Harding Lawson Associates

April 28, 1995

31531 1

Ms. Molly Ong
East Bay Municipal Utilities District
P.O. Box 24055
Oakland, California 94623-1055

ENVIRONMENTAL PROTECTION
95 APR 31 PM 3:13

Semiannual Report
October 1, 1994 through April 3, 1995
City Blue Groundwater Treatment System
1700 Jefferson Street
Oakland, California

Dear Ms. Ong:

This letter presents the current status and discusses the results of sampling and analysis of treated groundwater at the City Blue Production facility, 1700 Jefferson Street, Oakland, California for the period of October 1, 1994 through April 3, 1995.

This letter also presents quarterly sampling results from the groundwater monitoring and extraction wells for the period of January 1, 1995 through April 3, 1995. The quarterly results are provided for the Alameda County Health Care Services Agency.

BACKGROUND

Three underground storage tanks (USTs) were removed from the northwestern portion of the property in June 1987 (Plate 1). Monitoring wells were installed on the property to evaluate the distribution of petroleum hydrocarbons in the soil and groundwater and determine the direction of groundwater flow.

Separate-phase petroleum hydrocarbons (gasoline) were found floating on the surface of the groundwater in Monitoring Well MW-1. In January 1988, two additional monitoring wells (MW-1A and MW-4) were installed by HLA at the facility (Plate 1). One downgradient offsite monitoring well (MW-5) was installed by HLA in August 1988.

HLA performed additional investigations in 1989 and performed an aquifer testing and groundwater treatment feasibility study in 1990. The groundwater treatment feasibility study identified biodegradation as a feasible and cost-effective groundwater treatment method for the City Blue site.

From October 1987 to March 1991, Blue Print Service Company (BPS) personnel recovered gasoline from Monitoring Well MW-1 and kept a record of the gasoline recovery on a product skimming log. Gasoline was bailed from the well with a bailer between 15 and 20 times a month. Between October 1987 and March 1991, a total of approximately 2,300 gallons of gasoline was recovered from MW-1.

PROCESS DESCRIPTION

Groundwater containing elevated concentrations of petroleum hydrocarbons as gasoline and separate-phase gasoline is being collected from two onsite extraction wells, MW-1A and MW-4. The long-term combined extraction flow rate averages 0.7 to 0.8 gallons per minute (gpm). Air displacement pumps in the wells convey total fluids through aboveground and underground piping to the treatment system. The existing groundwater treatment system began operation in June 1992, and is comprised of the following three modules:

Pretreatment: The groundwater and separate phase gasoline are pumped from the extraction wells to an aboveground oil/water separator. The gasoline is separated from the water and flows to an aboveground recovered product tank. The gasoline is periodically pumped from the tank by BPS, mixed with fresh gasoline, and used in the BPS company vehicles.

Treatment: The water separated from the gasoline is pumped to a 3,000-gallon biotreatment tank where the water is mixed with nutrients and oxygen to stimulate the growth of microorganisms that degrade the hydrocarbons.

Post-treatment: When the contents of the biotreatment tank reach a designated high level, a batch discharge of approximately 500 gallons is pumped through sand filters to remove particulates (biomass). The filtered water flows through activated carbon drums to adsorb the remaining hydrocarbons. After passing through two activated carbon drums the treated water flows through a flow totalizer and is discharged to the sanitary sewer. Flow totalizer readings are recorded weekly and are presented in Table 3. At the combined pumping rate of 0.7 to 0.8 gpm, an average of approximately 1,000 gallons of treated water is discharged to the sanitary sewer per day. Vapor from the bioreactor is passed through a vapor phase carbon adsorption unit before being released to the atmosphere.

The treatment system has been permitted by the Bay Area Air Quality Management District (BAAQMD), the East Bay Municipal Utilities District (EBMUD), and the Oakland Fire Department.

TREATMENT SYSTEM STATUS

For the period of October 1, 1994 through March 31, 1995 the groundwater treatment system has discharged 86,961 gallons of treated water to the sanitary sewer. Over this period the average daily discharge flow rates have ranged from 172 gallons per day (gpd) to 1,060 gpd. The lower flow rates are caused by system down time associated with maintenance operations such as sand filter and carbon vessel backwashing.

For the months of February and March, there was no discharge of treated water while HLA obtained a permit from EBMUD for a one-time direct discharge of the bioreactor contents to remove excess sludge. On February 1, 1995, the extraction wells and the bioreactor effluent pump were turned off to allow for increased degradation of hydrocarbons in the bioreactor to below the sanitary sewer discharge limits. Before authorizing a batch discharge from the bioreactor, Ms. Molly Ong from EBMUD requested that the contents be analyzed for total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene,

ethylbenzene, and total xylenes (BTEX), filtered chemical oxygen demand (CODf), total suspended solids (TSS), cadmium, chromium, copper, lead, nickel, and zinc.

The bioreactor was sampled on February 10, 1995. Benzene, toluene, and xylenes were detected above the discharge limit. The bioreactor was sampled again on February 28, 1995 and analyzed for BTEX only. None of the BTEX compounds were detected in the February 28, 1995 sample. Based on these results, Ms. Ong authorized the discharge with additional sampling requirements during the discharge. A copy of the discharge authorization with sampling requirements and the analytical results for the February 10, 1995 and February 28, 1995 samples are presented in Appendix A.

The bioreactor was drained and rinsed with tap water by HLA on March 17, 1995. As required, water samples were collected during the batch discharge. The laboratory report for the samples collected during discharge is also presented in Appendix A. Approximately 2,500 gallons of water with suspended sludge were discharged directly from the bioreactor to the sanitary sewer.

TREATMENT SYSTEM SAMPLING AND ANALYSIS

After rinsing the bioreactor, HLA refilled the tank with a combination of tap water and groundwater on March 18 and 19, 1995 and visually monitored for a build up of microorganisms. The bioreactor was sampled on April 3, 1995. The bioreactor sample was analyzed for TPHg and BTEX. The bioreactor sample contained TPHg at a concentration of 0.1 milligrams per liter (mg/l) and benzene at a concentration of 0.9 micrograms per liter (μg/l). The laboratory report for the April 3, 1995 biotank sample is presented with the treatment system laboratory reports in Appendix B. Discharge from the bioreactor, through the carbon vessels to the sanitary sewer resumed on April 3, 1995.

In accordance with the East Bay Municipal Utilities District (EBMUD) Wastewater Discharge Permit (Account No. 500-68191), HLA has sampled the treatment system effluent on a quarterly basis. The treatment system water samples were collected on December 19, 1994 from the bioreactor effluent before carbon adsorption, the effluent side of the first carbon vessel, CB-1, and the effluent side of the second carbon vessel, CB-2, before discharge to the sanitary sewer. Additional samples of the effluent from CB-1 and CB-2 were collected on January 5, 1995. The sampling locations are shown on Plate 2, Process Flow and Sampling Locations, and the analytical results are summarized in Table 1. The laboratory reports are presented in Appendix B.

