**Harding Lawson Associates**

ST 10418



July 9, 1998

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Mr. Jeff Christoff
Blue Print Service Company
1057 Shary Circle
Concord, California 94518

**Quarterly Report**
**April 1, 1998 through June 30, 1998**
**Groundwater Remediation and Monitoring**
**Blue Print Service Facility**
**1700 Jefferson Street**
**Oakland, California**

Dear Mr. Christoff:

Harding Lawson Associates (HLA) presents this quarterly monitoring report of the groundwater monitoring wells and treatment system at the Blue Print Service facility at 1700 Jefferson Street, Oakland, California. This report covers the period of April 1, 1998, through June 30, 1998. It was prepared to satisfy quarterly groundwater monitoring requirements of the Alameda County Health Care Services Agency (Alameda County). The report also satisfies the reporting requirements of the East Bay Municipal Utilities District (EBMUD) for treatment system discharge.

## BACKGROUND

Three underground gasoline storage tanks were removed from the property in 1987. A preliminary investigation indicated that there had been a release of fuel into the soil and groundwater. Three groundwater monitoring wells, MW-1, MW-2, and MW-3, were installed on the property to evaluate the distribution of petroleum hydrocarbons in the soil and groundwater and to determine the direction of groundwater flow. Monitoring of these wells revealed free phase gasoline floating on the surface of the groundwater in monitoring well MW-1. Initial groundwater level measurements indicated that groundwater flows in a north to northwest direction at the site.

In November 1987, monitoring well MW-2 was abandoned to facilitate the construction of the present structures, reducing the ability to accurately calculate the groundwater gradient and flow direction. In January 1988 two additional wells, MW-1A and MW-4, were installed at the facility to be used as groundwater extraction wells. One downgradient monitoring well, MW-5, was installed offsite in August 1988 and in April 1996, monitoring well MW-6 was installed offsite in an upgradient location

to improve understanding of groundwater flow at the site. The locations of the monitoring wells are shown on Plate 1.

In 1992 a groundwater extraction system was constructed at the site to remove free phase product from the groundwater surface. Groundwater is extracted from MW-1A and MW-4 and passes through an oil-water separator which removes the free phase gasoline. The water is then drawn into a 3,000-gallon bioreactor tank for treatment by hydrocarbon reducing microbes. Air and nutrient are supplied to the groundwater within the bioreactor to facilitate microbial growth. The treated water from the bioreactor is pumped in batches of approximately 500 gallons through three granular activated carbon (GAC) vessels before being discharged to the sanitary sewer. Approximately 5,058 pounds of gasoline have been removed and 1,216,212 gallons of groundwater treated and discharged to the sanitary sewer by the groundwater extraction system since operation began in 1992. The groundwater from the system is discharged to the sanitary sewer under the East Bay Municipal Utility District (EMBED) Wastewater Discharge Permit (Account No. 500-68191).

## TREATMENT SYSTEM STATUS

During the second quarter of 1998, approximately 85,102 gallons of water were treated and discharged to the sanitary sewer. The average daily discharge flow rate for the treatment system was approximately 967 gallons per day (gpd). Average combined extraction rate for the two extraction wells was 0.67 gallons per minute (gpm). Approximately 4 gallons or 21 pounds of free phase gasoline were recovered from the groundwater by the oil water separator This does not include dissolved concentrations treated by the bioreactor. Flow totalizer readings and system maintenance activities are summarized in Table 1.

## TREATMENT SYSTEM SAMPLING AND ANALYSIS

On June 18, 1998, HLA collected samples from the separator effluent, the bio-reactor effluent and the treatment system effluent. The separator effluent was sampled by collecting a grab sample with a Teflon bailer directly from the downstream end of the oil-water separator. The Bio-reactor effluent sample was collected from a sampling port upstream of the GAC vessels. The system effluent sample was collected from a sample port downstream of the third and final GAC vessel. These water samples, consisting of 40-milliliter volatile analysis vials (VOAs), were placed in ice-chilled coolers and submitted to California Laboratory Services of Rancho Cordova, California, under chain-of-custody protocol for analysis. The samples were analyzed by EPA Test Method 8015 for total petroleum hydrocarbons as gasoline (TPHg) and EPA Test Method 602 for benzene, toluene, ethylbenzene and xylene (BTEX).

Results of the chemical analyses of these samples indicate that treatment system effluent concentrations were below the EBMUD discharge limitations of 5 micrograms per liter ($\mu$g/l) for each individual BTEX components.

HLA's treatment system sampling results are presented in Table 2. The laboratory reports are presented in the Appendix A.

## GROUNDWATER SAMPLING AND ANALYSIS

On June 18, 1998, HLA measured the water levels in wells MW-1, MW-3, MW-5 and MW-6. Groundwater surface elevations are presented on Plate 1. The monitoring wells were sampled after purging at least three well volumes from each and allowing the water level to recover to at least 80 percent of the pre-purge level. HLA monitored the pH, conductivity, and temperature of the groundwater removed during purging. Sampling was not performed until these parameters had stabilized. Three 40-milliliter VOAs of water were collected from each well with a disposable Teflon bailer. Purge water was discharged to the treatment system bio-reactor.

HLA collected samples from the MW-1A and MW-4 at individual sampling ports upstream of the oil-water separator.

All of the water samples were placed in ice-chilled coolers and submitted to California Laboratory Services of Rancho Cordova, California under chain-of-custody protocol. The samples were analyzed by EPA Test Method 8015 (modified) for TPHg and EPA Test Method 602 for BTEX and MTBE. The historical analytical results are summarized in Table 3. Plate 2 presents the TPHg and BTEX results for this reporting period. The laboratory reports are presented in the Appendix A.

## DISCUSSION

The treatment system continues to be effective in removing and treating TPHg and BTEX in the groundwater as evidenced by product collected in the oil/water separator and the reduction of the petroleum hydrocarbons concentration in the bio-reactor. The results of effluent sampling by HLA during this quarter indicate compliance with EBMUD permit discharge limitations.

The groundwater elevations on Plate 1 show a depression in the groundwater surface elevation at the site of the two extraction wells. Very little difference in groundwater elevation was measured (less than 0.03 feet) between wells MW-3, MW-5, and MW-6, indicating a fairly flat gradient.

Comparison of this quarter's sample results with historical data indicates declining hydrocarbon concentrations in all wells with the exception of extraction well MW-1A. The monitoring wells located onsite, MW-1 and MW-3, still contain dissolved concentrations of petroleum hydrocarbons. However, with the exception of a slight increase in toluene concentration in MW-1, all hydrocarbon concentrations decreased. Concentrations in MW-5, the offsite downgradient well, were substantially lower than last quarter's results. The groundwater sample from MW-6, the offsite upgradient well did not contain any detectable concentrations of TPHg or BTEX. MTBE was not detected in any of the samples collected.

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Blue Print Services will to continue quarterly groundwater monitoring and reporting as required by Alameda County, and treatment system discharge monitoring reporting as required by EBMUD. The next groundwater sampling will be performed during the third quarter of 1998 and monitoring of the system effluent will continue to be performed as required by the EBMUD permit.

If you have any questions, please contact James McCarty at (510) 628-3220.

