |
|------------------------------|--------|-----------|-------------|------|----------------|----------------|--------|--------|
| <b>DIESEL RANGE ORGANICS</b> |        |           |             |      |                |                |        |        |
| Diesel Range Organics        | 2600   | 50        |             | 1    | 02/03/00 15:06 | RR             | 176944 |        |
| Surrogate: Pentacosane       | 60.0   | %         | 20-131      |      | 1              | 02/03/00 15:06 | RR     | 176944 |

Run ID/Seq #: HP\_V\_000131A-176944

| Prep Method | Prep Date        | Prep Initials |
|-------------|------------------|---------------|
| SW3510B     | 01/28/2000 11:45 | KL            |

Qualifiers: ND/U - Not Detected at the Reporting Limit >MCL - Result Over Maximum Contamination Limit(MCL)

B - Analyte detected in the associated Method Blank D - Surrogate Recovery Unreportable due to Dilution

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

00010660 Page 2

2/3/00 7:00:28 PM



HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Client Sample ID W-23-MW4

Collected: 1/26/00 2:00:00 SPL Sample ID: 00010660-02

Site: 7-3006,19908556

| Analyses/Method              | Result | Rep.Limit | Dil. Factor | QUAL | Date Analyzed  | Analyst        | Seq. # |        |
|------------------------------|--------|-----------|-------------|------|----------------|----------------|--------|--------|
| <b>DIESEL RANGE ORGANICS</b> |        |           |             |      |                |                |        |        |
| Diesel Range Organics        | 3200   | 50        |             | 1    | 02/03/00 15:06 | RR             | 176945 |        |
| Surrogate: Pentacosane       | 46.0   | %         | 20-131      |      | 1              | 02/03/00 15:06 | RR     | 176945 |

Run ID/Seq #: HP\_V\_000131A-176945

| Prep Method | Prep Date        | Prep Initials |
|-------------|------------------|---------------|
| SW3510B     | 01/28/2000 11:45 | KL            |

Qualifiers: ND/U - Not Detected at the Reporting Limit >MCL - Result Over Maximum Contamination Limit(MCL)  
B - Analyte detected in the associated Method Blank D - Surrogate Recovery Unreportable due to Dilution  
\* - Surrogate Recovery Outside Advisable QC Limits 00010660 Page 3  
J - Estimated Value between MDL and PQL 2/3/00 7:00:28 PM

# *Quality Control Documentation*



HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

## Quality Control Report

EXXON Company U.S.A.

201013.X

Analysis: Diesel Range Organics  
Method: SW8015B

WorkOrder: 00010660  
Lab Batch ID: 2878

### Method Blank

### Samples in Analytical Batch:

|                   |                     |          |                   |               |                  |
|-------------------|---------------------|----------|-------------------|---------------|------------------|
| RunID:            | HP_V_000131A-176942 | Units:   | mg/L              | Lab Sample ID | Client Sample ID |
| Analysis Date:    | 01/28/2000 19:43    | Analyst: | RR                | 00010660-01A  | W-15-MW3         |
| Preparation Date: | 01/28/2000 11:45    | Prep By: | KL Method SW3510B | 00010660-02A  | W-23-MW4         |

| Analyte               | Result | Rep Limit |
|-----------------------|--------|-----------|
| Diesel Range Organics | ND     | 0.050     |
| Sur: Pentacosane      | 35.0   | 20-131    |

### Laboratory Control Sample (LCS)

|                   |                     |          |                   |
|-------------------|---------------------|----------|-------------------|
| RunID:            | HP_V_000131A-176943 | Units:   | mg/L              |
| Analysis Date:    | 01/28/2000 20:21    | Analyst: | RR                |
| Preparation Date: | 01/28/2000 11:45    | Prep By: | KL Method SW3510B |

| Analyte               | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|-----------------------|-------------|--------|------------------|-------------|-------------|
| Diesel Range Organics | 2.5         | 2.4    | 98               | 53          | 148         |

### Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

|                   |                     |          |                   |
|-------------------|---------------------|----------|-------------------|
| Sample Spiked:    | 00010660-01         |          |                   |
| RunID:            | HP_V_000131A-176991 | Units:   | mg/L              |
| Analysis Date:    | 02/01/2000 13:04    | Analyst: | RR                |
| Preparation Date: | 01/28/2000 11:45    | Prep By: | KL Method SW3510B |

| Analyte               | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD  | RPD Limit | Low Limit | High Limit |
|-----------------------|---------------|----------------|-----------|---------------|-----------------|------------|----------------|------|-----------|-----------|------------|
| Diesel Range Organics | 2.7           | 2.5            | 10        | 308*          | 2.5             | 12         | 387*           | 22.8 | 39        | 21        | 175        |

Qualifiers: ND/U - Not Detected at the Reporting Limit

\* - Recovery Outside Advisable QC Limits

B - Analyte detected in the associated Method Blank

D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL

00010660 Page 4

2/3/00 7:00:31 PM

*Chain of Custody*  
*And*  
*Sample Receipt Checklist*

**EXXON COMPANY, USA**

Exxon Engineer: Marka Gurnsler Phone: (975) 246-8776  
Consultant Co. Name: ERT Contact: Tim Chappell  
Address: 73 Digital DR, STE 100 Phone: (415) 382-9105  
Novato, California 94949 Fax: (415) 382-1856  
RAS #: 7-3006 Facility/State ID # (TN Only): \_\_\_\_\_  
AFE # (Terminal Only): \_\_\_\_\_ Consultant Project #: 201013-X  
Location: 720 High Street (City): Oakland (State): CA  
 BE       C & M       SDT

Legia

|   |   |  |   |   |                  |
|---|---|--|---|---|------------------|
| TAT<br>24 HR. <input type="checkbox"/> 72 Hr. <input checked="" type="checkbox"/><br>48 HR. <input type="checkbox"/> 96 Hr. <input checked="" type="checkbox"/> | EXXON UST<br>CONTRACT NO.<br>S02317M01            | SPECIAL DETECTION LIMITS (Specify)                                       | REMARKS:<br><i>30</i>                             |   |                  |
| Standard <input type="checkbox"/> *Contact US Prior to Sending Sample<br>Other <input type="checkbox"/>   | SPECIAL REPORTING REQUIREMENTS (Specify)          |  | LAB USE ONLY<br><i>100</i>                        | Lot #<br><i>M</i>   | Storage Location |
| QA/QC Level<br>Standard <input type="checkbox"/> CLP <input type="checkbox"/> Other <input type="checkbox"/>  |   | FAX <input type="checkbox"/> <input type="checkbox"/> FAX C-O-C W/REPORT | WORK ORDER #: <i>00010660</i> LAB WORK RELEASE #: |   |                  |
| <b>CUSTODY RECORD</b>   | Relinquished By Sampler:<br><i>Barry B. Dugay</i> | Date<br><i>1-27-00</i>   | Time<br><i>14:00</i>                              | Received By:  |                  |
|   | Relinquished By:<br><i>Barry B. Dugay</i>         | Date   | Time  | Received By:  |                  |
|   | Relinquished By:<br><i>Barry B. Dugay</i>         | Date   | Time  | Received By Laboratory:<br><i>Barry B. Dugay 1/27/00 1000</i><br>Cooler Temp: |                  |



HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Sample Receipt Checklist

Workorder: 00010660

Received by:

Barrera, Nancy

Date and Time Received: 1/28/00 10:00:00 AM

Carrier name:

FedEx

Temperature: 3

|   |   |                             |   |
|---|---|-----------------------------|---|
| Shipping container/cooler in good condition?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/>            |
| Custody seals intact on shipping container/cooler?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/>            |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| Container/Temp Blank temperature in compliance?         | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| Water - VOA vials have zero headspace?                  | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?                     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |



**HOUSTON LABORATORY**  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

**Case Narrative for:  
EXXON Company U.S.A.**

**Certificate of Analysis Number:**

**99120614**

|                                |                         |                 |
|--------------------------------|-------------------------|-----------------|
| <u>Report To:</u>              | <u>Project Name:</u>    | 2010            |
| Environmental Resolution, Inc. | <u>Site:</u>            | 7-3006,19908556 |
| Peter A. Petro                 | <u>Site Address:</u>    | 720 High Street |
| 73 Digital Drive Suite 100     |                         | Oakland CA      |
| Novato                         | <u>PO Number:</u>       |                 |
| California                     | <u>State:</u>           | California      |
| 94949-                         | <u>State Cert. No.:</u> | 1903            |
| ph: (415) 382-9105             | <u>Date Reported:</u>   | 1/10/00         |
| fax: (415) 382-1856            |                         |                 |

Your samples for Diesel Range Organics were received outside the method required holding time. Attempts were made to notify you on December 26, 1999. The laboratory proceeded with the analyses.

Any data flags or quality control exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

1/1/00

Sonia West  
Wyatt, Neaundra  
Project Manager

**EXXON Company U.S.A.**

**Certificate of Analysis Number:**

**99120614**

**Report To:** Environmental Resolution, Inc.  
Peter A. Petro

73 Digital Drive Suite 100

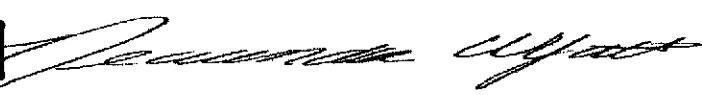
Novato  
California  
94949-  
ph: (415) 382-9105 fax: (415) 382-1856

**Report To:** Environmental Resolution, Inc.  
Peter A. Petro fax: (415) 382-1856

**Project Name:** 2010  
**Site:** 7-3006,19908556  
**Site Address:** 720 High Street  
Oakland CA  
**PO Number:**  
**State:** California  
**State Cert. No.:** 1903  
**Date Reported:**

| Client Sample ID | Lab Sample ID | Matrix | Date Collected | Date Received | COC ID | HOLD |
|------------------|---------------|--------|----------------|---------------|--------|------|
|------------------|---------------|--------|----------------|---------------|--------|------|

|      |             |       |                      |                      |           |                          |
|------|-------------|-------|----------------------|----------------------|-----------|--------------------------|
| MW-1 | 99120614-01 | Water | 12/21/99 10:10:00 AM | 12/28/99 10:00:00 AM | 991221-A1 | <input type="checkbox"/> |
| MW-2 | 99120614-02 | Water | 12/21/99 10:55:00 AM | 12/28/99 10:00:00 AM | 991221-A1 | <input type="checkbox"/> |
| MW-3 | 99120614-03 | Water | 12/21/99 12:25:00 PM | 12/28/99 10:00:00 AM | 991221-A1 | <input type="checkbox"/> |
| MW4  | 99120614-04 | Water | 12/21/99 11:40:00 AM | 12/28/99 10:00:00 AM | 991221-A1 | <input type="checkbox"/> |
| MW6  | 99120614-05 | Water | 12/21/99 1:25:00 PM  | 12/28/99 10:00:00 AM | 991221-A1 | <input type="checkbox"/> |
| MW7  | 99120614-06 | Water | 12/21/99 12:00:00 PM | 12/28/99 10:00:00 AM | 991221-A1 | <input type="checkbox"/> |
| MW8  | 99120614-07 | Water | 12/21/99 2:40:00 PM  | 12/28/99 10:00:00 AM | 991221-A1 | <input type="checkbox"/> |
| MW12 | 99120614-08 | Water | 12/21/99 3:05:00 PM  | 12/28/99 10:00:00 AM | 991221-A1 | <input type="checkbox"/> |
| MW13 | 99120614-09 | Water | 12/21/99 12:55:00 PM | 12/28/99 10:00:00 AM | 991221-A1 | <input type="checkbox"/> |
| MW14 | 99120614-10 | Water | 12/21/99 10:30:00 AM | 12/28/99 10:00:00 AM | 991221-A1 | <input type="checkbox"/> |
| MW15 | 99120614-11 | Water | 12/21/99 11:15:00 AM | 12/28/99 10:00:00 AM | 991221-A1 | <input type="checkbox"/> |
| T    | 99120614-12 | Water | 12/21/99             | 12/28/99 10:00:00 AM | 991221-A1 | <input type="checkbox"/> |

  
1/10/00

Date

Wyatt, Neaundra  
Project Manager

Joel Grice  
Laboratory Director

Ted Yen  
Quality Assurance Officer



HOUSTON LABORATORY  
8860 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Client Sample ID MW-1

Collected: 12/21/99 10:10:0 SPL Sample ID: 99120614-01

Site: 7-3006,19908556

| Analyses/Method                   | Result           | Rep.Limit     | Dil. Factor | QUAL | Date Analyzed  | Analyst | Seq. # |
|-----------------------------------|------------------|---------------|-------------|------|----------------|---------|--------|
| <b>DIESEL RANGE ORGANICS</b>      |                  |               |             |      |                |         |        |
| Diesel Range Organics             | 60               | 59            |             | 1    | 01/04/00 9:56  | RR      | 145832 |
| Surr: Pentacosane                 | 41               | % 20-131      |             | 1    | 01/04/00 9:56  | RR      | 145832 |
| Run ID/Seq #: HP_V_000104A-145832 |                  |               |             |      |                |         |        |
| Prep Method                       | Prep Date        | Prep Initials |             |      |                |         |        |
| SW3510B                           | 12/28/1999 17:54 | WV            |             |      |                |         |        |
| <b>GASOLINE RANGE ORGANICS</b>    |                  |               |             |      |                |         |        |
| Gasoline Range Organics           | ND               | 50            |             | 1    | 12/29/99 22:07 | DL      | 144877 |
| Surr: 1,4-Difluorobenzene         | 94               | % 62-144      |             | 1    | 12/29/99 22:07 | DL      | 144877 |
| Surr: 4-Bromofluorobenzene        | 86               | % 44-153      |             | 1    | 12/29/99 22:07 | DL      | 144877 |
| <b>PURGEABLE AROMATICS</b>        |                  |               |             |      |                |         |        |
| Benzene                           | ND               | 0.5           |             | 1    | 12/29/99 22:07 | DL      | 143868 |
| Ethylbenzene                      | ND               | 0.5           |             | 1    | 12/29/99 22:07 | DL      | 143868 |
| Methyl tert-butyl ether           | 10               | 2             |             | 1    | 12/29/99 22:07 | DL      | 143868 |
| Toluene                           | ND               | 0.5           |             | 1    | 12/29/99 22:07 | DL      | 143868 |
| m,p-Xylene                        | ND               | 0.5           |             | 1    | 12/29/99 22:07 | DL      | 143868 |
| o-Xylene                          | ND               | 0.5           |             | 1    | 12/29/99 22:07 | DL      | 143868 |
| Xylenes,Total                     | ND               | 0.5           |             | 1    | 12/29/99 22:07 | DL      | 143868 |
| Surr: 1,4-Difluorobenzene         | 86               | % 72-137      |             | 1    | 12/29/99 22:07 | DL      | 143868 |
| Surr: 4-Bromofluorobenzene        | 96               | % 48-156      |             | 1    | 12/29/99 22:07 | DL      | 143868 |

Wyatt, Neaundra  
Project Manager

Qualifiers: ND/U - Not Detected at the Reporting Limit  
B - Analyte detected in the associated Method Blank  
\* - Surrogate Recovery Outside Advisable QC Limits  
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)

D - Surrogate Recovery Unreportable due to Dilution

99120614 Page 2  
1/10/00 12:59:31 PM



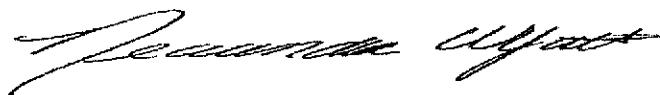
HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Client Sample ID MW2

Collected: 12/21/99 10:55:0 SPL Sample ID: 99120614-02

Site: 7-3006,19908556

| Analyses/Method                   | Result           | Rep.Limit     | Dil. Factor | QUAL | Date Analyzed  | Analyst | Seq. # |
|-----------------------------------|------------------|---------------|-------------|------|----------------|---------|--------|
| <b>DIESEL RANGE ORGANICS</b>      |                  |               |             |      |                |         |        |
| Diesel Range Organics             | 6300             | 280           | 5           |      | 01/05/00 17:20 | RR      | 146317 |
| Surr: Pentacosane                 | 140              | % 20-131      | 5 *         |      | 01/05/00 17:20 | RR      | 146317 |
| Run ID/Seq #: HP_V_000104A-146317 |                  |               |             |      |                |         |        |
| Prep Method                       | Prep Date        | Prep Initials |             |      |                |         |        |
| SW3510B                           | 12/28/1999 17:54 | WV            |             |      |                |         |        |
| <b>GASOLINE RANGE ORGANICS</b>    |                  |               |             |      |                |         |        |
| Gasoline Range Organics           | 3200             | 1200          | 25          |      | 12/29/99 22:34 | DL      | 144878 |
| Surr: 1,4-Difluorobenzene         | 110              | % 62-144      | 25          |      | 12/29/99 22:34 | DL      | 144878 |
| Surr: 4-Bromofluorobenzene        | 90               | % 44-153      | 25          |      | 12/29/99 22:34 | DL      | 144878 |
| <b>PURGEABLE AROMATICS</b>        |                  |               |             |      |                |         |        |
| Benzene                           | 360              | 0.5           | 1           |      | 12/31/99 14:01 | CJ      | 143558 |
| Ethylbenzene                      | 120              | 0.5           | 1           |      | 12/31/99 14:01 | CJ      | 143558 |
| Methyl tert-butyl ether           | ND               | 2             | 1           |      | 12/31/99 14:01 | CJ      | 143558 |
| Toluene                           | 5.5              | 0.5           | 1           |      | 12/31/99 14:01 | CJ      | 143558 |
| m,p-Xylene                        | 94               | 0.5           | 1           |      | 12/31/99 14:01 | CJ      | 143558 |
| o-Xylene                          | 12               | 0.5           | 1           |      | 12/31/99 14:01 | CJ      | 143558 |
| Xylenes, Total                    | 106              | 0.5           | 1           |      | 12/31/99 14:01 | CJ      | 143558 |
| Surr: 1,4-Difluorobenzene         | 110              | % 72-137      | 1           |      | 12/31/99 14:01 | CJ      | 143558 |
| Surr: 4-Bromofluorobenzene        | 210              | % 48-156      | 1 *         |      | 12/31/99 14:01 | CJ      | 143558 |

  
Wyatt, Neaundra  
Project Manager

Qualifiers: ND/U - Not Detected at the Reporting Limit  
B - Analyte detected in the associated Method Blank  
\* - Surrogate Recovery Outside Advisable QC Limits  
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)

D - Surrogate Recovery Unreportable due to Dilution

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HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Client Sample ID MW3