Water samples were decanted from brass sampling ports into 40-milliliter volatile organic analysis (VOA) vials. The water samples were stored in coolers on ice and submitted to American Environmental Network Laboratory in Pleasant Hill, California under chain-of-custody protocol for analysis. The samples were analyzed by EPA Test Method 8015 for TPHg and EPA Test Method 8020 for BTEX.

TREATMENT SYSTEM ANALYTICAL RESULTS

A summary of the analytical results for samples collected from the treatment system flow are presented in Table 1. The results indicate that the carbon beds are no longer adsorbing all detectable concentrations of TPHg and BTEX. Detectable concentrations of benzene and toluene have been discharged to the sanitary sewer. However, the concentrations discharged to the sewer are well below

the discharge limits. The discharge to the sanitary sewer was last sampled by EBMUD on April 5, 1995. HLA has ordered replacement carbon vessels to be installed by May 5, 1995.

GROUNDWATER SAMPLING AND ANALYSIS

HLA sampled Wells MW-1A, MW-3, MW-4, and MW-5 on April 3, 1995. Well MW-2 was damaged and abandoned during construction of the present BPS facility.

Monitoring wells MW-3 and MW-5 were sampled after checking for separate-phase gasoline, measuring the water levels, purging at least three well volumes from each, and measuring the pH, conductivity, and temperature of the purge water. Three 40-milliliter VOA vials of water were collected from each well with a Teflon bailer. MW-3 contained a sheen of separate-phase gasoline.

The two extraction wells, MW-1A and MW-4, were sampled from brass sampling ports in the flow line from the wells to the treatment system prior to the oil/water separator (Plate 2). Three 40-milliliter VOA vials were collected from each port.

All of the water samples were stored in ice-chilled coolers and submitted to American Environmental Network Laboratory in Pleasant Hill, California under chain-of-custody protocol for analysis. The samples were analyzed by EPA Test Method 8015 for TPHg and EPA Test Method 8020 for BTEX.

The analytical results are summarized in Table 2, along with past results. The laboratory report is presented in Appendix C.

If you have any questions, please contact David Scrivner at (510) 687-9660.

Yours very truly,

HARDING LAWSON ASSOCIATES

David F. Scrivner, P.E.
Civil Engineer

for David R. Kleesattel, R.G.
Associate Geologist

DFS/DRK/ly 035193P

Attachments: Table 1 - Groundwater Treatment System Analytical Results
Table 2 - Groundwater Analytical Results
Table 3 - Flow Totalizer Readings
Table 4 - Monitoring Well Product Thickness Measurements
Plate 1 - Site Plan
Plate 2 - Process Flow and Sampling Locations
Appendix A - Bioreactor Discharge Authorization and Laboratory Reports
Appendix B - Treatment System Sample Laboratory Reports
Appendix C - Groundwater Sample Laboratory Reports

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

Mr. Thomas F. Peacock
Alameda County Health Care Services Agency
Division of Hazardous Materials
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor

Table 1. Groundwater Treatment System Analytical Results
1700 Jefferson Street
Oakland, California

Date/ Analytes	Bioreactor Influent (1)	Bioreactor Effluent (2)	First Carbon Bed Effluent (3)	Sanitary Sewer Influent (4)	Vapor Phase Carbon Effluent (Air) (5)
June 16, 1992					
TPHg	NA	3,300	ND <50	NA	ND <30,000
Benzene	NA	220	ND <0.3	NA	ND <85
Toluene	NA	460	ND <0.3	NA	ND <250
Ethylbenzene	NA	35	ND <0.3	NA	ND <65
Xylene	NA	290	ND <0.3	NA	ND <250
June 19, 1992					
TPHg	180,000	1,600	ND <50	NA	ND
Benzene	18,000	1.6	ND <0.3	NA	ND
Toluene	31,000	5.0	ND <0.3	NA	ND
Ethylbenzene	2,200	ND <0.3	ND <0.3	NA	ND
Xylene	16,000	150	ND <0.3	NA	ND
July 2, 1992					
TPHg	160,000	210	ND <50	NA	ND <30,000
Benzene	14,000	1.4	ND <0.3	NA	ND <85
Toluene	27,000	ND <0.3	ND <0.3	NA	ND <250
Ethylbenzene	1,700	ND <0.3	ND <0.3	NA	ND <65
Xylene	1,300	1.0	ND <0.3	NA	ND <250
August 20, 1992					
TPHg	190,000	6,400	73	NA	ND <30,000
Benzene	14,000	31	ND <0.3	NA	ND <85
Toluene	24,000	14	ND <0.3	NA	ND <250
Ethylbenzene	2,000	ND <6	ND <0.3	NA	ND <65
Xylene	13,000	150	ND <0.3	NA	ND <250
September 15, 1992					
TPHg	230,000	23,000	54	NA	ND <30,000
Benzene	17,000	1,100	0.4	NA	ND <85
Toluene	29,000	3,600	0.8	NA	ND <250
Ethylbenzene	2,200	59	ND <0.3	NA	ND <65
Xylene	15,000	1,100	0.6	NA	ND <250

Table 1. (Continued)

Date/ Analytes	Bioreactor Influent (1)	Bioreactor Effluent (2)	First Carbon Bed Effluent (3)	Sanitary Sewer Influent (4)	Vapor Phase Carbon Effluent (Air) (5)
March 3, 1994					
TPHg	80,000	3900	NA	ND <50	NA
Benzene	1,500	270	NA	ND <0.5	NA
Toluene	9,200	370	NA	ND <0.5	NA
Ethylbenzene	1,000	32	NA	ND <0.5	NA
Xylene	14,000	840	NA	ND <0.5	NA
April 7, 1994					
TPHg	79,000	280	ND <50	NA	NA
Benzene	8,300	16	3.7	NA	NA
Toluene	19,000	4.2	ND <0.5	NA	NA
Ethylbenzene	990	ND <0.5	ND <0.5	NA	NA
Xylene	9,300	1.9	ND <0.5	NA	NA
May 13, 1994					
TPHg	220,000	610	ND <50	NA	NA
Benzene	12,000	45	ND <0.5	NA	NA
Toluene	23,000	7.1	ND <0.5	NA	NA
Ethylbenzene	1,700	0.8	ND <0.5	NA	NA
Xylene	17,000	11	ND <0.5	NA	NA
September 29, 1994					
TPHg	96,000	760	NA	ND <50	NA
Benzene	8,000	4.9	NA	ND <0.5	NA
Toluene	16,000	7.8	NA	ND <0.5	NA
Ethylbenzene	ND <250	ND <2.5	NA	ND <0.5	NA
Xylene	9,000	8.7	NA	ND <0.5	NA
December 19, 1994					
TPHg	NA	5,500	590	ND <50	NA
Benzene	NA	140	60	1.0	NA
Toluene	NA	100	14	0.5	NA
Ethylbenzene	NA	ND<5	ND<0.5	ND <0.5	NA
Xylene	NA	1,600	100	ND <0.5	NA