Yours very truly,

**HARDING LAWSON ASSOCIATES**

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Project Engineer

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Attachments: Table 1 - City Blue Groundwater Treatment System Maintenance Log
Table 2 - Groundwater Treatment System Analytical Results
Table 3 - Groundwater Monitoring Analytical Results
Plate 1 - Groundwater Surface Elevations, June 18, 1998
Plate 2 - Groundwater Surface Elevations, June 18, 1998
Appendix A- Laboratory Reports

**Table 1. City Blue Groundwater Treatment System Maintenance Log**
**Blue Print Services Facility**
**1700 Jeferson Street**
**Oakland, California**

| DATE | FLOW TOTALIZER (gal) | DISCHARGE RATE (gpd) | DISCHARGE RATE (gpm) | COMMENTS |
|---|---|---|---|---|
| 04/03/98 | 1,131,110 | | | Put new carbon online, backwashed carbon and sandfilters, removed 2 liters of gas |
| 04/25/98 | 1,149,673 | 844 | 0.59 | Recycle line clogged, clean line, backwashed carbon and sand filters, removed 10 liters of gas |
| 04/29/98 | 1,155,940 | 1567 | 1.09 | Check on system |
| 05/02/98 | 1,159,380 | 1147 | 0.80 | Backwash carbon, clean recycle line |
| 05/09/98 | 1,169,080 | 1386 | 0.96 | Backwash carbon, clean recycle line |
| 05/11/98 | 1,171,737 | 1329 | 0.92 | Check on system |
| 05/14/98 | 1,175,463 | 1242 | 0.86 | Check on system, clear recycle line, put new EBMUD permit and updated spill prevention plan notices on site |
| 05/16/98 | 1,177,100 | 819 | 0.57 | Backwash carbon vessels, recycle line still not flowing well |
| 05/19/98 | 1,180,390 | 1097 | 0.76 | Clean out recycle line, reduce nutrient injection |
| 05/22/98 | 1,184,710 | 1440 | 1.00 | Clean out recycle line, backwash carbon |
| 05/28/98 | 1,186,380 | 278 | 0.19 | System down, air to pumps turned off |
| 05/31/98 | 1,190,140 | 1253 | 0.87 | Remove 3 liters of gas |
| 06/06/98 | 1,196,530 | 1065 | 0.74 | Backwashed Carbon 1 |
| 06/11/98 | 1,202,870 | 1268 | 0.88 | Add new carbon online |
| 06/13/98 | 1,202,878 | 4 | 0.00 | Valve to carbon shut |
| 06/15/98 | 1,206,100 | 1611 | 1.12 | Check on system |
| 06/16/98 | 1,207,000 | 900 | 0.63 | Clean recycle line |
| 06/17/98 | 1,208,462 | 1462 | 1.02 | Check on system |
| 06/18/98 | 1,209,579 | 1117 | 0.78 | Quarterly sampling of wells and Bio-eff & Sep-Eff |
| 06/21/98 | 1,211,790 | 737 | 0.51 | Clean recycle line |
| 06/30/98 | 1,216,212 | 491 | 0.34 | Check on system, recycle line clogged, clean line |
| | 2nd QTR Total | Average (gpd) | Average (gpm) | |
| | 85,102 | 967 | 0.67 | |

gal = gallons
gpd = gallons per day
gpm = gallons per minute

**Table 2. Groundwater Treatment System Analytical Results**
**Blue Print Service Facility**
**1700 Jefferson Street**
**Oakland, California**

| Date/Analytes | Bioreactor Influent | Bioreactor Effluent | First Carbon Bed Effluent | Second Carbon Bed Effluent | Third* Carbon Bed Effluent |
|---|---|---|---|---|---|
| Xylene | 9,300 | 2 | ND <0.5 | NA | — |
| **13-May-94** | | | | | |
| TPHg | 220 | 1 | ND <0.05 | NA | — |
| Benzene | 12,000 | 45 | ND <0.5 | NA | — |
| Toluene | 23,000 | 7 | ND <0.5 | NA | — |
| Ethylbenzene | 1,700 | 1 | ND <0.5 | NA | — |
| Xylene | 17,000 | 11 | ND <0.5 | NA | — |
| **29-Sep-94** | | | | | |
| TPHg | 96 | 1 | NA | ND <0.05 | — |
| Benzene | 8,000 | 5 | NA | ND <0.5 | — |
| Toluene | 16,000 | 8 | NA | ND <0.5 | — |
| Ethylbenzene | ND <250 | ND <2.5 | NA | ND <0.5 | — |
| Xylene | 9,000 | 9 | NA | ND <0.5 | — |
| **19-Dec-94** | | | | | |
| TPHg | NA | 6 | 0.59 | ND<0.05 | — |
| Benzene | NA | 140 | 60 | 1 | — |
| Toluene | NA | 100 | 14 | 0.5 | — |
| Ethylbenzene | NA | ND<5 | ND<0.5 | ND <0.5 | — |
| Xylene | NA | 1,600 | 100 | ND <0.5 | — |
| **5-Jan-95** | | | | | |
| TPHg | NA | NA | 0.2 | ND<0.05 | — |
| Benzene | NA | NA | 17 | 0.7 | — |
| Toluene | NA | NA | 3 | ND<0.5 | — |
| Ethylbenzene | NA | NA | ND<0.5 | ND<0.5 | — |
| Xylene | NA | NA | 3 | ND<0.5 | — |
| **14-Apr-95** | | | | | |
| TPHg | NA | 2 | 0.9 | NA | — |
| Benzene | NA | 36 | 22 | NA | — |
| Toluene | NA | 6 | 3 | NA | — |
| Ethylbenzene | NA | 3 | 0.6 | NA | — |
| Xylene | NA | 58 | 13 | NA | — |
| **18-May-95** | | | | | |
| TPHg | 41 | 1 | 0.1 | ND<0.05 | — |
| Benzene | 4,400 | 22 | 2 | ND<0.5 | — |
| Toluene | 5,700 | 9 | ND<0.5 | ND<0.5 | — |
| Ethylbenzene | 430 | ND<0.5 | ND<0.5 | ND<0.5 | — |
| Xylene | 8,200 | 16 | ND<0.5 | ND<2 | — |
| **7-Sep-95** | | | | | |
| TPHg | NA | 4 | 1.1 | 0.2 | — |
| Benzene | NA | 400 | 120 | 15 | — |
| Toluene | NA | 300 | 75 | 9 | — |

**Table 2. Groundwater Treatment System Analytical Results**
**Blue Print Service Facility**
**1700 Jefferson Street**
**Oakland, California**

| Date/Analytes | Bioreactor Influent | Bioreactor Effluent | First Carbon Bed Effluent | Second Carbon Bed Effluent | Third* Carbon Bed Effluent |
|---|---|---|---|---|---|
| Ethylbenzene | NA | 12 | 2 | ND<0.5 | — |
| Xylene | NA | 320 | 82 | 9 | — |
| **16-Nov-95** | | | | | |
| TPHg | NA | 3 | 2.8 | 0.8 | — |
| Benzene | NA | 18 | 17 | 3 | — |
| Toluene | NA | 11 | 18 | 2 | — |
| Ethylbenzene | NA | 7 | 6 | 0.9 | — |
| Xylene | NA | 90 | 74 | 10 | — |
| **22-Dec-95** | | | | | |
| TPHg | NA | 10 | 0.54 | NA | — |
| Benzene | NA | 95 | 1 | NA | — |
| Toluene | NA | 38 | 0.6 | NA | — |
| Ethylbenzene | NA | 6 | ND<0.5 | NA | — |
| Xylene | NA | 1,300 | 13 | NA | — |
| **29-Dec-95** | | | | | |
| TPHg | NA | NA | 0.7 | 0.1 | — |
| Benzene | NA | NA | 5 | ND<0.5 | — |
| Toluene | NA | NA | 3 | ND<0.5 | — |
| Ethylbenzene | NA | NA | 1 | ND<0.5 | — |
| Xylene | NA | NA | 19 | ND<0.5 | — |
| **17-Jan-96** | | | | | |
| TPHg | NA | 1 | ND<0.05 | NA | — |
| Benzene | NA | 8 | ND<0.5 | NA | — |
| Toluene | NA | 4 | ND<0.5 | NA | — |
| Ethylbenzene | NA | 1 | ND<0.5 | NA | — |
| Xylene | NA | 15 | ND<2 | NA | — |
| **16-Feb-96** | | | | | |
| TPHg | NA | 1 | 0.2 | ND<0.05 | — |
| Benzene | NA | 13 | ND<0.5 | ND<0.5 | — |
| Toluene | NA | 6 | ND<0.5 | ND<0.5 | — |
| Ethylbenzene | NA | 1 | ND<0.5 | ND<0.5 | — |
| Xylene | NA | 16 | ND<2 | ND<2 | — |
| **19-Mar-96** | | | | | |
| TPHg | 33 | 1 | 0.1 | NA | — |
| Benzene | 460 | 12 | ND<0.5 | NA | — |
| Toluene | 360 | 7 | ND<0.5 | NA | — |
| Ethylbenzene | 59 | 3 | ND<0.5 | NA | — |
| Xylene | 3,300 | 32 | ND<2 | NA | — |
| **18-Apr-96** | | | | | |
| TPHg | NA | NA | 1.3 | 0.17 | 0.09 |
| Benzene | NA | NA | 37 | 1.4 | ND<0.5 |