Collected: 12/21/99 12:25:0 SPL Sample ID: 99120614-03

Site: 7-3006,19908556

| Analyses/Method                   | Result           | Rep.Limit     | Dil. Factor | QUAL | Date Analyzed  | Analyst | Seq. # |
|-----------------------------------|------------------|---------------|-------------|------|----------------|---------|--------|
| <b>DIESEL RANGE ORGANICS</b>      |                  |               |             |      |                |         |        |
| Diesel Range Organics             | 37000            | 2600          | 50          |      | 01/05/00 17:58 | RR      | 146318 |
| Sur: Pentacosane                  | 320              | % 20-131      | 50          | *    | 01/05/00 17:58 | RR      | 146318 |
| Run ID/Seq #: HP_V_000104A-146318 |                  |               |             |      |                |         |        |
| Prep Method                       | Prep Date        | Prep Initials |             |      |                |         |        |
| SW3510B                           | 12/28/1999 17:54 | WV            |             |      |                |         |        |
| <b>GASOLINE RANGE ORGANICS</b>    |                  |               |             |      |                |         |        |
| Gasoline Range Organics           | 6600             | 2500          | 50          |      | 12/29/99 23:01 | DL      | 144879 |
| Sur: 1,4-Difluorobenzene          | 110              | % 62-144      | 50          |      | 12/29/99 23:01 | DL      | 144879 |
| Sur: 4-Bromofluorobenzene         | 94               | % 44-153      | 50          |      | 12/29/99 23:01 | DL      | 144879 |
| <b>PURGEABLE AROMATICS</b>        |                  |               |             |      |                |         |        |
| Benzene                           | 22               | 0.5           | 1           |      | 01/04/00 18:15 | DL      | 145227 |
| Ethylbenzene                      | 5.1              | 0.5           | 1           |      | 01/04/00 18:15 | DL      | 145227 |
| Methyl tert-butyl ether           | 4                | 2             | 1           |      | 01/04/00 18:15 | DL      | 145227 |
| Toluene                           | 5                | 0.5           | 1           |      | 01/04/00 18:15 | DL      | 145227 |
| m,p-Xylene                        | 23               | 0.5           | 1           |      | 01/04/00 18:15 | DL      | 145227 |
| o-Xylene                          | 8.4              | 0.5           | 1           |      | 01/04/00 18:15 | DL      | 145227 |
| Xylenes, Total                    | 31.4             | 0.5           | 1           |      | 01/04/00 18:15 | DL      | 145227 |
| Sur: 1,4-Difluorobenzene          | 110              | % 72-137      | 1           |      | 01/04/00 18:15 | DL      | 145227 |
| Sur: 4-Bromofluorobenzene         | 150              | % 48-156      | 1           |      | 01/04/00 18:15 | DL      | 145227 |

Wyatt, Neaundra  
Project Manager

Qualifiers: ND/U - Not Detected at the Reporting Limit  
B - Analyte detected in the associated Method Blank  
\* - Surrogate Recovery Outside Advisable QC Limits  
J - Estimated Value between MDL and PQL  
>MCL - Result Over Maximum Contamination Limit(MCL)  
D - Surrogate Recovery Unreportable due to Dilution

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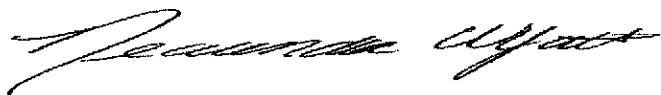
HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Client Sample ID MW4

Collected: 12/21/99 11:40:0 SPL Sample ID: 99120614-04

Site: 7-3006,19908556

| Analyses/Method                   | Result           | Rep.Limit     | Dil. Factor | QUAL | Date Analyzed  | Analyst | Seq. # |
|-----------------------------------|------------------|---------------|-------------|------|----------------|---------|--------|
| <b>DIESEL RANGE ORGANICS</b>      |                  |               |             |      |                |         |        |
| Diesel Range Organics             | 230000           | 26000         | 500         |      | 01/05/00 18:36 | RR      | 146319 |
| Surr: Pentacosane                 | 2100             | % 20-131      | 500         | *    | 01/05/00 18:36 | RR      | 146319 |
| Run ID/Seq #: HP_V_000104A-146319 |                  |               |             |      |                |         |        |
| Prep Method                       | Prep Date        | Prep Initials |             |      |                |         |        |
| SW3510B                           | 12/28/1999 17:54 | WV            |             |      |                |         |        |
| <b>GASOLINE RANGE ORGANICS</b>    |                  |               |             |      |                |         |        |
| Gasoline Range Organics           | 2000             | 50            | 1           |      | 12/31/99 14:26 | CJ      | 143567 |
| Surr: 1,4-Difluorobenzene         | 140              | % 62-144      | 1           |      | 12/31/99 14:26 | CJ      | 143567 |
| Surr: 4-Bromofluorobenzene        | 310              | % 44-153      | 1           | *    | 12/31/99 14:26 | CJ      | 143567 |
| <b>PURGEABLE AROMATICS</b>        |                  |               |             |      |                |         |        |
| Benzene                           | ND               | 0.5           | 1           |      | 12/31/99 14:26 | CJ      | 143559 |
| Ethylbenzene                      | 1.9              | 0.5           | 1           |      | 12/31/99 14:26 | CJ      | 143559 |
| Methyl tert-butyl ether           | ND               | 2             | 1           |      | 12/31/99 14:26 | CJ      | 143559 |
| Toluene                           | 0.56             | 0.5           | 1           |      | 12/31/99 14:26 | CJ      | 143559 |
| m,p-Xylene                        | 13               | 0.5           | 1           |      | 12/31/99 14:26 | CJ      | 143559 |
| o-Xylene                          | 5.6              | 0.5           | 1           |      | 12/31/99 14:26 | CJ      | 143559 |
| Xylenes, Total                    | 18.6             | 0.5           | 1           |      | 12/31/99 14:26 | CJ      | 143559 |
| Surr: 1,4-Difluorobenzene         | 94               | % 72-137      | 1           |      | 12/31/99 14:26 | CJ      | 143559 |
| Surr: 4-Bromofluorobenzene        | 190              | % 48-156      | 1           | *    | 12/31/99 14:26 | CJ      | 143559 |

  
Wyatt, Neaundra  
Project Manager

Qualifiers: ND/U - Not Detected at the Reporting Limit  
B - Analyte detected in the associated Method Blank  
\* - Surrogate Recovery Outside Advisable QC Limits  
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)

D - Surrogate Recovery Unreportable due to Dilution

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HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Client Sample ID MW6 Collected: 12/21/99 1:25:00 SPL Sample ID: 99120614-05

Site: 7-3006,19908556

| Analyses/Method                   | Result           | Rep.Limit     | Dil. Factor | QUAL | Date Analyzed  | Analyst | Seq. # |
|-----------------------------------|------------------|---------------|-------------|------|----------------|---------|--------|
| <b>DIESEL RANGE ORGANICS</b>      |                  |               |             |      |                |         |        |
| Diesel Range Organics             | 2300             | 520           | 10          | 10   | 01/05/00 17:58 | RR      | 146320 |
| Surr: Pentacosane                 | 110              | % 20-131      | 10          | 10   | 01/05/00 17:58 | RR      | 146320 |
| Run ID/Seq #: HP_V_000104A-146320 |                  |               |             |      |                |         |        |
| Prep Method                       | Prep Date        | Prep Initials |             |      |                |         |        |
| SW3510B                           | 12/28/1999 17:54 | WV            |             |      |                |         |        |

| GASOLINE RANGE ORGANICS    | MCL  | CA_GRO   | Units: ug/L |                         |
|----------------------------|------|----------|-------------|-------------------------|
| Gasoline Range Organics    | 3800 | 250      | 5           | 12/30/99 4:02 DL 144887 |
| Surr: 1,4-Difluorobenzene  | 120  | % 62-144 | 5           | 12/30/99 4:02 DL 144887 |
| Surr: 4-Bromofluorobenzene | 110  | % 44-153 | 5           | 12/30/99 4:02 DL 144887 |

| PURGEABLE AROMATICS        | MCL | SW8021B  | Units: ug/L |                         |
|----------------------------|-----|----------|-------------|-------------------------|
| Benzene                    | 890 | 2.5      | 5           | 12/30/99 4:02 DL 143874 |
| Ethylbenzene               | 94  | 2.5      | 5           | 12/30/99 4:02 DL 143874 |
| Methyl tert-butyl ether    | 12  | 10       | 5           | 12/30/99 4:02 DL 143874 |
| Toluene                    | 3.3 | 2.5      | 5           | 12/30/99 4:02 DL 143874 |
| m,p-Xylene                 | 81  | 2.5      | 5           | 12/30/99 4:02 DL 143874 |
| o-Xylene                   | 14  | 2.5      | 5           | 12/30/99 4:02 DL 143874 |
| Xylenes,Total              | 95  | 2.5      | 5           | 12/30/99 4:02 DL 143874 |
| Surr: 1,4-Difluorobenzene  | 110 | % 72-137 | 5           | 12/30/99 4:02 DL 143874 |
| Surr: 4-Bromofluorobenzene | 99  | % 48-156 | 5           | 12/30/99 4:02 DL 143874 |

  
Wyatt, Neaundra  
Project Manager

Qualifiers: ND/U - Not Detected at the Reporting Limit  
B - Analyte detected in the associated Method Blank  
\* - Surrogate Recovery Outside Advisable QC Limits  
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)

D - Surrogate Recovery Unreportable due to Dilution

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HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Client Sample ID MW7

Collected: 12/21/99 12:00:0 SPL Sample ID: 99120614-06

Site: 7-3006,19908556

| Analyses/Method                   | Result           | Rep.Limit     | Dil. Factor | QUAL | Date Analyzed  | Analyst | Seq. # |
|-----------------------------------|------------------|---------------|-------------|------|----------------|---------|--------|
| <b>DIESEL RANGE ORGANICS</b>      |                  |               |             |      |                |         |        |
| Diesel Range Organics             | 4600             | 53            | 1           |      | 01/05/00 7:42  | RR      | 145860 |
| Sur: Pentacosane                  | 110              | % 20-131      |             | 1    | 01/05/00 7:42  | RR      | 145860 |
| Run ID/Seq #: HP_V_000104A-145860 |                  |               |             |      |                |         |        |
| Prep Method                       | Prep Date        | Prep Initials |             |      |                |         |        |
| SW3510B                           | 12/28/1999 17:54 | WV            |             |      |                |         |        |
| <b>GASOLINE RANGE ORGANICS</b>    |                  |               |             |      |                |         |        |
| Gasoline Range Organics           | 2900             | 2500          | 50          |      | 12/30/99 3:35  | DL      | 145164 |
| Sur: 1,4-Difluorobenzene          | 100              | % 62-144      | 50          |      | 12/30/99 3:35  | DL      | 145164 |
| Sur: 4-Bromofluorobenzene         | 93               | % 44-153      | 50          |      | 12/30/99 3:35  | DL      | 145164 |
| <b>PURGEABLE AROMATICS</b>        |                  |               |             |      |                |         |        |
| Benzene                           | 47               | 0.5           | 1           |      | 12/31/99 15:17 | CJ      | 143560 |
| Ethylbenzene                      | 1.7              | 0.5           | 1           |      | 12/31/99 15:17 | CJ      | 143560 |
| Methyl tert-butyl ether           | ND               | 2             | 1           |      | 12/31/99 15:17 | CJ      | 143560 |
| Toluene                           | 2                | 0.5           | 1           |      | 12/31/99 15:17 | CJ      | 143560 |
| m,p-Xylene                        | 7.7              | 0.5           | 1           |      | 12/31/99 15:17 | CJ      | 143560 |
| o-Xylene                          | 0.83             | 0.5           | 1           |      | 12/31/99 15:17 | CJ      | 143560 |
| Xylenes,Total                     | 8.53             | 0.5           | 1           |      | 12/31/99 15:17 | CJ      | 143560 |
| Sur: 1,4-Difluorobenzene          | 120              | % 72-137      | 1           |      | 12/31/99 15:17 | CJ      | 143560 |
| Sur: 4-Bromofluorobenzene         | 200              | % 48-156      | 1 *         |      | 12/31/99 15:17 | CJ      | 143560 |

Wyatt, Neaundra  
Project Manager

Qualifiers: ND/U - Not Detected at the Reporting Limit  
B - Analyte detected in the associated Method Blank  
\* - Surrogate Recovery Outside Advisable QC Limits  
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)

D - Surrogate Recovery Unreportable due to Dilution

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HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Client Sample ID MW8

Collected: 12/21/99 2:40:00 SPL Sample ID: 99120614-07

Site: 7-3006,19908556

| Analyses/Method                   | Result           | Rep.Limit     | Dil. Factor | QUAL | Date Analyzed  | Analyst        | Seq. # |        |
|-----------------------------------|------------------|---------------|-------------|------|----------------|----------------|--------|--------|
| <b>DIESEL RANGE ORGANICS</b>      |                  |               |             |      |                |                |        |        |
| Diesel Range Organics             | 2100             | 51            |             | 1    | 01/04/00 17:44 | RR             | 145835 |        |
| Surrogate: Pentacosane            | 76               | %             | 20-131      |      | 1              | 01/04/00 17:44 | RR     | 145835 |
| Run ID/Seq #: HP_V_000104A-145835 |                  |               |             |      |                |                |        |        |
| Prep Method                       | Prep Date        | Prep Initials |             |      |                |                |        |        |
| SW3510B                           | 12/28/1999 17:54 | WV            |             |      |                |                |        |        |
| <b>GASOLINE RANGE ORGANICS</b>    |                  |               |             |      |                |                |        |        |
| Gasoline Range Organics           | 4700             | 500           |             | 10   | 12/30/99 3:08  | DL             | 144886 |        |
| Surrogate: 1,4-Difluorobenzene    | 150              | %             | 62-144      | 10   | *              | 12/30/99 3:08  | DL     | 144886 |
| Surrogate: 4-Bromofluorobenzene   | 110              | %             | 44-153      | 10   |                | 12/30/99 3:08  | DL     | 144886 |
| <b>PURGEABLE AROMATICS</b>        |                  |               |             |      |                |                |        |        |
| Benzene                           | 190              | 0.5           |             | 1    | 12/31/99 15:43 | CJ             | 143561 |        |
| Ethylbenzene                      | 160              | 0.5           |             | 1    | 12/31/99 15:43 | CJ             | 143561 |        |
| Methyl tert-butyl ether           | ND               | 2             |             | 1    | 12/31/99 15:43 | CJ             | 143561 |        |
| Toluene                           | 15               | 0.5           |             | 1    | 12/31/99 15:43 | CJ             | 143561 |        |
| m,p-Xylene                        | 61               | 0.5           |             | 1    | 12/31/99 15:43 | CJ             | 143561 |        |
| o-Xylene                          | 7.2              | 0.5           |             | 1    | 12/31/99 15:43 | CJ             | 143561 |        |
| Xylenes, Total                    | 68.2             | 0.5           |             | 1    | 12/31/99 15:43 | CJ             | 143561 |        |
| Surrogate: 1,4-Difluorobenzene    | 120              | %             | 72-137      | 1    | 12/31/99 15:43 | CJ             | 143561 |        |
| Surrogate: 4-Bromofluorobenzene   | 200              | %             | 48-156      | 1    | *              | 12/31/99 15:43 | CJ     | 143561 |

  
Wyatt, Neaundra  
Project Manager

Qualifiers: ND/U - Not Detected at the Reporting Limit  
B - Analyte detected in the associated Method Blank  
\* - Surrogate Recovery Outside Advisable QC Limits  
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)

D - Surrogate Recovery Unreportable due to Dilution

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HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Client Sample ID MW12

Collected: 12/21/99 3:05:00 SPL Sample ID: 99120614-08

Site: 7-3006,19908556

| Analyses/Method                   | Result           | Rep.Limit     | Dil. Factor | QUAL | Date Analyzed  | Analyst | Seq. # |
|-----------------------------------|------------------|---------------|-------------|------|----------------|---------|--------|
| <b>DIESEL RANGE ORGANICS</b>      |                  |               |             |      |                |         |        |
| Diesel Range Organics             | 10000            | 260           | 5           |      | 01/04/00 18:22 | RR      | 145837 |
| Surr: Pentacosane                 | 120              | % 20-131      | 5           |      | 01/04/00 18:22 | RR      | 145837 |
| Run ID/Seq #: HP_V_000104A-145837 |                  |               |             |      |                |         |        |
| Prep Method                       | Prep Date        | Prep Initials |             |      |                |         |        |
| SW3510B                           | 12/28/1999 17:54 | WV            |             |      |                |         |        |
| <b>GASOLINE RANGE ORGANICS</b>    |                  |               |             |      |                |         |        |
| Gasoline Range Organics           | 25000            | 2500          | 50          |      | 12/30/99 2:40  | DL      | 144885 |
| Sur: 1,4-Difluorobenzene          | 120              | % 62-144      | 50          |      | 12/30/99 2:40  | DL      | 144885 |
| Sur: 4-Bromofluorobenzene         | 120              | % 44-153      | 50          |      | 12/30/99 2:40  | DL      | 144885 |
| <b>PURGEABLE AROMATICS</b>        |                  |               |             |      |                |         |        |
| Benzene                           | 580              | 10            | 20          |      | 12/31/99 16:34 | CJ      | 144655 |
| Ethylbenzene                      | 1400             | 10            | 20          |      | 12/31/99 16:34 | CJ      | 144655 |
| Methyl teri-butyl ether           | ND               | 40            | 20          |      | 12/31/99 16:34 | CJ      | 144655 |
| Toluene                           | 26               | 10            | 20          |      | 12/31/99 16:34 | CJ      | 144655 |
| m,p-Xylene                        | 1200             | 10            | 20          |      | 12/31/99 16:34 | CJ      | 144655 |
| o-Xylene                          | 160              | 10            | 20          |      | 12/31/99 16:34 | CJ      | 144655 |
| Xylenes,Total                     | 1360             | 10            | 20          |      | 12/31/99 16:34 | CJ      | 144655 |
| Sur: 1,4-Difluorobenzene          | 110              | % 72-137      | 20          |      | 12/31/99 16:34 | CJ      | 144655 |
| Sur: 4-Bromofluorobenzene         | 130              | % 48-156      | 20          |      | 12/31/99 16:34 | CJ      | 144655 |

Wyatt, Neaundra  
Project Manager

Qualifiers: ND/U - Not Detected at the Reporting Limit  
B - Analyte detected in the associated Method Blank  
\* - Surrogate Recovery Outside Advisable QC Limits  
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)

D - Surrogate Recovery Unreportable due to Dilution

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HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Client Sample ID MW13

Collected: 12/21/99 12:55:0 SPL Sample ID: 99120614-09

Site: 7-3006,19908556

| Analyses/Method | Result | Rep.Limit | Dil. Factor | QUAL | Date Analyzed | Analyst | Seq. # |
|-----------------|--------|-----------|-------------|------|---------------|---------|--------|
|-----------------|--------|-----------|-------------|------|---------------|---------|--------|

**DIESEL RANGE ORGANICS**

|                       |      |          | MCL | SW8015B        | Units: ug/L |        |
|-----------------------|------|----------|-----|----------------|-------------|--------|
| Diesel Range Organics | 1800 | 56       | 1   | 01/04/00 19:01 | RR          | 146019 |
| Surr: Pentacosane     | 87   | % 20-131 | 1   | 01/04/00 19:01 | RR          | 146019 |

Run ID/Seq #: HP\_V\_000104A-146019

| Prep Method | Prep Date        | Prep Initials |
|-------------|------------------|---------------|
| SW3510B     | 12/28/1999 17:54 | WV            |

**GASOLINE RANGE ORGANICS**

|                            |      |          | MCL | CA_GRO        | Units: ug/L |        |
|----------------------------|------|----------|-----|---------------|-------------|--------|
| Gasoline Range Organics    | 4400 | 250      | 5   | 12/30/99 2:13 | DL          | 144884 |
| Surr: 1,4-Difluorobenzene  | 210  | % 62-144 | 5 * | 12/30/99 2:13 | DL          | 144884 |
| Surr: 4-Bromofluorobenzene | 140  | % 44-153 | 5   | 12/30/99 2:13 | DL          | 144884 |

**PURGEABLE AROMATICS**

|                            |     |          | MCL | SW8021B        | Units: ug/L |        |
|----------------------------|-----|----------|-----|----------------|-------------|--------|
| Benzene                    | 52  | 0.5      | 1   | 12/31/99 16:08 | CJ          | 143562 |
| Ethylbenzene               | 340 | 0.5      | 1   | 12/31/99 16:08 | CJ          | 143562 |
| Methyl tert-butyl ether    | ND  | 2        | 1   | 12/31/99 16:08 | CJ          | 143562 |
| Toluene                    | 1.9 | 0.5      | 1   | 12/31/99 16:08 | CJ          | 143562 |
| m,p-Xylene                 | 93  | 0.5      | 1   | 12/31/99 16:08 | CJ          | 143562 |
| o-Xylene                   | 22  | 0.5      | 1   | 12/31/99 16:08 | CJ          | 143562 |
| Xylenes, Total             | 115 | 0.5      | 1   | 12/31/99 16:08 | CJ          | 143562 |
| Surr: 1,4-Difluorobenzene  | 84  | % 72-137 | 1   | 12/31/99 16:08 | CJ          | 143562 |
| Surr: 4-Bromofluorobenzene | 300 | % 48-156 | 1 * | 12/31/99 16:08 | CJ          | 143562 |

  
Wyatt, Neaundra  
Project Manager

Qualifiers: ND/U - Not Detected at the Reporting Limit  
B - Analyte detected in the associated Method Blank  
\* - Surrogate Recovery Outside Advisable QC Limits  
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)

D - Surrogate Recovery Unreportable due to Dilution

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HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Client Sample ID MW14

Collected: 12/21/99 10:30:0 SPL Sample ID: 99120614-10

Site: 7-3006,19908556

| Analyses/Method                   | Result           | Rep.Limit     | Dil. Factor | QUAL           | Date Analyzed | Analyst | Seq. # |
|-----------------------------------|------------------|---------------|-------------|----------------|---------------|---------|--------|
| <b>DIESEL RANGE ORGANICS</b>      |                  |               |             |                |               |         |        |
| Diesel Range Organics             | 1400             | 56            | 1           | 01/04/00 19:39 | RR            |         | 145840 |
| Sur: Pentacosane                  | 130              | % 20-131      | 1           | 01/04/00 19:39 | RR            |         | 145840 |
| Run ID/Seq #: HP_V_000104A-145840 |                  |               |             |                |               |         |        |
| Prep Method                       | Prep Date        | Prep Initials |             |                |               |         |        |
| SW3510B                           | 12/28/1999 17:54 | WV            |             |                |               |         |        |
| <b>GASOLINE RANGE ORGANICS</b>    |                  |               |             |                |               |         |        |
| Gasoline Range Organics           | 420              | 50            | 1           | 12/30/99 1:46  | DL            |         | 144883 |
| Sur: 1,4-Difluorobenzene          | 120              | % 62-144      | 1           | 12/30/99 1:46  | DL            |         | 144883 |
| Sur: 4-Bromofluorobenzene         | 160              | % 44-153      | 1 *         | 12/30/99 1:46  | DL            |         | 144883 |
| <b>PURGEABLE AROMATICS</b>        |                  |               |             |                |               |         |        |
| Benzene                           | 0.61             | 0.5           | 1           | 12/30/99 1:46  | DL            |         | 143873 |
| Ethylbenzene                      | ND               | 0.5           | 1           | 12/30/99 1:46  | DL            |         | 143873 |
| Methyl tert-butyl ether           | ND               | 2             | 1           | 12/30/99 1:46  | DL            |         | 143873 |
| Toluene                           | ND               | 0.5           | 1           | 12/30/99 1:46  | DL            |         | 143873 |
| m,p-Xylene                        | 1.5              | 0.5           | 1           | 12/30/99 1:46  | DL            |         | 143873 |
| o-Xylene                          | 4.8              | 0.5           | 1           | 12/30/99 1:46  | DL            |         | 143873 |
| Xylenes, Total                    | 6.3              | 0.5           | 1           | 12/30/99 1:46  | DL            |         | 143873 |
| Sur: 1,4-Difluorobenzene          | 97               | % 72-137      | 1           | 12/30/99 1:46  | DL            |         | 143873 |
| Sur: 4-Bromofluorobenzene         | 110              | % 48-156      | 1           | 12/30/99 1:46  | DL            |         | 143873 |

  
Wyatt, Neaundra  
Project Manager

Qualifiers: ND/U - Not Detected at the Reporting Limit  
B - Analyte detected in the associated Method Blank  
\* - Surrogate Recovery Outside Advisable QC Limits  
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)

D - Surrogate Recovery Unreportable due to Dilution

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Client Sample ID MW15

Collected: 12/21/99 11:15:0 SPL Sample ID: 99120614-11

Site: 7-3006,19908556

| Analyses/Method                   | Result           | Rep.Limit     | Dil. Factor | QUAL | Date Analyzed  | Analyst | Seq. # |
|-----------------------------------|------------------|---------------|-------------|------|----------------|---------|--------|
| <b>DIESEL RANGE ORGANICS</b>      |                  |               |             |      |                |         |        |
| Diesel Range Organics             | 300              | 56            | 1           |      | 01/04/00 20:16 | RR      | 145842 |
| Surrogate: Pentacosane            | 100              | % 20-131      | 1           |      | 01/04/00 20:16 | RR      | 145842 |
| Run ID/Seq #: HP_V_000104A-145842 |                  |               |             |      |                |         |        |
| Prep Method                       | Prep Date        | Prep Initials |             |      |                |         |        |
| SW3510B                           | 12/28/1999 17:54 | WV            |             |      |                |         |        |
| <b>GASOLINE RANGE ORGANICS</b>    |                  |               |             |      |                |         |        |
| Gasoline Range Organics           | 1500             | 50            | 1           |      | 12/30/99 1:18  | DL      | 144882 |
| Surrogate: 1,4-Difluorobenzene    | 380              | % 62-144      | 1 *         |      | 12/30/99 1:18  | DL      | 144882 |
| Surrogate: 4-Bromofluorobenzene   | 130              | % 44-153      | 1           |      | 12/30/99 1:18  | DL      | 144882 |
| <b>PURGEABLE AROMATICS</b>        |                  |               |             |      |                |         |        |
| Benzene                           | 21               | 0.5           | 1           |      | 12/30/99 1:18  | DL      | 143872 |
| Ethylbenzene                      | 0.67             | 0.5           | 1           |      | 12/30/99 1:18  | DL      | 143872 |
| Methyl tert-butyl ether           | 21               | 2             | 1           |      | 12/30/99 1:18  | DL      | 143872 |
| Toluene                           | 1.6              | 0.5           | 1           |      | 12/30/99 1:18  | DL      | 143872 |
| m,p-Xylene                        | 1.7              | 0.5           | 1           |      | 12/30/99 1:18  | DL      | 143872 |
| o-Xylene                          | 4.2              | 0.5           | 1           |      | 12/30/99 1:18  | DL      | 143872 |
| Xylenes, Total                    | 5.9              | 0.5           | 1           |      | 12/30/99 1:18  | DL      | 143872 |
| Surrogate: 1,4-Difluorobenzene    | 100              | % 72-137      | 1           |      | 12/30/99 1:18  | DL      | 143872 |
| Surrogate: 4-Bromofluorobenzene   | 99               | % 48-156      | 1           |      | 12/30/99 1:18  | DL      | 143872 |

Wyatt, Neaundra  
Project Manager

Qualifiers: ND/U - Not Detected at the Reporting Limit  
B - Analyte detected in the associated Method Blank  
\* - Surrogate Recovery Outside Advisable QC Limits  
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)

D - Surrogate Recovery Unreportable due to Dilution

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Client Sample ID TB Collected: 12/21/99 SPL Sample ID: 99120614-12

Site: 7-3006,19908556

| Analyses/Method                | Result | Rep.Limit | Dil. Factor | QUAL | Date Analyzed  | Analyst | Seq. # |
|--------------------------------|--------|-----------|-------------|------|----------------|---------|--------|
| <b>GASOLINE RANGE ORGANICS</b> |        |           |             |      |                |         |        |
| Gasoline Range Organics        | ND     | 50        | 1           |      | 12/30/99 0:51  | DL      | 144881 |
| Surr: 1,4-Difluorobenzene      | 96     | % 62-144  | 1           |      | 12/30/99 0:51  | DL      | 144881 |
| Sur: 4-Bromofluorobenzene      | 86     | % 44-153  | 1           |      | 12/30/99 0:51  | DL      | 144881 |
| <b>PURGEABLE AROMATICS</b>     |        |           |             |      |                |         |        |
| Benzene                        | ND     | 0.5       | 1           |      | 01/04/00 19:15 | CJ      | 145253 |
| Ethylbenzene                   | ND     | 0.5       | 1           |      | 01/04/00 19:15 | CJ      | 145253 |
| Methyl tert-butyl ether        | ND     | 2         | 1           |      | 01/04/00 19:15 | CJ      | 145253 |
| Toluene                        | ND     | 0.5       | 1           |      | 01/04/00 19:15 | CJ      | 145253 |
| m,p-Xylene                     | ND     | 0.5       | 1           |      | 01/04/00 19:15 | CJ      | 145253 |
| o-Xylene                       | ND     | 0.5       | 1           |      | 01/04/00 19:15 | CJ      | 145253 |
| Xylenes,Total                  | ND     | 0.5       | 1           |      | 01/04/00 19:15 | CJ      | 145253 |
| Surr: 1,4-Difluorobenzene      | 82     | % 72-137  | 1           |      | 01/04/00 19:15 | CJ      | 145253 |
| Sur: 4-Bromofluorobenzene      | 100    | % 48-156  | 1           |      | 01/04/00 19:15 | CJ      | 145253 |

Wyatt, Neaundra  
Project Manager

Qualifiers: ND/U - Not Detected at the Reporting Limit  
B - Analyte detected in the associated Method Blank  
\* - Surrogate Recovery Outside Advisable QC Limits  
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)

D - Surrogate Recovery Unreportable due to Dilution

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## *Quality Control Documentation*

**Quality Control Report**

**EXXON Company U.S.A.**

2010

|           |                       |               |          |
|-----------|-----------------------|---------------|----------|
| Analysis: | Diesel Range Organics | WorkOrder:    | 99120614 |
| Method:   | SW8015B               | Lab Batch ID: | 2305     |

| <u>Method Blank</u> |                     |          | <u>Samples in Analytical Batch:</u> |                      |                         |
|---------------------|---------------------|----------|-------------------------------------|----------------------|-------------------------|
| RunID:              | HP_V_000104A-145898 | Units:   | mg/L                                | <u>Lab Sample ID</u> | <u>Client Sample ID</u> |
| Analysis Date:      | 01/04/2000 8:39     | Analyst: | RR                                  | 99120614-01B         | MW-1                    |
| Preparation Date:   | 12/28/1999 17:54    | Prep By: | WV Method SW3510B                   | 99120614-02B         | MW2                     |
|                     |                     |          |                                     | 99120614-03B         | MW3                     |
|                     |                     |          |                                     | 99120614-04B         | MW4                     |
|                     |                     |          |                                     | 99120614-05B         | MW6                     |
|                     |                     |          |                                     | 99120614-06B         | MW7                     |
|                     |                     |          |                                     | 99120614-07B         | MW8                     |
|                     |                     |          |                                     | 99120614-08B         | MW12                    |
|                     |                     |          |                                     | 99120614-09B         | MW13                    |
|                     |                     |          |                                     | 99120614-10B         | MW14                    |
|                     |                     |          |                                     | 99120614-11B         | MW15                    |

Laboratory Control Sample (LCS)

|                   |                     |          |                   |
|-------------------|---------------------|----------|-------------------|
| RunID:            | HP_V_000104A-145900 | Units:   | mg/L              |
| Analysis Date:    | 01/04/2000 9:17     | Analyst: | RR                |
| Preparation Date: | 12/28/1999 17:54    | Prep By: | WV Method SW3510B |

| Analyte               | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|-----------------------|-------------|--------|------------------|-------------|-------------|
| Diesel Range Organics | 2.5         | 2.4    | 96               | 53          | 148         |

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

|                   |                     |          |                   |
|-------------------|---------------------|----------|-------------------|
| Sample Spiked:    | 99120614-11         |          |                   |
| RunID:            | HP_V_000104A-146020 | Units:   | mg/L              |
| Analysis Date:    | 01/04/2000 20:55    | Analyst: | RR                |
| Preparation Date: | 12/28/1999 17:54    | Prep By: | WV Method SW3510B |

| Analyte               | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD  | RPD Limit | Low Limit | High Limit |
|-----------------------|---------------|----------------|-----------|---------------|-----------------|------------|----------------|------|-----------|-----------|------------|
| Diesel Range Organics | 0.30          | 5.26           | 1.9       | 30.6          | 5.26            | 1.9        | 30.2           | 1.25 | 39        | 21        | 175        |

Qualifiers: ND/U - Not Detected at the Reporting Limit \* - Recovery Outside Advisable QC Limits

B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL



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## Quality Control Report

### EXXON Company U.S.A.

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Analysis: Purgeable Aromatics  
Method: SW8021B

WorkOrder: 99120614  
Lab Batch ID: R6816

#### Method Blank

#### Samples in Analytical Batch:

RunID: HP\_R\_991231A-143556 Units: ug/L  
Analysis Date: 12/31/1999 12:19 Analyst: CJ

| Lab Sample ID | Client Sample ID |
|---------------|------------------|
| 99120614-02A  | MW2              |
| 99120614-04A  | MW4              |
| 99120614-06A  | MW7              |
| 99120614-07A  | MW8              |
| 99120614-08A  | MW12             |
| 99120614-09A  | MW13             |

| Analyte                   | Result | Rep Limit |
|---------------------------|--------|-----------|
| Benzene                   | ND     | 0.50      |
| Ethylbenzene              | ND     | 0.50      |
| Methyl tert-butyl ether   | ND     | 2.0       |
| Toluene                   | ND     | 0.50      |
| m,p-Xylene                | ND     | 0.50      |
| o-Xylene                  | ND     | 0.50      |
| Xylenes, Total            | ND     | 0.50      |
| Sur. 1,4-Difluorobenzene  | 77.6   | 72-137    |
| Sur. 4-Bromofluorobenzene | 104.2  | 48-156    |

#### Laboratory Control Sample (LCS)

RunID: HP\_R\_991231A-143557 Units: ug/L  
Analysis Date: 12/31/1999 12:44 Analyst: CJ

| Analyte                 | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|-------------------------|-------------|--------|------------------|-------------|-------------|
| Benzene                 | 50          | 48     | 96               | 61          | 119         |
| Ethylbenzene            | 50          | 49     | 97               | 70          | 118         |
| Methyl tert-butyl ether | 50          | 47     | 95               | 72          | 128         |
| Toluene                 | 50          | 49     | 98               | 65          | 125         |
| m,p-Xylene              | 100         | 97     | 97               | 72          | 116         |
| o-Xylene                | 50          | 49     | 97               | 72          | 117         |
| Xylenes, Total          | 150         | 146    | 97               | 72          | 117         |

#### Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120618-04  
RunID: HP\_R\_991231A-144668 Units: ug/L  
Analysis Date: 01/02/2000 20:03 Analyst: CJ

| Analyte                 | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD   | RPD Limit | Low Limit | High Limit |
|-------------------------|---------------|----------------|-----------|---------------|-----------------|------------|----------------|-------|-----------|-----------|------------|
| Benzene                 | ND            | 20             | 23        | 113           | 20              | 22         | 109            | 3.32  | 21        | 32        | 164        |
| Ethylbenzene            | ND            | 20             | 22        | 109           | 20              | 21         | 104            | 4.37  | 19        | 52        | 142        |
| Methyl tert-butyl ether | ND            | 20             | 22        | 109           | 20              | 22         | 109            | 0.374 | 20        | 39        | 150        |
| Toluene                 | ND            | 20             | 22        | 111           | 20              | 22         | 108            | 3.29  | 20        | 38        | 159        |

Qualifiers: ND/U - Not Detected at the Reporting Limit

\* - Recovery Outside Advisable QC Limits

B - Analyte detected in the associated Method Blank

D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL

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Quality Control Report

EXXON Company U.S.A.

2010

Analysis: Purgeable Aromatics  
Method: SW8021B

WorkOrder: 99120614  
Lab Batch ID: R6816

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120618-04  
RunID: HP\_R\_991231A-144668 Units: ug/L  
Analysis Date: 01/02/2000 20:03 Analyst: CJ

| Analyte        | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD  | RPD Limit | Low Limit | High Limit |
|----------------|---------------|----------------|-----------|---------------|-----------------|------------|----------------|------|-----------|-----------|------------|
| m,p-Xylene     | ND            | 40             | 42        | 105           | 40              | 40         | 99.2           | 5.95 | 17        | 53        | 144        |
| c,Xylene       | ND            | 20             | 22        | 108           | 20              | 21         | 104            | 3.89 | 18        | 53        | 143        |
| Xylenes, Total | ND            | 60             | 64        | 107           | 60              | 61         | 102            | 4.80 | 18        | 53        | 144        |

Qualifiers: ND/U - Not Detected at the Reporting Limit \* - Recovery Outside Advisable QC Limits  
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution  
J - Estimated value between MDL and PQL

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## Quality Control Report

### EXXON Company U.S.A.

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Analysis: Gasoline Range Organics WorkOrder: 99120614  
Method: CA\_GRO Lab Batch ID: R6817

| Method Blank   |                     |          | Samples in Analytical Batch: |                                      |
|----------------|---------------------|----------|------------------------------|--------------------------------------|
| RunID:         | HP_R_991231B-143565 | Units:   | mg/L                         | Lab Sample ID                        |
| Analysis Date: | 12/31/1999 12:19    | Analyst: | CJ                           | 99120614-04A Client Sample ID<br>MW4 |

| Analyte                    | Result | Rep Limit |
|----------------------------|--------|-----------|
| Gasoline Range Organics    | ND     | 0.050     |
| Surr: 1,4-Difluorobenzene  | 84.0   | 62-144    |
| Surr: 4-Bromofluorobenzene | 84.4   | 44-153    |

### Laboratory Control Sample (LCS)

RunID: HP\_R\_991231B-143566 Units: mg/L  
Analysis Date: 12/31/1999 13:10 Analyst: CJ

| Analyte                 | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|-------------------------|-------------|--------|------------------|-------------|-------------|
| Gasoline Range Organics | 1           | 1      | 100              | 64          | 131         |

### Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120618-05  
RunID: HP\_R\_991231B-144639 Units: mg/L  
Analysis Date: 01/03/2000 14:09 Analyst: CJ

| Analyte                 | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD  | RPD Limit | Low Limit | High Limit |
|-------------------------|---------------|----------------|-----------|---------------|-----------------|------------|----------------|------|-----------|-----------|------------|
| Gasoline Range Organics | ND            | 0.9            | 0.86      | 95.8          | 0.9             | 0.93       | 103            | 7.52 | 36        | 36        | 160        |

Qualifiers: ND/U - Not Detected at the Reporting Limit \* - Recovery Outside Advisable QC Limits

B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL

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## Quality Control Report

EXXON Company U.S.A.

2010

Analysis: Purgeable Aromatics  
Method: SW8021B

WorkOrder: 99120614  
Lab Batch ID: R6856

### Method Blank

### Samples in Analytical Batch:

RunID: HP\_W\_991229A-143857 Units: ug/L  
Analysis Date: 12/29/1999 12:31 Analyst: DL

Lab Sample ID  
99120614-01A  
99120614-05A  
99120614-10A  
99120614-11A

Client Sample ID  
MW-1  
MW6  
MW14  
MW15

| Analyte                   | Result | Rep Limit |
|---------------------------|--------|-----------|
| Benzene                   | ND     | 0.50      |
| Ethylbenzene              | ND     | 0.50      |
| Methyl tert-butyl ether   | ND     | 2.0       |
| Toluene                   | ND     | 0.50      |
| m,p-Xylene                | ND     | 0.50      |
| o-Xylene                  | ND     | 0.50      |
| Xylenes,Total             | ND     | 0.50      |
| Sur. 1,4-Difluorobenzene  | 89.0   | 72-137    |
| Sur. 4-Bromofluorobenzene | 97.5   | 48-156    |

### Laboratory Control Sample (LCS)

RunID: HP\_W\_991229A-143858 Units: ug/L  
Analysis Date: 12/29/1999 16:38 Analyst: DL

| Analyte                 | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|-------------------------|-------------|--------|------------------|-------------|-------------|
| Benzene                 | 50          | 53     | 106              | 61          | 119         |
| Ethylbenzene            | 50          | 53     | 107              | 70          | 118         |
| Methyl tert-butyl ether | 50          | 55     | 110              | 72          | 128         |
| Toluene                 | 50          | 53     | 106              | 65          | 125         |
| m,p-Xylene              | 100         | 110    | 107              | 72          | 116         |
| o-Xylene                | 50          | 53     | 106              | 72          | 117         |
| Xylenes,Total           | 150         | 163    | 109              | 72          | 117         |

### Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120617-02  
RunID: HP\_W\_991229A-143979 Units: ug/L  
Analysis Date: 12/29/1999 17:33 Analyst: DL

| Analyte                 | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD   | RPD Limit | Low Limit | High Limit |
|-------------------------|---------------|----------------|-----------|---------------|-----------------|------------|----------------|-------|-----------|-----------|------------|
| Benzene                 | 3.2           | 10             | 11        | 79.4          | 10              | 12         | 87.5           | 9.73  | 21        | 32        | 164        |
| Ethylbenzene            | ND            | 10             | 9         | 84.7          | 10              | 9.6        | 90.9           | 7.01  | 19        | 52        | 142        |
| Methyl tert-butyl ether | 96            | 10             | 100       | 55.8          | 10              | 100        | 44.5           | 22.5* | 20        | 39        | 150        |
| Toluene                 | ND            | 10             | 9.7       | 97.3          | 10              | 10         | 103            | 5.95  | 20        | 38        | 159        |

Qualifiers: ND/U - Not Detected at the Reporting Limit

\* - Recovery Outside Advisable QC Limits

B - Analyte detected in the associated Method Blank

D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL

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Quality Control Report

EXXON Company U.S.A.

2010

Analysis: Purgeable Aromatics  
Method: SW8021B

WorkOrder: 99120614  
Lab Batch ID: R6856

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120617-02  
RunID: HP\_W\_991229A-143979 Units: ug/L  
Analysis Date: 12/29/1999 17:33 Analyst: DL

| Analyte       | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD  | RPD Limit | Low Limit | High Limit |
|---------------|---------------|----------------|-----------|---------------|-----------------|------------|----------------|------|-----------|-----------|------------|
| m-Xylene      | 0.81          | 20             | 19        | 89.0          | 20              | 20         | 94.6           | 5.99 | 17        | 53        | 144        |
| c-Xylene      | 0.86          | 10             | 9.4       | 85.7          | 10              | 9.9        | 90.4           | 5.27 | 18        | 53        | 143        |
| Xylenes,Total | 1.7           | 30             | 28.4      | 89.1          | 30              | 29.9       | 94.1           | 5.46 | 18        | 53        | 144        |

Qualifiers: ND/U - Not Detected at the Reporting Limit \* - Recovery Outside Advisable QC Limits  
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution  
J - Estimated value between MDL and PQL

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**Quality Control Report**

**EXXON Company U.S.A.**

2010

Analysis: Purgeable Aromatics  
Method: SW8021B

WorkOrder: 99120614  
Lab Batch ID: R6924

**Method Blank**

**Samples In Analytical Batch:**

RunID: HP\_R\_000103A-144734 Units: ug/L  
Analysis Date: 01/03/2000 21:48 Analyst: CJ

Lab Sample ID  
99120614-12A

Client Sample ID  
TB

| Analyte                   | Result | Rep Limit |
|---------------------------|--------|-----------|
| Benzene                   | ND     | 0.50      |
| Ethylbenzene              | ND     | 0.50      |
| Methyl tert-butyl ether   | ND     | 2.0       |
| Toluene                   | ND     | 0.50      |
| m,p-Xylene                | ND     | 0.50      |
| o-Xylene                  | ND     | 0.50      |
| Xylenes,Total             | ND     | 0.50      |
| Surr: 1,4-Difluorobenzene | 82.5   | 72-137    |
| Surr: 4-Bromoarobenzene   | 103.9  | 48-156    |

**Laboratory Control Sample (LCS)**

RunID: HP\_R\_000103A-144728 Units: ug/L  
Analysis Date: 01/03/2000 18:50 Analyst: CJ

| Analyte                 | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|-------------------------|-------------|--------|------------------|-------------|-------------|
| Benzene                 | 50          | 47     | 95               | 61          | 119         |
| Ethylbenzene            | 50          | 50     | 100              | 70          | 118         |
| Methyl tert-butyl ether | 50          | 47     | 94               | 72          | 128         |
| Toluene                 | 50          | 49     | 98               | 65          | 125         |
| m,p-Xylene              | 100         | 100    | 100              | 72          | 116         |
| o-Xylene                | 50          | 50     | 99               | 72          | 117         |
| Xylenes,Total           | 150         | 150    | 100              | 72          | 117         |

**Matrix Spike (MS) / Matrix Spike Duplicate (MSD)**

Sample Spiked: 99120633-01  
RunID: HP\_R\_000103A-144731 Units: ug/L  
Analysis Date: 01/03/2000 20:32 Analyst: CJ

| Analyte                 | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD   | RPD Limit | Low Limit | High Limit |
|-------------------------|---------------|----------------|-----------|---------------|-----------------|------------|----------------|-------|-----------|-----------|------------|
| Benzene                 | 1.5           | 20             | 23        | 109           | 20              | 23         | 110            | 0.656 | 21        | 32        | 164        |
| Ethylbenzene            | ND            | 20             | 22        | 109           | 20              | 22         | 109            | 0.191 | 19        | 52        | 142        |
| Methyl tert-butyl ether | 2.9           | 20             | 26        | 114           | 20              | 27         | 122            | 7.18  | 20        | 39        | 150        |
| Toluene                 | ND            | 20             | 22        | 112           | 20              | 22         | 111            | 0.531 | 20        | 38        | 159        |

Qualifiers: ND/U - Not Detected at the Reporting Limit

\* - Recovery Outside Advisable QC Limits

B - Analyte detected in the associated Method Blank

D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL

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1/10/00 12:59:44 PM



HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Quality Control Report

EXXON Company U.S.A.

2010

Analysis: Purgeable Aromatics  
Method: SW8021B

WorkOrder: 99120614  
Lab Batch ID: R6924

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120633-01  
RunID: HP\_R\_000103A-144731 Units: ug/L  
Analysis Date: 01/03/2000 20:32 Analyst: CJ

| Analyte       | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD   | RPD Limit | Low Limit | High Limit |
|---------------|---------------|----------------|-----------|---------------|-----------------|------------|----------------|-------|-----------|-----------|------------|
| m-Xylene      | ND            | 40             | 42        | 105           | 40              | 42         | 105            | 0.560 | 17        | 53        | 144        |
| c-Xylene      | ND            | 20             | 22        | 108           | 20              | 21         | 107            | 0.997 | 18        | 53        | 143        |
| Xylenes,Total | ND            | 60             | 64        | 107           | 60              | 63         | 105            | 1.57  | 18        | 53        | 144        |

Qualifiers: ND/U - Not Detected at the Reporting Limit \* - Recovery Outside Advisable QC Limits  
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution  
J - Estimated value between MDL and PQL



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(713) 660-0901

## Quality Control Report

### EXXON Company U.S.A.

2010

Analysis: Gasoline Range Organics WorkOrder: 99120614  
Method: CA\_GRO Lab Batch ID: R6932

| Method Blank   |                     |          | Samples In Analytical Batch: |                      |                         |  |  |  |
|----------------|---------------------|----------|------------------------------|----------------------|-------------------------|--|--|--|
| RunID:         | HP_W_991229B-144866 | Units:   | mg/L                         | <u>Lab Sample ID</u> | <u>Client Sample ID</u> |  |  |  |
| Analysis Date: | 12/29/1999 12:31    | Analyst: | DL                           | 99120614-01A         | MW-1                    |  |  |  |
|                |                     |          |                              | 99120614-02A         | MW2                     |  |  |  |
|                |                     |          |                              | 99120614-03A         | MW3                     |  |  |  |
|                |                     |          |                              | 99120614-05A         | MW6                     |  |  |  |
|                |                     |          |                              | 99120614-06A         | MW7                     |  |  |  |
|                |                     |          |                              | 99120614-07A         | MW8                     |  |  |  |
|                |                     |          |                              | 99120614-08A         | MW12                    |  |  |  |
|                |                     |          |                              | 99120614-09A         | MW13                    |  |  |  |
|                |                     |          |                              | 99120614-10A         | MW14                    |  |  |  |
|                |                     |          |                              | 99120614-11A         | MW15                    |  |  |  |
|                |                     |          |                              | 99120614-12A         | TB                      |  |  |  |

### Laboratory Control Sample (LCS)

RunID: HP\_W\_991229B-144867 Units: mg/L  
Analysis Date: 12/29/1999 16:11 Analyst: DL

| Analyte                 | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|-------------------------|-------------|--------|------------------|-------------|-------------|
| Gasoline Range Organics | 1           | 0.91   | 91               | 64          | 131         |

### Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120617-01  
RunID: HP\_W\_991229B-144869 Units: mg/L  
Analysis Date: 12/29/1999 18:27 Analyst: DL

| Analyte                 | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD  | RPD Limit | Low Limit | High Limit |
|-------------------------|---------------|----------------|-----------|---------------|-----------------|------------|----------------|------|-----------|-----------|------------|
| Gasoline Range Organics | 1.5           | 0.9            | 2.3       | 98.4          | 0.9             | 2.2        | 82.4           | 17.6 | 36        | 36        | 160        |

Qualifiers: ND/U - Not Detected at the Reporting Limit \* - Recovery Outside Advisable QC Limits

B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL



HOUSTON LABORATORY  
8680 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

Quality Control Report

EXXON Company U.S.A.

2010

Analysis: Purgeable Aromatics  
Method: SW8021B

WorkOrder: 99120614  
Lab Batch ID: R6950

Method Blank

Samples in Analytical Batch:

RunID: HP\_W\_000104A-145229 Units: ug/L  
Analysis Date: 01/04/2000 21:15 Analyst: DL

Lab Sample ID  
99120614-03A

Client Sample ID  
MW3

| Analyte                    | Result | Rep Limit |
|----------------------------|--------|-----------|
| Benzene                    | ND     | 0.50      |
| Ethylbenzene               | ND     | 0.50      |
| Methyl tert-butyl ether    | ND     | 2.0       |
| Toluene                    | ND     | 0.50      |
| m,p-Xylene                 | ND     | 0.50      |
| o-Xylene                   | ND     | 0.50      |
| Xylenes, Total             | ND     | 0.50      |
| Surr. 1,4-Difluorobenzene  | 86.6   | 72-137    |
| Surr. 4-Bromofluorobenzene | 95.2   | 48-156    |

Laboratory Control Sample (LCS)

RunID: HP\_W\_000104A-145228 Units: ug/L  
Analysis Date: 01/04/2000 20:21 Analyst: DL

| Analyte                 | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|-------------------------|-------------|--------|------------------|-------------|-------------|
| Benzene                 | 50          | 48     | 96               | 61          | 119         |
| Ethylbenzene            | 50          | 52     | 104              | 70          | 118         |
| Methyl tert-butyl ether | 50          | 56     | 113              | 72          | 128         |
| Toluene                 | 50          | 50     | 101              | 65          | 125         |
| m,p-Xylene              | 100         | 100    | 105              | 72          | 116         |
| o-Xylene                | 50          | 52     | 105              | 72          | 117         |
| Xylenes, Total          | 150         | 152    | 101              | 72          | 117         |

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 00010021-03  
RunID: HP\_W\_000104A-145234 Units: ug/L  
Analysis Date: 01/04/2000 23:05 Analyst: DL

| Analyte                 | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD    | RPD Limit | Low Limit | High Limit |
|-------------------------|---------------|----------------|-----------|---------------|-----------------|------------|----------------|--------|-----------|-----------|------------|
| Benzene                 | ND            | 20             | 20        | 97.7          | 20              | 20         | 97.7           | 0.0537 | 21        | 32        | 164        |
| Ethylbenzene            | ND            | 20             | 20        | 97.3          | 20              | 19         | 96.4           | 0.963  | 19        | 52        | 142        |
| Methyl tert-butyl ether | 3.0           | 20             | 25        | 110           | 20              | 25         | 110            | 0.340  | 20        | 39        | 150        |
| Toluene                 | ND            | 20             | 20        | 98.7          | 20              | 20         | 98.7           | 0.0547 | 20        | 38        | 159        |

Qualifiers: ND/U - Not Detected at the Reporting Limit

\* - Recovery Outside Advisable QC Limits

B - Analyte detected in the associated Method Blank

D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL

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1/10/00 12:59:45 PM



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8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

## Quality Control Report

EXXON Company U.S.A.

2010

Analysis: Purgeable Aromatics  
Method: SW8021B

WorkOrder: 99120614  
Lab Batch ID: R6950

### Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 00010021-03  
RunID: HP\_W\_000104A-145234 Units: ug/L  
Analysis Date: 01/04/2000 23:05 Analyst: DL

| Analyte        | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD  | RPD Limit | Low Limit | High Limit |
|----------------|---------------|----------------|-----------|---------------|-----------------|------------|----------------|------|-----------|-----------|------------|
| m-Xylene       | ND            | 40             | 40        | 98.6          | 40              | 39         | 97.3           | 1.36 | 17        | 53        | 144        |
| c-Xylene       | ND            | 20             | 20        | 98.0          | 20              | 19         | 96.6           | 1.43 | 18        | 53        | 143        |
| Xylenes, Total | ND            | 60             | 60        | 100           | 60              | 58         | 96.7           | 3.39 | 18        | 53        | 144        |

Qualifiers: ND/U - Not Detected at the Reporting Limit

\* - Recovery Outside Advisable QC Limits

B - Analyte detected in the associated Method Blank

D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL

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1/10/00 12:59:45 PM

*Chain of Custody*  
*And*  
*Sample Receipt Checklist*

EXXON COMPANY, USA.

99120674

CHAIN OF CUSTODY RECORD NO. 191221-A1 Page 1 of 2

Exxon Engineer: Gene Ortega Phone: (925) 246-8747  
 Consultant Co. Name: ERI Contact: Pete Petro  
 Address: 73 Digital Dr, Suite 100 Phone: (415) 382-5995  
 Novato, CA 94949 Fax: (415) 382-1856

RAS #: 7-3006 Facility/State ID # (TN Only):

AFE # (Terminal Only): Consultant Project #: 2010

Location: 720 High Street (City): Oakland (State): CA

 EE C & M SDT

Consultant Work Release #: 19908556 BTS# 991221-A1

Implied By: Blaine Tech Services, Inc./ Print Name:

| SAMPLE I.D. | DATE  | TIME | COMP. | GRAB | MATRIX           |      |     | OTHER | PRESERVATIVE | NO. OF CONTAINERS | CONTAINER SIZE | ANALYSIS REQUEST:<br>(CHECK APPROPRIATE BOX) |           |     |                           |     |             |       |          | OTHER       |                   |          |          |     |               |     |                 |          |           |      |           |       |      |                   |      |
|-------------|-------|------|-------|------|------------------|------|-----|-------|--------------|-------------------|----------------|--|-----------|-----|---------------------------|-----|-------------|-------|----------|-------------|-------------------|----------|----------|-----|---------------|-----|-----------------|----------|-----------|------|-----------|-------|------|-------------------|------|
|             |       |      |       |      | H <sub>2</sub> O | SOIL | AIR |       |              |                   |                | BTEX 8020                                    | WITH MTBE | 602 | PURGEABLE HALOCARBON 8010 | 601 | TPH/R 418.1 | O & G | IR 413.1 | GRAV. 413.2 | TPH / GC 8015 GRO | 8015 DRO | VOL 8240 | 624 | SEMI-VOL 8270 | 625 | PCB / PEST 8080 | PCB ONLY | TCLP FULL | VOAD | SEMI-VOAD | PESTO | HERB | LEAD, TOTAL 238.1 | 7421 |
| MW 1        | 12-21 | 1010 | X     |      | X                |      |     |       | HCl          | 5                 | ml             | X  |           |     |                           |     |             |       |          |             |                   |          |          |     |               |     |                 |          |           |      |           |       |      | CA                |      |
| MW 2        | 12-21 | 1055 | X     |      | X                |      |     |       |              | 5                 | ml             | X  |           |     |                           |     |             |       |          |             |                   |          |          |     |               |     |                 |          |           |      |           |       |      |                   |      |
| MW 3        | 12-21 | 1225 | X     |      | X                |      |     |       |              | 5                 | ml             | X  |           |     |                           |     |             |       |          |             |                   |          |          |     |               |     |                 |          |           |      |           |       |      |                   |      |
| MW 4        | 12-21 | 1440 | X     |      | X                |      |     |       |              | 5                 | ml             | X  |           |     |                           |     |             |       |          |             |                   |          |          |     |               |     |                 |          |           |      |           |       |      |                   |      |
| MW 6        | 12-21 | 1325 | X     |      | X                |      |     |       |              | 5                 | ml             | X  |           |     |                           |     |             |       |          |             |                   |          |          |     |               |     |                 |          |           |      |           |       |      |                   |      |
| MW 7        | 12-21 | 1200 | X     |      | X                |      |     |       |              | 5                 | ml             | X  |           |     |                           |     |             |       |          |             |                   |          |          |     |               |     |                 |          |           |      |           |       |      |                   |      |
| MW 8        | 12-21 | 1440 | X     |      | X                |      |     |       |              | 5                 | ml             | X  |           |     |                           |     |             |       |          |             |                   |          |          |     |               |     |                 |          |           |      |           |       |      |                   |      |
| MW 12       | 12-21 | 1505 | X     |      | X                |      |     |       |              | 5                 | ml             | X  |           |     |                           |     |             |       |          |             |                   |          |          |     |               |     |                 |          |           |      |           |       |      |                   |      |
| MW 13       | 12-21 | 1255 | X     |      | X                |      |     |       |              | 5                 | ml             | X  |           |     |                           |     |             |       |          |             |                   |          |          |     |               |     |                 |          |           |      |           |       |      |                   |      |
| MW 14       | 12-21 | 1030 | X     |      | X                |      |     |       |              | 5                 | ml             | X  |           |     |                           |     |             |       |          |             |                   |          |          |     |               |     |                 |          |           |      |           |       |      |                   |      |

## SPECIAL DETECTION LIMITS (Specify)

## REMARKS:

## SPECIAL REPORTING REQUIREMENTS (Specify)

LAB USE ONLY

LOT #

Storage Location

24 HR. \* 72 HR. \*

48 HR. \* 96 HR. \*

Standard  \* Contact US Prior

Other to Sending Sample

## QA/QC Level

Standard  CLP  Other 

Relinquished By Sampler:

Relinquished By Sampler:

Relinquished By Sampler:

Oscar Augujo

Date 12/21/99 Time 1700

Date Received By:

Date Received By:

Received By Laboratory:

WORK ORDER # 99120614

LAB WORK RELEASE #:

Date Received By:

Date Received By:

Received By Laboratory:

Date Received By:

Date Received By:

Received By Laboratory:

Cooler Temp:

3C

CUSTODY  
RECORD

**TEXON COMPANY, USA.**

CHAIN OF CUSTODY RECORD NO. 10-12345 Page 1 of 2

|                      |                          |          |                |
|----------------------|--------------------------|----------|----------------|
| Exxon Engineer:      | Gene Ortega              | Phone:   | (925) 246-8747 |
| Consultant Co. Name: | ERI                      | Contact: | Pete Petro     |
| Address:             | 73 Digital Dr, Suite 100 | Phone:   | (415) 382-5995 |
|                      | Novato, CA 94949         | Fax:     | (415) 382-1856 |

RAS #: 7-3006 Facility/State ID # (TN Only): \_\_\_\_\_

**AE # (Terminal Only):** **Consultant Project #:** **2010**

Location: 720 High Street (City): Oakland (State): CA

EEE       C & M       SDT

Consultant Work Release #: 19908556 BTS# 991221-41

Employed By: Blaine Tech Services, Inc./ Print Name:

24 HR.  \* 72 HR.  \*  
 48 HR.  \* 96 HR.  \*  
 Standard  \* Contact USP  
 Other  to Sending Sam

EXXON UST  
CONTRACT NO.

**SPECIAL DETECTION LIMITS (Specify)**

**REMARKS:**

814372953313

**QA/QC Level**

**SPECIAL REPORTING REQUIREMENTS (Specify)**

**LAB USE ONLY**      **LOT #**      **Storage Location**

FAX C-O-C W / REPORT

WORK ORDER #: 1401 WORK RELEASE #: 1401

|                           |                          |                      |                         |                     |  |
|---------------------------|--------------------------|----------------------|-------------------------|---------------------|--|
| <b>CUSTODY<br/>RECORD</b> | Relinquished By Sampler: | <i>Oscar Augusto</i> | Date<br><i>12/21/99</i> | Time<br><i>1700</i> | Received By:   |
|                           | Relinquished By Sampler: |                      | Date                    | Time                | Received By:   |
|                           | Relinquished By Sampler: |                      | Date                    | Time                | Received By Laboratory:<br>Way Bill #:<br>Cooler Temp: |



HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
(713) 660-0901

### Sample Receipt Checklist

Workorder: 99120614

Received by:

Estrada, Ruben

Date and Time Received: 12/28/99 10:00:00 AM

Carrier name:

FedEx

Temperature: 3

|   |   |  |             |                                     |
|---|---|--|-------------|-------------------------------------|
| Shipping container/cooler in good condition?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present | <input type="checkbox"/>            |
| Custody seals intact on shipping container/cooler?      | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present | <input checked="" type="checkbox"/> |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present | <input checked="" type="checkbox"/> |
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |             |                                     |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |             |                                     |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |             |                                     |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |             |                                     |
| Sample containers intact?                               | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |             |                                     |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |             |                                     |
| All samples received within holding time?               | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |             |                                     |
| Container/Temp Blank temperature in compliance?         | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |             |                                     |
| Water - VOA vials have zero headspace?                  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present | <input type="checkbox"/>            |
| Water - pH acceptable upon receipt?                     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |             |                                     |

**ATTACHMENT C**

**ERI SOP-25 "HYDROCARBONS REMOVED  
FROM A VADOSE WELL"**

**HYDROCARBONS REMOVED  
FROM A VACUUM WELL**  
**SOP-25**

Rev. JG/C

Rev. 4/29/97

**POUNDS OF HYDROCARBON IN AN VAPOR  
STREAM**

**INPUT DATA:**

- 1) Vapor flow rate acfm (usually by Pitot tube)
- 2) Vapor pressure at the flow measuring device (in inches of H<sub>2</sub>O) (use {-} for vacuum)
- 3) Vapor temperature at the flow measuring device.
- 4) Hydrocarbon content of vapor (usually in mg/M<sup>3</sup>) for ppmv you need molecular weight.
- 5) Length of time (usually hours) over which flow rate occurred)

From periodic measurements, a calculation of total pounds of hydrocarbons removed from a well or from a system are calculated. The input data listed above are measured at a point in time. To calculate quantities removed, some assumptions must be made about what was happening between measurements.

The following assumptions will be used for the sake of consistency:

**ASSUMPTIONS:**

- 1) Vapor flow for the period equals the average of the initial and final reading for the period.
- 2) Pressure and temperature for the entire period will be the final reading.
- 3) Hydrocarbon concentration for the period equals the average of the initial and final reading.
- 4) The hours of operation can be taken from an hour meter, an electric meter or will be assumed to be equal to the time between measurements.
- 5) If the unit is found down - try to determine how many hours it did operate and use the data taken for the previous period to make the calculations. Restart the unit and then take data to start the next period.

**SAMPLE DATA AND CALCULATIONS**

| Date   | Time  | Temp<br>deg F | Press<br>in H <sub>2</sub> O | HC conc<br>mg/M <sup>3</sup> acfm | Vapor flow<br>lb. rem. | Calc. |
|--------|-------|---------------|------------------------------|-----------------------------------|------------------------|-------|
| 1/6/95 | 11:00 | 70            | -46                          | 2000                              | 120                    |       |
| 1/7/95 | 13:00 | 55            | -50                          | 1350                              | 90                     |       |
| 1/8/95 | 10:00 | 80            | -13                          | 750                               | 100                    | 7.4   |

Calculate the pounds of hydrocarbon removed from the system during the basis period from 13:00 (1:00 pm) on the 7th to 10 am on the 8th. Pressure and temperature of the measurements (at the flow meter) must be corrected to the P and T used to report the HC concentration (which are P = 1 atm and T = 70 deg F). 1 atm = 14.7 psia, 760 mm Hg, or 407 in H<sub>2</sub>O. T<sub>abs</sub> = 460 + T deg F

Hours of operation = 21, T = 80, P = -13, HC = (1350+750)/2 = 1050 mg/M<sup>3</sup>. Flow = 95

$$21 \times 60 \times 95 \times \frac{(460+70)}{(460+80)} \times \frac{(407-13)}{407} \times \frac{28.3}{1000} \times \frac{1050}{1000} \times \frac{1}{454} = 7.4 \text{ lb}$$

$$\begin{array}{ccccccccc} \text{hr} & \text{min} & \text{cu ft} & & \text{M}^3 & \text{g} & \text{lb} & \text{lb} \\ \hline \text{basis} & \times \text{---} & \times \text{---} & \times & \text{x} & \text{x} & \text{x} & \text{basis} \\ \text{hr} & \text{min} & & & \text{cu ft} & \text{M}^3 & \text{g} & \end{array}$$

$$21 \times 60 \times 95 \times 0.98 \times 0.97 \times 0.0283 \times 1.050 \times 1/454 = 7.4 \text{ lb.}$$

cumulative lbs. (the running total) = the sum of all the previous periods.

Note: If results are given in ppm, an assumption about the molecular weight of the hydrocarbon must be made to get mg/M<sup>3</sup>. ppmv x molecular wt. /24.1 = mg/M<sup>3</sup>. (Use 102 for gasoline)

Attachments:

Table 1: Cumulative Groundwater Monitoring and Sampling Data

Table 2: Cumulative Hydrocarbon Removal and Emissions for Soil Vapor Extraction System

Table 3: Operation and Performance Data for Groundwater Remediation System

Plate 1: Site Vicinity Map

Plate 2: Generalized Site Plan

Attachment A: Groundwater Sampling Protocol

Attachment B: Laboratory Analysis Report and Chain of Custody Record

Attachment C: ERI SOP-25 "Hydrocarbons Removed from a Vadose Well"

**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 1 of 15)

| Well ID #<br>(TOC) | Sampling<br>Date | SUBJ | DTW<br><.....feet.....> | Elev.<br><.....> | TEPHd | TPPHg | MTBE | B    | T<br>ug/l..... | E    | X    | VOCs | EHCss | TOG |
|--------------------|------------------|------|-------------------------|------------------|-------|-------|------|------|----------------|------|------|------|-------|-----|
| MW1                | 1/20/94          | NLPH | 9.25                    | 3.62             | ---   | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
| (12.87)            | 02/02-03/94      | NLPH | 8.60                    | 4.27             | 70    | <50   | ---  | <0.5 | <0.5           | <0.5 | 0.7  | ---  | ---   | --- |
|                    | 3/10/94          | NLPH | 8.31                    | 4.56             | ---   | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 4/22/94          | NLPH | 7.95                    | 4.92             | ---   | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 05/10-11/94      | NLPH | 7.48                    | 5.39             | 100   | <50   | ---  | <0.5 | <0.5           | <0.5 | 1.6  | ---  | ---   | --- |
|                    | 6/27/94          | NLPH | 7.65                    | 5.22             | ---   | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 8/31/94          | NLPH | 9.39                    | 3.48             | ---   | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 9/29/94          | NLPH | 9.83                    | 3.04             | <50   | <50   | ---  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 10/25/94         | NLPH | 10.19                   | 2.68             | ---   | <50   | <50  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 11/30/94         | NLPH | 8.97                    | 3.90             | ---   | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 12/27/94         | NLPH | 7.44                    | 5.43             | ---   | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 2/6/95           | NLPH | 5.71                    | 7.16             | ---   | <50   | 100  | 0.52 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 6/7/95           | NLPH | 7.62                    | 5.25             | 81    | <50   | 3.5  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 9/18/95          | NLPH | 10.02                   | 2.85             | 82    | <50   | 6    | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 11/1/95          | NLPH | 10.74                   | 2.13             | 160   | <50   | 8.9  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 2/14/96          | NLPH | 7.81                    | 5.06             | 100   | <50   | 7.8  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 6/19/96          | NLPH | 7.47                    | 5.40             | 93    | <50   | 7.1  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | <50 |
|                    | 9/24/96          | NLPH | 10.42                   | 2.45             | 83    | <50   | 9.5  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 12/11/96         | NLPH | 8.50                    | 4.37             | 81    | <50   | 7.2  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 3/19/97          | NLPH | 9.14                    | 3.73             | 78    | <50   | 6.4  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 6/4/97           | NLPH | 9.82                    | 3.05             | 58    | <50   | 6.0  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 9/2/97           | NLPH | 10.26                   | 2.61             | 150   | <50   | 5.4  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 12/2/97          | NLPH | 9.32                    | 3.55             | 88    | <50   | 5.1  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 3/24/98          | NLPH | 6.44                    | 6.43             | 58    | <50   | 5.6  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 6/23/98          | NLPH | 9.23                    | 3.64             | 84    | <50   | 3.8  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 9/29/98          | NLPH | 9.91                    | 2.96             | 61    | <50   | 2.6  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 12/30/98         | NLPH | 9.21                    | 3.66             | 80    | <50   | 4.1  | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 3/24/99          | NLPH | 5.53                    | 7.34             | 64.3  | <50   | 4.95 | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 6/22/99          | NLPH | 7.39                    | 5.48             | 83.5  | <50   | 3.70 | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 9/29/99          | NLPH | 8.90                    | 3.97             | 52.9  | <50   | 4.81 | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |
|                    | 12/21/99         | NLPH | 8.94                    | 3.93             | 60    | <50   | 10   | <0.5 | <0.5           | <0.5 | <0.5 | ---  | ---   | --- |

**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 2 of 15)

| Well ID #<br>(TOC) | Sampling<br>Date | SUBJ     | DTW              | Elev.  | TEPHd              | TPPHg  | MTBE | B     | T         | E    | X     | VOCs | EHCss | TOG |
|--------------------|------------------|----------|------------------|--------|--------------------|--------|------|-------|-----------|------|-------|------|-------|-----|
|                    |                  |          | <.....feet.....> | <..... |                    |        |      |       | ug/l..... |      |       |      |       | >   |
| MW2                | 1/20/94          | -- [NR]  | --               | --     | --                 | --     | --   | --    | --        | --   | --    | --   | --    | --  |
| (12.98)            | 02/02-03/94      | --- [NR] | ---              | ---    | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 3/10/94          | [8 c.]   | 6.96             | 6.02   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 4/22/94          | [10 c.]  | ---              | ---    | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 05/10-11/94      | [5 c.]   | ---              | ---    | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 6/27/94          | Sheen    | 7.10             | 5.88   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 8/31/94          | Sheen    | 8.58             | 4.40   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 9/29/94          | Sheen    | 9.11             | 3.87   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 10/25/94         | Sheen    | 7.76             | 5.22   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 11/30/94         | ---      | 7.33             | 5.65   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 12/27/94         | Sheen    | 6.77             | 6.21   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 2/6/95           | Sheen    | 5.00             | 7.98   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 6/7/95           | Sheen    | 7.14             | 5.84   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 9/18/95          | Sheen    | 10.82            | 2.16   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 11/1/95          | Sheen    | 11.65            | 1.33   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 2/14/96          | Sheen    | 8.39             | 4.59   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 6/19/96          | Sheen    | 6.55             | 6.43   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 9/24/96          | Sheen    | 11.56            | 1.42   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 12/11/96         | Sheen    | 8.02             | 4.96   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 3/19/97          | Sheen    | 8.63             | 4.35   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 6/4/97           | Sheen    | 10.57            | 2.41   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 9/2/97           | Sheen    | 11.51            | 1.47   | ---                | ---    | ---  | ---   | ---       | ---  | ---   | ---  | ---   | --- |
|                    | 12/2/97          | NLPH     | 11.24            | 1.74   | 820                | 1,400  | 57   | 15    | 2.8       | 8.6  | <2.5  | ---  | ---   | --- |
|                    | 3/27/98          | NLPH     | 6.06             | 6.92   | 2,000              | 7,400  | <50  | 1,400 | 350       | 490  | 1,500 | ---  | ---   | --- |
|                    | 6/23/98          | Sheen    | 11.06            | 1.92   | 2,900              | 180    | 9.5  | 3.2   | 0.55      | 0.92 | 1.3   | ---  | ---   | --- |
|                    | 9/29/98          | NLPH     | 10.51            | 2.47   | 180                | 290    | 9.3  | <0.50 | 0.65      | 1.5  | 1.5   | ---  | ---   | --- |
|                    | 12/30/98         | NLPH     | 9.83             | 3.15   | 700                | 520    | 16   | 17    | 0.96      | 2.6  | 3.5   | ---  | ---   | --- |
|                    | 3/24/99          | NLPH     | 4.47             | 8.51   | 1,440              | 14,000 | <40  | 1,300 | 336       | 786  | 3,420 | ---  | ---   | --- |
|                    | 6/22/99          | NLPH     | 6.42             | 6.56   | 2,310              | 1,080  | 25.2 | 54.3  | 14.9      | 38.8 | 107   | ---  | ---   | --- |
|                    | 9/29/99          | NLPH     | 8.00             | 4.98   | 2,720 <sup>f</sup> | 517    | 15.4 | 37.5  | 7.48      | 12.9 | 15.2  | ---  | ---   | --- |
|                    | 12/21/99         | NLPH     | 8.10             | 4.83   | 6,300              | 3,200  | <2   | 360   | 5.5       | 120  | 106   | ---  | ---   | --- |

**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
**Former Exxon Service Station 7-3006**  
**720 High Street**  
**Oakland, California**  
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**TABLE I**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 4 of 15)

| Well ID #<br>(TOC) | Sampling<br>Date       | SUBJ                   | DTW   | Elev. | TEPHd              | TPPHg            | MTBE | B    | T<br>ug/l..... | E    | X    | VOCs | EHCss | TOG |
|--------------------|------------------------|------------------------|-------|-------|--------------------|------------------|------|------|----------------|------|------|------|-------|-----|
| MW4<br>(12.77)     | 1/20/94<br>02/02-03/94 | --- [NR]<br>--- [1 c.] | ---   | ---   | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 3/10/94                | [8 c.]                 | 7.12  | 5.65  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 4/22/94                | [10 c.]                | ---   | ---   | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 05/10-11/94            | [5 c.]                 | ---   | ---   | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 6/27/94                | 0.01 [NR]              | 6.50  | 6.27  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 8/31/94                | 0.02 [NR]              | 7.84  | 4.93  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 9/29/94                | 0.03 [NR]              | 8.43  | 4.34  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 10/25/94               | Sheen                  | 9.24  | 3.53  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 11/30/94               | ---                    | 6.77  | 6.00  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 12/27/94               | Sheen                  | 6.14  | 6.63  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 2/6/95                 | Sheen                  | 4.87  | 7.90  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 6/7/95                 | Sheen                  | 6.91  | 5.86  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 9/18/95                | Sheen                  | 9.59  | 3.18  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 11/1/95                | Sheen                  | 11.52 | 1.25  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 2/14/96                | Sheen                  | 8.56  | 4.21  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 6/19/96                | Sheen                  | 6.09  | 6.68  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 9/24/96                | Sheen                  | 10.20 | 2.57  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 12/11/96               | Sheen                  | 7.78  | 4.99  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 3/19/97                | Sheen                  | 8.56  | 4.21  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 6/4/97                 | Sheen                  | 9.31  | 3.46  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 9/2/97                 | Sheen                  | 10.00 | 2.77  | ---                | ---              | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 12/2/97                | NLPH                   | 8.72  | 4.05  | 15,000             | 1,500            | 50   | <2.5 | 9.7            | 3.0  | 10   | ---  | ---   | --- |
|                    | 3/24/98                | NLPH                   | 5.79  | 6.98  | 6,400              | 540              | 38   | <0.5 | 4.4            | 1.6  | 5.4  | ---  | ---   | --- |
|                    | 6/23/98                | Sheen                  | 8.50  | 4.27  | 7,500              | 1,000            | 25   | 3.3  | <2.0           | <2.0 | <2.0 | ---  | ---   | --- |
|                    | 9/29/98                | Sheen                  | 9.77  | 3.00  | 65,000             | 7,300            | <50  | <10  | <10            | <10  | <10  | ---  | ---   | --- |
|                    | 12/30/98               | Sheen                  | 8.54  | 4.23  | 12,000             | 1,000            | 170  | 3.8  | 5.1            | <2.5 | 4.1  | ---  | ---   | --- |
|                    | 3/24/99                | Sheen                  | 4.41  | 8.36  | 20,500             | 1,300            | 4.40 | 2.64 | <1.0           | <1.0 | <1.0 | ---  | ---   | --- |
|                    | 6/22/99                | NLPH                   | 5.71  | 7.06  | 9,760              | 1,470            | <10  | 404  | <2.5           | <2.5 | <2.5 | ---  | ---   | --- |
|                    | 9/29/99                | NLPH                   | 7.32  | 5.45  | 2,470 <sup>b</sup> | 589 <sup>c</sup> | 8.12 | 12.6 | <1.0           | <1.0 | <1.0 | ---  | ---   | --- |
|                    | 12/21/99               | NLPH                   | 7.58  | 5.19  | 230,000            | 2,000            | <2   | <0.5 | 0.56           | 1.9  | 18.6 | ---  | ---   | --- |
|                    | 1/26/00                | NLPH                   | 5.85  | 6.92  | 3,200 <sup>b</sup> | --               | --   | --   | --             | --   | --   | ---  | ---   | --- |

**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
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| Well ID #<br>(TOC) | Sampling<br>Date | SUBJ           | DTW   | Elev. | TEPHd              | TPPHg              | MTBE | B     | T    | E     | X     | VOCs | EHCss | TOG |
|--------------------|------------------|----------------|-------|-------|--------------------|--------------------|------|-------|------|-------|-------|------|-------|-----|
| MW5                | 7/18/89          | Well Destroyed |       |       |                    |                    |      |       |      |       |       |      |       |     |
| MW6                | 1/20/94          | --- [NR]       | ---   | ---   | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
| (14.27)            | 02/02-03/94      | --- [NR]       | ---   | ---   | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 3/10/94          | [¼ c.]         | 7.82  | 6.45  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 4/22/94          | [10 c.]        | ---   | ---   | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 05/10-11/94      | [3 c.]         | ---   | ---   | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 6/27/94          | Sheen          | 7.77  | 6.50  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 8/31/94          | Sheen          | 9.02  | 5.25  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 9/29/94          | Sheen          | 9.51  | 4.76  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 10/25/94         | Sheen          | 9.93  | 4.34  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 11/30/94         | ---            | 8.05  | 6.22  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 12/27/94         | ---            | 7.54  | 6.73  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 2/6/95           | Sheen          | 5.86  | 8.41  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 6/7/95           | Sheen          | 8.07  | 6.20  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 9/18/95          | Sheen          | 10.54 | 3.73  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 11/1/95          | Sheen          | 11.41 | 2.86  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 2/14/96          | Sheen          | 9.17  | 5.10  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 6/19/96          | Sheen          | 7.13  | 7.14  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 9/24/96          | Sheen          | 11.24 | 3.03  | ---                | ---                | ---  | ---   | ---  | ---   | ---   | ---  | ---   | --- |
|                    | 12/11/96         | NLPH           | 9.20  | 5.07  | 2,900              | 9,100              | <100 | 2,100 | 22   | 160   | 260   | ---  | ---   | --- |
|                    | 3/19/97          | NLPH           | 10.14 | 4.13  | 3,800              | 24,000             | 250  | 5,800 | 91   | 1,300 | 1,900 | ---  | ---   | --- |
|                    | 6/4/97           | NLPH           | 10.58 | 3.69  | 3,300              | 20,000             | 270  | 4,400 | <50  | 540   | 480   | ---  | ---   | --- |
|                    | 9/2/97           | NLPH           | 11.02 | 3.25  | 2,100              | 8,100              | <25  | 1,800 | <25  | 140   | 170   | ---  | ---   | --- |
|                    | 12/2/97          | NLPH           | 10.45 | 3.82  | 2,300              | 6,800              | <100 | 1,100 | <20  | 77    | 74    | ---  | ---   | --- |
|                    | 3/24/98          | NLPH           | 7.09  | 7.18  | 3,800              | 20,000             | <250 | 4,300 | <50  | 2,200 | 1,500 | ---  | ---   | --- |
|                    | 6/23/98          | Sheen          | 9.79  | 4.48  | 4,100              | 19,000             | <500 | 3,400 | <100 | 1,800 | 1,100 | ---  | ---   | --- |
|                    | 9/29/98          | NLPH           | 10.56 | 3.71  | 2,300              | 8,600              | <100 | 2,100 | 25   | 300   | 260   | ---  | ---   | --- |
|                    | 12/30/98         | NLPH           | 9.97  | 4.30  | 2,700              | 6,800              | <125 | 1,600 | <25  | 84    | 200   | ---  | ---   | --- |
|                    | 3/24/99          | Sheen          | 5.02  | 9.25  | 2,670              | 12,600             | <20  | 3,380 | 16.5 | 221   | 190   | ---  | ---   | --- |
|                    | 6/22/99          | NLPH           | 6.91  | 7.36  | 5,670              | 6,720              | <40  | 2,400 | <10  | 767   | 14.4  | ---  | ---   | --- |
|                    | 9/29/99          | NLPH           | 8.66  | 5.61  | 1,370 <sup>a</sup> | 6,310 <sup>d</sup> | <250 | <25   | <25  | 133   | <25   | ---  | ---   | --- |
|                    | 12/21/99         | NLPH           | 8.57  | 5.70  | 2,300              | 3,800              | 12   | 890   | 3.3  | 94    | 95    | ---  | ---   | --- |

**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
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| Well ID #<br>(TOC) | Sampling<br>Date | SUBJ  | DTW              | Elev.   | TEPHd  | TPPHg  | MTBE | B    | T         | E    | X    | VOCs | EHCss | TOG   |
|--------------------|------------------|-------|------------------|---------|--------|--------|------|------|-----------|------|------|------|-------|-------|
|                    |                  |       | <.....feet.....> | <.....> |        |        |      |      | ug/l..... |      |      |      |       | >     |
| MW7                | 1/20/94          | NLPH  | 8.67             | 6.17    | ---    | ---    | ---  | ---  | ---       | ---  | ---  | ---  | ---   | ---   |
| (14.84)            | 02/02-03/94      | NLPH  | 8.47             | 6.37    | 1,300  | 2,900  | ---  | 79   | 5         | 8.2  | 21   | ---  | ---   | 4,701 |
|                    | 3/10/94          | NLPH  | 8.24             | 6.60    | ---    | ---    | ---  | ---  | ---       | ---  | ---  | ---  | ---   | ---   |
|                    | 4/22/94          | NLPH  | 7.95             | 6.89    | ---    | ---    | ---  | ---  | ---       | ---  | ---  | ---  | ---   | ---   |
|                    | 05/10-11/94      | NLPH  | 7.53             | 7.31    | 1,300  | 2,400  | ---  | 88   | 5.6       | 5.2  | 15   | ---  | ---   | 1,400 |
|                    | 6/27/94          | NLPH  | 8.01             | 6.83    | ---    | ---    | ---  | ---  | ---       | ---  | ---  | ---  | ---   | ---   |
|                    | 8/31/94          | NLPH  | 9.19             | 5.65    | ---    | ---    | ---  | ---  | ---       | ---  | ---  | ---  | ---   | ---   |
|                    | 9/29/94          | NLPH  | 9.65             | 5.19    | 56     | 1,900  | ---  | 71   | 3.1       | 3.5  | 7.8  | ---  | ---   | ---   |
|                    | 10/25/94         | NLPH  | 9.96             | 4.88    | 89     | 1,400  | ---  | 51   | 1.5       | 24   | 6.8  | ---  | ---   | ---   |
|                    | 11/30/94         | ---   | 7.78             | 7.06    | ---    | ---    | ---  | ---  | ---       | ---  | ---  | ---  | ---   | ---   |
|                    | 12/27/94         | ---   | 7.51             | 7.33    | ---    | ---    | ---  | ---  | ---       | ---  | ---  | ---  | ---   | ---   |
|                    | 2/6/95           | NLPH  | 5.79             | 9.05    | 1,300  | 2,500  | ---  | 130  | <10       | <10  | <10  | ND   | 1,100 | ---   |
|                    | 6/7/95           | NLPH  | 7.73             | 7.11    | 1,200  | 2,400  | 39   | 91   | 5         | 7.6  | 14   | ---  | 1,000 | ---   |
|                    | 9/18/95          | NLPH  | 9.81             | 5.03    | 1,100  | 1,800  | <25  | 17   | <5.0      | <5.0 | <5.0 | ---  | 870   | ---   |
|                    | 11/1/95          | NLPH  | 10.56            | 4.28    | 1,700  | 3,000  | <13  | 2.7  | 11        | 25   | <2.5 | ---  | 1,400 | ---   |
|                    | 2/14/96          | NLPH  | 8.04             | 6.80    | 1,200  | 1,900  | <25  | 59   | <5.0      | <5.0 | <5.0 | ---  | 940   | ---   |
|                    | 6/19/96          | NLPH  | 7.33             | 7.51    | 1,400  | 2,000  | <25  | 96   | <5.0      | <5.0 | 5.6  | ND   | 1,000 | ---   |
|                    | 9/24/96          | NLPH  | 10.10            | 4.74    | 1,100  | 950    | <25  | 6.8  | <5.0      | <5.0 | <5.0 | ND   | 910   | ---   |
|                    | 12/11/96         | NLPH  | 8.50             | 6.34    | 1,600  | 2,500  | <10  | 50   | <2.0      | 6.4  | 30   | ND   | 1,100 | ---   |
|                    | 3/19/97          | NLPH  | 8.88             | 5.96    | 840    | 2,700  | <25  | 61   | 8.0       | 21   | 68   | ND   | 580   | ---   |
|                    | 6/4/97           | NLPH  | 9.38             | 5.46    | 1,000  | 1,900  | <2.5 | 45   | <2.0      | 5.3  | 13   | ND   | 780   | ---   |
|                    | 9/2/97           | NLPH  | 9.69             | 5.15    | 790    | 1,700  | <2.5 | 28   | 2.2       | <2.0 | 5.9  | ND   | 740   | ---   |
|                    | 12/2/97          | NLPH  | 8.65             | 6.19    | 1,100  | 2,000  | 14   | 33   | 2.2       | 2.0  | 5.8  | ---  | ---   | ---   |
|                    | 3/24/98          | NLPH  | 6.40             | 8.44    | 950    | 2,300  | <25  | 73   | <5.0      | <5.0 | 22   | ---  | ---   | ---   |
|                    | 6/23/98          | NLPH  | 8.34             | 6.50    | 1,600  | 4,700  | 140  | 50   | <5.0      | 12   | 20   | ---  | ---   | ---   |
|                    | 9/29/98          | NLPH  | 9.76             | 5.08    | 630    | 700    | <5.0 | 2.7  | 1.3       | 2.4  | 5.3  | ---  | ---   | ---   |
|                    | 12/30/98         | NLPH  | 8.86             | 5.98    | 1,700  | 1,400  | <5.0 | 17   | 7.7       | 2.8  | 16   | ---  | ---   | ---   |
|                    | 3/24/99          | Sheen | 5.48             | 9.36    | 860    | 1,740  | 6.73 | 59.2 | 2.76      | 4.33 | 15.1 | ---  | ---   | ---   |
|                    | 6/22/99          | NLPH  | 6.54             | 8.30    | 5,330  | 3,250  | <4.0 | 59.5 | 3.96      | 2.89 | 6.38 | ---  | ---   | ---   |
|                    | 9/29/99          | NLPH  | 8.45             | 6.39    | 1,750* | 1,360° | <25  | 3.07 | <2.5      | 5.02 | 6.32 | ---  | ---   | ---   |
|                    | 12/21/99         | NLPH  | 8.39             | 6.45    | 4,600  | 2,900  | <2   | 47   | 2         | 1.7  | 8.53 | ---  | ---   | ---   |

**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
 Former Exxon Service Station 7-3006  
 720 High Street  
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| Well ID #<br>(TOC) | Sampling<br>Date | SUBJ  | DTW              | Elev.   | TEPHd              | TPPHg  | MTBE | B         | T    | E    | X    | VOCs | EHCss | TOG |
|--------------------|------------------|-------|------------------|---------|--------------------|--------|------|-----------|------|------|------|------|-------|-----|
|                    |                  |       | <.....feet.....> | <.....> |                    |        |      | ug/l..... |      |      |      |      |       |     |
| MW8                | 1/20/94          | Sheen | 8.90             | 4.55    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
| (13.45)            | 02/02-03/94      | Sheen | 8.58             | 4.87    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 3/10/94          | Sheen | 7.16             | 6.29    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 4/22/94          | Sheen | 7.34             | 6.11    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 05/10-11/94      | Sheen | 7.04             | 6.41    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 6/27/94          | Sheen | 6.01             | 7.44    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 8/31/94          | Sheen | 9.26             | 4.19    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 9/29/94          | Sheen | 9.76             | 3.69    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 10/25/94         | Sheen | 10.05            | 3.40    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 11/30/94         | —     | 7.68             | 5.77    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 12/27/94         | Sheen | 7.11             | 6.34    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 2/6/95           | Sheen | 5.39             | 8.06    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 6/7/95           | Sheen | 7.53             | 5.92    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 9/18/95          | Sheen | 9.84             | 3.61    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 11/1/95          | Sheen | 10.47            | 2.98    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 2/14/96          | Sheen | 8.27             | 5.18    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 6/19/96          | Sheen | 6.88             | 6.57    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 9/24/96          | Sheen | 10.13            | 3.32    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 12/11/96         | Sheen | 8.53             | 4.92    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 3/19/97          | Sheen | 9.09             | 4.36    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 6/4/97           | Sheen | 9.52             | 3.93    | --                 | --     | --   | --        | --   | --   | --   | --   | --    | --  |
|                    | 9/2/97           | NLPH  | 9.72             | 3.73    | 8,000              | 20,000 | <50  | 57        | <50  | 850  | 660  | ND   | --    | --  |
|                    | 12/2/97          | NLPH  | 8.83             | 4.62    | 2,700              | 6,900  | 130  | 83        | <10  | <10  | 100  | --   | --    | --  |
|                    | 3/24/98          | NLPH  | 6.52             | 6.93    | 2,900              | 10,000 | <125 | 190       | <25  | 470  | 330  | --   | --    | --  |
|                    | 6/23/98          | NLPH  | 9.02             | 4.43    | 3,700              | 10,000 | <50  | 140       | <10  | 460  | 260  | --   | --    | --  |
|                    | 9/29/98          | NLPH  | 9.72             | 3.73    | 3,600              | 12,000 | 130  | 46        | <10  | 340  | 190  | --   | --    | --  |
|                    | 12/30/98         | NLPH  | 9.06             | 4.39    | 3,000              | 11,000 | 140  | 170       | <25  | 230  | 160  | --   | --    | --  |
|                    | 3/24/99          | Sheen | 5.21             | 8.24    | 2,250              | 13,000 | 22.6 | 336       | 53.2 | 415  | 326  | --   | --    | --  |
|                    | 6/22/99          | Sheen | 6.51             | 6.94    | 4,010              | 13,000 | 64.9 | 174       | <5.0 | 186  | 13.1 | --   | --    | --  |
|                    | 9/29/99          | NLPH  | 8.22             | 5.23    | 2,170 <sup>#</sup> | 5,420  | <25  | 20.4      | <5.0 | <5.0 | 38.5 | --   | --    | --  |
|                    | 12/21/99         | NLPH  | 8.41             | 5.04    | 2,100              | 4,700  | <2   | 190       | 15   | 160  | 68.2 | --   | --    | --  |

**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
**Former Exxon Service Station 7-3006**  
**720 High Street**  
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**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
**Former Exxon Service Station 7-3006**  
**720 High Street**  
**Oakland, California**  
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**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
**Former Exxon Service Station 7-3006**  
**720 High Street**  
**Oakland, California**  
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**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 11 of 15)

| Well ID #<br>(TOC) | Sampling<br>Date  | SUBJ   | DTW   | Elev.  | TEPHd | TPPHg                   | MTBE          | B                      | T                     | E                     | X                     | VOCs | EHCss | TOG |     |     |
|--------------------|---|--|---|--|-------|-------------------------|---------------|------------------------|-----------------------|-----------------------|-----------------------|------|-------|-----|-----|-----|
|                    |   | <.....feet.....>   |   | <.....>  |       |                         |               | ug/l                   |                       |                       |                       |      |       |     |     |     |
| MW12<br>(12.61)    | 1/20/94<br>02/02-03/94<br>3/10/94<br>4/22/94<br>05/10-11/94<br>6/27/94<br>8/31/94<br>9/29/94<br>10/25/94<br>11/30/94<br>12/30/94<br>2/6/95<br>6/7/95<br>9/18/95<br>11/1/95<br>2/14/96<br>6/19/96<br>9/24/96<br>12/11/96<br>3/19/97<br>6/4/97<br>9/2/97<br>12/2/97<br>3/24/98<br>6/23/98<br>9/29/98<br>12/30/98<br>3/24/99<br>6/22/99<br>9/29/99<br>12/21/99 | NLPH<br>NLPH<br>NLPH<br>NLPH<br>NLPH<br>NLPH<br>NLPH<br>Sheen<br>Sheen<br>---<br>NLPH<br>Sheen<br>Sheen<br>Sheen<br>Sheen<br>Sheen<br>Sheen<br>Sheen<br>Sheen<br>Sheen<br>Sheen<br>Sheen<br>Sheen<br>Sheen<br>NLPH<br>NLPH<br>Sheen<br>Sheen<br>Sheen<br>Sheen<br>Sheen<br>Sheen<br>NLPH<br>NLPH | 7.81<br>7.22<br>6.16<br>6.31<br>6.16<br>6.55<br>7.97<br>8.52<br>8.74<br>8.73<br>6.17<br>4.44<br>6.59<br>8.96<br>10.75<br>7.73<br>5.80<br>9.14<br>7.31<br>9.96<br>8.81<br>8.93<br>8.41<br>5.37<br>8.43<br>8.94<br>8.47<br>3.71<br>4.91<br>7.41<br>7.46 | 4.80<br>5.39<br>6.45<br>6.30<br>6.45<br>6.06<br>4.64<br>4.09<br>3.87<br>3.88<br>6.44<br>8.17<br>6.02<br>3.65<br>1.86<br>4.88<br>6.81<br>3.47<br>5.30<br>2.65<br>3.80<br>3.68<br>4.20<br>7.24<br>4.18<br>3.67<br>4.14<br>8.90<br>5.20<br>5.15 | ---   | 18,000<br>48,000<br>--- | 46,000<br>--- | 4,000<br>30,003<br>--- | 2,700<br>1,600<br>--- | 2,900<br>2,900<br>--- | 9,900<br>9,100<br>--- | ---  | ---   | --- | --- | --- |

**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 12 of 15)

| Well ID #<br>(TOC) | Sampling<br>Date | SUBJ  | DTW              | Elev.   | TEPHd              | TPPHg  | MTBE | B         | T     | E     | X     | VOCs | EHCss | TOG |
|--------------------|------------------|-------|------------------|---------|--------------------|--------|------|-----------|-------|-------|-------|------|-------|-----|
|                    |                  |       | <.....feet.....> | <.....> |                    |        |      | ug/l..... |       |       |       |      |       |     |
| MW13<br>(14.20)    | 1/20/94          | NLPH  | 9.08             | 5.12    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 02/02-03/94      | NLPH  | 8.75             | 5.45    | 8,100              | 41,000 | ---  | 3,800     | 1,500 | 2,700 | 9,500 | ---  | ---   | --- |
|                    | 3/10/94          | Sheen | 7.46             | 6.74    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 4/22/94          | Sheen | 7.78             | 6.42    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 05/10-11/94      | NLPH  | 7.61             | 6.59    | 15,000             | 39,000 | ---  | 3,400     | 930   | 2,400 | 8,900 | ---  | ---   | --- |
|                    | 6/27/94          | NLPH  | 7.97             | 6.23    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 8/31/94          | NLPH  | 9.21             | 4.99    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 9/29/94          | NLPH  | 9.61             | 4.59    | 320                | 57,000 | ---  | 2,100     | 470   | 2,600 | 8,100 | ---  | ---   | --- |
|                    | 10/25/94         | Sheen | 9.93             | 4.27    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 11/30/94         | ---   | 8.16             | 6.04    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 12/27/94         | ---   | 7.61             | 6.59    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 2/6/95           | Sheen | 5.89             | 8.31    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 6/7/95           | Sheen | 8.05             | 6.15    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 9/18/95          | Sheen | 9.94             | 4.26    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 11/1/95          | Sheen | 10.48            | 3.72    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 2/14/96          | Sheen | 8.88             | 5.32    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 6/19/96          | Sheen | 7.22             | 6.98    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 9/24/96          | Sheen | 10.27            | 3.93    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 12/11/96         | Sheen | 8.77             | 5.43    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 3/19/97          | Sheen | 9.46             | 4.74    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 6/4/97           | Sheen | 9.59             | 4.61    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 9/2/97           | Sheen | 9.68             | 4.52    | ---                | ---    | ---  | ---       | ---   | ---   | ---   | ---  | ---   | --- |
|                    | 12/2/97          | NLPH  | 9.16             | 5.04    | 16,000             | 14,000 | <250 | 210       | <50   | 920   | 1,000 | ---  | ---   | --- |
|                    | 3/24/98          | NLPH  | 6.71             | 7.49    | 1,700              | 5,600  | 55   | 110       | 6.0   | 420   | 330   | ---  | ---   | --- |
|                    | 6/23/98          | NLPH  | 8.87             | 5.33    | 3,800              | 12,000 | 200  | 120       | <20   | 300   | 300   | ---  | ---   | --- |
|                    | 9/29/98          | NLPH  | 9.79             | 4.41    | 2,400              | 4,900  | 130  | 130       | 12.0  | 410   | 200   | ---  | ---   | --- |
|                    | 12/30/98         | NLPH  | 9.03             | 5.17    | 2,000              | 6,700  | 520  | 100       | 11    | 400   | 250   | ---  | ---   | --- |
|                    | 3/24/99          | Sheen | 4.91             | 9.29    | 688                | 3,730  | 15.5 | 35.9      | 1.58  | 150   | 112   | ---  | ---   | --- |
|                    | 6/22/99          | Sheen | 5.66             | 8.54    | 4,090              | 7,220  | 56.4 | 29.0      | <5.0  | 496   | 318   | ---  | ---   | --- |
|                    | 9/29/99          | NLPH  | 8.62             | 5.58    | 1,060 <sup>f</sup> | 5,200  | 103  | 83.0      | 5.90  | 322   | 126   | ---  | ---   | --- |
|                    | 12/21/99         | NLPH  | 8.59             | 5.61    | 1,800              | 4,400  | <2   | 52        | 1.9   | 340   | 115   | ---  | ---   | --- |

**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 13 of 15)

| Well ID #<br>(TOC) | Sampling<br>Date | SUBJ           | DTW              | Elev.  | TEPHd            | TPPHg | MTBE  | B     | T         | E     | X    | VOCs | EHCss | TOG |
|--------------------|------------------|----------------|------------------|--------|------------------|-------|-------|-------|-----------|-------|------|------|-------|-----|
|                    |                  |                | <.....feet.....> | <..... |                  |       |       |       | ug/l..... |       |      |      |       | >   |
| MW14               | 1/20/94          |                | --               | --     | --               | --    | --    | --    | --        | --    | --   | --   | --    | --  |
| (15.18)            | 02/02-03/94      | Not Accessible |                  |        |                  |       |       |       |           |       |      |      |       |     |
|                    | 3/10/94          | NLPH           | 7.84             | 7.34   | --               | --    | --    | --    | --        | --    | --   | --   | --    | --  |
|                    | 4/22/94          | NLPH           | 8.00             | 7.18   | --               | --    | --    | --    | --        | --    | --   | --   | --    | --  |
|                    | 05/10-11/94      | NLPH           | 7.93             | 7.25   | 11,002           | 300   | --    | 2.7   | 7.9       | 2     | 27   | --   | --    | --  |
|                    | 6/27/94          | NLPH           | 8.19             | 6.99   | --               | --    | --    | --    | --        | --    | --   | --   | --    | --  |
|                    | 8/31/94          | NLPH           | 9.44             | 5.74   | --               | --    | --    | --    | --        | --    | --   | --   | --    | --  |
|                    | 9/29/94          | NLPH           | 9.82             | 5.36   | NA               | 300   | 1,600 | <0.5  | <0.5      | 0.9   | 1.3  | --   | --    | --  |
|                    | 10/25/94         | NLPH           | 9.99             | 5.19   | NA               | 200   | 210   | <0.5  | <0.5      | 0.8   | <0.5 | --   | --    | --  |
|                    | 11/30/94         | --             | 8.16             | 7.02   | --               | --    | --    | --    | --        | --    | --   | --   | --    | --  |
|                    | 12/27/94         | Sheen          | 8.15             | 7.03   | --               | --    | --    | --    | --        | --    | --   | --   | --    | --  |
|                    | 2/6/95           | NLPH           | 7.18             | 8.00   | 1,200            | 360   | --    | <1.0  | <1.0      | <1.0  | <1.0 | --   | --    | 400 |
|                    | 6/7/95           | NLPH           | 7.70             | 7.48   | 1,100            | 670   | <2.5  | <0.5  | <0.5      | 3.6   | <0.5 | --   | --    | 450 |
|                    | 9/18/95          | NLPH           | 9.88             | 5.30   | 1,900            | 1,300 | <10   | <2.0  | <2.0      | <2.0  | 3    | --   | 1,200 | --  |
|                    | 11/1/95          | NLPH           | 10.56            | 4.62   | 2,700            | 1,100 | <13   | <2.5  | <2.5      | 3.2   | 3.1  | --   | 1,600 | --  |
|                    | 2/14/96          | NLPH           | 9.08             | 6.10   | 1,500            | 470   | <2.5  | <0.5  | <0.5      | 1.3   | <0.5 | ND   | 680   | --  |
|                    | 6/19/96          | NLPH           | 8.50             | 6.68   | 2,000            | 610   | <12   | <2.5  | <2.5      | <2.5  | <2.5 | ND   | 670   | --  |
|                    | 9/24/96          | NLPH           | 10.23            | 4.95   | 5,100            | 1,000 | <25   | <5.0  | <5.0      | <5.0  | <5.0 | ND   | 4,500 | --  |
|                    | 12/11/96         | NLPH           | 9.09             | 6.09   | 2,100*           | 1,100 | <10   | <2.0  | <2.0      | <2.0  | 3.3  | ND   | 750   | --  |
|                    | 3/19/97          | NLPH           | 7.99             | 7.19   | 1,400            | 690   | <2.5  | 0.65  | 1.7       | 2.5   | 8.3  | ND   | 470   | --  |
|                    | 6/4/97           | NLPH           | 9.30             | 5.88   | 1,500            | 730   | <2.5  | <1.2  | <1.2      | 3.5   | 5.3  | ND   | 590   | --  |
|                    | 9/2/97           | NLPH           | 9.92             | 5.26   | 1,900            | 910   | <5.0  | <5.0  | <5.0      | <5.0  | 5.9  | ND   | 1,300 | --  |
|                    | 12/2/97          | NLPH           | 9.13             | 6.05   | 1,200            | 570   | <2.5  | 0.85  | <0.5      | <0.5  | 1.7  | --   | --    | --  |
|                    | 3/24/98          | NLPH           | 8.52             | 6.66   | 1,300            | 650   | 5.7   | 1.7   | <1.0      | <1.0  | 2.3  | --   | --    | --  |
|                    | 6/23/98          | NLPH           | 8.69             | 6.49   | 1,100            | 470   | <2.5  | <0.5  | 1.5       | 1.1   | 3.0  | --   | --    | --  |
|                    | 9/29/98          | NLPH           | 9.41             | 5.77   | 930              | 570   | <2.5  | <0.50 | <0.50     | 2.5   | 3.5  | --   | --    | --  |
|                    | 12/30/98         | NLPH           | 9.31             | 5.87   | 2,000            | 420   | <2.5  | <0.5  | <0.5      | <0.5  | 2.8  | --   | --    | --  |
|                    | 3/24/99          | NLPH           | 4.23             | 10.95  | 936              | 456   | <2.0  | <0.5  | <0.5      | 0.685 | <0.5 | --   | --    | --  |
|                    | 6/22/99          | NLPH           | 7.24             | 7.94   | 1,720            | 403   | <2.0  | <0.5  | <0.5      | <0.5  | <0.5 | --   | --    | --  |
|                    | 9/29/99          | NLPH           | 9.41             | 5.77   | 927 <sup>b</sup> | 388   | <2.5  | 1.31  | <0.5      | 0.864 | 2.07 | --   | --    | --  |
|                    | 12/21/99         | NLPH           | 8.93             | 6.25   | 1,400            | 420   | <2    | 0.61  | <0.5      | <0.5  | 6.3  | --   | --    | --  |

**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
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| Well ID #<br>(TOC) | Sampling<br>Date | SUBJ           | DTW   | Elev. | TEPHd            | TPPHg | MTBE | B    | T<br>ug/l..... | E    | X    | VOCs | EHCss | TOG |
|--------------------|------------------|----------------|-------|-------|------------------|-------|------|------|----------------|------|------|------|-------|-----|
| MW15               | 1/20/94          | NLPH           | 7.48  | 6.25  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
| (13.73)            | 02/02-03/94      | NLPH           | 7.30  | 6.43  | 1,200            | 4,300 | ---  | 24   | 6.7            | 170  | 26   | ---  | ---   | --- |
|                    | 3/10/94          | NLPH           | 7.32  | 6.41  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 4/22/94          | NLPH           | 6.67  | 7.06  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 05/10-11/94      | NLPH           | 5.81  | 7.92  | 1,400            | 3,900 | ---  | 16   | <0.5           | 150  | 13   | ---  | ---   | --- |
|                    | 6/27/94          | NLPH           | 6.14  | 7.59  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 8/31/94          | NLPH           | 7.20  | 6.53  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 9/29/94          | NLPH           | 7.76  | 5.97  | 420              | 2,500 | ---  | 51   | 15             | 48   | 3.6  | ---  | ---   | --- |
|                    | 10/25/94         | Sheen          | 8.19  | 5.54  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 11/30/94         | ---            | 8.57  | 5.16  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 12/27/94         | NLPH           | 6.49  | 7.24  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 2/6/95           | Sheen          | 4.97  | 8.76  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 6/7/95           | Sheen          | 7.14  | 6.59  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 9/18/95          | Sheen          | 9.00  | 4.73  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 11/1/95          | Sheen          | 10.67 | 3.06  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 2/14/96          | Sheen          | 7.27  | 6.46  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 6/19/96          | Sheen          | 6.65  | 7.08  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 9/24/96          | Sheen          | 9.45  | 4.28  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 12/11/96         | Sheen          | 7.77  | 5.96  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 3/19/97          | Sheen          | 8.15  | 5.58  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 6/4/97           | Sheen          | 8.62  | 5.11  | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 9/2/97           | NLPH           | 9.04  | 4.69  | 480              | 1,100 | 23   | 19   | <2.0           | 11   | 4.9  | ---  | ---   | --- |
|                    | 12/2/97          | NLPH           | 8.43  | 5.30  | 600              | 1,700 | 58   | 20   | <5.0           | 11   | <5.0 | ---  | ---   | --- |
|                    | 3/24/98          | NLPH           | 6.35  | 7.38  | 450              | 2,100 | <100 | 570  | <20            | <20  | <20  | ---  | ---   | --- |
|                    | 6/23/98          | NLPH           | 7.79  | 5.94  | 570              | 2,300 | <25  | 440  | <5.0           | 30   | <5.0 | ---  | ---   | --- |
|                    | 9/29/98          | Not Accessible | ---   | ---   | ---              | ---   | ---  | ---  | ---            | ---  | ---  | ---  | ---   | --- |
|                    | 12/30/98         | NLPH           | 8.42  | 5.31  | 510              | 900   | 14   | 6.2  | 1.5            | 5.8  | 3.4  | ---  | ---   | --- |
|                    | 3/24/99          | NLPH           | 4.69  | 9.04  | 346              | 1,480 | 12.7 | 181  | 1.15           | 29.8 | <1.0 | ---  | ---   | --- |
|                    | 6/22/99          | NLPH           | 5.42  | 8.31  | 558              | 864   | 6.49 | 12.7 | <0.5           | 3.28 | 1.38 | ---  | ---   | --- |
|                    | 9/29/99          | NLPH           | 7.08  | 6.65  | 306 <sup>b</sup> | 316   | <5.0 | 1.44 | 7.51           | 1.60 | 3.21 | ---  | ---   | --- |
|                    | 12/21/99         | NLPH           | 7.51  | 6.22  | 300              | 1,800 | 21   | 21   | 1.6            | 0.67 | 5.9  | ---  | ---   | --- |

**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
 Former Exxon Service Station 7-3006  
 720 High Street  
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Notes:

|       |   |   |
|-------|---|---|
| SUBJ  | = | Results of subjective evaluation, liquid-phase hydrocarbon thickness (HT) in feet.  |
| NLPH  | = | No liquid-phase hydrocarbons present in well.   |
| TOC   | = | Elevation of top of well casing; relative to mean sea level.  |
| DTW   | = | Depth to water.   |
| Elev. | = | Elevation of groundwater. If liquid-phase hydrocarbons present, elevation adjusted using TOC - [DTW - (PT x 0.8)].          |
| [ ]   | = | amount recovered  |
| gal.  | = | gallons   |
| TEPHd | = | Total extractable petroleum hydrocarbons as diesel analyzed using EPA method 3510/8015 (modified).                          |
| TPPHg | = | Total purgeable petroleum hydrocarbons as gasoline analyzed using EPA method 5030/8015 (modified).                          |
| MTBE  | = | Methyl tertiary butyl ether analyzed using EPA method 8021B.  |
| BTEX  | = | Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA method 8021B.  |
| VOCs  | = | Volatile organic compounds/purgeable halocarbons analyzed using EPA method 601.   |
| TOG   | = | Total oil and grease analyzed using Standard Method 5520.   |
| EHCss | = | Extractable Hydrocarbons as Stoddard Solvent analyzed using EPA method 8015.  |
| -     | = | Not measured/not analyzed.  |
| <     | = | Less than the indicated detection limit shown by the laboratory.  |
| *     | = | TEPH note: Analyst notes samples resemble paint thinner more than Stoddard Solvent.   |
| a     | = | A peak eluting earlier than benzene and suspected to be methyl tertiary butyl ether was present.                            |
| b     | = | Sample containers for TPPHg, BTEX, and MTBE were broken in transit.   |
| c     | = | Chromatogram pattern: unidentified hydrocarbons C6 - C12.   |
| d     | = | Chromatogram pattern: weathered gasoline C6 - C12.  |
| e     | = | Chromatogram pattern: weathered gasoline C6 - C12 and unidentified hydrocarbons C6 - C12.                                   |
| f     | = | Chromatogram pattern: weathered diesel C9 - C24 and unidentified hydrocarbons C9 - C36.                                     |
| g     | = | Chromatogram pattern: unidentified hydrocarbons C9 - C24.   |
| h     | = | Total extractable petroleum hydrocarbons as diesel analyzed using EPA method 3510/8015 (modified), with silica gel cleanup. |

**TABLE 2**  
**CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR**  
**SOIL VAPOR EXTRACTION SYSTEM**  
Former Exxon Service Station 7-3006  
720 High Street  
Oakland, California  
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| DATE    | SAMPLE | Field Measurements |        |                           |          | Laboratory Analytical Results |     | TPPHg Removal           |                           | Benzene Removal   |                   | Benzene           |                   |                        |
|---------|--------|--------------------|--------|---------------------------|----------|-------------------------------|-----|-------------------------|---------------------------|-------------------|-------------------|-------------------|-------------------|------------------------|
|         |        | ID                 | TEMP F | PRESS in H <sub>2</sub> O | FLOW cfm | INF ppmv                      | EFF | TPPHg mg/m <sup>3</sup> | Benzene mg/m <sup>3</sup> | Per Period Pounds | Cumulative Pounds | Per Period Pounds | Cumulative Pounds | Emitted per Day pounds |
| 1/9/95  | A-INF  | 70                 |        |                           | 160      |                               |     | 210                     | 39                        |                   |                   |                   |                   |                        |
|         | A-INT  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
| 1/10/95 | A-INF  | 70                 |        |                           | 160      |                               |     | 110                     | 22                        | 2.30              | 2.3               | 0.438             | 0.44              |                        |
|         | A-INT  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0014               |
| 1/11/95 | A-INF  | 70                 |        |                           | 160      |                               |     | 70                      | 12                        | 1.29              | 3.6               | 0.244             | 0.68              |                        |
|         | A-INT  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0014               |
| 1/12/95 | A-INF  | 70                 |        |                           | 160      |                               |     | < 10                    | < 0.1                     | < 0.57            | 4.2               | < 0.087           | < 0.77            |                        |
|         | A-INT  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0014               |
| 1/13/95 | A-INF  | 70                 |        |                           | 160      |                               |     | < 10                    | < 0.1                     | < 0.14            | 4.3               | < 0.001           | < 0.77            |                        |
|         | A-INT  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0014               |
| 1/14/95 | A-INF  | 70                 |        |                           | 160      |                               |     | < 10                    | < 0.1                     | < 0.14            | 4.5               | < 0.001           | < 0.77            |                        |
|         | A-INT  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0014               |
| 1/15/95 | A-INF  | 70                 |        |                           | 158      |                               |     | < 10                    | < 0.1                     | < 0.14            | 4.6               | < 0.001           | < 0.77            |                        |
|         | A-INT  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0014               |
| 1/16/95 | A-INF  | 70                 |        |                           | 151      |                               |     | < 10                    | < 0.1                     | < 0.14            | 4.7               | < 0.001           | < 0.77            |                        |
|         | A-INT  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0014               |
| 1/17/95 | A-INF  | 70                 |        |                           | 155      |                               |     | < 10                    | 0.13                      | < 0.14            | 4.9               | 0.002             | < 0.78            |                        |
|         | A-INT  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0014               |
| 1/18/95 | A-INF  | 70                 |        |                           | 155      |                               |     | 100                     | 12                        | 0.77              | 5.6               | 0.084             | < 0.86            |                        |
|         | A-INT  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0014               |
| 1/19/95 |        | 70                 |        | 155                       | 15       | 0                             | 68  |                         |                           | 1.17              | 6.8               |                   |                   |                        |
| 1/20/95 |        | 70                 |        | 155                       | 14.4     | 0                             | 66  |                         |                           | 0.93              | 7.7               |                   |                   |                        |
| 2/1/95  | A-INF  | 70                 |        |                           | 147      |                               |     | 39                      | 3.5                       | 13.19             | 20.9              | 1.471             | < 2.33            |                        |
|         | A-INT  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0013               |
| 2/14/95 |        | 70                 |        | 147                       |          |                               |     |                         |                           |                   |                   |                   |                   |                        |
| 2/17/95 |        | 70                 |        | 155                       | 9        | 0                             | 41  |                         |                           | 8.67              | 29.6              |                   |                   |                        |
| 2/27/95 |        | 70                 |        | 151                       |          |                               |     |                         |                           |                   |                   |                   |                   |                        |
| 3/13/95 | A-INF  | 70                 |        | 176                       |          |                               |     | < 10                    | 0.42                      | < 14.21           | 43.8              | 1.137             | < 3.47            |                        |
|         | A-INT  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|         | A-EFF  |                    |        |                           |          |                               |     | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0016               |
| 3/31/95 |        | 70                 |        | 116                       | 2.3      | 0                             | 10  |                         |                           | 2.01              | 45.8              |                   |                   |                        |

**TABLE 2**  
**CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR**  
**SOIL VAPOR EXTRACTION SYSTEM**

Former Exxon Service Station 7-3006  
720 High Street  
Oakland, California  
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**TABLE 2**  
**CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR**  
**SOIL VAPOR EXTRACTION SYSTEM**  
Former Exxon Service Station 7-3006  
720 High Street  
Oakland, California  
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| DATE     | SAMPLE  | Field Measurements |        |                           |          | Laboratory Analytical Results |                         | TPPHg Removal             |                   | Benzene Removal   |                   | Benzene           |                        |
|----------|---|--------------------|--------|---------------------------|----------|-------------------------------|-------------------------|---------------------------|-------------------|-------------------|-------------------|-------------------|------------------------|
|          |   | ID                 | TEMP F | PRESS in H <sub>2</sub> O | FLOW cfm | INF ppmv                      | TPPHg mg/m <sup>3</sup> | Benzene mg/m <sup>3</sup> | Per Period Pounds | Cumulative Pounds | Per Period Pounds | Cumulative Pounds | Emitted per Day pounds |
| 7/31/95  | A-INF   | 70                 |        |                           | 164      |                               | 500                     | 14                        | 18.78             | 435.4             | < 0.480           | < 10.42           |                        |
|          | A-INT   |                    |        |                           |          |                               | 12                      | < 0.1                     |                   |                   |                   |                   |                        |
|          | A-EFF   |                    |        |                           |          |                               | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0015               |
| 8/9/95   | Replaced one 500 lb carbon canister   |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 8/15/95  | System down - Remove hydrocarbon vapor detector and send to manufacture for calibration |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 9/11/95  | Replaced hydrocarbon vapor detector - Restarted system                                  |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 9/13/95  | System Down - hydrocarbon vapor detector shut down                                      |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 9/18/95  | Replaced 2 ea x 500 lb canisters = 1000 lbs of carbon                                   |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 9/18/95  | A-INF   | 70                 |        |                           | 164      |                               | 980                     | 13                        | 196.08            | 631.5             | 3.577             | < 14.00           |                        |
|          | A-INT   |                    |        |                           |          |                               | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|          | A-EFF   |                    |        |                           |          |                               | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0015               |
| 9/20/95  | System Down - hydrocarbon vapor detector shut down                                      |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 9/25/95  | Restarted system  |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 9/25/95  | A-INF   | 70                 |        |                           | 164      |                               | NA                      |                           |                   |                   |                   |                   |                        |
|          | A-INT   |                    |        |                           |          |                               | NA                      | < 0.1                     |                   |                   |                   |                   |                        |
|          | A-EFF   |                    |        |                           |          |                               | NA                      | < 0.1                     |                   |                   |                   |                   |                        |
| 10/13/95 | Replaced 2 ea x 500 lb canisters = 1000 lbs of carbon                                   |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 10/13/95 | A-INF   | 70                 |        |                           | 168      |                               | 2000                    | 100                       | 444.04            | 1,075.5           | 16.838            | < 30.84           |                        |
|          | A-INT   |                    |        |                           |          |                               | < 10                    | < 0.05                    |                   |                   |                   |                   |                        |
|          | A-EFF   |                    |        |                           |          |                               | < 10                    | < 0.05                    |                   |                   |                   |                   | < 0.0008               |
| 10/26/95 | Replaced 2 ea x 500 lb canisters = 1000 lbs of carbon                                   |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 10/26/95 |   | 70                 |        |                           | 168      | 165                           | 0                       | 751                       |                   | 269.69            | 1,345.2           |                   |                        |
| 11/6/95  |   |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 11/20/95 | Replaced 2 ea x 500 lb canisters = 1000 lbs of carbon                                   |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 11/20/95 | A-INF1  | 70                 |        |                           | 170      |                               | 180                     | 3.6                       | 176.60            | 1,521.8           | 1.038             | < 31.88           |                        |
|          | A-INF2  |                    |        |                           |          |                               | 82                      | 2                         |                   |                   |                   |                   |                        |
|          | A-INT   |                    |        |                           |          |                               | < 10                    | < 0.1                     |                   |                   |                   |                   |                        |
|          | A-EFF   |                    |        |                           |          |                               | < 10                    | < 0.1                     |                   |                   |                   |                   | < 0.0015               |
| 11/26/95 | System down   |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 12/4/95  | Restart system  | 70                 |        |                           | 168      | 18.5                          | 0.5                     | 84                        |                   | 12.03             | 1,533.8           |                   |                        |
| 12/18/95 | A-INF   | 70                 |        |                           | 151      |                               |                         | 4600                      | 50                | 469.45            | 2,003.3           | 10.105            | < 41.98                |
|          | A-INT   |                    |        |                           |          |                               |                         | < 10                      | < 0.1             |                   |                   |                   |                        |
|          | A-EFF   |                    |        |                           |          |                               |                         | < 10                      | < 0.1             |                   |                   |                   | < 0.0014               |
| 1/2/96   |   | 70                 |        |                           | 147      | 51.7                          | 8.2                     | 235                       |                   | 485.04            | 2,488.3           |                   |                        |
| 1/3/96   | Shut system down, pending carbon change out   |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 1/8/96   | changed out three carbon beds, #1, #2, #3 carbon beds in-line                           |                    |        |                           |          |                               |                         |                           |                   |                   |                   |                   |                        |
| 1/8/96   |   | 70                 |        |                           | 151.2    | 105.4                         | 0                       | 480                       |                   | 28.72             | 2,517.0           |                   |                        |
| 1/16/96  | A-INF   | 70                 |        |                           | 142.8    | 62.3                          | 0                       | 180                       | < 0.1             | 7.50              | 2,524.5           | < 0.000           | < 41.98                |
|          | A-EFF   |                    |        |                           |          |                               |                         |                           | < 0.1             |                   |                   |                   | < 0.0013               |
| 1/30/96  |   | 70                 |        |                           | 147      | 50.4                          | 0                       | 230                       |                   | 37.28             | 2,561.8           |                   |                        |
| 2/14/96  | A-INF   | 72                 |        |                           | 147      | 39.7                          | 0                       | < 10                      | 0.16              | < 0.49            | 2,562.3           | 0.049             | < 42.03                |
|          | A-EFF   |                    |        |                           |          |                               |                         | < 10                      | < 0.1             |                   |                   |                   | < 0.0013               |

TABLE 2  
CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR  
SOIL VAPOR EXTRACTION SYSTEM  
Former Exxon Service Station 7-3006  
720 High Street  
Oakland, California  
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| DATE     | SAMPLE   | Field Measurements |    |                     |       | Laboratory Analytical Results |     | TPPHg Removal     |                   | Benzene Removal |            | Benzene         |
|----------|--|--------------------|----|---------------------|-------|-------------------------------|-----|-------------------|-------------------|-----------------|------------|-----------------|
|          |  | ID                 | F  | PRESS               | FLOW  | INF                           | EFF | TPPHg             | Benzene           | Per Period      | Cumulative | Emitted per Day |
|          |  |                    |    | in H <sub>2</sub> O | cfm   | ppmv                          |     | mg/m <sup>3</sup> | mg/m <sup>3</sup> | Pounds          | Pounds     | pounds          |
| 2/27/96  |  |                    | 70 |                     | 136.5 | 1                             | 0   | 5                 |                   | 1.20            | 2,563.5    |                 |
| 3/12/96  | A-INF  |                    | 70 |                     | 136.5 | 2.2                           | 0   | < 10              | < 0.1             | < 1.25          | 2,564.8    | < 0.045 < 42.07 |
|          | A-EFF  |                    |    |                     |       |                               |     | < 10              | < 0.1             |                 |            | < 0.0012        |
| 3/25/96  | A-INF  |                    | 70 |                     | 147   | 2.4                           | 0   | < 10              | < 0.1             | < 1.65          | 2,566.4    | < 0.017 < 42.09 |
|          | A-EFF  |                    |    |                     |       |                               |     | < 10              | < 0.1             |                 |            | < 0.0013        |
| 3/25/96  | System shutdown to install Thermtech VAC-25 thermal/catalytic oxidizer |                    |    |                     |       |                               |     |                   |                   |                 |            |                 |
| 8/5/96   | Start-up system utilizing Thermtech VAC-25 thermal/catalytic oxidizer  |                    |    |                     |       |                               |     |                   |                   |                 |            |                 |
| 8/15/96  | A-INF  |                    |    |                     | 110   |                               |     | 410               | 4.7               |                 |            |                 |
|          | A-EFF  |                    |    |                     |       |                               |     | < 10              | < 0.05            |                 |            | < 0.0005        |
| 8/29/96  |  |                    |    |                     | 176   | 45.8                          | 1.1 | 194               |                   | 54.26           | 2,620.7    |                 |
| 9/6/96   | A-INF  |                    |    |                     | 176   |                               |     | 150               | < 0.1             | 21.73           | 2,642.4    | < 0.678 < 42.77 |
|          | A-EFF  |                    |    |                     |       |                               |     | < 10              | < 0.1             |                 |            | < 0.0016        |
| 9/9/96   |  |                    |    |                     | 176   | 96                            | 4.4 | 406               |                   | 13.18           | 2,655.6    |                 |
| 9/24/96  |  |                    |    |                     | 184.8 | 141                           | 5.1 | 597               |                   | 121.82          | 2,777.4    |                 |
| 10/3/96  | A-INF  |                    |    |                     | 176   |                               |     | 1300              | < 1               | 138.22          | 2,915.6    | < 0.235 < 43.00 |
|          | A-EFF  |                    |    |                     |       |                               |     | < 10              | < 0.1             |                 |            | < 0.0016        |
| 10/9/96  |  |                    |    |                     | 176   | 173                           | 4.5 | 732               |                   | 96.31           | 3,011.9    |                 |
| 10/14/96 |  |                    |    |                     | 184.8 | 105                           | 4.4 | 444               |                   | 47.63           | 3,059.6    |                 |
| 10/21/96 |  |                    |    |                     | 176   | 89.2                          | 4.5 | 378               |                   | 46.58           | 3,106.1    |                 |
| 10/30/96 |  |                    |    |                     | 176   | 58.3                          | 0.7 | 247               |                   | 44.38           | 3,150.5    |                 |
| 11/6/96  | System down, unable to restart due to reset failure                    |                    |    |                     |       |                               |     |                   |                   |                 |            |                 |
| 1/17/97  | Replaced Thermalcouple, restarted unit                                 |                    |    |                     |       |                               |     |                   |                   |                 |            |                 |
| 1/31/97  | A-INF  |                    |    |                     | 44    |                               |     | < 10              | 0.14              | 0.55            | 3,151.1    | 0.008 < 43.01   |
|          | A-EFF  |                    |    |                     |       |                               |     | < 10              | < 0.05            |                 |            | < 0.0002        |
| 2/6/97   | A-INF  |                    |    |                     | 176   |                               |     | 86                | 2.2               | 2.84            | 3,153.9    | 0.069 < 43.08   |
|          | A-EFF  |                    |    |                     |       |                               |     | < 10              | < 0.10            |                 |            | < 0.0016        |
| 2/14/97  |  |                    |    |                     | 176   | 25                            | 2   | 106               |                   | 12.12           | 3,166.0    |                 |
| 2/18/97  |  |                    |    |                     | 176   | 95                            | 0.8 | 402               |                   | 16.05           | 3,182.1    |                 |
| 2/28/97  |  |                    |    |                     | 176   | 53                            | 0   | 224               |                   | 49.48           | 3,231.6    |                 |
| 3/5/97   | A-INF  |                    |    |                     | 176   |                               |     | 210               | < 0.10            | 17.15           | 3,248.7    | < 0.491 < 43.57 |
|          | A-EFF  |                    |    |                     |       |                               |     | < 10              | < 0.10            |                 |            | < 0.0016        |
| 3/12/97  |  |                    |    |                     | 211.2 | 62                            | 0.7 | 262               |                   |                 |            |                 |
| 3/19/97  |  |                    |    |                     | 220   | 33                            | 1   | 140               |                   |                 |            |                 |
| 3/26/97  |  |                    |    |                     | 211.2 | 35                            | 1   | 148               |                   |                 |            |                 |
| 4/2/97   | A-INF  |                    |    |                     | 220   |                               |     | 170               | 4.0               | 94.55           | 3,343.3    | < 1.020 < 44.59 |
|          | A-EFF  |                    |    |                     |       |                               |     | < 10              | < 0.10            |                 |            | < 0.0020        |
| 4/9/97   |  |                    |    |                     | 220   | 40                            | 1   | 169               |                   |                 |            |                 |
| 4/16/97  |  |                    |    |                     | 220   | 58                            | 3   | 245               |                   |                 |            |                 |
| 4/23/97  |  |                    |    |                     | 220   | 30                            | 1   | 127               |                   |                 |            |                 |
| 4/30/97  |  |                    |    |                     | 220   | 30                            | 2   | 127               |                   |                 |            |                 |
| 5/8/97   | A-INF  |                    |    |                     | 193.6 |                               |     | 340               | 4.8               | 170.41          | 3,513.7    | 2.940 < 47.53   |
|          | A-EFF  |                    |    |                     |       |                               |     | < 10              | < 0.10            |                 |            | < 0.0017        |
| 5/14/97  |  |                    |    |                     | 193.6 | 80                            | 1   | 339               |                   |                 |            |                 |
| 5/21/97  |  |                    |    |                     | 193.6 | 20                            | 1   | 85                |                   |                 |            |                 |