Table 1. (Continued)

Date/ Analytes	Bioreactor Influent (1)	Bioreactor Effluent (2)	First Carbon Bed Effluent (3)	Sanitary Sewer Influent (4)	Vapor Phase Carbon Effluent (Air) (5)
January 5, 1995					
TPHg	NA	NA	200	ND <50	NA
Benzene	NA	NA	17	0.7	NA
Toluene	NA	NA	3	ND<0.5	NA
Ethylbenzene	NA	NA	ND<0.5	ND<0.5	NA
Xylene	NA	NA	3	ND<0.5	NA

(1) = Sample Location Identification Number (see Plate 2)
All concentrations in parts per billion (ppb)
TPHg = total petroleum hydrocarbons as gasoline
ND = Not detected above the reporting limit
NA = Not analyzed

Table 2. Groundwater Analytical Results
Groundwater Monitoring Wells
1700 Jefferson Street
Oakland, California

Date/ Analytes	MW-1A	MW-3	MW-4	MW-5
August 1, 1991				
TPHg	350,000	74,000	86,000	120,000
Benzene	17,000	1,600	1,500	20,000
Toluene	31,000	4,600	6,200	14,000
Ethylbenzene	3,000	670	1,000	1,900
Xylenes	22,000	4,300	7,300	4,900
September 30, 1992				
TPHg	NA	NA	NA	51,000
Benzene	NA	NA	NA	13,000
Toluene	NA	NA	NA	5,900
Ethylbenzene	NA	NA	NA	1,400
Xylene	NA	NA	NA	2,600
March 30, 1993				
TPHg	NA	NA	NA	74,000
Benzene	NA	NA	NA	16,000
Toluene	NA	NA	NA	5,000
Ethylbenzene	NA	NA	NA	1,800
Xylene	NA	NA	NA	2,700
January 13, 1994				
TPHg	NA	NA	NA	80,000
Benzene	NA	NA	NA	19,000
Toluene	NA	NA	NA	8,200
Ethylbenzene	NA	NA	NA	1,400
Xylene	NA	NA	NA	2,700
April 13, 1994				
TPHg	170,000	NA	58,000	63,000
Benzene	17,000	NA	1,500	14,000
Toluene	31,000	NA	2,500	3,500
Ethylbenzene	2,100	NA	520	1,500
Xylene	14,000	NA	3,200	2,100

Table 2. (Continued)

Date/ Analytes	MW-1A	MW-3	MW-4	MW-5
June 29, 1994				
TPHg	95,000	39,000	16,000	64,000
Benzene	16,000	3,200	1,300	29,000
Toluene	21,000	2,900	790	5,400
Ethylbenzene	1,500	580	51	2,800
Xylenes	12,000	4,300	3,400	4,500
December 8, 1994				
TPHg	190,000	4,600,000 *	92,000	59,000
Benzene	13,000	1,500	1,700	13,000
Toluene	21,000	4,200	4,100	3,800
Ethylbenzene	1,400	6,000	310	1,800
Xylenes	11,000	95,000	5,400	2,900
April 3, 1995				
TPHg	67,000	51,000	35,000	51,000
Benzene	11,000	1,100	1,200	15,000
Toluene	13,000	2,300	3,400	2,200
Ethylbenzene	910	580	280	2,800
Xylenes	9,800	4,800	5,800	4,500

All concentrations presented in micrograms per liter ($\mu g/l$)
* = This sample contained a visible amount of separate-phase gasoline.
TPHg = Total petroleum hydrocarbons as gasoline
NA = Not analyzed

Table 3. Flow Totalizer Readings
Discharge to Sanitary Sewer
1700 Jefferson Street
Oakland, California

Date	Flow Total to Sanitary Sewer (gallons)
06/16/92	1,000
06/17/92	2,957
07/02/92	13,040
07/10/92	14,470
07/24/92	19,450
09/15/92	51,190
10/15/92	70,370
10/23/92	75,470
03/04/94	77,866
03/15/94	89,800
03/30/94	104,690
04/13/94	118,760
05/11/94	123,180
05/23/94	133,280
06/07/94	149,640
06/29/94	166,670
07/11/94	178,500
07/27/94	187,940
08/24/94	196,180
09/23/94	196,698
10/13/94	217,782
10/30/94	227,996
11/15/94	236,789
12/08/94	260,048
12/27/94	267,350
01/03/95	274,770
01/16/95	277,003
02/11/95	291,743

Table 4. Monitoring Well Product Thickness Measurements

Date	MW-1	MW-1A	MW-3	MW-4	MW-5
07/08/87	30	NA	0	NA	NA
07/12/89	21.6	18.6	0	25.2	0.4
06/18/92	34	NM	NM	NM	NM
07/02/92	18	NM	NM	NM	NM
07/23/92	10	NM	NM	NM	NM
08/18/92	10	NM	NM	NM	NM
09/30/92	NM	NM	4.1	NM	0
11/11/92	13	NM	2	NM	NM
01/29/93	25.2	NM	1.7	NM	NM
02/12/93	10.2	13	1.3	8.8	0
03/30/93	NM	NM	NM	NM	0.06
01/06/94	14.8	16.2	2.2	6.2	0
03/17/94	23.4	NM	2.4	NM	NM
04/07/94	14.2	NM	1.8	NM	0
04/13/94	12	NM	1.0	NM	0
05/13/94	1.7	NM	1.2	NM	0
06/17/94	0	NM	0	NM	0
06/29/94	NM	NM	0.25	NM	0
07/11/94	4.5	NM	1.0	NM	NM
12/08/94	NM	NM	0.25	NM	0
04/03/95	0	NM	Sheen	NM	0

All measurements in inches
NA = Not applicable, these wells not yet installed
NM = Not measured

Concrete Sidewalk

MW-2
(ABANDONED)

Approximate Boundary of Tank Removal Excavation

Site Boundary

MW-1A

MW-1

GROUNDWATER EXTRACTION WELLS

MW-3

MW-4

APPROXIMATE GROUNDWATER FLOW DIRECTION

SEVENTEENTH STREET

PRODUCTION FACILITY

RECOVERED PRODUCT TANK

ACTIVATED CARBON BEDS

GROUNDWATER TREATMENT SYSTEM (SKID MOUNTED)