**Table 2. Groundwater Treatment System Analytical Results**
**Blue Print Service Facility**
**1700 Jefferson Street**
**Oakland, California**

| Date/Analytes | Bioreactor Influent | Bioreactor Effluent | First Carbon Bed Effluent | Second Carbon Bed Effluent | Third* Carbon Bed Effluent |
|---|---|---|---|---|---|
| Toluene | NA | NA | 16 | 0.5 | ND<0.5 |
| Ethylbenzene | NA | NA | 3.8 | ND<0.5 | ND<0.5 |
| Xylene | NA | NA | 66 | ND<2 | ND<2 |
| **5-Jun-96** | | | | | |
| TPHg | NA | NA | 5.8 | 0.53 | 0.19 |
| Benzene | NA | NA | 93 | 2.1 | ND<0.5 |
| Toluene | NA | NA | 93 | 1.2 | ND<0.5 |
| Ethylbenzene | NA | NA | 11 | 1.7 | 0.5 |
| Xylene | NA | NA | 490 | 6 | ND<2 |
| **9-Aug-96** | | | | | |
| TPHg | NA | 74 | NA | 0.77 | 0.19 |
| Benzene | NA | 5,600 | NA | 12 | ND<0.5 |
| Toluene | NA | 11,000 | NA | 4.8 | ND<0.5 |
| Ethylbenzene | NA | 990 | NA | 1.2 | ND<0.5 |
| Xylene | NA | 18,000 | NA | 26 | ND<2 |
| **4-Oct-96** | | | | | |
| TPHg | NA | 2,100 | NA | 670 | 44 |
| Benzene | NA | 2,900 | NA | 3,700 | ND<30 |
| Toluene | NA | 13,000 | NA | 8,400 | 50 |
| Ethylbenzene | NA | 7,000 | NA | 1,600 | 110 |
| Xylene | NA | 170,000 | NA | 36,000 | 870 |
| **11-Dec-96** | | | | | |
| TPHg | 69 | 5 | 51 | 2.8 | 0.31 |
| Benzene | 11,000 | 72 | 4,300 | 2.3 | ND<0.5 |
| Toluene | 17,000 | 120 | 8,500 | 8.0 | ND<0.5 |
| Ethylbenzene | 1,500 | 32 | 750 | 7.8 | 0.6 |
| Xylene | 12,000 | 1,000 | 16,000 | 45 | ND<2 |
| **16-Dec-96** | | | | | |
| TPHg | NA | 6 | NA | NA | 0.16 |
| Benzene | NA | 450 | NA | NA | ND<0.5 |
| Toluene | NA | 790 | NA | NA | ND<0.5 |
| Ethylbenzene | NA | 52 | NA | NA | ND<0.5 |
| Xylene | NA | 540 | NA | NA | ND<2 |
| **23-Dec-96** | | | | | |
| TPHg | 100 | NA | NA | NA | NA |
| Benzene | 15,000 | NA | NA | NA | NA |
| Toluene | 26,000 | NA | NA | NA | NA |
| Ethylbenzene | 1,800 | NA | NA | NA | NA |
| Xylene | 14,000 | NA | NA | NA | NA |
| **18-Feb-97** | | | | | |
| TPHg | NA | 2.0 | NA | 0.12 | ND<0.05 |

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**Blue Print Service Facility**
**1700 Jefferson Street**
**Oakland, California**

| Date/Analytes | Bioreactor Influent | Bioreactor Effluent | First Carbon Bed Effluent | Second Carbon Bed Effluent | Third* Carbon Bed Effluent |
|---|---|---|---|---|---|
| Benzene | NA | 14 | NA | ND<0.5 | ND<0.5 |
| Toluene | NA | 18 | NA | ND<0.5 | ND<0.5 |
| Ethylbenzene | NA | 2.1 | NA | ND<0.5 | ND<0.5 |
| Xylene | NA | 140 | NA | ND<2 | ND<2 |
| **6-May-97** | | | | | |
| TPHg | NA | 3.9 | NA | 0.05 | ND<0.05 |
| Benzene | NA | 390 | NA | ND<0.5 | ND<0.5 |
| Toluene | NA | 770 | NA | ND<0.5 | ND<0.5 |
| Ethylbenzene | NA | 20 | NA | ND<0.5 | ND<0.5 |
| Xylene | NA | 700 | NA | ND<2 | ND<2 |
| **21-Jun-97** | | | | | |
| TPHg | NA | 0.22 | NA | 0.68 | ND<0.05 |
| Benzene | NA | 0.9 | NA | ND<0.5 | ND<0.5 |
| Toluene | NA | ND<0.5 | NA | ND<0.5 | ND<0.5 |
| Ethylbenzene | NA | ND<0.5 | NA | ND<0.5 | ND<0.5 |
| Xylene | NA | 5 | NA | ND<2 | ND<2 |
| **13-Aug-97** | | | | | |
| TPHg | NA | 0.28 | NA | 0.05 | ND<0.05 |
| Benzene | NA | 4.2 | NA | ND<0.5 | ND<0.5 |
| Toluene | NA | 0.9 | NA | ND<0.5 | ND<0.5 |
| Ethylbenzene | NA | ND<0.5 | NA | ND<0.5 | ND<0.5 |
| Xylene | NA | 5 | NA | ND<2 | ND<2 |
| **3-Oct-97** | | | | | |
| TPHg | NA | 0.49 | NA | 0.17 | ND<0.05 |
| Benzene | NA | 8.4 | NA | 2.2 | ND<0.5 |
| Toluene | NA | 0.7 | NA | ND<0.5 | ND<0.5 |
| Ethylbenzene | NA | ND<0.5 | NA | ND<0.5 | ND<0.5 |
| Xylene | NA | 3 | NA | ND<2 | ND<2 |
| **23-Dec-97** | | | | | |
| TPHg | NA | NA | NA | 0.26 | ND<0.05 |
| Benzene | NA | NA | NA | ND<0.5 | ND<0.5 |
| Toluene | NA | NA | NA | 0.8 | ND<0.5 |
| Ethylbenzene | NA | NA | NA | 0.6 | ND<0.5 |
| Xylene | NA | NA | NA | 2 | ND<2 |
| **9-Feb-98** | | | | | |
| TPHg | NA | NA | NA | NA | ND<0.05 |
| Benzene | NA | NA | NA | NA | ND<0.5 |
| Toluene | NA | NA | NA | NA | ND<0.5 |
| Ethylbenzene | NA | NA | NA | NA | ND<0.5 |
| Xylene | NA | NA | NA | NA | ND<2 |
| **24-Mar-98** | | | | | |

**Table 2. Groundwater Treatment System Analytical Results**
**Blue Print Service Facility**
**1700 Jefferson Street**
**Oakland, California**

| Date/Analytes | Bioreactor Influent | Bioreactor Effluent | First Carbon Bed Effluent | Second Carbon Bed Effluent | Third* Carbon Bed Effluent |
|---|---|---|---|---|---|
| TPHg | NA | NA | NA | NA | ND<0.05 |
| Benzene | NA | NA | NA | NA | ND<0.5 |
| Toluene | NA | NA | NA | NA | ND<0.5 |
| Ethylbenzene | NA | NA | NA | NA | ND<0.5 |
| Xylene | NA | NA | NA | NA | ND<2 |
| **31-Mar-98** | | | | | |
| TPHg | 51 | 0.44 | NA | NA | NA |
| Benzene | 5,800 | 17 | NA | NA | NA |
| Toluene | 9,200 | 11 | NA | NA | NA |
| Ethylbenzene | 700 | ND(0.5) | NA | NA | NA |
| Xylene | 9,000 | 6 | NA | NA | NA |
| **18-Jun-98** | | | | | |
| TPHg | 26 | ND(0.050) | NA | NA | ND(0.30) |
| Benzene | 4,100 | ND(0.30) | NA | NA | ND(0.30) |
| Toluene | 1,900 | ND(0.30) | NA | NA | ND(0.30) |
| Ethylbenzene | ND(15) | ND(0.30) | NA | NA | ND(0.30) |
| Xylene | 4,700 | ND(0.60) | NA | NA | ND(0.60) |