EIGHTEENTH STREET

Concrete Sidewalk

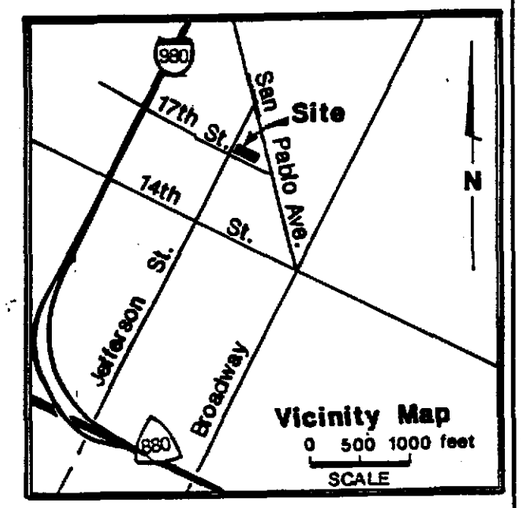
MW-5

N

EXPLANATION

MW-1 ⊕ Monitoring Well Location and Number

0 10 20 40 60
Scale in Feet

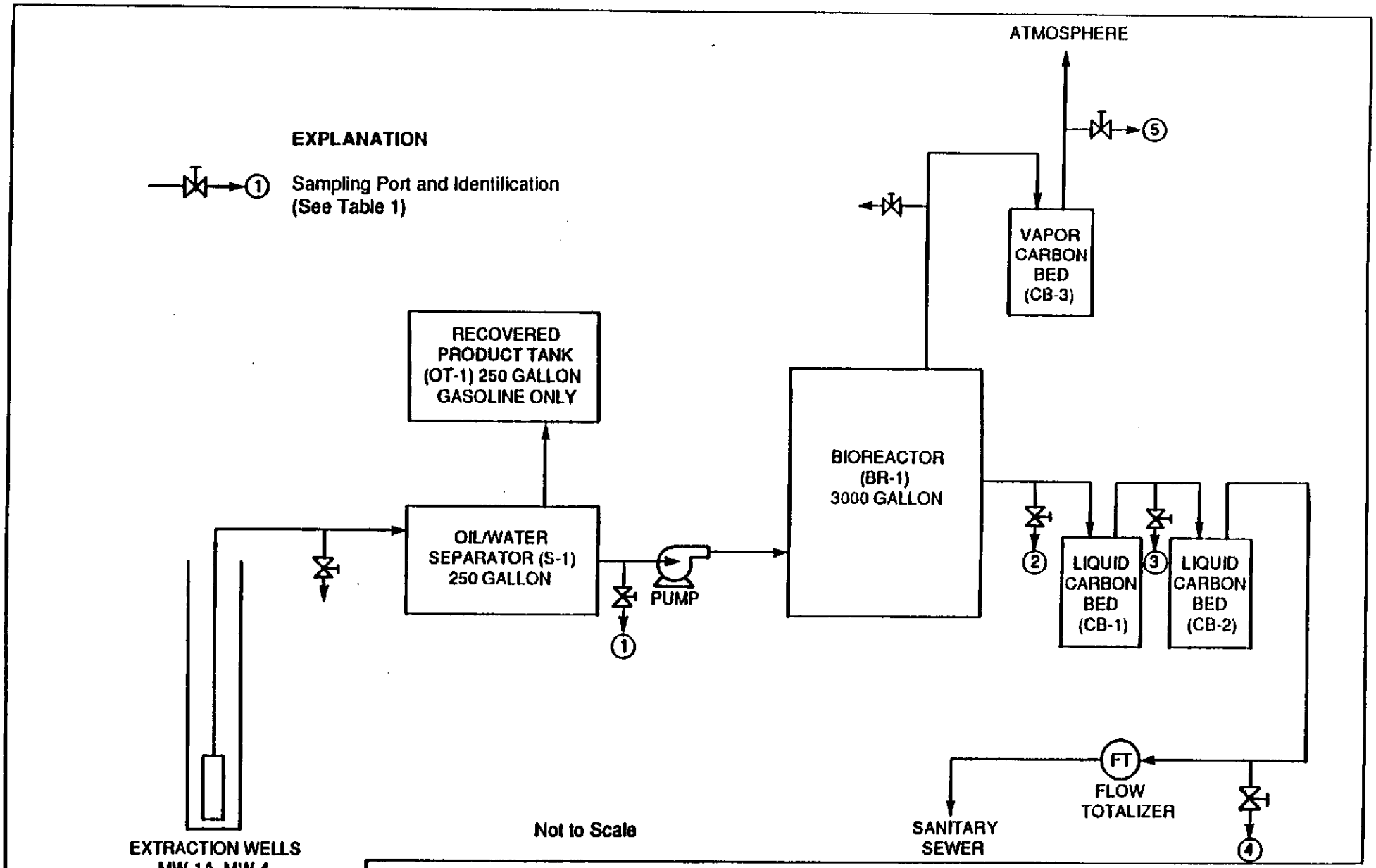


Harding Lawson Associates
Engineering and Environmental Services

Site Plan
City Blue Production Facility
Oakland, California

PLATE **1**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
AM	18106,012.04		7/92	



Harding Lawson Associates
Engineering and Environmental Services

Process Flow and Sampling Locations
City Blue Groundwater Treatment System
1700 Jefferson Street
Oakland, California

PLATE **2**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
AM	11295-012		4/93	

EAST BAY
MUNICIPAL UTILITY DISTRICT

MICHAEL J. WALLIS
DIRECTOR OF WASTEWATER

March 9, 1995

Mr. David Scrivner
Harding Lawson Associates
1855 Gateway Boulevard, Suite 500
Concord, CA 94520

Dear Mr. Scrivner:

Re: Blue Print Service Company, Account No. 500-68191
1700 Jefferson Street, Oakland, CA 94612

East Bay Municipal Utility District reviewed the laboratory results for the samples collected on February 10, 1995 and February 28, 1995 at the bioreactor tank from the groundwater treatment system at Blue Print Service Company located at 1700 Jefferson Street in Oakland.

Discharge from the bioreactor tank to the sanitary sewer is approved. Blue Print Service Company shall obtain a representative grab sample of the wastewater discharge midway during the discharge period into the sanitary sewer, analyze for the following parameters and submit a discharge report due on **April 30, 1995:**

Parameter	Sample Type	Analytical Method
BTEX	grab	EPA 8020
CODF	composite *	EPA 410.4
TSS	composite *	EPA 160.2
pH	grab	EPA 150.1

* Composite of 4 grab samples collected at 10 minute intervals.

The discharge report shall include the analytical test results, the total volume of the discharge, and the date and time the discharge began and ended.

If you have any questions, please contact me at 287-1618.

Sincerely,

MOLLY ONG
Wastewater Control Representative
Source Control Division MS702

MKO:mko

[permit]bluprt_correspond.wp

cc: Jeff Christoff, Blue Print Service Company
149 Second Street, San Francisco, CA 94105

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 1113+

HARDING LAWSON ASSOCIATES
1855 GATEWAY BLVD. STE. 500
CONCORD, CA 94520

ATTN: DAVE SCRIVNER
CLIENT PROJ. ID: 11295.012
CLIENT PROJ. NAME: CITY BLUE
C.O.C. NUMBER: 306

REPORT DATE: 03/01/95

DATE(S) SAMPLED: 02/10/95

DATE RECEIVED: 02/10/95

AEN WORK ORDER: 9502140

PROJECT SUMMARY:

On February 10, 1995, this laboratory received 1 water sample(s).

Client requested sample(s) be analyzed for inorganic and organic parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

HARDING LAWSON ASSOCIATES

SAMPLE ID: 950210B1
AEN LAB NO: 9502140-01
AEN WORK ORDER: 9502140
CLIENT PROJ. ID: 11295.012

DATE SAMPLED: 02/10/95
DATE RECEIVED: 02/10/95
REPORT DATE: 03/01/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	14 *	0.5	ug/L	02/14/95
Toluene	108-88-3	8 *	0.5	ug/L	02/14/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	02/14/95
Xylenes, Total	1330-20-7	25 *	2	ug/L	02/14/95
Purgeable HCs as Gasoline	5030/GCFID	0.5 *	0.05	mg/L	02/14/95
#Sample Filtration	934-AH FILT.	-		Filtr Date	02/10/95
Filtered COD	EPA 410.4	330 *	20	mg as O2/L	02/21/95
Total Suspended Solids	EPA 160.2	120 *	2	mg/L	02/14/95
#Digestion/ICP	EPA 200.0	-		Prep Date	02/13/95
Cadmium	EPA 200.7	ND	0.005	mg/L	02/14/95
Chromium	EPA 200.7	ND	0.01	mg/L	02/14/95
Copper	EPA 200.7	ND	0.01	mg/L	02/14/95
Lead	EPA 200.7	ND	0.04	mg/L	02/14/95
Nickel	EPA 200.7	0.02 *	0.01	mg/L	02/14/95
Zinc	EPA 200.7	0.02 *	0.01	mg/L	02/14/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9502140

CLIENT PROJECT ID: 11295.012

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9502140
INSTRUMENT: H
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
02/14/95	950210B1	01	103
QC Limits:			92-109

DATE ANALYZED: 02/13/95
SAMPLE SPIKED: 9502088-02
INSTRUMENT: H

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	18.2	102	5	85-109	17
Toluene	52.8	102	4	87-111	16
Hydrocarbons as Gasoline	500	105	2	66-117	19

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

AEN JOB NO: 9502140
DATE(S) ANALYZED: 02/14-21/95
MATRIX: WATER

Method Spike Recovery Summary

Analyte	Inst./ Method	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Cd, Cadmium	ICP/200.7	0.05	103	9	78-119	10
Cr, Chromium	ICP/200.7	0.10	106	3	87-117	8
Cu, Copper	ICP/200.7	0.125	102	4	85-113	6
Ni, Nickel	ICP/200.7	0.25	104	3	88-116	6
Pb, Lead	ICP/200.7	0.50	104	2	87-119	7
Zn, Zinc	ICP/200.7	0.25	104	3	87-117	7
COD	NOVASPEC/410.4	1000	106	2	80-120	15

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

*** END OF REPORT ***

1855 Gateway Boulevard, Suite 500
Concord, California 94520
(510) 687-9660 • FAX (510) 687-9673

CHAIN OF CUSTODY FORM

R-1,5-B C-1,5-3 No 306

Lab: AEN 9502140

Job Number: 11295.012

Name/Location: City Blue

Project Manager: Dave Scrivner

Samplers: Jim 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				2		1	3		95	02	1081	95	02	01	1515	01 A-F

ANALYSIS REQUESTED	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	METALS 200.7 ICP *	EPA 8015M/TPHg	EPA 8020/BTEX	EPA 8015M/TPHd,o	TSS **	COD **
					X	X	X		X	X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						std TAT
						* Cd, Cr, Ni, Pd, Zn, Cu
						** To be filtered

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
James McCarty		
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) Lori L. Pruitt	DATE/TIME 7/6/95 1636

METHOD OF SHIPMENT: cooler with ice

SAMPLE CONDITION WHEN RECEIVED BY THE LABORATORY:

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

HARDING LAWSON ASSOCIATES
1855 GATEWAY BLVD. STE. 500
CONCORD, CA 94520

ATTN: DAVE SCRIVNER
CLIENT PROJ. ID: 11295
CLIENT PROJ. NAME: CITY BLUE
C.O.C. NUMBER: 308

REPORT DATE: 03/13/95
DATE(S) SAMPLED: ~~03~~ 02/28/95
DATE RECEIVED: 03/01/95
AEN WORK ORDER: 9503001

PROJECT SUMMARY:

On March 1, 1995, this laboratory received 1 water sample(s).

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

HARDING LAWSON ASSOCIATES

SAMPLE ID: 950228B2
AEN LAB NO: 9503001-01
AEN WORK ORDER: 9503001
CLIENT PROJ. ID: 11295

DATE SAMPLED: ~~03~~ 02/28/95
DATE RECEIVED: 03/01/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8020 for BTEX	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	03/03/95
Toluene	108-88-3	ND	0.5	ug/L	03/03/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	03/03/95
Xylenes, total	1330-20-7	ND	2	ug/L	03/03/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9503001

CLIENT PROJECT ID: 11295

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9503001
INSTRUMENT: H
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
03/03/95	950228B2	01	101
QC Limits:			92-109

DATE ANALYZED: 03/01/95
SAMPLE SPIKED: 9502224-07
INSTRUMENT: H

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	36	110	2	85-109	17
Toluene	106	101	2	87-111	16
Hydrocarbons as Gasoline	1000	101	3	66-117	19

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

*** END OF REPORT ***

1855 Gateway Boulevard, Suite 500
Concord, California 94520
(510) 687-9660 • FAX (510) 687-9673

CHAIN OF CUSTODY FORM

Lab: AEN 9503001

Samplers: James McCarty

Job Number: 11295

Name/Location: City Bluey Oakland

Project Manager: Dave Scrivner

Recorder: James M'Carty (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		95	02	28BZ	95	02	28		Bio-Reactor 01A-C

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
							X	

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						48 hr. TAT

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) James M'Carty	RECEIVED BY: (Signature)	DATE/TIME 3-1-95 09:30
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME 3-1-95 9:40
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) Dyna Gillespie 3-1-95	DATE/TIME 0940

METHOD OF SHIPMENT: cooler with ice

SAMPLE CONDITION WHEN RECEIVED BY THE LABORATORY:

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

HARDING LAWSON ASSOCIATES
1855 GATEWAY BLVD. STE. 500
CONCORD, CA 94520

ATTN: DAVE SCRIVNER
CLIENT PROJ. ID: 11295.012
CLIENT PROJ. NAME: CITY BLUE
C.O.C. NUMBER: 375

REPORT DATE: 03/30/95

DATE(S) SAMPLED: 03/17/95

DATE RECEIVED: 03/17/95

AEN WORK ORDER: 9503302

PROJECT SUMMARY:

On March 17, 1995, this laboratory received 4 water sample(s).