TPHg = total petroleum hydrocarbons as gasoline
TPHg concentrations presented in milligrams per liter (mg/l)
Benzene, Toluene, Ethylbenzene, and Xylenes concentrations presented in micrograms per liter (µg/l)
ND = Not detected above the reporting limit in parenthesis
NA = Not analyzed
* Third carbon added in-line December 29, 1996

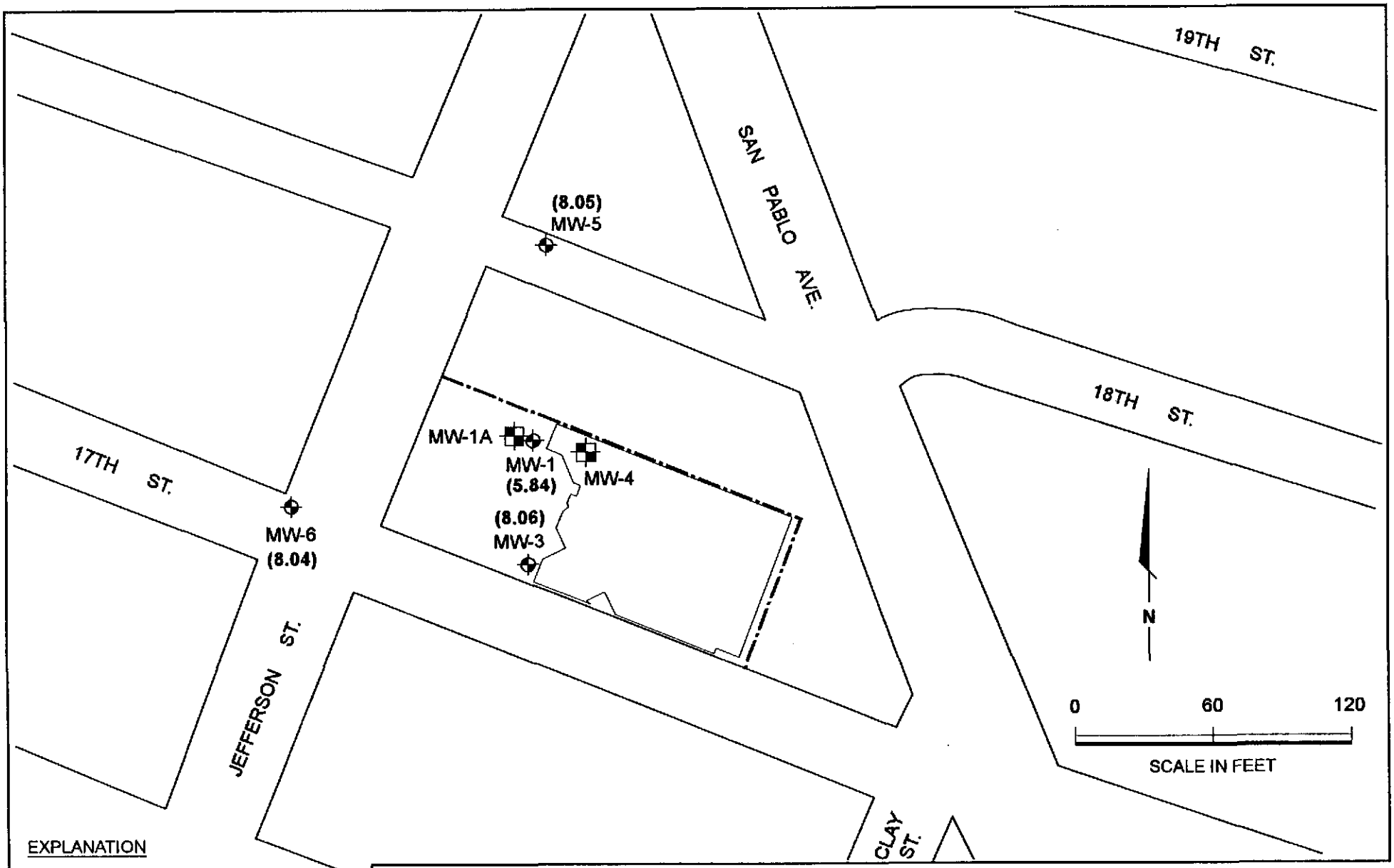
**Table 2. Groundwater Treatment System Analytical Results**
**Blue Print Service Facility**
**1700 Jefferson Street**
**Oakland, California**

| Date/Analytes | Bioreactor Influent | Bioreactor Effluent | First Carbon Bed Effluent | Second Carbon Bed Effluent | Third* Carbon Bed Effluent |
|---|---|---|---|---|---|
| **16-Jun-92** | | | | | |
| TPHg | NA | 3 | ND <0.05 | NA | — |
| Benzene | NA | 220 | ND <0.3 | NA | — |
| Toluene | NA | 460 | ND <0.3 | NA | — |
| Ethylbenzene | NA | 35 | ND <0.3 | NA | — |
| Xylene | NA | 290 | ND <0.3 | NA | — |
| **19-Jun-92** | | | | | |
| TPHg | 180 | 2 | ND <0.05 | NA | — |
| Benzene | 18,000 | 2 | ND <0.3 | NA | — |
| Toluene | 31,000 | 5 | ND <0.3 | NA | — |
| Ethylbenzene | 2,200 | ND <0.3 | ND <0.3 | NA | — |
| Xylene | 16,000 | 150 | ND <0.3 | NA | — |
| **2-Jul-92** | | | | | |
| TPHg | 160 | 0 | ND <0.05 | NA | — |
| Benzene | 14,000 | 1 | ND <0.3 | NA | — |
| Toluene | 27,000 | ND <0.3 | ND <0.3 | NA | — |
| Ethylbenzene | 1,700 | ND <0.3 | ND <0.3 | NA | — |
| Xylene | 1,300 | 1 | ND <0.3 | NA | — |
| **20-Aug-92** | | | | | |
| TPHg | 190 | 6 | 0.073 | NA | — |
| Benzene | 14,000 | 31 | ND <0.3 | NA | — |
| Toluene | 24,000 | 14 | ND <0.3 | NA | — |
| Ethylbenzene | 2,000 | ND <6 | ND <0.3 | NA | — |
| Xylene | 13,000 | 150 | ND <0.3 | NA | — |
| **15-Sep-92** | | | | | |
| TPHg | 230 | 23 | 0.054 | NA | — |
| Benzene | 17,000 | 1,100 | 0.4 | NA | — |
| Toluene | 29,000 | 3,600 | 0.8 | NA | — |
| Ethylbenzene | 2,200 | 59 | ND <0.3 | NA | — |
| Xylene | 15,000 | 1,100 | 0.6 | NA | — |
| **3-Mar-94** | | | | | |
| TPHg | 80 | 4 | NA | ND <0.05 | — |
| Benzene | 1,500 | 270 | NA | ND <0.5 | — |
| Toluene | 9,200 | 370 | NA | ND <0.5 | — |
| Ethylbenzene | 1,000 | 32 | NA | ND <0.5 | — |
| Xylene | 14,000 | 840 | NA | ND <0.5 | — |
| **7-Apr-94** | | | | | |
| TPHg | 79 | 0 | ND <0.05 | NA | — |
| Benzene | 8,300 | 16 | 3.7 | NA | — |
| Toluene | 19,000 | 4 | ND <0.5 | NA | — |
| Ethylbenzene | 990 | ND <0.5 | ND <0.5 | NA | — |