Client requested one grab sample be analyzed for inorganic and organic parameters, and all grab samples be composited for additional inorganic analysis. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

HARDING LAWSON ASSOCIATES

SAMPLE ID: 950317DC - GRAB
AEN LAB NO: 9503302-01
AEN WORK ORDER: 9503302
CLIENT PROJ. ID: 11295.012

DATE SAMPLED: 03/17/95
DATE RECEIVED: 03/17/95
REPORT DATE: 03/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8020 for BTEX	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	03/25/95
Toluene	108-88-3	ND	0.5	ug/L	03/25/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	03/25/95
Xylenes, total	1330-20-7	ND	2	ug/L	03/25/95
pH	EPA 150.1	9.0		S.U.	03/17/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

HARDING LAWSON ASSOCIATES

SAMPLE ID: 950317DC - COMPOSITE
AEN LAB NO: 9503302-02
AEN WORK ORDER: 9503302
CLIENT PROJ. ID: 11295.012

DATE SAMPLED: 03/17/95
DATE RECEIVED: 03/17/95
REPORT DATE: 03/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	934-AH FILT.	-		Filtr Date	03/17/95
Filtered COD	EPA 410.4	210 *	20	mg as O2/L	03/21/95
Total Suspended Solids	EPA 160.2	13 *	2	mg/L	03/24/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9503302

CLIENT PROJECT ID: 11295.012

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 8020

AEN JOB NO: 9503302
INSTRUMENT: F
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
03/25/95	950317DC-GRAB	01	97
QC Limits:			92-109

DATE ANALYZED: 03/24/95
SAMPLE SPIKED: LCS
INSTRUMENT: F

Laboratory Control Sample

Analyte	Spike Added (ug/L)	Percent Recovery	QC Limits Percent Recovery
Benzene	18.6	93	63-117
Toluene	52.9	94	67-114

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

AEN JOB NO: 9503302
DATE ANALYZED: 03/21/95
MATRIX: WATER

Method Spike Recovery Summary

Analyte/Test	Inst./ Method	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
COD	NOVASPEC/410.4	1000	91	2	80-120	15

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

*** END OF REPORT ***

Harding Lawson Associates
1855 Gateway Boulevard, Suite 500
Concord, California 94520
(510) 687-9660 • FAX (510) 687-9673

CHAIN OF CUSTODY FORM

No. 375

Lab: AEN # 9503302

Samplers: James McCarty

Job Number: 11295.012

Name/Location: City Blue

Project Manager: Dave Scrivner

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			(4)	2		2	3		95	03	17DC	95	03	17	1115	01ABC - BTEX 01D - pH 02A - TSS 02B - CODF Composite samples for TSS and CODF
	X				2					95	03	17DC				1125	
	X				2					95	03	17DC				1135	
	X				2					95	03	17DC				1145	

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	pH EPA 150.1	TSS EPA 160.2	CODF EPA 410.4
							X		X	X	X
										X	X
										X	X
										X	X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						Note: BTEX analysis not composite - DSH
						pH analysis not composite - DSH

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) James McCarty	RECEIVED BY: (Signature)	DATE/TIME
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) Denise Jamerson	DATE/TIME 3/17/95 1510

METHOD OF SHIPMENT: cooler with ice

SAMPLE CONDITION WHEN RECEIVED BY THE LABORATORY:

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

Harding Lawson Associates
1855 GATEWAY BLVD SUITE 500
CONCORD, CA 94520

Date: December 28, 1994

Attn: DAVE SCRIVNER

Laboratory Number : 80305 Project Number/Name : 11295-017

This report has been reviewed and

approved for release.

Senior Chemist
Account Manager

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

1555 Burke St., Unit I
San Francisco, California 94124
(415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

Harding Lawson Associates
Attn: DAVE SCRIVNER

Project 11295-017
Reported on December 28, 1994

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Chronology

Laboratory Number 80305

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
94121901	12/19/94	12/19/94	12/27/94	12/27/94	AL231.04	01
94121902	12/19/94	12/19/94	12/27/94	12/27/94	AL231.04	02
94121906	12/19/94	12/19/94	12/27/94	12/27/94	AL231.04	03

QC Samples

QC Batch #	QC Sample ID	Type	Ref.	Matrix	Extract.	Analyzed
AL231.04-01	Method Blank	MB		Water	12/23/94	12/23/94
AL231.04-02	B-3	MS	80314-02	Water	12/23/94	12/23/94
AL231.04-03	B-3	MSD	80314-02	Water	12/23/94	12/23/94

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

1555 Burke St., Unit I
San Francisco, California 94124
(415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Harding Lawson Associates
Attn: DAVE SCRIVNER

Project 11295-017
Reported on December 28, 1994

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Moisture
80305-01	94121901	Water	-
80305-02	94121902	Water	-
80305-03	94121906	Water	-

R E S U L T S O F A N A L Y S I S

Compound	80305-01 Conc. ug/L	80305-01 RL	80305-02 Conc. ug/L	80305-02 RL	80305-03 Conc. ug/L	80305-03 RL
Gasoline_Range	5500	500	590	50	ND	50
Benzene	140	5.0	60	0.5	1.0	0.5
Toluene	100	5.0	14	0.5	0.5	0.5
Ethyl Benzene	ND	5.0	ND	0.5	ND	0.5
Total Xylenes	1600	5.0	100	0.5	ND	0.5
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)	102		107		105	

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

1555 Burke St., Unit I
San Francisco, California 94124
(415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 80305
Method Blank(s)

	AL231.04-01 Conc. ug/L	 RL
Gasoline_Range	ND	50
Benzene	ND	0.5
Toluene	ND	0.5
Ethyl Benzene	ND	0.5
Total Xylenes	ND	0.5
>> Surrogate Recoveries (%) <<		
Trifluorotoluene (SS)	95	

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

1555 Burke St., Unit I
San Francisco, California 94124
(415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 80305

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L) AL231.04 02 / 03 - Sample Spiked: 80314 - 02						
Gasoline_Range	ND	320	299/21.8	93/109	65-135	16
Benzene	ND	20	20.6/23.2	103/116	65-135	12
Toluene	ND	20	21.9/22.7	110/114	65-135	4
Ethyl Benzene	ND	20	21.4/69.4	107/116	65-135	8
Total Xylenes	ND	60	65.6	109	65-135	
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				101	50-150	

Definitions:
ND = Not Detected
RL = Reporting Limit
NA = Not Analysed
RPD = Relative Percent Difference
ug/L = parts per billion (ppb)
mg/L = parts per million (ppm)
ug/kg = parts per billion (ppb)
mg/kg = parts per million (ppm)

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

1555 Burke St., Unit I
San Francisco, California 94124
(415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

[redacted]rdin[redacted]son A[redacted]ates
1855 Gateway Boulevard, Suite 500
Concord, California 94520
(510) 687-9660 • FAX (510) 687-9673

80305

CHAIN OF CUSTODY FORM

№ [redacted]2[redacted]

Lab: Superior

Samplers: Jim McCarty

Job Number: 11295-017

Name/Location: City Blue

Project Manager: Dave Scrivner

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	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	METALS	EPA 8015M/TPHg	EPA 8020/BTEX	EPA 8015M/TPHd.o
	X							3		94	12	1901	94	12	19								X	X
	X							3		94	12	1902	94	12	19								X	X
	X							3		94	12	1906	94	12	19								X	X

ANALYSIS REQUESTED

Rec'd Intact
Sampled Iced w/ ice
Appropriate containers
Samples preserved
VOA's w/ no headspace
Comments: Sw 5182

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						Std TAT

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
James McCarty	R Wong - 701	12/19/94 12:45
R Wong - 701		
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME 12-19-94 13:10

METHOD OF SHIPMENT: Cooler w/ blue ice

SAMPLE CONDITION WHEN RECEIVED BY THE LABORATORY:

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

HARDING LAWSON ASSOCIATES
1855 GATEWAY BLVD. STE. 500
CONCORD, CA 94520

ATTN: DAVE SCRIVNER
CLIENT PROJ. ID: 11295-017
CLIENT PROJ. NAME: CITY BLUE
C.O.C. NUMBER: 230

REPORT DATE: 01/17/95

DATE(S) SAMPLED: 01/05/95

DATE RECEIVED: 01/05/95

AEN WORK ORDER: 9501021

PROJECT SUMMARY:

On January 5, 1995, this laboratory received 2 water sample(s).

Client requested sample(s) analyzed for organic parameters. Results of analysis are summarized on the following page(s).

Please see quality control report for a summary of QC data pertaining to this project.

If you have any questions, please contact Client Services at (510) 930-9090.

Cheryl McMillan for
Larry Klein
Laboratory Director

HARDING LAWSON ASSOCIATES

SAMPLE ID: 95010502
AEN LAB NO: 9501021-01
AEN WORK ORDER: 9501021
CLIENT PROJ. ID: 11295-017

DATE SAMPLED: 01/05/95
DATE RECEIVED: 01/05/95
REPORT DATE: 01/17/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	17 *	0.5	ug/L	01/12/95
Toluene	108-88-3	3 *	0.5	ug/L	01/12/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	01/12/95
Xylenes, Total	1330-20-7	3 *	2	ug/L	01/12/95
Purgeable HCs as Gasoline	5030/GCFID	0.2 *	0.05	mg/L	01/12/95

ND = Not detected at or above the reporting limit
* = Value above reporting limit

HARDING LAWSON ASSOCIATES

SAMPLE ID: 95010506
AEN LAB NO: 9501021-02
AEN WORK ORDER: 9501021
CLIENT PROJ. ID: 11295-017

DATE SAMPLED: 01/05/95
DATE RECEIVED: 01/05/95
REPORT DATE: 01/17/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	**EPA 8020**				
Benzene	71-43-2	0.7 *	0.5	ug/L	01/12/95
Toluene	108-88-3	ND	0.5	ug/L	01/12/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	01/12/95
Xylenes, Total	1330-20-7	ND	2	ug/L	01/12/95
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	01/12/95

ND = Not detected at or above the reporting limit
* = Value above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9501021

CLIENT PROJECT ID: 11295-017

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9501021
INSTRUMENT: F
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
01/12/95	95010502	01	98
01/12/95	95010506	02	97
QC Limits:			92-109

DATE ANALYZED: 01/03/95
SAMPLE SPIKED: 9501001-01
INSTRUMENT: F

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	19.2	89	10	85-109	17
Toluene	52.2	97	11	87-111	16
Hydrocarbons as Gasoline	500	108	9	66-117	19

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

*** END OF REPORT ***

Harding Lawson Associates
1855 Gateway Boulevard, Suite 500
Concord, California 94520
(510) 687-9660 • FAX (510) 687-9673

CHAIN OF CUSTODY FORM

Lab: AEN

Samplers: Jim McCarty

Job Number: 11295-017

Name/Location: City Blue

Project Manager: Dave Scrivner

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		95	01	05 02	95	01	05		01A-C
	X							3		95	01	05 06	95	01	05		02A-C

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
					X	X	
					X	X	

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						Std TAT

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) James McCarty	RECEIVED BY: (Signature) Emily Hunt	DATE/TIME 1/5/95 11:20
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

METHOD OF SHIPMENT: cooler w/ blue ice

SAMPLE CONDITION WHEN RECEIVED BY THE LABORATORY:

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

HARDING LAWSON ASSOCIATES

SAMPLE ID: BIO-TANK
AEN LAB NO: 9504031-05
AEN WORK ORDER: 9504031
CLIENT PROJ. ID: 11295.012

DATE SAMPLED: 04/03/95
DATE RECEIVED: 04/04/95
REPORT DATE: 04/14/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	0.9 *	0.5	ug/L	04/12/95
Toluene	108-88-3	1 *	0.5	ug/L	04/12/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	04/12/95
Xylenes, Total	1330-20-7	5 *	2	ug/L	04/12/95
Purgeable HCs as Gasoline	5030/GCFID	0.1 *	0.05	mg/L	04/12/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

Harding Lawson Associates
1855 Gateway Boulevard, Suite 500
Concord, California 94520
(510) 687-9660 • FAX (510) 687-9673

CHAIN OF CUSTODY FORM

Lab: AEN 9504030

Samplers: James McCarty

Job Number: 11295.012

Name/Location: City Blue

Project Manager: Dave Scrivner

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	DATE: Yr	Wk	Mo	Day	Time	STATION DESCRIPTION/ NOTES
	X							3		MW-3	95	04	03			01A-C
	X							3		MW-5						02A-C
	X							3		MW-4						03A-C
	X							3		MW-4A						04A-C
	X							3		BIO-TANK						05A-C