**Table 3. Groundwater Monitoring Analytical Results**
**Blue Print Service Facility**
**1700 Jefferson Street**
**Oakland, California**

| | Date Sampled | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPHg (mg/l) | 8/1/91 | 9/30/92 | 3/30/93 | 1/13/94 | 4/13/94 | 6/29/94 | 12/8/94 | 4/3/95 | 6/27/95 | 9/19/95 | 12/13/95 | 3/6/96 | 6/11/96 | 9/19/96 | 12/23/96 | 3/27/97 | 6/4/97 | 9/26/97 | 12/23/97 | 3/31/98 | 6/18/98 |
| MW-1 | FP | FP | FP | FP | FP | FP | FP | NA | NA | NA | NA | NA | FP | FP | FP | FP | 68 | 59 | 41 | 44 | 32 |
| MW-1A | 350 | FP | FP | FP | 170 | 95 | 190 | 67 | 53 | 52 | 62 | 200 | 140 | 100 | FP | 86 | 54 | 73 | 66 | 51 | 50 |
| MW-3 | 74 | FP | FP | FP | FP | 39 | 4,600 | 51 | 20 | 6.2 | 19 | 7 | 16 | 6 | FP | FP | 85 | 47 | 32 | 32 | 16 |
| MW-4 | 86 | FP | FP | FP | 58 | 16 | 92 | 35 | 13 | 14 | 11 | 110 | 260 | 95 | FP | 37 | 24 | 41 | 48 | NA | 25 |
| MW-5 | 120 | 51 | 74 | 80 | 63 | 64 | 59 | 51 | 41 | 50 | 45 | 51 | 48 | 48 | 45 | 44 | 35 | 36 | 39 | 48 | 17 |
| MW-6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Benzene (µg/l) | | | | | | | | | | | | | | | | | | | | | |
| MW-1 | FP | FP | FP | FP | FP | FP | FP | NA | NA | NA | NA | NA | FP | FP | FP | FP | 2,200 | 6,000 | 6,800 | 8,300 | 1,100 |
| MW-1A | 17,000 | FP | FP | FP | 17,000 | 16,000 | 13,000 | 11,000 | 11,000 | 8,900 | 9,900 | 14,000 | 18,000 | 16,000 | FP | 12,000 | 11,000 | 10,000 | 10,000 | 9,100 | 11,000 |
| MW-3 | 1,600 | FP | FP | FP | FP | 3,200 | 1,500 | 1,100 | 270 | 70 | 220 | 120 | 170 | 45 | FP | FP | 8,500 | 610 | 640 | 690 | 180 |
| MW-4 | 1,500 | FP | FP | FP | 1,500 | 1,300 | 1,700 | 1,200 | 1,300 | 2,200 | 630 | 2,600 | 6,600 | 9,900 | FP | 2,600 | 2,600 | 2,900 | 6,000 | NA | 2,000 |
| MW-5 | 20,000 | 13,000 | 16,000 | 19,000 | 14,000 | 29,000 | 13,000 | 15,000 | 12,000 | 1,600 | 13,000 | 15,000 | 12,000 | 12,000 | 12,000 | 11,000 | 8,900 | 7,900 | 13,000 | 10,000 | 9,500 |
| MW-6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.30) |
| Toluene (µg/l) | | | | | | | | | | | | | | | | | | | | | |
| MW-1 | FP | FP | FP | FP | FP | FP | FP | NA | NA | NA | NA | NA | FP | FP | FP | 14,000 | 4,500 | 3,000 | 3,000 | 3,700 | 3,800 |
| MW-1A | 31,000 | FP | FP | FP | 31,000 | 21,000 | 21,000 | 13,000 | 9,900 | 9,200 | 11,000 | 22,000 | 28,000 | 22,000 | FP | 15,000 | 12,000 | 16,000 | 16,000 | 11,000 | 15,000 |
| MW-3 | 4,600 | FP | FP | FP | FP | 2,900 | 4,200 | 2,300 | 550 | 140 | 480 | 170 | 270 | 30 | FP | FP | 13,000 | 6,000 | 5,300 | 3,800 | 1,500 |
| MW-4 | 6,200 | FP | FP | FP | 2,500 | 790 | 4,100 | 3,400 | 1,600 | 2,100 | 470 | 3,600 | 18,000 | 19,000 | FP | 6,900 | 3,200 | 5,000 | 11,000 | NA | 460 |
| MW-5 | 14,000 | 5,900 | 5,000 | 8,200 | 3,500 | 5,400 | 3,800 | 2,200 | 2,100 | 2,700 | 2,100 | 2,800 | 2,900 | 4,500 | 2,200 | 1,100 | 560 | 270 | 500 | 400 | 310 |
| MW-6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.30) |
| Ethylbenzene (µg/l) | | | | | | | | | | | | | | | | | | | | | |
| MW-1 | FP | FP | FP | FP | FP | FP | FP | NA | NA | NA | NA | NA | FP | FP | FP | FP | 1,500 | 1,600 | 1,400 | 1,100 | 550 |
| MW-1A | 3,000 | FP | FP | FP | 2,100 | 1,500 | 1,400 | 910 | 500 | 710 | 790 | 2,700 | 2,800 | 2,100 | FP | 1,400 | 1,000 | 1,400 | 1,400 | 1,100 | 870 |
| MW-3 | 670 | FP | FP | FP | FP | 580 | 6,000 | 580 | 190 | 68 | 140 | 49 | 68 | 15 | FP | FP | 2,400 | 930 | 800 | 870 | 490 |
| MW-4 | 1,000 | FP | FP | FP | 520 | 51 | 310 | 280 | 77 | 110 | 14 | 780 | 3,700 | 2,000 | FP | 540 | 140 | 350 | 580 | NA | ND(15) |
| MW-5 | 1,900 | 1,400 | 1,800 | 1,400 | 1,500 | 2,800 | 1,800 | 2,800 | 1,400 | 2,000 | 16,000 | 2,000 | 2,000 | 2,300 | 2,700 | 1,900 | 1,500 | 1,500 | 1,900 | 2,000 | 420 |
| MW-6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | 0.5 | ND(0.5) | ND(0.30) |
| Xylene (µg/l) | | | | | | | | | | | | | | | | | | | | | |
| MW-1 | FP | FP | FP | FP | FP | FP | FP | NA | NA | NA | NA | NA | FP | FP | FP | FP | 11,000 | 8,600 | 6,600 | 4,300 | 3,000 |
| MW-1A | 22,000 | FP | FP | FP | 14,000 | 12,000 | 11,000 | 9,800 | 6,300 | 6,800 | 5,300 | 22,000 | 19,000 | 14,000 | FP | 100 | 7,200 | 8,500 | 12,000 | 6,800 | 5,800 |
| MW-3 | 4,300 | FP | FP | FP | FP | 4,300 | 95,000 | 4,800 | 1,700 | 500 | 1,700 | 440 | 1,500 | 300 | FP | FP | 16,000 | 5,900 | 5,900 | 5,200 | 3,700 |
| MW-4 | 7,300 | FP | FP | FP | 3,200 | 3,400 | 5,400 | 5,800 | 1,800 | 2,100 | 1,800 | 10,000 | 28,000 | 13,000 | FP | 6,500 | 3,500 | 4,800 | 8,200 | NA | 6,400 |
| MW-5 | 4,900 | 2,600 | 2,700 | 2,700 | 2,100 | 4,500 | 2,900 | 4,500 | 1,600 | 2,100 | 1,900 | 2,400 | 2,700 | 4,000 | 6,500 | 2,600 | 1,700 | 1,300 | 1,700 | 2,200 | 850 |
| MW-6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | ND(0.60) |
| MTBE (µg/l) | | | | | | | | | | | | | | | | | | | | | |
| MW-1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | FP | FP | ND(500) | ND(500) | 300 | 420 | ND(50) |
| MW-1A | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1,800 | ND(500) | ND(500) | 1,900 | 300 | ND(50) |
| MW-3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | FP | FP | ND(500) | ND(100) | ND(300) | 350 | ND(25) |
| MW-4 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1,400 | ND(300) | ND(500) | 270 | NA | ND(50) |
| MW-5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 600 | 300 | ND(100) | ND(500) | ND(1000) | 350 | ND(10) |
| MW-6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | ND(5) | ND(5) | ND(5) | ND(5) | ND(5) | ND(5) | ND(1.0) |

TPHg = total petroleum hydrocarbons as gasoline
MTBE = methyl t-butyl ether
(mg/l) milligrams per liter
(µg/l) micrograms per liter
ND = Not detected above the reporting limit in parenthesis
NA = Not analyzed
FP = Free Product
-- = Well did not exist at date indicated




EXPLANATION

- Site Boundary
- Monitoring Well
- Extraction Well
- (5.03) Groundwater Elevation (in feet based on City of Oakland datum)

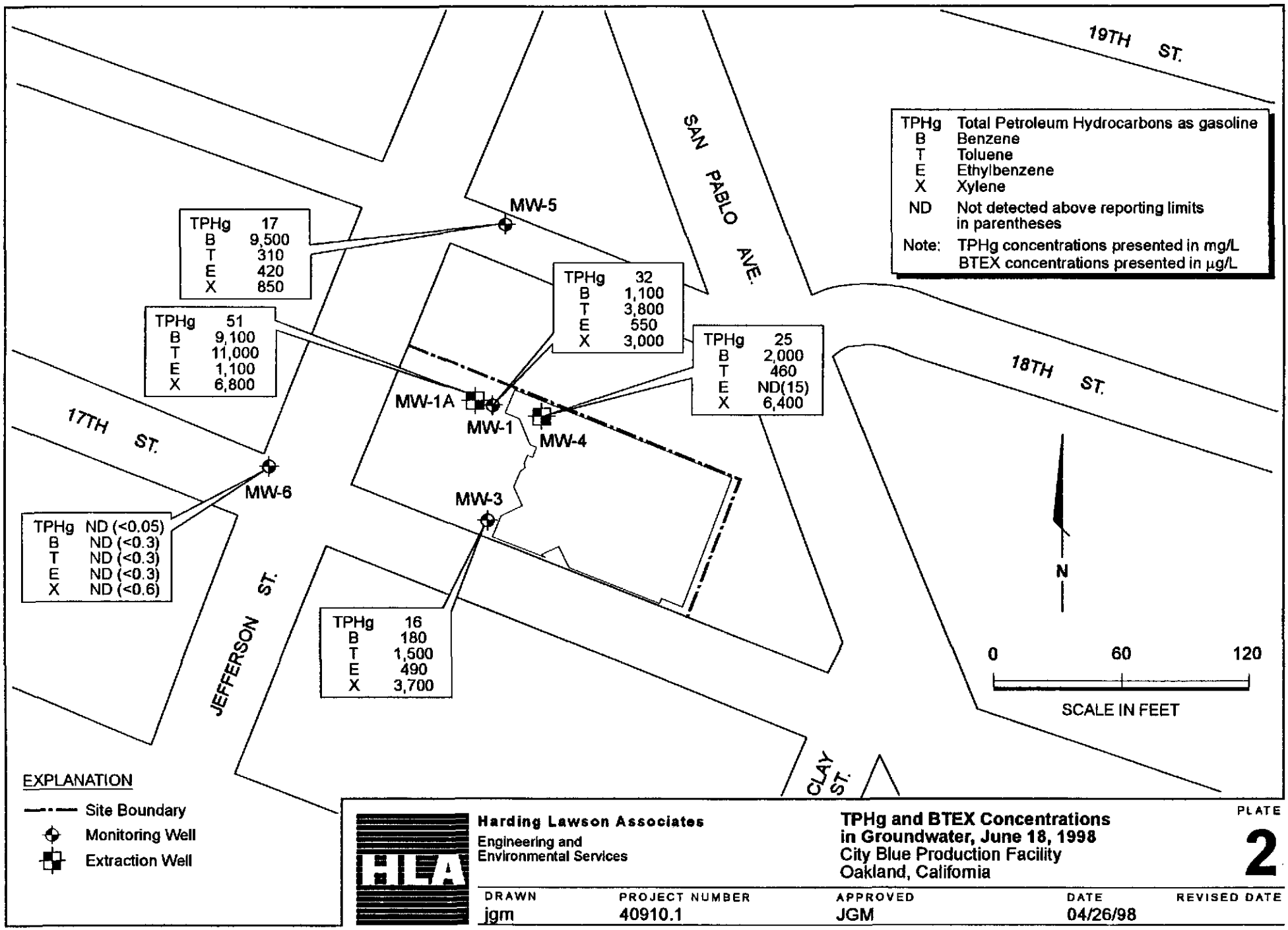
**Harding Lawson Associates**
Engineering and Environmental Services

**Groundwater Surface Elevations**
**June 18, 1998**
City Blue Production Facility
Oakland, California

PLATE **1**

| DRAWN | PROJECT NUMBER | APPROVED | DATE | REVISED DATE |
|---|---|---|---|---|
| jgm | 40910.1 | JGM | 07/06/98 | |

vic-0698.fh3




**Harding Lawson Associates**
Engineering and Environmental Services

**TPHg and BTEX Concentrations in Groundwater, June 18, 1998**
City Blue Production Facility
Oakland, California

PLATE **2**

| DRAWN | PROJECT NUMBER | APPROVED | DATE | REVISED DATE |
|---|---|---|---|---|
| jgm | 40910.1 | JGM | 04/26/98 | |

# APPENDIX A

# LABORATORY REPORTS

# CLS Labs

Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

06/29/98

*Attention:* **James McCarty**

*Reference:* **Analytical Results**

---

*Project Name:* **City Blue, BPS Oakland**
*Project No.:* **40910-1**
*Date Received:* **06/19/98**
*Chain Of Custody:* **1986**

*CLS ID No.:* **P4931**
*CLS Job No.:* **814931**

The following analyses were performed on the above referenced project:

| *No. of Samples* | *Turnaround Time* | *Analysis Description* |
|---|---|---|
| 6 | 10 Days | TPH as Gasoline, BTEX and MTBE |
| 3 | 10 Days | TPH Gasoline and BTXE (water) |

These samples were received by CLS Labs in a chilled, intact state and accompanied by a valid chain of custody document.

Calibrations for analytical testing have been performed in accordance to and pass the EPA's criteria for acceptability.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

George Hampton
Laboratory Director

3249 Fitzgerald Road Rancho Cordova, CA 95742 (916) 638-7301 Fax (916) 638-4510

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* MW-1

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-1A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (ug/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 1000 | 97 |

**MW-1**

| Analyte | CAS No. | Results (ug/L) | Rep. Limit (ug/L) | Dilution (factor) |
|---|---|---|---|---|
| Methyl t-butyl ether | 1634-04-4 | ND | 50 | 50 |
| Benzene | 71-43-2 | 11000 | 150 | 500 |
| Toluene | 108-88-3 | 3800 | 150 | 500 |
| Ethylbenzene | 100-41-4 | 550 | 15 | 50 |
| Xylenes, total | 1330-20-7 | 3000 | 30 | 50 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* MW-1A

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-2A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

SURROGATE

| Analyte | CAS No. | Surr Conc. (ug/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 1000 | 96 |

MW-1A

| Analyte | CAS No. | Results (ug/L) | Rep. Limit (ug/L) | Dilution (factor) |
|---|---|---|---|---|
| Methyl t-butyl ether | 1634-04-4 | ND | 50 | 50 |
| Benzene | 71-43-2 | 11000 | 150 | 500 |
| Toluene | 108-88-3 | 15000 | 150 | 500 |
| Ethylbenzene | 100-41-4 | 870 | 15 | 50 |
| Xylenes, total | 1330-20-7 | 5800 | 300 | 500 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* MW-3

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-3A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (ug/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 500 | 108 |

**MW-3**

| Analyte | CAS No. | Results (ug/L) | Rep. Limit (ug/L) | Dilution (factor) |
|---|---|---|---|---|
| Methyl t-butyl ether | 1634-04-4 | ND | 25 | 25 |
| Benzene | 71-43-2 | 180 | 7.5 | 25 |
| Toluene | 108-88-3 | 1500 | 30 | 100 |
| Ethylbenzene | 100-41-4 | 490 | 7.5 | 25 |
| Xylenes, total | 1330-20-7 | 3700 | 60 | 100 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* MW-4

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-4A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (ug/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 1000 | 94 |

**MW-4**

| Analyte | CAS No. | Results (ug/L) | Rep. Limit (ug/L) | Dilution (factor) |
|---|---|---|---|---|
| Methyl t-butyl ether | 1634-04-4 | ND | 50 | 50 |
| Benzene | 71-43-2 | 2000 | 15 | 50 |
| Toluene | 108-88-3 | 460 | 15 | 50 |
| Ethylbenzene | 100-41-4 | ND | 15 | 50 |
| Xylenes, total | 1330-20-7 | 6400 | 60 | 100 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* MW-5

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-5A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (ug/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 200 | 89 |

**MW-5**

| Analyte | CAS No. | Results (ug/L) | Rep. Limit (ug/L) | Dilution (factor) |
|---|---|---|---|---|
| Methyl t-butyl ether | 1634-04-4 | ND | 10 | 10 |
| Benzene | 71-43-2 | 9500 | 75 | 250 |
| Toluene | 108-88-3 | 310 | 3.0 | 10 |
| Ethylbenzene | 100-41-4 | 420 | 3.0 | 10 |
| Xylenes, total | 1330-20-7 | 850 | 150 | 250 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* MW-6

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-6A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (ug/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 20.0 | 103 |

**MW-6**

| Analyte | CAS No. | Results (ug/L) | Rep. Limit (ug/L) | Dilution (factor) |
|---|---|---|---|---|
| Methyl t-butyl ether | 1634-04-4 | ND | 1.0 | 1.0 |
| Benzene | 71-43-2 | ND | 0.30 | 1.0 |
| Toluene | 108-88-3 | ND | 0.30 | 1.0 |
| Ethylbenzene | 100-41-4 | ND | 0.30 | 1.0 |
| Xylenes, total | 1330-20-7 | ND | 0.60 | 1.0 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* Sep-Eff

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-7A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (ug/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 1000 | 93 |

**SEP-EFF**

| Analyte | CAS No. | Results (ug/L) | Rep. Limit (ug/L) | Dilution (factor) |
|---|---|---|---|---|
| Benzene | 71-43-2 | 4100 | 150 | 500 |
| Toluene | 108-88-3 | 1900 | 150 | 500 |
| Ethylbenzene | 100-41-4 | ND | 15 | 50 |
| Xylenes, total | 1330-20-7 | 4700 | 300 | 500 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* Bio-Eff

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-8A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (ug/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 20.0 | 88 |

**BIO-EFF**

| Analyte | CAS No. | Results (ug/L) | Rep. Limit (ug/L) | Dilution (factor) |
|---|---|---|---|---|
| Benzene | 71-43-2 | ND | 0.30 | 1.0 |
| Toluene | 108-88-3 | ND | 0.30 | 1.0 |
| Ethylbenzene | 100-41-4 | ND | 0.30 | 1.0 |
| Xylenes, total | 1330-20-7 | ND | 0.60 | 1.0 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* C-3-eff

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-9A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (ug/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 20.0 | 100 |

**C-3-EFF**

| Analyte | CAS No. | Results (ug/L) | Rep. Limit (ug/L) | Dilution (factor) |
|---|---|---|---|---|
| Benzene | 71-43-2 | ND | 0.30 | 1.0 |
| Toluene | 108-88-3 | ND | 0.30 | 1.0 |
| Ethylbenzene | 100-41-4 | ND | 0.30 | 1.0 |
| Xylenes, total | 1330-20-7 | ND | 0.60 | 1.0 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**MB SURROGATE**

| Analyte | CAS No. | Surr Conc. (ug/L) | MB Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 20.0 | 105 |

**METHOD BLANK**

| Analyte | CAS No. | Results (ug/L) | Reporting Limit (ug/L) |
|---|---|---|---|
| Methyl t-butyl ether | 1634-04-4 | ND | 1.0 |
| Benzene | 71-43-2 | ND | 0.30 |
| Toluene | 108-88-3 | ND | 0.30 |
| Ethylbenzene | 100-41-4 | ND | 0.30 |
| Xylenes, total | 1330-20-7 | ND | 0.60 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**MS SURROGATE**

| Analyte | CAS No. | MS Surr. Conc. (ug/L) | MS Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 20.0 | 97 |

**MATRIX SPIKE**

| Analyte | CAS No. | MS Conc. (ug/L) | MS Recovery (percent) |
|---|---|---|---|
| Benzene | 71-43-2 | 20.0 | 74 |
| Toluene | 108-88-3 | 20.0 | 73 |
| Ethylbenzene | 100-41-4 | 20.0 | 33 QC |
| Xylenes, total | 1330-20-7 | 60.0 | 54 QC |

**MSD SURROGATE**

| Analyte | CAS No. | Surr. Conc. (ug/L) | MSD Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 20.0 | 96 |

**MATRIX SPIKE DUPLICATE**

| Analyte | CAS No. | MSD Conc. (ug/L) | MSD Recovery (percent) |
|---|---|---|---|
| Benzene | 71-43-2 | 20.0 | 71 |
| Toluene | 108-88-3 | 20.0 | 67 QC |
| Ethylbenzene | 100-41-4 | 20.0 | 29 QC |
| Xylenes, total | 1330-20-7 | 60.0 | 76 QC |

**RELATIVE % DIFFERENCE**

| Analyte | CAS No. | Relative Percent Difference (percent) |
|---|---|---|

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
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383 4th Street, Third Floor
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*Project:* City Blue, BPS Oakland

*Date Extracted:* 06/23/98
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*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

## RELATIVE % DIFFERENCE(cont.)

| Analyte | CAS No. | Relative Percent Difference (percent) |
|---|---|---|
| Benzene | 71-43-2 | 4 |
| Toluene | 108-88-3 | 9 |
| Ethylbenzene | 100-41-4 | 13 |
| Xylenes, total | 1330-20-7 | 16 |

QC = Recovery data is not within standard QC limits. LCS recovery data validates methodology.

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

## LCS SURROGATE

| Analyte | CAS No. | LCS Conc. (ug/L) | LCS Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 20.0 | 95 |

## LAB CONTROL SAMPLE

| Analyte | CAS No. | LCS Conc. (ug/L) | LCS Recovery (percent) |
|---|---|---|---|
| Benzene | 71-43-2 | 20.0 | 92 |
| Toluene | 108-88-3 | 20.0 | 96 |
| Ethylbenzene | 100-41-4 | 20.0 | 108 |
| Xylenes, total | 1330-20-7 | 60.0 | 100 |

## LCS DUPLICATE SURROGATE

| Analyte | CAS No. | LCSD Conc. (ug/L) | LCSD Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 20.0 | 97 |

## LAB CONTROL SAMPLE DUPLICATE

| Analyte | CAS No. | LCS Conc. (ug/L) | LCSD Recovery (percent) |
|---|---|---|---|
| Benzene | 71-43-2 | 20.0 | 103 |
| Toluene | 108-88-3 | 20.0 | 102 |
| Ethylbenzene | 100-41-4 | 20.0 | 103 |
| Xylenes, total | 1330-20-7 | 60.0 | 103 |

## LCS RPD

| Analyte | CAS No. | LCS Relative Percent Difference (percent) |
|---|---|---|

# CLS Labs

*Analysis Report:* BTEX, EPA Method 602
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

## LCS RPD(cont.)

| Analyte | CAS No. | LCS Relative Percent Difference (percent) |
|---|---|---|
| Benzene | 71-43-2 | 11 |
| Toluene | 108-88-3 | 6 |
| Ethylbenzene | 100-41-4 | 5 |
| Xylenes, total | 1330-20-7 | 3 |

# CLS Labs

*Analysis Report:* Total Petroleum Hydrocarbons, EPA Method 8015
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* MW-1

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-1A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (mg/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 1.00 | 108 |

**MW-1**

| Analyte | CAS No. | Results (mg/L) | Rep. Limit (mg/L) | Dilution (factor) |
|---|---|---|---|---|
| TPH as Gasoline | N/A | 32 | 2.5 | 50 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* Total Petroleum Hydrocarbons, EPA Method 8015
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* MW-1A

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-2A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (mg/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 1.00 | 106 |

**MW-1A**

| Analyte | CAS No. | Results (mg/L) | Rep. Limit (mg/L) | Dilution (factor) |
|---|---|---|---|---|
| TPH as Gasoline | N/A | 50 | 2.5 | 50 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* Total Petroleum Hydrocarbons, EPA Method 8015
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* MW-3

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-3A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (mg/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 0.500 | 125 |

**MW-3**

| Analyte | CAS No. | Results (mg/L) | Rep. Limit (mg/L) | Dilution (factor) |
|---|---|---|---|---|
| TPH as Gasoline | N/A | 16 | 1.3 | 25 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

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Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* MW-4

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-4A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (mg/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 1.00 | 91 |

**MW-4**

| Analyte | CAS No. | Results (mg/L) | Rep. Limit (mg/L) | Dilution (factor) |
|---|---|---|---|---|
| TPH as Gasoline | N/A | 25 | 2.5 | 50 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* Total Petroleum Hydrocarbons, EPA Method 8015
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* MW-5

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-5A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (mg/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 0.500 | 98 |

**MW-5**

| Analyte | CAS No. | Results (mg/L) | Rep. Limit (mg/L) | Dilution (factor) |
|---|---|---|---|---|
| TPH as Gasoline | N/A | 17 | 1.3 | 25 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* Total Petroleum Hydrocarbons, EPA Method 8015
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* MW-6

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-6A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (mg/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 0.0200 | 95 |

**MW-6**

| Analyte | CAS No. | Results (mg/L) | Rep. Limit (mg/L) | Dilution (factor) |
|---|---|---|---|---|
| TPH as Gasoline | N/A | ND | 0.050 | 1.0 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* Total Petroleum Hydrocarbons, EPA Method 8015
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* Sep-Eff

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-7A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (mg/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 1.00 | 94 |

**SEP-EFF**

| Analyte | CAS No. | Results (mg/L) | Rep. Limit (mg/L) | Dilution (factor) |
|---|---|---|---|---|
| TPH as Gasoline | N/A | 26 | 2.5 | 50 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* Total Petroleum Hydrocarbons, EPA Method 8015
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* Bio-Eff

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-8A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (mg/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 0.0200 | 81 |

**BIO-EFF**

| Analyte | CAS No. | Results (mg/L) | Rep. Limit (mg/L) | Dilution (factor) |
|---|---|---|---|---|
| TPH as Gasoline | N/A | ND | 0.050 | 1.0 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* Total Petroleum Hydrocarbons, EPA Method 8015
Purge and Trap, EPA Method 5030

*Client:* Harding Lawson Associates
Engineering and Environmental
383 4th Street, Third Floor
Oakland, CA 94607

*Project:* City Blue, BPS Oakland

*Date Sampled:* 06/18/98
*Date Received:* 06/19/98
*Date Extracted:* 06/23/98
*Date Analyzed:* 06/23/98
*Date Reported:* 06/26/98
*Client ID No.:* C-3-eff

*Project No.:* 40910-1
*Contact:* James McCarty
*Phone:* (510)451-1001

*Lab Contact:* George Hampton
*Lab ID No.:* P4931-9A
*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**SURROGATE**

| Analyte | CAS No. | Surr Conc. (mg/L) | Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 0.0200 | 97 |

**C-3-EFF**

| Analyte | CAS No. | Results (mg/L) | Rep. Limit (mg/L) | Dilution (factor) |
|---|---|---|---|---|
| TPH as Gasoline | N/A | ND | 0.050 | 1.0 |

ND = Not detected at or above indicated Reporting Limit

# CLS Labs

*Analysis Report:* Total Petroleum Hydrocarbons, EPA Method 8015
Purge and Trap, EPA Method 5030

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Oakland, CA 94607

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*Job No.:* 814931
*COC Log No.:* 1986
*Batch No.:* 22676
*Instrument ID:* GC007
*Analyst ID:* NGOCDUNG
*Matrix:* WATER

**MB SURROGATE**

| Analyte | CAS No. | Surr Conc. (mg/L) | MB Surrogate Recovery (percent) |
|---|---|---|---|
| o-Chlorotoluene | 95-49-8 | 0.0200 | 105 |

**METHOD BLANK**

| Analyte | CAS No. | Results (mg/L) | Reporting Limit (mg/L) |
|---|---|---|---|
| TPH as Gasoline | N/A | ND | 0.050 |

ND = Not detected at or above indicated Reporting Limit

**Harding Lawson Associates**
383 Fourth Street, Third Floor
Oakland, California 94607
Telephone: 510/451-1001

# CHAIN OF CUSTODY FORM

PM931

Lab: CLS No 1986

Samplers: James McCarty

Job Number: 40910-1

Name/Location: City Blue, BPS Oakland

Project Manager: James McCarty

Recorder: James McCarty (Signature Required)

| SOURCE CODE | MATRIX: Water | Sediment | Soil | Oil | # CONTAINERS & PRESERV.: Unpres. | $H_2SO_4$ | $HNO_3$ | HCL | Ice | SAMPLE NUMBER OR LAB NUMBER: Yr | Wk | Seq | DATE: Yr | Mo | Day | Time | STATION DESCRIPTION/ NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X | | | | 3 | | | | X | MW-1 | | | 98 | 06 | 18 | 1045 | |
| | | | | | | | | | | MW-1A | | | | | | 0934 | |
| | | | | | | | | | | MW-3 | | | | | | 1000 | |
| | | | | | | | | | | MW-4 | | | | | | 0932 | |
| | | | | | | | | | | MW-5 | | | | | | 0819 | |
| | | | | | | | | | | MW-6 | | | | | | 0738 | |
| | | | | | | | | | | Sep-Eff | | | | | | 0930 | |
| | | | | | | | | | | Bio-Eff | | | | | | 0936 | |
| | | | | | | | | | | C-3-eff | | | | | | 0938 | System Effluent |

ANALYSIS REQUESTED

| EPA 601/8010 | EPA 602/8020 | EPA 624/8240 | EPA 625/8270 | METALS | EPA 8015M/TPHg | EPA 8020/BTEX | EPA 8015M/TPHd,o | TPHd | BTEX | MTBE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | X | X | X |
| | | | | | | | | X | X | X |
| | | | | | | | | X | X | X |
| | | | | | | | | X | X | X |
| | | | | | | | | X | X | X |
| | | | | | | | | X | X | X |
| | | | | | | | | X | X | |
| | | | | | | | | X | X | |
| | | | | | | | | X | X | |

| LAB NUMBER: Yr | Wk | Seq | DEPTH IN FEET | COL MTD CD | QA CODE |
|---|---|---|---|---|---|
| | | | | | |

MISCELLANEOUS

5d TAT

Please email electronic copy in excel format to jmccarty@harding.com

CHAIN OF CUSTODY RECORD

| RELINQUISHED BY: (Signature) | RECEIVED BY: (Signature) | DATE/TIME |
|---|---|---|
| James McCarty | | 6/19/98 1245 |
| RELINQUISHED BY: (Signature) | RECEIVED BY: (Signature) | DATE/TIME |
| RELINQUISHED BY: (Signature) | RECEIVED BY: (Signature) | DATE/TIME |
| RELINQUISHED BY: (Signature) | RECEIVED BY: (Signature) | DATE/TIME |
| DISPATCHED BY: (Signature) DATE/TIME | RECEIVED FOR LAB BY: (Signature) | DATE/TIME 6/19/98 1440 |

METHOD OF SHIPMENT

SAMPLE CONDITION WHEN RECEIVED BY THE LABORATORY

Laboratory Copy Project Office Copy Field or Office Copy