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
					X	X	
					X	X	
					X	X	
					X	X	
					X	X	

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						4/14/95 Sample id correction per D. Scrivner for 04A-C

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) James McCarty	RECEIVED BY: (Signature)	DATE/TIME 4-4-95 10:19
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME 4-4-95 12:2[illegible]
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) Gina Gillespie	DATE/TIME 4-4-95 1220

METHOD OF SHIPMENT: cooler with ice

SAMPLE CONDITION WHEN RECEIVED BY THE LABORATORY:

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

HARDING LAWSON ASSOCIATES
1855 GATEWAY BLVD. STE. 500
CONCORD, CA 94520

ATTN: DAVE SCRIVNER
CLIENT PROJ. ID: 11295.012
CLIENT PROJ. NAME: CITY BLUE
C.O.C. NUMBER: 395

REPORT DATE: 04/14/95

DATE(S) SAMPLED: 04/03/95

DATE RECEIVED: 04/04/95

AEN WORK ORDER: 9504031

PROJECT SUMMARY:

On April 4, 1995, this laboratory received 5 water sample(s).

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

HARDING LAWSON ASSOCIATES

SAMPLE ID: MW-3
AEN LAB NO: 9504031-01
AEN WORK ORDER: 9504031
CLIENT PROJ. ID: 11295.012

DATE SAMPLED: 04/03/95
DATE RECEIVED: 04/04/95
REPORT DATE: 04/14/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	1,100 *	50	ug/L	04/08/95
Toluene	108-88-3	2,300 *	50	ug/L	04/08/95
Ethylbenzene	100-41-4	580 *	50	ug/L	04/08/95
Xylenes, Total	1330-20-7	4,800 *	200	ug/L	04/08/95
Purgeable HCs as Gasoline	5030/GCFID	51 *	5	mg/L	04/08/95

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

HARDING LAWSON ASSOCIATES

SAMPLE ID: MW-5
AEN LAB NO: 9504031-02
AEN WORK ORDER: 9504031
CLIENT PROJ. ID: 11295.012

DATE SAMPLED: 04/03/95
DATE RECEIVED: 04/04/95
REPORT DATE: 04/14/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	**EPA 8020**				
Benzene	71-43-2	15,000 *	50	ug/L	04/08/95
Toluene	108-88-3	2,200 *	50	ug/L	04/08/95
Ethylbenzene	100-41-4	1,800 *	50	ug/L	04/08/95
Xylenes, Total	1330-20-7	2,100 *	200	ug/L	04/08/95
Purgeable HCs as Gasoline	5030/GCFID	51 *	5	mg/L	04/08/95

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

HARDING LAWSON ASSOCIATES

SAMPLE ID: MW-4
AEN LAB NO: 9504031-03
AEN WORK ORDER: 9504031
CLIENT PROJ. ID: 11295.012

DATE SAMPLED: 04/03/95
DATE RECEIVED: 04/04/95
REPORT DATE: 04/14/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	1,200 *	50	ug/L	04/08/95
Toluene	108-88-3	3,400 *	50	ug/L	04/08/95
Ethylbenzene	100-41-4	280 *	50	ug/L	04/08/95
Xylenes, Total	1330-20-7	5,800 *	200	ug/L	04/08/95
Purgeable HCs as Gasoline	5030/GCFID	35 *	5	mg/L	04/08/95

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

HARDING LAWSON ASSOCIATES

SAMPLE ID: MW-1A
AEN LAB NO: 9504031-04
AEN WORK ORDER: 9504031
CLIENT PROJ. ID: 11295.012

DATE SAMPLED: 04/03/95
DATE RECEIVED: 04/04/95
REPORT DATE: 04/14/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	11,000 *	50	ug/L	04/08/95
Toluene	108-88-3	13,000 *	50	ug/L	04/08/95
Ethylbenzene	100-41-4	910 *	50	ug/L	04/08/95
Xylenes, Total	1330-20-7	9,800 *	200	ug/L	04/08/95
Purgeable HCs as Gasoline	5030/GCFID	67 *	5	mg/L	04/08/95

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

HARDING LAWSON ASSOCIATES

SAMPLE ID: BIO-TANK
AEN LAB NO: 9504031-05
AEN WORK ORDER: 9504031
CLIENT PROJ. ID: 11295.012

DATE SAMPLED: 04/03/95
DATE RECEIVED: 04/04/95
REPORT DATE: 04/14/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	**EPA 8020**				
Benzene	71-43-2	0.9 *	0.5	ug/L	04/12/95
Toluene	108-88-3	1 *	0.5	ug/L	04/12/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	04/12/95
Xylenes, Total	1330-20-7	5 *	2	ug/L	04/12/95
Purgeable HCs as Gasoline	5030/GCFID	0.1 *	0.05	mg/L	04/12/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9504031

CLIENT PROJECT ID: 11295.012

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9504031
INSTRUMENT: H
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
04/08/95	MW-3	01	104
04/08/95	MW-5	02	103
04/08/95	MW-4	03	104
04/08/95	MW-1A	04	102
04/12/95	BIO-TANK	05	101
QC Limits:			92-109

DATE ANALYZED: 04/07/95
SAMPLE SPIKED: 9504030-04
INSTRUMENT: H

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	18.2	104	4	85-109	17
Toluene	52.8	102	5	87-111	16
Hydrocarbons as Gasoline	500	94	4	66-117	19

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

*** END OF REPORT ***

[redacted] Harding [redacted] Associates
1855 Gateway Boulevard, Suite 500
Concord, California 94520
(510) 687-9660 • FAX (510) 687-9673

CHAIN OF CUSTODY FORM

Lab: AEN 9504030

Samplers: James McCarty

Job Number: 11295.012

Name/Location: City Blue

Project Manager: Dave Scrivner

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	DATE: Yr	Mo	Day	Time	STATION DESCRIPTION/ NOTES
	X							3		MW-3	95	04	03		01A-C
	X							3		MW-5					02A-C
	X							3		MW-4					03A-C
	X							3		MW-4A	MW-1A				04A-C
	X							3		BIO-TANK					05A-C

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
						X	X	
						X	X	
						X	X	
						X	X	
						X	X	

LAB NUMBER Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						4/14/95 Sample id correction per D. Scrivner for 04A-C

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) James McCarty	RECEIVED BY: (Signature)	DATE/TIME 4-4-95 10:15
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME 4-4-95 17:[illegible]
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) Gina Gillespie	DATE/TIME 4-4-95 1220

METHOD OF SHIPMENT: cooler with ice

SAMPLE CONDITION WHEN RECEIVED BY THE LABORATORY:

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink