Harding Lawson Associates

September 29, 1999

47729.3

Mr. Mark Gomez
City of Oakland
Public Works Agency
Environmental Services Division
250 Frank H. Ogawa Plaza, Suite 5301
Oakland CA 94612

Results of Soil and Groundwater Investigation
9th Street and Broadway
Oakland, California

Dear Mr. Gomez:

INTRODUCTION

Harding Lawson Associates (HLA) presents the results of the soil and groundwater investigation conducted at the property (Site) owned by the City of Oakland (City) and located at 9th Street and Broadway in Oakland, California, see Plate 1. This investigation included the collection and analysis of soil and groundwater samples at the Site and the preparation of this letter report. HLA understands that the City of Oakland Redevelopment Agency (the Agency) intends to transfer the property to a developer for construction of a low-rise hotel. The Alameda County Environmental Health Services (ACEHS) is the local oversight agency for the Site and the Agency's objective is to obtain site closure from the ACEHS by demonstrating that proposed future uses do not pose a significant human-health or ecological risk to future receptors at the Site.

This site investigation consisted of the activities described in HLA's *Work Plan, Soil and Groundwater Investigation* dated July 27, 1999 and submitted to the ACEHS. The work plan provided details of the scope of work necessary to satisfy the additional site characterization data requested in the ACEHS's letter to the City dated November 12, 1998. The ACEHS approved the work plan in their letter dated August 6, 1999, with several comments. The ACEHS comments primarily related to providing the ACEHS with information on groundwater extraction from the Bay Area Rapid Transit District (BART) tube and the scheduling of excavation to evaluate observed anomalies in a 1993 HLA geophysical investigation.

BACKGROUND

The 9th Street and Broadway property is currently used as a public parking lot serving shoppers in the downtown China Town area. The area of interest consists of approximately 55,000 square feet of asphalt covered parking area bounded by Broadway on the northwest, 9th Street on the southwest, Franklin Street on the southeast, and the Transpacific Building on the northeast, see Plate 2. According to information provided by the Agency and reported in earlier investigations, the Site's previous uses included print shops, paint supply shops, a battery shop, a garage, a laundry, and a janitorial supply distributor. Two BART tunnels carrying the KAL and KAR lines transverse the Site as shown on Plate 2. The top of the shallower of the two tunnels is approximately 17 feet below ground surface (bgs). Directly across Franklin Street from the site is the Pacific Renaissance Plaza Building (PRPB). During construction of the PRPB, two underground storage tanks were discovered beneath the sidewalk along Franklin Street. Petroleum hydrocarbon contaminated soil was observed during the excavation and removal of these tanks and during construction of the PRPB. As part of a groundwater monitoring program in the area, HLA installed three monitoring wells, MW-7, MW-20, and MW-21 (see Plate 2), between 1989 and 1990. MW-7 is located off the Site to the east and MW-20 and MW-21 are both located on the Site.

In 1993 HLA conducted an investigation at the Site to characterize the soil prior to planned development. Twenty-seven soil borings were drilled at the Site to depths ranging from 3.5 to 30 feet bgs. Soil samples were tested for total petroleum hydrocarbons as gasoline (TPHg), total petroleum hydrocarbons as diesel (TPHd), BTEX, VOCs, semi-volatile organic compounds (SVOCs), and priority pollutant metals. HLA's investigation also included a geophysical survey of the Site. The result of this investigation is presented in HLA's report *Preliminary Soil Characterization, Oakland Broadway Block, Chinatown Redevelopment Project Area, 9th and Broadway, Oakland, California*, dated November 19, 1993.

In 1998 Secor International, Inc. (Secor) collected groundwater samples from monitoring wells MW-7, MW-20, and MW-21 and advanced 4 soil borings on the Site. The groundwater and soil samples were tested for TPHg, TPHd, BTEX, and VOCs. The soil samples were also tested for lead. The results of this investigation is presented in Secor's report *Summary Report for Limited Soil and Groundwater Investigation at 9th Street and Broadway in Oakland, California* dated April 27, 1998.

FIELD INVESTIGATION

On August 20, 1999, HLA sampled monitoring wells MW-7, MW-20, and MW-21. Prior to sampling, HLA measured the depth to the top of the groundwater surface from the top of each well's casing. We then purged a minimum of three well volumes of groundwater from each well, while monitoring conductivity, temperature, and pH. We sampled the three wells after these parameters had stabilized with a disposable Teflon bailer and preserved the samples in laboratory provided sterile containers. A duplicate sample was collected from MW-21. All down-hole equipment was cleaned with Alconox and rinsed with de-ionized water prior sampling or purging activities. Following collection, all the groundwater samples except those

designated for metals analyses were placed in a cooler chilled with blue ice and submitted to Curtis and Tompkins, Ltd.(C&T), a California state-certified analytical laboratory, under chain-of-custody protocol for chemical analysis. A trip blank accompanied the samples from time of collection until delivery to C&T and was analyze for VOCs. Samples designated for metals analyses were filtered with a 0.45-micron filter prior to preserving. These samples were submitted to Sequoia Analytical (Sequoia), a California state-certified analytical laboratory, under chain-of-custody protocol. The samples were analyzed for the following:

- TPHg, TPHd, and Total Petroleum Hydrocarbons as motor oil (TPHmo) in accordance with EPA Test Method 8015 modified
- VOCs in accordance with EPA Test Method 8260B
- SVOCs in accordance with EPA Test Method 8270
- Polynuclear aromatic hydrocarbons (PAHs) in accordance with EPA Test Method 8310
- California Code of Regulation's (CCR) list of 17 metals; antimony, arsenic, barium, beryllium, cadmium, total chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium silver, thallium, vanadium, zinc in accordance with EPA Test Methods 6020, 7060A, 7191, or 7470A

Why did they use both of these analyses?

On August 23, 1999, HLA directed Gregg Drilling and Testing, Inc. (Gregg) to advance two geoprobe borings, SB-28 and SB-29, as designated in the work plan. SB-28 is south of the BART tunnel and SB-29 is north of the BART tunnel, see Plate 2. HLA extended both borings to a depth of 32 feet bgs and collected soil samples from the borings in 4-foot PVC liners. We logged the soil in accordance with ASTM D2487-85 Unified Soil Classification and screened the soil samples for volatile organic vapors with a flame-ionization detector (FID).

HLA collected, preserved, and submitted for chemical analyses three soil samples and one groundwater sample from each boring. One soil sample was collected from each boring at 2 feet, one at 9.5 feet bgs and one at the soil/groundwater interface (26.6 at SB-28 and 27.0 feet bgs at SB-29). The soil samples were preserved in 6-inch sections of the PVC liners, sealed with plastic caps and non-adhesive rubberized tape. After completing the boring to their final depth, 1-inch diameter PVC casing with a 10 foot screened interval was placed in each boring. HLA collected groundwater samples through these temporary well casings with a stainless steel bailer. The bailer was cleaned with Alconox and rinsed with de-ionized water prior to collecting the groundwater samples. The groundwater samples were preserved in sterile containers provided by the C&T. Groundwater samples designated for metals analyses were filtered with a 0.45-micron filter prior to preserving. Following collection, the soil and groundwater samples were placed in a cooler chilled with blue ice. The samples were submitted, under chain-of-custody protocol, to Sequoia (groundwater samples to be analyzed for metals) and to C&T. These samples were analyzed for the following:

- TPHg, TPHd, and TPHmo in accordance with EPA Test Method 8015 modified
- VOCs in accordance with EPA Test Method 8260B
- SVOCs in accordance with EPA Test Method 8270
- Polynuclear aromatic hydrocarbons (PAHs) in accordance with EPA Test Method 8310
- CCR list of 17 metals in accordance with EPA Test Methods 6020, 7060A, 7191, or 7470A

RESULTS

Groundwater in the wells was measured at depths ranging from 23.70 to 26.18 feet below the top of the well's casing. Using the depth to groundwater measurements and the elevation of the to of each well's casing, the groundwater elevation at each well location was calculated. Table 1 presents the depth to groundwater measurements and the calculated groundwater elevations. The groundwater gradient was found to be 0.001 feet/feet toward the west. The groundwater elevation and gradient direction is presented on Plate 3.

The subsurface conditions at the two borings consisted primarily of gravely clay and clayey gravels in the shallow soils and silty sands to sand consistent with the Merritt Sand Formation in the deeper soils. Saturated soils were generally encountered at 26 to 27 feet bgs. The boring logs are presented in Appendix A.

Analytical results from this investigation are summarized in Tables 2 through 11. The results of the soil analyses are compared against the Environmental Protection Agency's (EPA) Region 9 preliminary remediation goals (PRGs) for both residential and industrial site uses using California EPA values when available. The exposure scenario for persons associated with a residential hotel is likely to be closer to an industrial setting due to the assumed exposure duration. The groundwater analyses results are compared against California EPA's maximum contaminant levels (MCLs) for drinking water. Laboratory Reports are presented in Appendix B.

Groundwater Samples

None of the metals detected in the groundwater samples were above the MCLs. How about lead? Lead has no MCL.

The groundwater sample collected from SB-28 contained TPHd at 120,000 micrograms per liter (µg/L) and TPHg at a concentration of 17,000 µg/L. The groundwater samples from the wells and from SB-29 did not contain detectable concentrations of petroleum hydrocarbons. MCLs do not exist for these compounds.

With the exception of SB-28, the only VOCs detected in the groundwater samples were chloroform and tetrachloroethene (PCE). Chloroform was not detected above the MCLs, but PCE was detected in MW-21 a 6.6 µg/L, which exceeds the MCL of 5 µg/L for this chemical. The groundwater sample from SB-28 contained benzene, toluene, ethylbenzene, xylenes, propylbenxene, 1,3,5-trimethylbenze, sec-butylbenzene, para-isopropyltoluene, n-butylbenzene, and naphthalene. Only benzene exceeded the MCLs (1 µg/L) at a concentration of 16 µg/L.

Only the groundwater sample from SB-28 contained SVOCs or PAHs. None of the samples exceeded the MCLs.

Analysis of the trip blank sample did not detected and VOCs. The results from the duplicated sample from MW-21 were within acceptable quality control limits.

Soil Samples

Of the metals detected in the soil samples, only arsenic exceeded the PRGs. Arsenic was detected in all soil samples at concentrations ranging from 1.2 to 2.2 mg/kg. These values exceed the PRG of 0.38 mg/kg for residential exposure but pass the PRG of 3.0 mg/kg for industrial exposure. Background levels for arsenic in the soil in the Oakland area have been found to be as high as 19 mg/kg.

TPHd and TPHmo were reported in the shallow soil samples (at 2.0 feet bgs) from both SB-28 and SB-29 and at 9.5 feet bgs in SB-29. TPHd and TPHg were reported in the soil sample from the soil/groundwater interface (at 26.5 feet bgs) at SB-28. No petroleum hydrocarbons were detected in the sample at 9.5 feet bgs in this boring. No petroleum hydrocarbons were detected in the sample at soil/groundwater interface (at 27.0 feet bgs) at SB-29.

Only the soil sample from SB-28 collected from a depth of 27.5 feet bgs contained detectable VOCs. None of the VOC concentrations detected exceeded the residential or industrial PRGs.

SVOCs and PAHs were detected in soil sample from both SB-28 and SB-29 at depths where the petroleum hydrocarbons were detected, in the shallow and deep samples from SB-28 and from the shallow and mid level samples in SB-29. The sample from SB-28 from 2.0 feet bgs contained concentrations of benzo(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene that exceeded the PRGs for industrial uses. Benzo(a)pyrene exceeded the residential PRG. None of the other detections were above the published PRGs.

CLOSURE

HLA is currently preparing a report that evaluates the results of this investigation. Our report will include a risk based corrective action (RBCA) analysis using data from this study, HLA's 1993 investigation

results and Secor's 1998 investigation results. The RBCA will evaluate potential pathways for human exposure to the detected chemicals based on the City's plans for the development for the site.

If you have any further questions please call either of the undersigned at (510) 451-1001.

Yours very truly,

HARDING LAWSON ASSOCIATES

James McCarty
Project Engineer

Stephen J. Osborne
Geotechnical Engineer

JGM/SJO/mlw/47729/037373L

3 copies submitted

Enclosures: Tables 1 through 11
Plates 1 through 3
Appendix A – Boring Logs
Appendix B – Laboratory Reports

cc: Ms. Juliet Shin
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Mr. Mark Hersh
City of Oakland
Public Works Agency
Environmental Services Division
250 Frank H. Ogawa Plaza, Suite 5301
Oakland CA 94612

Table 1. Groundwater Elevations Data
9th Street and Broadway Oakland California

Well ID	Elevation of Top of Casing[1] (feet)	Date of Monitoring	Depth to Water (feet)	Groundwater Elevation (feet)
MW-7	39.1	8/20/99	23.7	15.40
MW-20	37.86	8/20/99	23.73	14.13
MW-21	38.08	8/20/99	26.18	11.90

[1] Above mean sea level

Table 2. Metals Analyses - Groundwater Samples
9th Street and Broadway
Oakland, California

Analyte	Units	MCLs	Sample Identification/Date Sampled					
			SB28 8/23/99	SB29 8/23/99	MW-7 8/20/99	MW-20 8/20/99	MW-21 8/20/99	MW-21 Dup 8/20/99
Antimony	µg/L	6	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
Arsenic	µg/L	50	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
Barium	µg/L	1,000	114	37.3	23.3	101	23.4	21.6
Beryllium	µg/L	4	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Cadmium	µg/L	5	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Chromium	µg/L	50	ND<5.0	ND<5.0	ND<5.0	7.66	9.45	10.4
Cobalt	µg/L	NA	ND<7.0	ND<7.0	ND<7.0	ND<7.0	ND<7.0	ND<7.0
Copper	µg/L	1,300	23.0	21.9	ND<10	ND<10	ND<10	ND<10
Lead	µg/L	15	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0
Mercury	µg/L	2	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20
Molybdenum	µg/L	NA	ND<20	40.7	ND<20	ND<20	ND<20	ND<20
Nickel	µg/L	100	ND<10	14.3	ND<10	ND<10	ND<10	ND<10
Selenium	µg/L	50	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50
Silver	µg/L	100	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Thallium	µg/L	2	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Vanadium	µg/L	NA	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10
Zinc	µg/L	5,000	27.3	41.8	23.6	20.2	36.6	35.6

NA - Not available

MCLs - maximum contaminant levels for drinking water as published in *California Department of Health Services, Division of Drinking Water and Environmental Management, California Drinking Water Primary and Secondary Maximum Contaminant Levels, Action Levels and Chemicals Requiring Monitoring*

Table 3. Metals Analyses - Soil Samples
9th Street and Broadway
Oakland, California

Sample Identification				SB28-2-2.5	SB28-9.5-10	SB28-26.5-27	SB29-2-2.5	SB29-9.5-10	SB29-27-27.5
Sample Date: 8/23/99		PRGs		Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)
Analyte	Units	Res.	Indus.	2.0	9.5	26.5	2.0	9.5	27.0
Antimony	mg/kg	30	750	ND<3	ND<3	ND<2.9	ND<2.8	ND<2.9	ND<3.0
Arsenic	mg/kg	0.38	3.0	2.1	2.0	1.2	2.2	1.9	1.6
Barium	mg/kg	5,200	100,000	31	26	27	33	44	27
Beryllium	mg/kg	150	3,400	0.15	0.20	0.14	0.24	0.2	0.14
Cadmium	mg/kg	9	930	0.27	0.41	0.27	0.39	0.39	0.44
Chromium	mg/kg	2,100	4,500	20	31	30	36	38	49
Cobalt	mg/kg	3,300	2,900	2.6	5	4.9	6.4	5.0	6.4
Copper	mg/kg	2,800	70,000	13	5.4	2.8	5.6	6.1	4.0
Lead	mg/kg	130	1,000	27	2.3	1.3	3.0	5.0	1.7
Mercury	mg/kg	22	560	0.87	ND<0.038	ND<0.039	0.058	0.058	ND<0.038
Molybdenum	mg/kg	370	9,400	ND<1.0	ND<1.0	ND<0.97	ND<0.94	ND<0.98	ND<1
Nickel	mg/kg	150	37,000	16	34	37	34	35	47
Selenium	mg/kg	37	9,400	ND<0.25	ND<0.25	ND<0.24	ND<0.24	ND<0.25	ND<0.25
Silver	mg/kg	37	9,400	ND<0.5	ND<0.5	ND<0.48	ND<0.47	ND<0.49	ND<0.5
Thallium	mg/kg	6	150	ND<0.25	ND<0.25	ND<0.24	ND<0.24	ND<0.25	ND<0.25
Vanadium	mg/kg	520	13,000	15	25	19	26	23	29
Zinc	mg/kg	22,000	100,000	31	19	15	17	21	19

exceeds Resid. PRG's, but could also be background

Region 9 Preliminary Remediation Goals, California EPA
Res. - Residential Shaded Exceeds
Indus. - Industrial **Bold Exceeds**

Table 4. TPH Analyses - Groundwater Samples
EPA Test Method 8015 Modified
9th Street and Broadway
Oakland, California

Analyte	Units	Sample Identification/Date Sampled SB28 8/23/99	SB29 8/23/99	MW-7 8/20/99	MW-20 8/20/99	MW-21 8/20/99	MW-21 Dup 8/20/99
TPH Diesel	µg/L	120,000 YL	ND<50	ND<48	ND<47	ND<48	ND<49
TPH Motor Oil	µg/L	ND<25000	ND<300	ND<290	ND<280	ND<290	ND<290
TPH Gas	µg/L	17,000 *	ND<50	ND<50	ND<50	ND<50	ND<50

TPH - Total petroleum hydrocarbons
Y - Sampe exhibits fuel pattern which does not resemble standard
L - Lighter hydrocarbons than indicated standard
* - Triflourotoluene spike outside the recovery limits

Detected but not confirmed

Table 5. TPH Analyses - Soil Samples
EPA Test Method 8015 Modified
9th Street and Broadway
Oakland, California

Sample Identification		SB28-2-2.5	SB28-9.5-10	SB28-26.5-27	SB29-2-2.5	SB29-9.5-10	SB29-27-27.5
Sample Date:	8/23/99	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)
Analyte	Units	2.0	9.5	26.5	2.0	9.5	27.0
TPH Diesel	mg/kg	160 YH	ND<1.0	460 YL	10 YL	26 H	ND<1.0
TPH Motor Oil	mg/kg	1,200 H	ND<5.0	ND<250	53 H	62 LH	ND<5.0
TPH Gas	mg/kg	ND<1.0	ND<1.0	1,900 H	ND<1.0	ND<1.0	ND<1.0

Y - Sampe exhibits fuel pattern which does not resemble standard
L - Lighter hydrocarbons than indicated standard
H - Heavier hydrocarbons than indicated standard

Table 6. VOC Analyses - Groundwater Samples
EPA Test Method 8260
9th Street and Broadway
Oakland, California

Analyte	Units	MCLs	Sample Identification/Date Sampled						
			SB28 8/23/99	SB29 8/23/99	MW-7 8/20/99	MW-20 8/20/99	MW-21 8/20/99	MW-21 Dup 8/20/99	Trip 8/20/99
Freon 12	µg/L	NA	ND<50	ND<10	ND<10	ND<10	ND<10	ND<10	ND<5
Chloromethane	µg/L	NA	ND<50	ND<10	ND<10	ND<10	ND<10	ND<10	ND<5
Vinyl Chloride	µg/L	0.5	ND<50	ND<10	ND<10	ND<10	ND<10	ND<10	ND<5
Bromomethane	µg/L	NA	ND<50	ND<10	ND<10	ND<10	ND<10	ND<10	ND<5
Chloroethane	µg/L	NA	ND<50	ND<10	ND<10	ND<10	ND<10	ND<10	ND<5
Trichlorofluoromethane	µg/L	150	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Acetone	µg/L	NA	ND<100	ND<20	ND<20	ND<20	ND<20	ND<20	ND<5
Freon 113	µg/L	1,200	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
1,1-Dichloroethene	µg/L	6	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<20
Methylene Chloride	µg/L	5	ND<100	ND<20	ND<20	ND<20	ND<20	ND<20	ND<5
Carbon Disulfide	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
MTBE	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
trans-1,2-Dichloroethene	µg/L	10	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Vinyl Acetate	µg/L	NA	ND<250	ND<50	ND<50	ND<50	ND<50	ND<50	ND<5
1,1-Dichloroethane	µg/L	5	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
2-Butanone	µg/L	NA	ND<50	ND<10	ND<10	ND<10	ND<10	ND<10	ND<5
cis-1,2-Dichloroethene	µg/L	6	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
2,2 Dichloropropane	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<10
Chloroform	µg/L	100	ND<25	ND<5	ND<5	17	7.4	7.5	ND<10
Bromochloromethane	µg/L	NA	ND<50	ND<5	ND<10	ND<10	ND<10	ND<10	ND<5
1,1,1-Trichloroethane	µg/L	200	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<10
1,1-Dichloropropene	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Carbon Tetrachloride	µg/L	0.5	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
1,2-Dichoroethane	µg/L	0.5	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Benzene	µg/L	1	16	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Trichloroethane	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
1,2-Dichloropropane	µg/L	5	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<10
Bromodichloromethane	µg/L	100	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<10
Dibromomethane	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
4-Methyl - 2 - Pentanone	µg/L	NA	ND<50	ND<10	ND<10	ND<10	ND<10	ND<10	ND<5
cis-1,3-Dichloropropene	µg/L	0.5	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Toluene	µg/L	150	29	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
trans-1,3-Dichloropropene	µg/L	0.5	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
1,1,2-Trichloroethane	µg/L	5	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<10
2-Hexanone	µg/L	NA	ND<50	ND<10	ND<10	ND<10	ND<10	ND<10	ND<5
1,3-Dichloropropane	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Tetrachloroethene	µg/L	5	ND<25	ND<5	ND<5	ND<5	6.6	6.5	ND<5

Exceeds 5ppb MCL

Table 6. VOC Analyses - Groundwater Samples
EPA Test Method 8260
9th Street and Broadway
Oakland, California

Analyte	Units	MCLs	Sample Identification/Date Sampled						
			SB28 8/23/99	SB29 8/23/99	MW-7 8/20/99	MW-20 8/20/99	MW-21 8/20/99	MW-21 Dup 8/20/99	Trip 8/20/99
Dibromochloromethane 1,2-Dibromoethane	µg/L	0.05	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Chlorobenzene	µg/L	70	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
1,1,1,2-Tetrachloroethane	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<10
Ethylbenzene	µg/L	700	41	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
m-Xylene	µg/L	1,750	300	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
o-Xylene	µg/L	1,750	66	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Styrene	µg/L	100	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Bromoform	µg/L	100	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Isopropylbenzene	µg/L	NA	130	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
1,1,2,2-Tetrachloroethane	µg/L	1	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<10
1,2,3-Trichloropropane	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<20
Propylbenzene	µg/L	NA	140	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Bromobenzene	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
1,3,5-Trimethylbenzene	µg/L	NA	180	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
2-Chlorotoluene	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
4-Chlorotoluene	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
tert-Butylbenzene	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
1,2,4-Trimethylbenzene	µg/L	NA	990	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
sec-Butylbenzene	µg/L	NA	36	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
para-Isopropyl Toluene	µg/L	NA	80	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
1,3-Dichlorobenzene	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
1,4-Dichlorobenzene	µg/L	5	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
n-Butylbenzene	µg/L	NA	92	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
1,2-Dichlorobenzene	µg/L	6003	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<50
1,2-Dibromo-3-Chloropropane	µg/L	0.2	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
1,2,4-Trichlorobenzene	µg/L	70	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Hexachlorobitadiene	µg/L	1	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Naphthalene	µg/L	NA	290	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
1,2,3-Trichlorobenzene	µg/L	NA	ND<25	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5

J - Estimated value
VOC - Volatile organic compounds
NA - Not available
MCLs - maximum contaminant levels for drinking water as published in *California Department of Health Services, Division of Drinking Water and Environmental Management, California Drinking Water Primary and Secondary Maximum Contaminant Levels, Action Levels and Chemicals Requiring Monitoring*

Table 7. VOC Analyses - Soil Samples
EPA Test Method 8260
9th Street and Broadway
Oakland, California

		Sample Identification:		SB28-2-2.5	SB28-9.5-10	SB28-26.5-27	SB29-2-2.5	SB29-9.5-10	SB29-27-27.5
Sample Date: 8/23/99		PRGs		Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)
Analyte	Units	Res.	Indus.	2.0	9.5	26.5	2.0	9.5	27.0
Freon 12	µg/kg	NA	NA	ND<10	ND<9.4	ND<1000	ND<9.6	ND<9.6	ND<9.4
Chloromethane	µg/kg	1200	2600	ND<10	ND<9.4	ND<1000	ND<9.6	ND<9.6	ND<9.4
Vinyl Chloride	µg/kg	21	48	ND<10	ND<9.4	ND<1000	ND<9.6	ND<9.6	ND<9.4
Bromomethane	µg/kg	3800	13000	ND<10	ND<9.4	ND<1000	ND<9.6	ND<9.6	ND<9.4
Chloroethane	µg/kg	NA	NA	ND<10	ND<9.4	ND<1000	ND<9.6	ND<9.6	ND<9.4
Trichlorofluoromethane	µg/kg	380,000	1,300,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Acetone	µg/kg	1,400,000	6,100,000	ND<20	ND<19	ND<2000	ND<19	ND<19	ND<19
Freon 113	µg/kg	NA	NA	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
1,1-Dichloroethene	µg/kg	52	120	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Methylene Chloride	µg/kg	8,500	20,000	ND<20	ND<19	ND<2000	ND<19	ND<19	ND<19
Carbon Disulfide	µg/kg	350,000	1,200,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
MTBE	µg/kg	NA	NA	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
trans-1,2-Dichloroethene	µg/kg	62,000	210,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Vinyl Acetate	µg/kg	420,000	1,400,000	ND<50	ND<47	ND<5000	ND<48	ND<48	ND<47
1,1-Dichloroethane	µg/kg	570,000	2,000,000	ND<10	ND<4.7	ND<1000	ND<4.8	ND<4.8	ND<4.7
2-Butanone	µg/kg	NA	NA	ND<5	ND<9.4	ND<500	ND<9.6	ND<9.6	ND<9.4
cis-1,2-Dichloroethene	µg/kg	42,000	150,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
2,2 Dichloropropane	µg/kg	NA	NA	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Chloroform	µg/kg	240	520	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Bromochloromethane	µg/kg	NA	NA	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
1,1,1-Trichloroethane	µg/kg	680,000	1,400,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
1,1-Dichloropropene	µg/kg	NA	NA	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Carbon Tetrachloride	µg/kg	230	520	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
1,2-Dichoroethane	µg/kg	340	760	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Benzene	µg/kg	620	1,400	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Trichloroethane	µg/kg	NA	NA	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
1,2-Dichloropropane	µg/kg	NA	NA	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Bromodichloromethane	µg/kg	980	2,300	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Dibromomethane	µg/kg	NA	NA	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
4-Methyl - 2 - Pentanone	µg/kg	NA	NA	ND<10	ND<9.4	ND<1000	ND<9.6	ND<9.6	ND<9.4
cis-1,3-Dichloropropene	µg/kg	81	180	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Toluene	µg/kg	520,000	520,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
trans-1,3-Dichloropropene	µg/kg	81	180	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
1,1,2-Trichloroethane	µg/kg	820	19,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
2-Hexanone	µg/kg	100,000,000	100,000,000	ND<10	ND<9.4	ND<1000	ND<9.6	ND<9.6	ND<9.4
1,3-Dichloropropane	µg/kg	NA	NA	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Tetrachloroethene	µg/kg	4,700	16,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7

Table 7. VOC Analyses - Soil Samples
EPA Test Method 8260
9th Street and Broadway
Oakland, California

		Sample Identification:		SB28-2-2.5	SB28-9.5-10	SB28-26.5-27	SB29-2-2.5	SB29-9.5-10	SB29-27-27.5
Sample Date: 8/23/99		PRGs		Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)
Analyte	Units	Res.	Indus.	2.0	9.5	26.5	2.0	9.5	27.0
Dibromochloromethane 1,2-Dibromoethane	µg/kg	4.9	29	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Chlorobenzene	µg/kg	54,000	180,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
1,1,1,2-Tetrachloroethane	µg/kg	2,800	6,800	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Ethylbenzene	µg/kg	230,00	230,000	ND<5	ND<4.7	800	ND<4.8	ND<4.8	ND<4.7
m-Xylene	µg/kg	210,000	210,000	ND<5	ND<4.7	3,700	ND<4.8	ND<4.8	ND<4.7
o-Xylene	µg/kg	280,000	280,0000	ND<5	ND<4.7	380 J	ND<4.8	ND<4.8	ND<4.7
Styrene	µg/kg	1,700,000	1,700,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Bromoform	µg/kg	56,000	380,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Isopropylbenzene	µg/kg	160,000	520,000	ND<5	ND<4.7	1,100	ND<4.8	ND<4.8	ND<4.7
1,1,2,2-Tetrachloroethane	µg/kg	360	870	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
1,2,3-Trichloropropane	µg/kg	1.4	31	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Propylbenzene	µg/kg	120,000	490,000	ND<5	ND<4.7	1,700	ND<4.8	ND<4.8	ND<4.7
Bromobenzene	µg/kg	28,000	92,00	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
1,3,5-Trimethylbenzene	µg/kg	21,000	70,000	ND<5	ND<4.7	4,200	ND<4.8	ND<4.8	ND<4.7
2-Chlorotoluene	µg/kg	150,000	560,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
4-Chlorotoluene	µg/kg	150,000	560,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
tert-Butylbenzene	µg/kg	120,000	491,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
1,2,4-Trimethylbenzene	µg/kg	51,000	170,000	ND<5	ND<4.7	12,000	ND<4.8	ND<4.8	ND<4.7
sec-Butylbenzene	µg/kg	100,000	410,000	ND<5	ND<4.7	670	ND<4.8	ND<4.8	ND<4.7
para-Isopropyl Toluene	µg/kg	NA	NA	ND<5	ND<4.7	1,700	ND<4.8	ND<4.8	ND<4.7
1,3-Dichlorobenzene	µg/kg	41,000	140,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
1,4-Dichlorobenzene	µg/kg	3,000	7,300	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
n-Butylbenzene	µg/kg	130,000	550,000	ND<5	ND<4.7	2,300	ND<4.8	ND<4.8	ND<4.7
1,2-Dichlorobenzene	µg/kg	370,000	371,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
1,2-Dibromo-3-Chloropropane	µg/kg	320	2,100	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
1,2,4-Trichlorobenzene	µg/kg	480,000	1,700,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Hexachlorobutadiene	µg/kg	5,700	38,000	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7
Naphthalene	µg/kg	55,000	190,000	ND<5	ND<4.7	2,300	ND<4.8	ND<4.8	ND<4.7
1,2,3-Trichlorobenzene	µg/kg	NA	NA	ND<5	ND<4.7	ND<500	ND<4.8	ND<4.8	ND<4.7

J - Estimated value
VOC - Volatile organic compounds
NA - Not available
Region 9 Preliminary Remediation Goals, California EPA
Res. - Residential Shaded Exceeds
Indus. - Industrial **Bold Exceeds**

Table 8. PAH Analyses - Groundwater Samples
EPA Test Method 8310
9th Street and Broadway
Oakland, California

Analyte	Units	MCLs	Sample Identification/Date Sampled					
			SB28 8/23/99	SB29 8/23/99	MW-7 8/20/99	MW-20 8/20/99	MW-21 8/20/99	MW-21 Dup 8/20/99
Naphthalene	µg/L	NA	110	ND<5.5	ND<4.9	ND<4.8	ND<4.9	ND<4.8
Acenaphthylene	µg/L	NA	230	ND<11	ND<9.7	ND<9.6	ND<9.7	ND<9.6
Acenaphthene	µg/L	NA	ND<6.1	ND<1.1	ND<0.97	ND<0.96	ND<0.97	ND<0.96
Fluorene	µg/L	NA	36	ND<1.1	ND<0.97	ND<0.96	ND<0.97	ND<0.96
Phenanthrene	µg/L	NA	ND<3.0	ND<0.55	ND<0.49	ND<0.48	ND<0.49	ND<0.48
Anthracene	µg/L	NA	ND<3.0	ND<0.55	ND<0.49	ND<0.48	ND<0.49	ND<0.48
Fluoranthene	µg/L	NA	ND<2.4	ND<0.44	ND<0.39	ND<0.38	ND<0.39	ND<0.38
Pyrene	µg/L	NA	ND<1.2	ND<0.22	ND<0.19	ND<0.19	ND<0.19	ND<0.19
Benzo (a) anthracene	µg/L	NA	ND<0.61	ND<0.11	ND<0.1	ND<0.1	ND<0.1	ND<0.1
Chrysene	µg/L	NA	ND<0.61	ND<0.11	ND<0.1	ND<0.1	ND<0.1	ND<0.1
Benzo (b) fluoranthene	µg/L	NA	ND<1.2	ND<0.22	ND<0.19	ND<0.19	ND<0.19	ND<0.19
Benzo (k) fluoranthene	µg/L	NA	ND<0.61	ND<0.11	ND<0.1	ND<0.1	ND<0.1	ND<0.1
Benzo (a) pyrene	µg/L	0.20	ND<0.61	ND<0.11	ND<0.1	ND<0.1	ND<0.1	ND<0.1
Dibenz (a,h) anthracene	µg/L	NA	ND<1.2	ND<0.22	ND<0.19	ND<0.19	ND<0.19	ND<0.19
Benzo (g,h, i) perylene	µg/L	NA	ND<1.2	ND<0.22	ND<0.19	ND<0.19	ND<0.19	ND<0.19
Indeno (1, 2, 3-cd) pyrene	µg/L	NA	ND<0.85	ND<0.15	ND<0.14	ND<0.13	ND<0.14	ND<0.13

PAH - Polynuclear aromatic hydrocarbons
NA - Not available
MCLs - maximum contaminant levels for drinking water as published in *California Department of Health Services, Division of Drinking Water and Environmental Management, California Drinking Water Primary and Secondary Maximum Contaminant Levels, Action Levels and Chemicals Requiring Monitoring*

Table 9. PAH Analyses - Soil Samples
EPA Test Method 8310
9th Street and Broadway
Oakland, California

		Sample Identification:		SB28-2-2.5	SB28-9.5-10	SB28-26.5-27	SB29-2-2.5	SB29-9.5-10	SB29-27-27.5
Sample Date: 8/23/99		PRGs		Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)
Analyte	Units	Res.	Indus.	2.0	9.5	26.5	2.0	9.5	27.0
Naphthalene	µg/kg	55,000	190,000	ND<8,400	ND<170	**2,400**	ND<170	ND<170	ND<170
Acenaphthylene	µg/kg	NA	NA	ND<17,000	ND<340	**7,800**	ND<340	ND<340	ND<340
Acenaphthene	µg/kg	2,6000,000	28,00,000	ND<1,700	ND<34	**3,300**	ND<34	ND<34	ND<34
Fluorene	µg/kg	1,800,000	22,000,000	ND<1,700	ND<34	**1,300**	ND<34	ND<34	ND<34
Phenanthrene	µg/kg	NA	NA	**7,600**	ND<17	ND<84	ND<17	ND<17	ND<17
Anthracene	µg/kg	14,000,000	22,000,000	ND<840	ND<17	ND<84	ND<17	ND<17	ND<17
Fluoranthene	µg/kg	2,000,000	37,000,000	**2,100**	ND<13	ND<67	**15**	ND<13	ND<13
Pyrene	µg/kg	1,500,000	26,000,000	**2,000**	ND<6.7	ND<34	**16**	ND<6.7	ND<6.7
Benzo (a) anthracene	µg/kg	560	3,600	**[illegible]**	ND<3.3	ND<17	**12**	**4.2**	ND<3.3
Chrysene	µg/kg	6,100	360,000	**1,400**	ND<3.3	ND<17	**8.9**	**5.7**	ND<3.3
Benzo (b) fluoranthene	µg/kg	560	3,600	**[illegible]**	ND<6.7	ND<34	**18**	ND<6.7	ND<6.7
Benzo (k) fluoranthene	µg/kg	5,600	3,600	**430**	ND<3.3	ND<17	**8.4**	ND<3.3	ND<3.3
Benzo (a) pyrene	µg/kg	56	360	**[illegible]**	ND<3.3	ND<17	**23**	**4.4**	ND<3.3
Dibenz (a,h) anthracene	µg/kg	56	360	ND<340	ND<6.7	ND<34	ND<6.7	ND<6.7	ND<6.7
Benzo (g,h, i) perylene	µg/kg	NA	NA	**850**	ND<6.7	ND<34	**19**	ND<6.7	ND<6.7
Indeno (1, 2, 3-cd) pyrene	µg/kg	560	3,600	**[illegible]**	ND<3.3	ND<17	**32**	**3.4**	ND<3.3

PAH - Polynuclear aromatic hydrocarbons
NA - Not available
Region 9 Preliminary Remediation Goals, California EPA
Res. - Residential Shaded Exceeds
Indus. - Industrial **Bold Exceeds**

Table 10. SVOC Analyses - Groundwater Samples
EPA Test Method 8270B
9th Street and Broadway
Oakland, California

Analyte	Units	MCLs	Sample Identification/Date Sampled					
			SB28 8/23/99	SB29 8/23/99	MW-7 8/20/99	MW-20 8/20/99	MW-21 8/20/99	MW-21 Dup 8/20/99
N-Nitrosodimethylamine	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Phenol	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
bis (2-Chloroethyl) ether	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
2-Chlorophenol	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
1,3-Dichlorobenzene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
1,4-Dichlorobenzene	µg/L	5	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Benzyl alcohol	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
1,2-Dichlorobenzene	µg/L	600	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
2-Methylphenol	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
bis (2-Chloroisopropyl) ether	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
3,4-Methylphenol	µg/L	NA	8.4 J	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
N-Nitroso-di-n-propylaime	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Hexachloroethane	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Nitrobenzene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Isophorone	µg/L	NA	ND<50	ND<57	ND<49	ND<51	ND<50	ND<48
2-Nitrophenol	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
2,4-Dimethylphenol	µg/L	NA	ND<50	ND<57	ND<49	ND<51	ND<50	ND<48
Benzoic acid	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
bis (2-Chloroethoxy) methane	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
2,4-Dichlorophenol	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
1,2,4-Trichlorobenzene	µg/L	70	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Naphthalene	µg/L	NA	150	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
4-Chloroaniline	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Hexachlorobutadiene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
4-Chloro-3-methylphenol	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
2-Methylnaphthalene	µg/L	NA	[redacted]	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Hexachlorocyclopentadiene	µg/L	50	ND<10	ND<57	ND<49	ND<51	ND<50	ND<48
2,4,6-Trichlorophenol	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
2,4,5-Trichlorophenol	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
2-Chloronaphthalene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
2-Nitroaniline	µg/L	NA	ND<50	ND<57	ND<49	ND<51	ND<50	ND<48
Dimethylphthalate	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Acenaphthylene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
2,6-Dinitrotoluene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
3-Nitroanaline	µg/L	NA	ND<50	ND<57	ND<49	ND<51	ND<50	ND<48
Acenaphthene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6

Table 10. SVOC Analyses - Groundwater Samples
EPA Test Method 8270B
9th Street and Broadway
Oakland, California

Analyte	Units	MCLs	Sample Identification/Date Sampled					
			SB28 8/23/99	SB29 8/23/99	MW-7 8/20/99	MW-20 8/20/99	MW-21 8/20/99	MW-21 Dup 8/20/99
2,4-Dinitrophenol	µg/L	NA	ND<50	ND<57	ND<49	ND<51	ND<50	ND<48
4-Nitrophenol	µg/L	NA	ND<50	ND<57	ND<49	ND<51	ND<50	ND<48
Dibenzofuran	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
2,4-Dinitrotoluene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Diethylphthalate	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Fluorene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
4-Chlorophenyl-phenylether	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
4-Nitroaniline	µg/L	NA	ND<50	ND<57	ND<49	ND<51	ND<50	ND<48
4,6-Dinitro-2methylphenol	µg/L	NA	ND<50	ND<57	ND<49	ND<51	ND<50	ND<48
N-Nitrosodiphenylamine	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Azobenzene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
4-bromophenyl-phenylether	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Hexachlorobenzene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Pantachlorophenol	µg/L	NA	ND<50	ND<57	ND<49	ND<51	ND<50	ND<48
Phenanthrene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Anthracene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Di-n-butylpathalate	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Fluoranthene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Pyrene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Butylbenzylphthalate	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
3,3-Dichlorobenzidine	µg/L	NA	ND<50	ND<57	ND<49	ND<51	ND<50	ND<48
Benzo (a) anthracene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Chrysene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
bis (2-Ethylhexyl) phthalate	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Di-n-octylphthalate	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Benzo (b,k) fluoranthene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Benzo (a) pyrene	µg/L	0.2	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Indeno (1,2,3-cd) pyrene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Dibez (a,h) anthracene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6
Benzo (g,h,I) perylene	µg/L	NA	ND<10	ND<11	ND<9.7	ND<10	ND<9.9	ND<9.6

J - Estimated value

MCLs - maximum contaminant levels for drinking water as published in *California Department of Health Services, Division of Drinking Water and Environmental Management, California Drinking Water Primary and Secondary Maximum Contaminant Levels, Action Levels and Chemicals Requiring Monitoring*

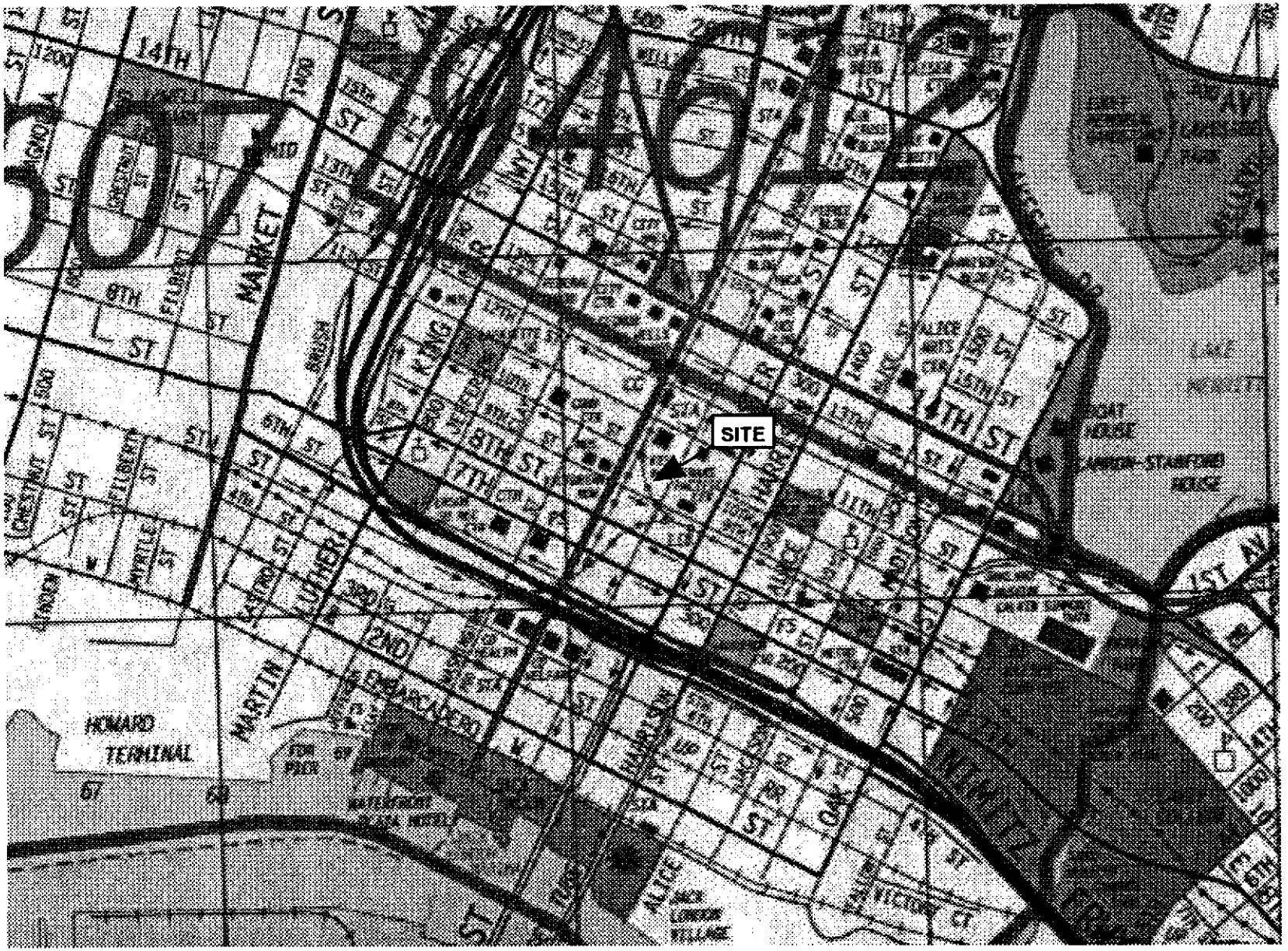
Table 11. SVOC Analyses - Soil Samples
EPA Test Method 8270B
9th Street and Broadway
Oakland, California

Sample Identification:		SB28-2-2.5	SB28-9.5-10	SB28-26.5-27	SB29-2-2.5	SB29-9.5-10	SB29-27-27.5
Sample Date:		8/23/99					
Analyte	Units	Depth (ft) 2.0	Depth (ft) 9.5	Depth (ft) 26.5	Depth (ft) 2.0	Depth (ft) 9.5	Depth (ft) 27.0
N-Nitrosodimethylamine	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Phenol	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
bis (2-Chloroethyl) ether	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
2-Chlorophenol	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
1,3-Dichlorobenzene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
1,4-Dichlorobenzene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Benzyl alcohol	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
1,2-Dichlorobenzene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
2-Methylphenol	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
bis (2-Chloroisopropyl) ether	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
3,4-Methylphenol	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
N-Nitroso-di-n-propylaime	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Hexachloroethane	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Nitrobenzene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Isophorone	µg/kg	ND<1,700	ND<1,700	ND<1,700	ND<3,300	ND<3,300	ND<1,700
2-Nitrophenol	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
2,4-Dimethylphenol	µg/kg	ND<1,700	ND<1,700	ND<1,700	ND<3,300	ND<3,300	ND<1,700
Benzoic acid	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
bis (2-Chloroethoxy) methane	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
2,4-Dichlorophenol	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
1,2,4-Trichlorobenzene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Naphthalene	µg/kg	ND<330	ND<330	[illegible]	ND<670	ND<670	ND<330
4-Chloroaniline	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Hexachlorobutadiene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
4-Chloro-3-methylphenol	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
2-Methylnaphthalene	µg/kg	ND<1,700	ND<1,700	[illegible]	ND<3,300	ND<3,300	ND<1,700
Hexachlorocyclopentadiene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
2,4,6-Trichlorophenol	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
2,4,5-Trichlorophenol	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
2-Chloronaphthalene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
2-Nitroaniline	µg/kg	ND<1,700	ND<1,700	ND<1,700	ND<3,300	ND<3,300	ND<1,700
Dimethylphthalate	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Acenaphthylene	µg/kg	[illegible]	ND<330	ND<330	ND<670	ND<670	ND<330
2,6-Dinitrotoluene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
3-Nitroanaline	µg/kg	ND<1,700	ND<1,700	ND<1,700	ND<3,300	ND<3,300	ND<1,700

Table 11. SVOC Analyses - Soil Samples
EPA Test Method 8270B
9th Street and Broadway
Oakland, California

Sample Identification:		SB28-2-2.5	SB28-9.5-10	SB28-26.5-27	SB29-2-2.5	SB29-9.5-10	SB29-27-27.5
Sample Date:		8/23/99					
Analyte	Units	Depth (ft) 2.0	Depth (ft) 9.5	Depth (ft) 26.5	Depth (ft) 2.0	Depth (ft) 9.5	Depth (ft) 27.0
Acenaphthene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
2,4-Dinitrophenol	µg/kg	ND<1,700	ND<1,700	ND<1,700	ND<3,300	ND<3,300	ND<1,700
4-Nitrophenol	µg/kg	ND<1,700	ND<1,700	ND<1,700	ND<3,300	ND<3,300	ND<1,700
Dibenzofuran	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
2,4-Dinitrotoluene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Diethylphthalate	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Fluorene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
4-Chlorophenyl-phenylether	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
4-Nitroaniline	µg/kg	ND<1,700	ND<1,700	ND<1,700	ND<3,300	ND<3,300	ND<1,700
4,6-Dinitro-2methylphenol	µg/kg	ND<1,700	ND<1,700	ND<1,700	ND<3,300	ND<3,300	ND<1,700
N-Nitrosodiphenylamine	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Azobenzene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
4-bromophenyl-phenylether	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Hexachlorobenzene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Pantachlorophenol	µg/kg	ND<1,700	ND<1,700	ND<1,700	ND<3,300	ND<3,300	ND<1,700
Phenanthrene	µg/kg	810	ND<330	ND<330	ND<670	ND<670	ND<330
Anthracene	µg/kg	180 J	ND<330	ND<330	ND<670	ND<670	ND<330
Di-n-butylpathalate	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Fluoranthene	µg/kg	870	ND<330	ND<330	ND<670	ND<670	ND<330
Pyrene	µg/kg	1400	ND<330	ND<330	ND<670	ND<670	ND<330
Butylbenzylphthalate	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
3,3-Dichlorobenzidine	µg/kg	ND<1,700	ND<1,700	ND<1,700	ND<3,300	ND<3,300	ND<1,700
Benzo (a) anthracene	µg/kg	490	ND<330	ND<330	ND<670	ND<670	ND<330
Chrysene	µg/kg	570	ND<330	ND<330	ND<670	ND<670	ND<330
bis (2-Ethylhexyl) phthalate	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Di-n-octylphthalate	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Benzo (b,k) fluoranthene	µg/kg	840	ND<330	ND<330	ND<670	ND<670	ND<330
Benzo (a) pyrene	µg/kg	530	ND<330	ND<330	ND<670	ND<670	ND<330
Indeno (1,2,3-cd) pyrene	µg/kg	270 J	ND<330	ND<330	ND<670	ND<670	ND<330
Dibez (a,h) anthracene	µg/kg	ND<330	ND<330	ND<330	ND<670	ND<670	ND<330
Benzo (g,h,I) perylene	µg/kg	330 J	ND<330	ND<330	ND<670	ND<670	ND<330

J - Estimated value
SVOC - Semi-volatile organic compounds



Reference: Thomas Brother's Map, 1997

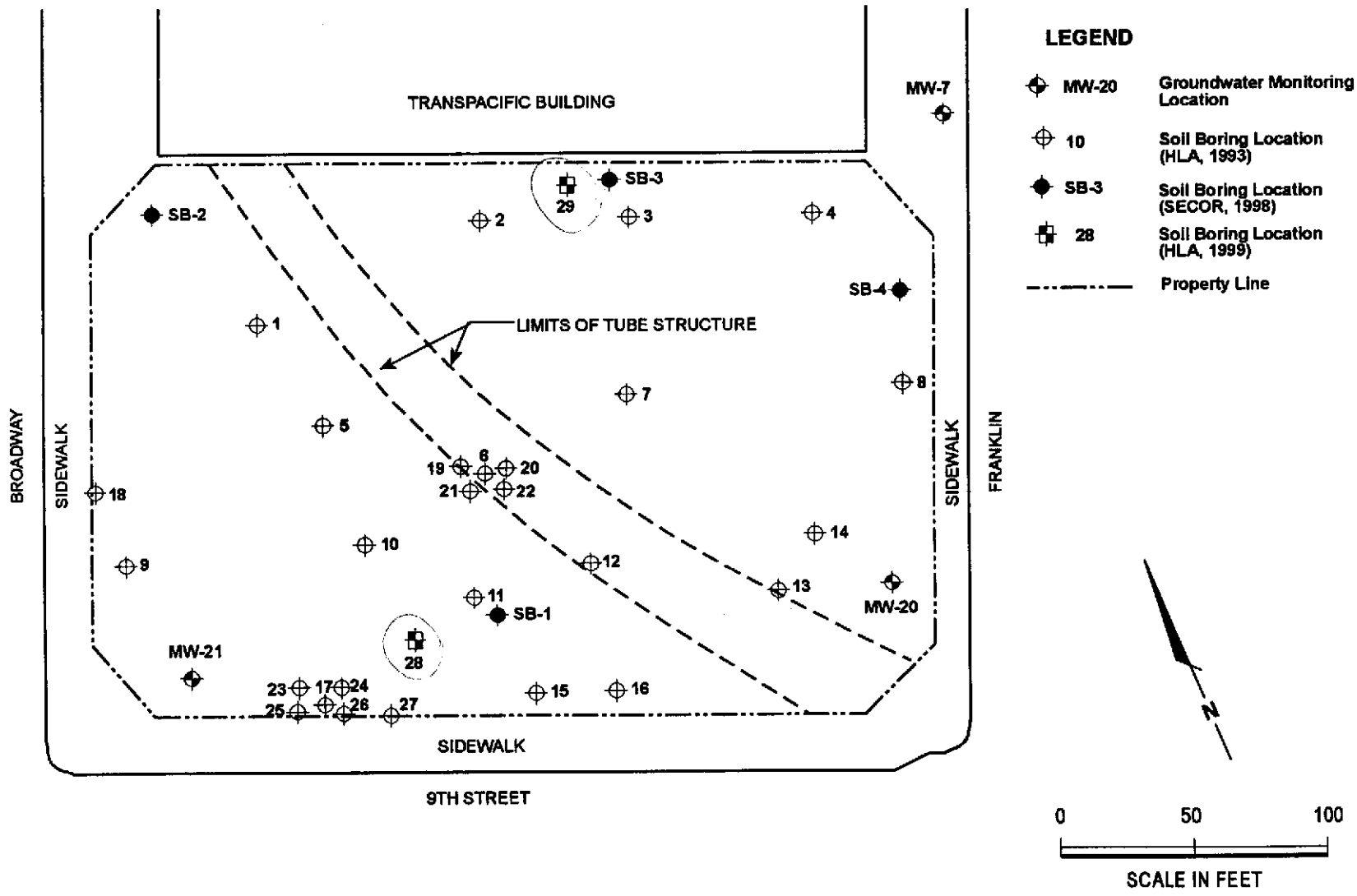
Harding Lawson Associates
Engineering and
Environmental Services

VICINITY MAP
Soil and Groundwater Investigation
9th Street and Broadway
Oakland, California

PLATE **1**

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
jgm	47729.3		9/15//99	

P:/9th & Broadway/sitemap.fh3



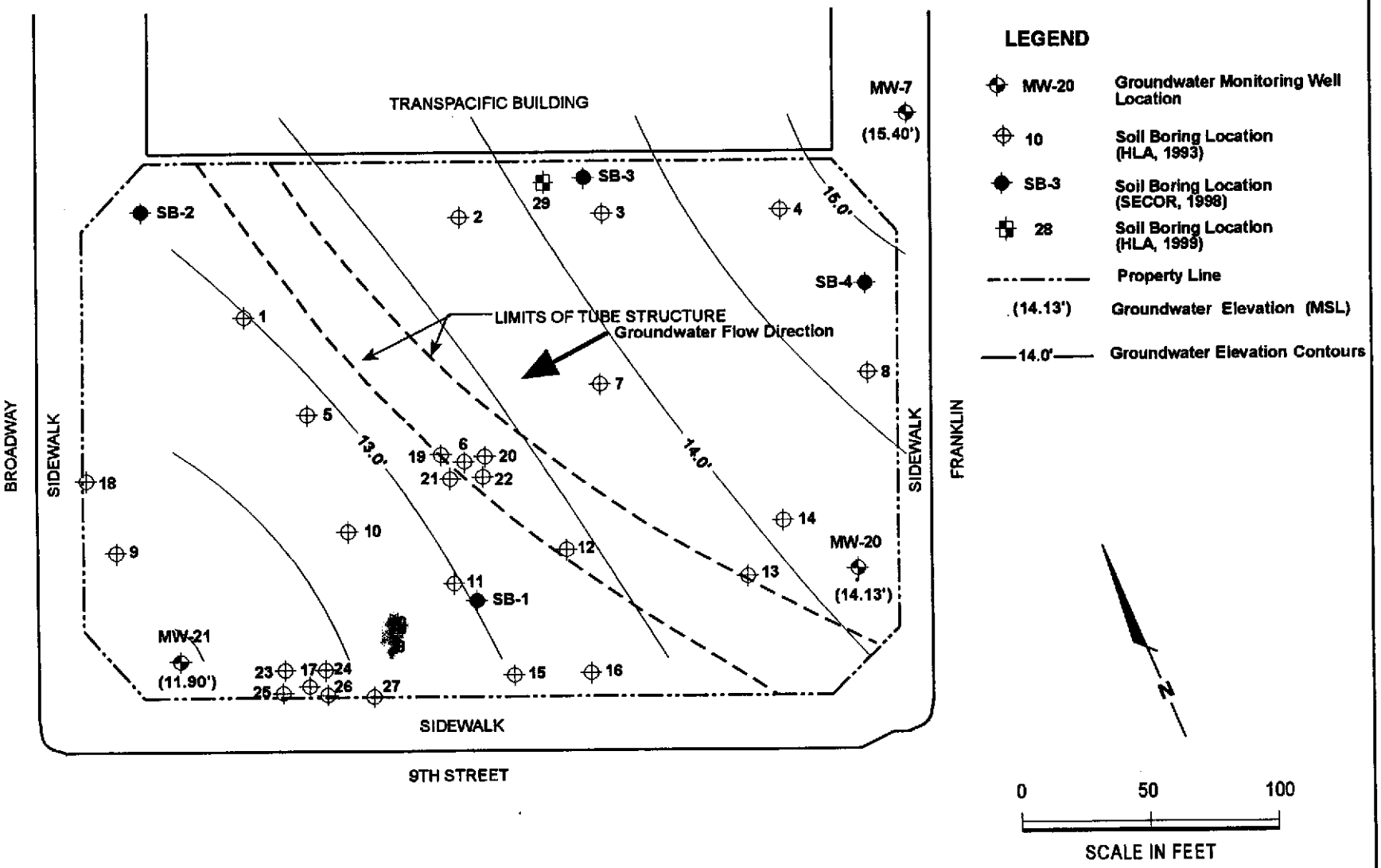
Harding Lawson Associates
Engineering and
Environmental Services

SITE MAP
Soil and Groundwater Investigation
9th Street and Broadway
Oakland, California

PLATE **2**

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
jgm	47729.3		9/15//99	

P:/8th & Broadway/sitemap.fh3



LEGEND

- MW-20 — Groundwater Monitoring Well Location
- 10 — Soil Boring Location (HLA, 1993)
- SB-3 — Soil Boring Location (SECOR, 1998)
- 28 — Soil Boring Location (HLA, 1999)
- Property Line
- (14.13') — Groundwater Elevation (MSL)
- 14.0' — Groundwater Elevation Contours

Harding Lawson Associates
Engineering and
Environmental Services

Groundwater Elevation and Gradient, August 20, 1999
Soil and Groundwater Investigation
9th Street and Broadway
Oakland, California

PLATE **3**

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
jgm	47729.3		9/15//99	

P:/9th & Broadway/sitemap.fh3

APPENDIX A

BORING LOGS

UNIFIED SOIL CLASSIFICATION - ASTM D2487-85

MAJOR DIVISIONS					TYPICAL NAMES
COARSE-GRAINED SOILS MORE THAN HALF IS COARSER THAN No. 200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN No. 4 SIEVE SIZE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW		WELL GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
			GP		POORLY GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
		GRAVELS WITH OVER 12% FINES	GM		SILTY GRAVELS, SILTY GRAVELS WITH SAND
			GC		CLAYEY GRAVELS, CLAYEY GRAVELS WITH SAND
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN No. 4 SIEVE SIZE	CLEAN SANDS WITH LITTLE OR NO FINES	SW		WELL GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
			SP		POORLY GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
		SANDS WITH OVER 12% FINES	SM		SILTY SANDS WITH OR WITHOUT GRAVEL
			SC		CLAYEY SANDS WITH OR WITHOUT GRAVEL
FINE-GRAINED SOILS MORE THAN HALF IS FINER THAN No. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50% OR LESS		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTS WITH SANDS AND GRAVELS
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, CLAYS WITH SANDS AND GRAVELS, LEAN CLAYS
			OL		ORGANIC SILTS OR CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%		MH		INORGANIC SILTS, MICACEOUS OR DIATOMACIOUS, FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH		ORGANIC SILTS OR CLAYS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS			Pt		PEAT AND OTHER HIGHLY ORGANIC SOILS

Harding Lawson Associates
Engineering and Environmental Services

Soil Classification Chart and Key to Test Data
Soil and Groundwater Investigation
9th Street and Broadway
Oakland, California

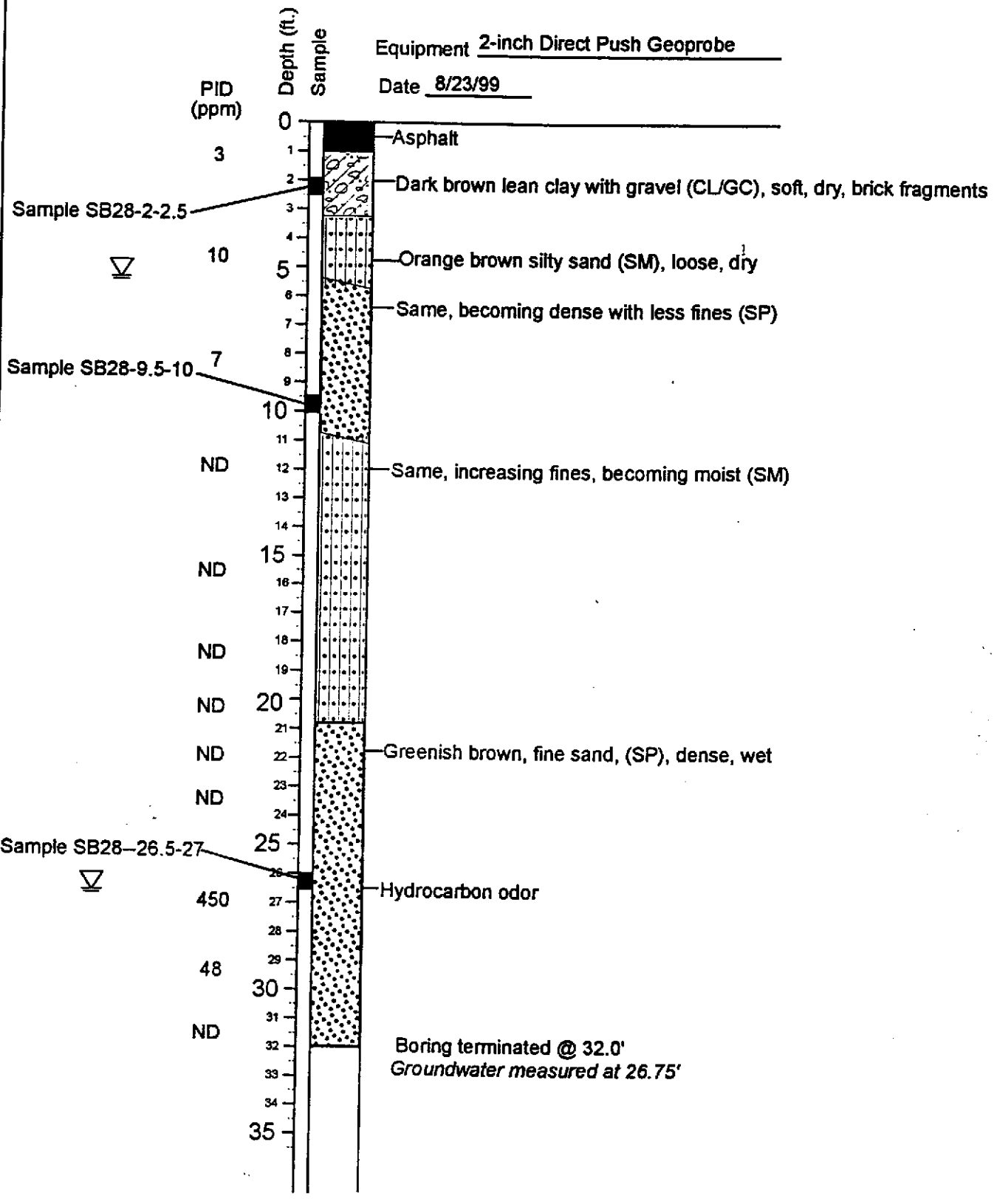
PLATE
A-1

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
jgm	47729.3		9/15/99	

Boring SB-28

Equipment 2-inch Direct Push Geoprobe

Date 8/23/99



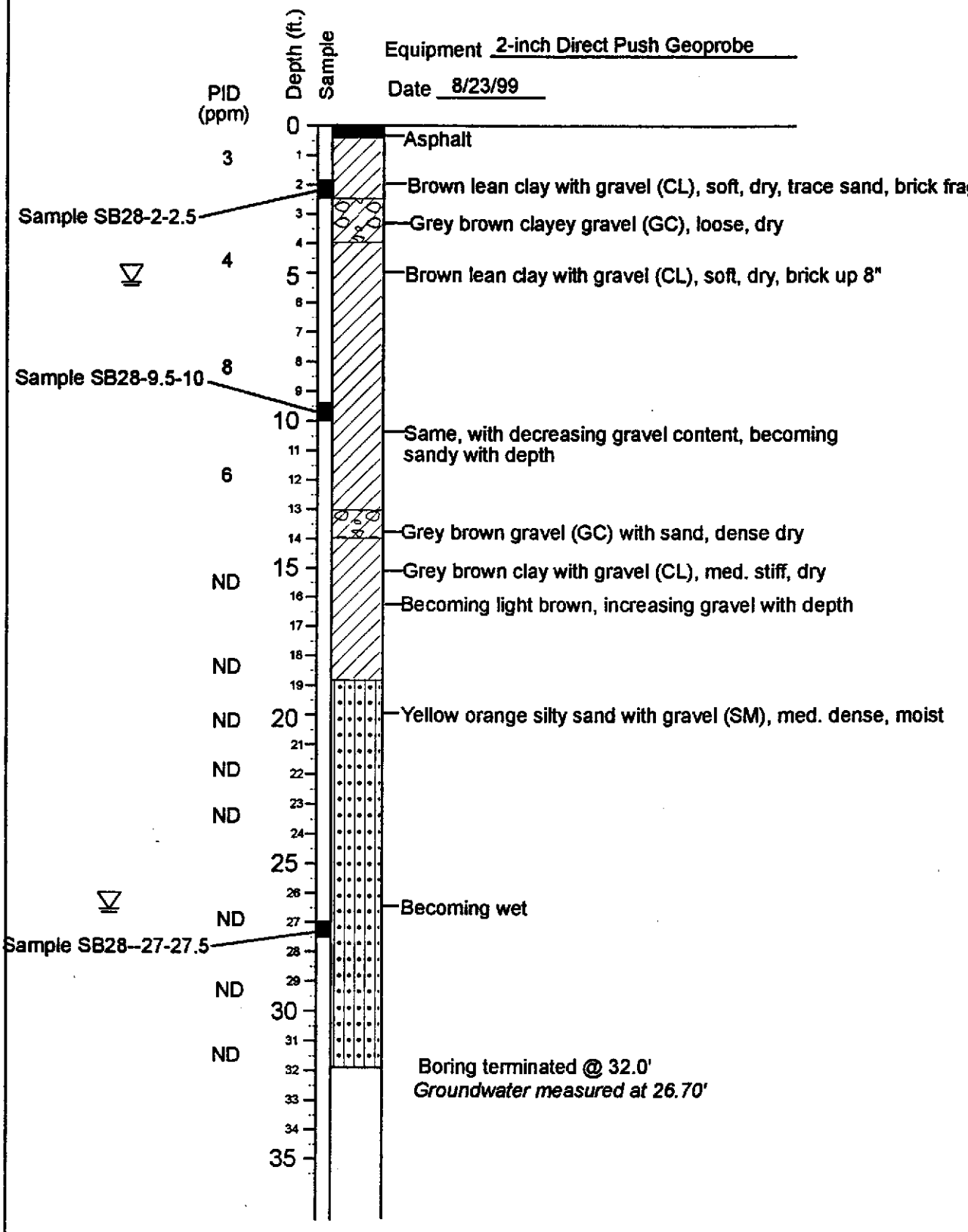
Harding Lawson Associates
Engineering and Environmental Services

Logs of Boring SB-28
Soil and Groundwater Investigation
9th Street and Broadway
Oakland, California

PLATE **A-2**

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
jgm	47729.3		9/15/99	

Boring SB-29



Harding Lawson Associates
Engineering and Environmental Services

Logs of Boring SB-29
Soil and Groundwater Investigation
9th Street and Broadway
Oakland, California

PLATE **A-3**

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
jgm	47729.3		9/15/99	

APPENDIX B

LABORATORY REPORTS

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900, Fax (510) 486-0532

ANALYTICAL REPORT

Prepared for:

Harding Lawson Associates
383 Fourth Street, Third Floor
Oakland, CA 94607

Date: 07-SEP-99
Lab Job Number: 141067
Project ID: 47729.2
Location: 9th & Broadway

Reviewed by: Trag Bib

Reviewed by:

No 2326

Harding Lawson Associates
383 Fourth Street, Third Floor
Oakland, California 94607
(510) 451-1001 - Phone
(510) 451-3165 - Fax

141067

CHAIN OF CUSTODY FORM

Lab: Curtis & Tompkins

Job Number: 47729.2

Name/Location: 9th & Broadway

Project Manager: Jim McCady

Samplers: Heather Lee

Recorder: Heather D Lee (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	EPA 8010	EPA 8020	EPA 8260/BTEX/MTBE	EPA 8270	METALS CCR 17 metals*	EPA 8015M/TPHG	EPA 8020/BTEX	EPA 8015M/TPHd**	PAH's by EPA 8310	EPA 8260
-1	X				3		1	6		MW-20	99	08	20	0817				X	X	X	X		X	X	
-5	X							1		TRIP	99	08	20	0900			HL	~~X~~							X
-2	X				3		1	6		MW-7	99	08	20	0950				X	X	X	X		X	X	
-3	X				3		1	6		MW-21	99	08	20	1055				X	X	X	X		X	X	
-4	X				3		1	6		DUP	99	08	20	1120				X	X	X	X		X	X	

Lab Number: Yr	Wk	Seq	Depth in Feet	Col Mtd CD	QA Code	Miscellaneous
						* Metals field filtered silver, arsenic, barium, beryllium, cadmium, cobalt, chromium, copper, mercury, molybdenum, nickel, lead, antimony, selenium, thallium, vanadium, zinc
						** TPHd, no silica gel cleanup

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Heather D Lee	Lisa Bennett	8/20/99 1:47

Dispatched by: (Signature)	Date/Time	Received for lab by: (Signature)	Date/Time

METHOD OF SHIPMENT

SAMPLE CONDITION WHEN RECEIVED BY THE LABORATORY

...borato... White · Offic... Yellow · Fie... ...ce Copy Pink

TEH-Tot Ext Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
141067-001	MW-20	50103	08/20/99	08/23/99	08/26/99	
141067-002	MW-7	50103	08/20/99	08/23/99	08/26/99	
141067-003	MW-21	50103	08/20/99	08/23/99	08/26/99	
141067-004	DUP	50103	08/20/99	08/23/99	09/01/99	

Matrix: Water

Analyte Diln Fac:	Units	141067-001 1	141067-002 1	141067-003 1	141067-004 1
Diesel C10-C24	ug/L	<47	<48	<48	<49
Motor Oil C24-C36	ug/L	<280	<290	<290	<290
Surrogate					
Hexacosane	%REC	63	60	67	85

Lab #: 141067

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TEH-Tot Ext Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 50103
Units: ug/L
Diln Fac: 1

Prep Date: 08/23/99
Analysis Date: 08/26/99

MB Lab ID: QC05666

Analyte	Result
Diesel C10-C24	<50
Motor Oil C24-C36	<300

Surrogate	%Rec	Recovery Limits
Hexacosane	74	58-128

TEH-Tot Ext Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 50103
Units: ug/L
Diln Fac: 1

Prep Date: 08/23/99
Analysis Date: 08/26/99

BS Lab ID: QC05667

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C10-C24	2475	1927	78	50-114
Surrogate	**%Rec**	**Limits**		
Hexacosane	73	58-128		

BSD Lab ID: QC05668

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C10-C24	2475	1916	77	50-114	1	25
Surrogate	**%Rec**	**Limits**				
Hexacosane	72	58-128				

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Volatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: MW-20
Lab ID: 141067-001
Matrix: Water
Batch#: 50092
Units: ug/L
Diln Fac: 1

Sampled: 08/20/99
Received: 08/20/99
Extracted: 08/23/99
Analyzed: 08/23/99

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	17	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

Volatile Organics by GC/MS

Field ID:	MW-20	Sampled:	08/20/99
Lab ID:	141067-001	Received:	08/20/99
Matrix:	Water	Extracted:	08/23/99
Batch#:	50092	Analyzed:	08/23/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	97	81-121
1,2-Dichloroethane-d4	113	76-127
Toluene-d8	101	90-109
Bromofluorobenzene	99	82-118

Volatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: MW-7
Lab ID: 141067-002
Matrix: Water
Batch#: 50092
Units: ug/L
Diln Fac: 1

Sampled: 08/20/99
Received: 08/20/99
Extracted: 08/23/99
Analyzed: 08/23/99

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

Volatile Organics by GC/MS

Field ID:	MW-7	Sampled:	08/20/99
Lab ID:	141067-002	Received:	08/20/99
Matrix:	Water	Extracted:	08/23/99
Batch#:	50092	Analyzed:	08/23/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	97	81-121
1,2-Dichloroethane-d4	113	76-127
Toluene-d8	102	90-109
Bromofluorobenzene	100	82-118

Volatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: MW-21
Lab ID: 141067-003
Matrix: Water
Batch#: 50092
Units: ug/L
Diln Fac: 1

Sampled: 08/20/99
Received: 08/20/99
Extracted: 08/23/99
Analyzed: 08/23/99

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	7.4	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	6.6	5.0
Dibromochloromethane	ND	5.0

Volatile Organics by GC/MS

Field ID:	MW-21	Sampled:	08/20/99
Lab ID:	141067-003	Received:	08/20/99
Matrix:	Water	Extracted:	08/23/99
Batch#:	50092	Analyzed:	08/23/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	98	81-121
1,2-Dichloroethane-d4	116	76-127
Toluene-d8	102	90-109
Bromofluorobenzene	102	82-118

Volatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: DUP
Lab ID: 141067-004
Matrix: Water
Batch#: 50092
Units: ug/L
Diln Fac: 1

Sampled: 08/20/99
Received: 08/20/99
Extracted: 08/23/99
Analyzed: 08/23/99

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	7.5	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	6.3	5.0
Dibromochloromethane	ND	5.0

Volatile Organics by GC/MS

Field ID:	DUP	Sampled:	08/20/99
Lab ID:	141067-004	Received:	08/20/99
Matrix:	Water	Extracted:	08/23/99
Batch#:	50092	Analyzed:	08/23/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	99	81-121
1,2-Dichloroethane-d4	117	76-127
Toluene-d8	101	90-109
Bromofluorobenzene	95	82-118

Volatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: TRIP
Lab ID: 141067-005
Matrix: Water
Batch#: 50092
Units: ug/L
Diln Fac: 1

Sampled: 08/20/99
Received: 08/20/99
Extracted: 08/23/99
Analyzed: 08/23/99

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

Volatile Organics by GC/MS

Field ID:	TRIP	Sampled:	08/20/99
Lab ID:	141067-005	Received:	08/20/99
Matrix:	Water	Extracted:	08/23/99
Batch#:	50092	Analyzed:	08/23/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	93	81-121
1,2-Dichloroethane-d4	107	76-127
Toluene-d8	101	90-109
Bromofluorobenzene	97	82-118

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 50092
Units: ug/L
Diln Fac: 1

Prep Date: 08/23/99
Analysis Date: 08/23/99

MB Lab ID: QC05623

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 50092
Units: ug/L
Diln Fac: 1

Prep Date: 08/23/99
Analysis Date: 08/23/99

MB Lab ID: QC05623

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%Rec	Recovery Limits
Dibromofluoromethane	92	81-121
1,2-Dichloroethane-d4	102	76-127
Toluene-d8	101	90-109
Bromofluorobenzene	94	82-118

Lab #: 141067

BATCH QC REPORT

Curtis & Tompkins, Ltd.

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 50092
Units: ug/L
Diln Fac: 1

Prep Date: 08/23/99
Analysis Date: 08/23/99

BS Lab ID: QC05621

Analyte	Spike Added	BS	%Rec #	Limits
1,1-Dichloroethene	50	48.45	97	64-139
Benzene	50	44.69	89	71-127
Trichloroethene	50	47.35	95	72-129
Toluene	50	47.09	94	73-129
Chlorobenzene	50	47.76	96	77-126

Surrogate	%Rec	Limits
Dibromofluoromethane	91	81-121
1,2-Dichloroethane-d4	97	76-127
Toluene-d8	101	90-109
Bromofluorobenzene	92	82-118

BSD Lab ID: QC05622

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	45.8	92	64-139	6	13
Benzene	50	43.16	86	71-127	3	10
Trichloroethene	50	46.45	93	72-129	2	10
Toluene	50	45.26	91	73-129	4	10
Chlorobenzene	50	46.8	94	77-126	2	10

Surrogate	%Rec	Limits
Dibromofluoromethane	91	81-121
1,2-Dichloroethane-d4	98	76-127
Toluene-d8	100	90-109
Bromofluorobenzene	94	82-118

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

TVH-Total Volatile Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
141067-001	MW-20	50292	08/20/99	09/01/99	09/01/99	
141067-002	MW-7	50292	08/20/99	09/01/99	09/01/99	
141067-003	MW-21	50292	08/20/99	09/01/99	09/01/99	
141067-004	DUP	50292	08/20/99	09/01/99	09/01/99	

Matrix: Water

Analyte Diln Fac:	Units	141067-001 1	141067-002 1	141067-003 1	141067-004 1
Gasoline C7-C12	ug/L	<50	<50	<50	<50
Surrogate					
Trifluorotoluene	%REC	89	92	90	89
Bromofluorobenzene	%REC	91	90	94	91

TVH-Total Volatile Hydrocarbons

Client:	Harding Lawson Associates	Analysis Method:	EPA 8015M
Project#:	47729.2	Prep Method:	EPA 5030
Location:	9th & Broadway		

METHOD BLANK

Matrix:	Water	Prep Date:	08/31/99
Batch#:	50292	Analysis Date:	08/31/99
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC06430

Analyte	Result
Gasoline C7-C12	<50

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	84	53-150
Bromofluorobenzene	91	53-149

TVH-Total Volatile Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 50292
Units: ug/L
Diln Fac: 1

Prep Date: 08/31/99
Analysis Date: 08/31/99

LCS Lab ID: QC06427

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline C7-C12	1918	2000	96	77-117

Surrogate	%Rec	Limits
Trifluorotoluene	95	53-150
Bromofluorobenzene	84	53-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

Lab #: 141067

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 141160-007
Matrix: Water
Batch#: 50292
Units: ug/L
Diln Fac: 1

Sample Date: 08/26/99
Received Date: 08/26/99
Prep Date: 09/01/99
Analysis Date: 09/01/99

MS Lab ID: QC06431

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline C7-C12	2000	<50	1710	85	69-131

Surrogate	%Rec	Limits
Trifluorotoluene	103	53-150
Bromofluorobenzene	96	53-149

MSD Lab ID: QC06432

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline C7-C12	2000	1733	87	69-131	1	13

Surrogate	%Rec	Limits
Trifluorotoluene	104	53-150
Bromofluorobenzene	97	53-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Polyaromatic Hydrocarbons by HPLC

Client:	Harding Lawson Associates	Analysis Method:	EPA 8310
Project#:	47729.2	Prep Method:	EPA 3520
Location:	9th & Broadway		

Field ID:	MW-20	Sampled:	08/20/99
Lab ID:	141067-001	Received:	08/20/99
Matrix:	Water	Extracted:	08/25/99
Batch#:	50166	Analyzed:	08/26/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Naphthalene	ND	4.8
Acenaphthylene	ND	9.6
Acenaphthene	ND	0.96
Fluorene	ND	0.96
Phenanthrene	ND	0.48
Anthracene	ND	0.48
Fluoranthene	ND	0.38
Pyrene	ND	0.19
Benzo(a)anthracene	ND	0.1
Chrysene	ND	0.1
Benzo(b)fluoranthene	ND	0.19
Benzo(k)fluoranthene	ND	0.1
Benzo(a)pyrene	ND	0.1
Dibenz(a,h)anthracene	ND	0.19
Benzo(g,h,i)perylene	ND	0.19
Indeno(1,2,3-cd)pyrene	ND	0.13

Surrogate	%Recovery	Recovery Limits
1-Methylnaphthalene (UV)	65	26-123
1-Methylnaphthalene (F)	65	20-127

Polyaromatic Hydrocarbons by HPLC

Client:	Harding Lawson Associates	Analysis Method:	EPA 8310
Project#:	47729.2	Prep Method:	EPA 3520
Location:	9th & Broadway		

Field ID:	MW-7	Sampled:	08/20/99
Lab ID:	141067-002	Received:	08/20/99
Matrix:	Water	Extracted:	08/25/99
Batch#:	50166	Analyzed:	08/26/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Naphthalene	ND	4.9
Acenaphthylene	ND	9.7
Acenaphthene	ND	0.97
Fluorene	ND	0.97
Phenanthrene	ND	0.49
Anthracene	ND	0.49
Fluoranthene	ND	0.39
Pyrene	ND	0.19
Benzo(a)anthracene	ND	0.1
Chrysene	ND	0.1
Benzo(b)fluoranthene	ND	0.19
Benzo(k)fluoranthene	ND	0.1
Benzo(a)pyrene	ND	0.1
Dibenz(a,h)anthracene	ND	0.19
Benzo(g,h,i)perylene	ND	0.19
Indeno(1,2,3-cd)pyrene	ND	0.14

Surrogate	%Recovery	Recovery Limits
1-Methylnaphthalene (UV)	66	26-123
1-Methylnaphthalene (F)	68	20-127

Polyaromatic Hydrocarbons by HPLC

Client:	Harding Lawson Associates	Analysis Method:	EPA 8310
Project#:	47729.2	Prep Method:	EPA 3520
Location:	9th & Broadway		

Field ID:	MW-21	Sampled:	08/20/99
Lab ID:	141067-003	Received:	08/20/99
Matrix:	Water	Extracted:	08/25/99
Batch#:	50166	Analyzed:	08/26/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Naphthalene	ND	4.9
Acenaphthylene	ND	9.7
Acenaphthene	ND	0.97
Fluorene	ND	0.97
Phenanthrene	ND	0.49
Anthracene	ND	0.49
Fluoranthene	ND	0.39
Pyrene	ND	0.19
Benzo(a)anthracene	ND	0.1
Chrysene	ND	0.1
Benzo(b)fluoranthene	ND	0.19
Benzo(k)fluoranthene	ND	0.1
Benzo(a)pyrene	ND	0.1
Dibenz(a,h)anthracene	ND	0.19
Benzo(g,h,i)perylene	ND	0.19
Indeno(1,2,3-cd)pyrene	ND	0.14

Surrogate	%Recovery	Recovery Limits
1-Methylnaphthalene (UV)	65	26-123
1-Methylnaphthalene (F)	66	20-127

Polyaromatic Hydrocarbons by HPLC

Client:	Harding Lawson Associates	Analysis Method:	EPA 8310
Project#:	47729.2	Prep Method:	EPA 3520
Location:	9th & Broadway		

Field ID:	DUP	Sampled:	08/20/99
Lab ID:	141067-004	Received:	08/20/99
Matrix:	Water	Extracted:	08/25/99
Batch#:	50166	Analyzed:	08/26/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Naphthalene	ND	4.8
Acenaphthylene	ND	9.6
Acenaphthene	ND	0.96
Fluorene	ND	0.96
Phenanthrene	ND	0.48
Anthracene	ND	0.48
Fluoranthene	ND	0.38
Pyrene	ND	0.19
Benzo(a)anthracene	ND	0.1
Chrysene	ND	0.1
Benzo(b)fluoranthene	ND	0.19
Benzo(k)fluoranthene	ND	0.1
Benzo(a)pyrene	ND	0.1
Dibenz(a,h)anthracene	ND	0.19
Benzo(g,h,i)perylene	ND	0.19
Indeno(1,2,3-cd)pyrene	ND	0.13

Surrogate	%Recovery	Recovery Limits
1-Methylnaphthalene (UV)	64	26-123
1-Methylnaphthalene (F)	66	20-127

EPA 8310 PAHs by HPLC

Client:	Harding Lawson Associates	Analysis Method:	EPA 8310
Project#:	47729.2	Prep Method:	EPA 3520
Location:	9th & Broadway		

METHOD BLANK

Matrix:	Water	Prep Date:	08/25/99
Batch#:	50166	Analysis Date:	08/26/99
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC05917

Analyte	Result	Reporting Limit
Naphthalene	ND	5.0
Acenaphthylene	ND	10
Acenaphthene	ND	1.0
Fluorene	ND	1.0
Phenanthrene	ND	0.5
Anthracene	ND	0.5
Fluoranthene	ND	0.4
Pyrene	ND	0.2
Benzo(a)anthracene	ND	0.1
Chrysene	ND	0.1
Benzo(b)fluoranthene	ND	0.2
Benzo(k)fluoranthene	ND	0.1
Benzo(a)pyrene	ND	0.1
Dibenz(a,h)anthracene	ND	0.2
Benzo(g,h,i)perylene	ND	0.2
Indeno(1,2,3-cd)pyrene	ND	0.14

Surrogate	%Rec	Recovery Limits
1-Methylnaphthalene (UV)	67	26-123
1-Methylnaphthalene (F)	66	20-127

EPA 8310 PAHs by HPLC

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8310
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 50166
Units: ug/L
Diln Fac: 1

Prep Date: 08/25/99
Analysis Date: 08/26/99

BS Lab ID: QC05918

Analyte	Spike Added	BS	%Rec #	Limits
Naphthalene	10	7.6	76	27-118
Acenaphthylene	20	15.11	76	33-112
Acenaphthene	10	7.66	77	28-120
Fluorene	2	1.52	76	36-117
Phenanthrene	1	0.83	83	32-124
Anthracene	1	0.76	76	19-113
Benzo(k)fluoranthene	1	0.81	81	29-121
Indeno(1,2,3-cd)pyrene	1	0.83	83	31-122

Surrogate	%Rec	Limits
1-Methylnaphthalene (UV)	65	26-123
1-Methylnaphthalene (F)	66	20-127

BSD Lab ID: QC05919

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Naphthalene	10	7.29	73	27-118	4	29
Acenaphthylene	20	14.54	73	33-112	4	22
Acenaphthene	10	7.4	74	28-120	3	31
Fluorene	2	1.47	74	36-117	3	25
Phenanthrene	1	0.82	82	32-124	1	28
Anthracene	1	0.74	74	19-113	3	25
Benzo(k)fluoranthene	1	0.79	79	29-121	3	16
Indeno(1,2,3-cd)pyrene	1	0.74	74	31-122	11	35

Surrogate	%Rec	Limits
1-Methylnaphthalene (UV)	65	26-123
1-Methylnaphthalene (F)	66	20-127

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Semivolatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3520

Field ID: MW-20
Lab ID: 141067-001
Matrix: Water
Batch#: 50096
Units: ug/L
Diln Fac: 1

Sampled: 08/20/99
Received: 08/20/99
Extracted: 08/23/99
Analyzed: 09/01/99

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
3-,4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	51
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	51
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	51
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	51
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	51
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	51
4-Nitrophenol	ND	51

Semivolatile Organics by GC/MS

Field ID:	MW-20	Sampled:	08/20/99
Lab ID:	141067-001	Received:	08/20/99
Matrix:	Water	Extracted:	08/23/99
Batch#:	50096	Analyzed:	09/01/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	51
4,6-Dinitro-2-methylphenol	ND	51
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	51
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	51
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b,k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	87	30-136
Phenol-d5	100	33-140
2,4,6-Tribromophenol	78	31-140
Nitrobenzene-d5	91	24-128
2-Fluorobiphenyl	90	35-116
Terphenyl-d14	48	16-139

Semivolatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3520

Field ID: MW-7
Lab ID: 141067-002
Matrix: Water
Batch#: 50096
Units: ug/L
Diln Fac: 1

Sampled: 08/20/99
Received: 08/20/99
Extracted: 08/23/99
Analyzed: 09/01/99

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	9.7
Phenol	ND	9.7
bis(2-Chloroethyl)ether	ND	9.7
2-Chlorophenol	ND	9.7
1,3-Dichlorobenzene	ND	9.7
1,4-Dichlorobenzene	ND	9.7
Benzyl alcohol	ND	9.7
1,2-Dichlorobenzene	ND	9.7
2-Methylphenol	ND	9.7
bis(2-Chloroisopropyl) ether	ND	9.7
3-,4-Methylphenol	ND	9.7
N-Nitroso-di-n-propylamine	ND	9.7
Hexachloroethane	ND	9.7
Nitrobenzene	ND	9.7
Isophorone	ND	9.7
2-Nitrophenol	ND	49
2,4-Dimethylphenol	ND	9.7
Benzoic acid	ND	49
bis(2-Chloroethoxy)methane	ND	9.7
2,4-Dichlorophenol	ND	9.7
1,2,4-Trichlorobenzene	ND	9.7
Naphthalene	ND	9.7
4-Chloroaniline	ND	9.7
Hexachlorobutadiene	ND	9.7
4-Chloro-3-methylphenol	ND	9.7
2-Methylnaphthalene	ND	9.7
Hexachlorocyclopentadiene	ND	49
2,4,6-Trichlorophenol	ND	9.7
2,4,5-Trichlorophenol	ND	9.7
2-Chloronaphthalene	ND	9.7
2-Nitroaniline	ND	49
Dimethylphthalate	ND	9.7
Acenaphthylene	ND	9.7
2,6-Dinitrotoluene	ND	9.7
3-Nitroaniline	ND	49
Acenaphthene	ND	9.7
2,4-Dinitrophenol	ND	49
4-Nitrophenol	ND	49

Semivolatile Organics by GC/MS

Field ID:	MW-7	Sampled:	08/20/99
Lab ID:	141067-002	Received:	08/20/99
Matrix:	Water	Extracted:	08/23/99
Batch#:	50096	Analyzed:	09/01/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	9.7
2,4-Dinitrotoluene	ND	9.7
Diethylphthalate	ND	9.7
Fluorene	ND	9.7
4-Chlorophenyl-phenylether	ND	9.7
4-Nitroaniline	ND	49
4,6-Dinitro-2-methylphenol	ND	49
N-Nitrosodiphenylamine	ND	9.7
Azobenzene	ND	9.7
4-Bromophenyl-phenylether	ND	9.7
Hexachlorobenzene	ND	9.7
Pentachlorophenol	ND	49
Phenanthrene	ND	9.7
Anthracene	ND	9.7
Di-n-butylphthalate	ND	9.7
Fluoranthene	ND	9.7
Pyrene	ND	9.7
Butylbenzylphthalate	ND	9.7
3,3'-Dichlorobenzidine	ND	49
Benzo(a)anthracene	ND	9.7
Chrysene	ND	9.7
bis(2-Ethylhexyl)phthalate	ND	9.7
Di-n-octylphthalate	ND	9.7
Benzo(b,k)fluoranthene	ND	9.7
Benzo(a)pyrene	ND	9.7
Indeno(1,2,3-cd)pyrene	ND	9.7
Dibenz(a,h)anthracene	ND	9.7
Benzo(g,h,i)perylene	ND	9.7

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	4*	30-136
Phenol-d5	5*	33-140
2,4,6-Tribromophenol	4*	31-140
Nitrobenzene-d5	98	24-128
2-Fluorobiphenyl	96	35-116
Terphenyl-d14	43	16-139

Values outside of QC limits

Semivolatile Organics by GC/MS

Client:	Harding Lawson Associates	Analysis Method:	EPA 8270B
Project#:	47729.2	Prep Method:	EPA 3520
Location:	9th & Broadway		
Field ID:	MW-21	Sampled:	08/20/99
Lab ID:	141067-003	Received:	08/20/99
Matrix:	Water	Extracted:	08/23/99
Batch#:	50096	Analyzed:	09/01/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	9.9
Phenol	ND	9.9
bis(2-Chloroethyl)ether	ND	9.9
2-Chlorophenol	ND	9.9
1,3-Dichlorobenzene	ND	9.9
1,4-Dichlorobenzene	ND	9.9
Benzyl alcohol	ND	9.9
1,2-Dichlorobenzene	ND	9.9
2-Methylphenol	ND	9.9
bis(2-Chloroisopropyl) ether	ND	9.9
3-,4-Methylphenol	ND	9.9
N-Nitroso-di-n-propylamine	ND	9.9
Hexachloroethane	ND	9.9
Nitrobenzene	ND	9.9
Isophorone	ND	9.9
2-Nitrophenol	ND	50
2,4-Dimethylphenol	ND	9.9
Benzoic acid	ND	50
bis(2-Chloroethoxy)methane	ND	9.9
2,4-Dichlorophenol	ND	9.9
1,2,4-Trichlorobenzene	ND	9.9
Naphthalene	ND	9.9
4-Chloroaniline	ND	9.9
Hexachlorobutadiene	ND	9.9
4-Chloro-3-methylphenol	ND	9.9
2-Methylnaphthalene	ND	9.9
Hexachlorocyclopentadiene	ND	50
2,4,6-Trichlorophenol	ND	9.9
2,4,5-Trichlorophenol	ND	9.9
2-Chloronaphthalene	ND	9.9
2-Nitroaniline	ND	50
Dimethylphthalate	ND	9.9
Acenaphthylene	ND	9.9
2,6-Dinitrotoluene	ND	9.9
3-Nitroaniline	ND	50
Acenaphthene	ND	9.9
2,4-Dinitrophenol	ND	50
4-Nitrophenol	ND	50

Semivolatile Organics by GC/MS

Field ID:	MW-21	Sampled:	08/20/99
Lab ID:	141067-003	Received:	08/20/99
Matrix:	Water	Extracted:	08/23/99
Batch#:	50096	Analyzed:	09/01/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	9.9
2,4-Dinitrotoluene	ND	9.9
Diethylphthalate	ND	9.9
Fluorene	ND	9.9
4-Chlorophenyl-phenylether	ND	9.9
4-Nitroaniline	ND	50
4,6-Dinitro-2-methylphenol	ND	50
N-Nitrosodiphenylamine	ND	9.9
Azobenzene	ND	9.9
4-Bromophenyl-phenylether	ND	9.9
Hexachlorobenzene	ND	9.9
Pentachlorophenol	ND	50
Phenanthrene	ND	9.9
Anthracene	ND	9.9
Di-n-butylphthalate	ND	9.9
Fluoranthene	ND	9.9
Pyrene	ND	9.9
Butylbenzylphthalate	ND	9.9
3,3'-Dichlorobenzidine	ND	50
Benzo(a)anthracene	ND	9.9
Chrysene	ND	9.9
bis(2-Ethylhexyl)phthalate	ND	9.9
Di-n-octylphthalate	ND	9.9
Benzo(b,k)fluoranthene	ND	9.9
Benzo(a)pyrene	ND	9.9
Indeno(1,2,3-cd)pyrene	ND	9.9
Dibenz(a,h)anthracene	ND	9.9
Benzo(g,h,i)perylene	ND	9.9

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	93	30-136
Phenol-d5	102	33-140
2,4,6-Tribromophenol	90	31-140
Nitrobenzene-d5	102	24-128
2-Fluorobiphenyl	100	35-116
Terphenyl-d14	60	16-139

Semivolatile Organics by GC/MS

Client:	Harding Lawson Associates	Analysis Method:	EPA 8270B
Project#:	47729.2	Prep Method:	EPA 3520
Location:	9th & Broadway		

Field ID:	DUP	Sampled:	08/20/99
Lab ID:	141067-004	Received:	08/20/99
Matrix:	Water	Extracted:	08/23/99
Batch#:	50096	Analyzed:	09/01/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	9.6
Phenol	ND	9.6
bis(2-Chloroethyl)ether	ND	9.6
2-Chlorophenol	ND	9.6
1,3-Dichlorobenzene	ND	9.6
1,4-Dichlorobenzene	ND	9.6
Benzyl alcohol	ND	9.6
1,2-Dichlorobenzene	ND	9.6
2-Methylphenol	ND	9.6
bis(2-Chloroisopropyl) ether	ND	9.6
3-,4-Methylphenol	ND	9.6
N-Nitroso-di-n-propylamine	ND	9.6
Hexachloroethane	ND	9.6
Nitrobenzene	ND	9.6
Isophorone	ND	9.6
2-Nitrophenol	ND	48
2,4-Dimethylphenol	ND	9.6
Benzoic acid	ND	48
bis(2-Chloroethoxy)methane	ND	9.6
2,4-Dichlorophenol	ND	9.6
1,2,4-Trichlorobenzene	ND	9.6
Naphthalene	ND	9.6
4-Chloroaniline	ND	9.6
Hexachlorobutadiene	ND	9.6
4-Chloro-3-methylphenol	ND	9.6
2-Methylnaphthalene	ND	9.6
Hexachlorocyclopentadiene	ND	48
2,4,6-Trichlorophenol	ND	9.6
2,4,5-Trichlorophenol	ND	9.6
2-Chloronaphthalene	ND	9.6
2-Nitroaniline	ND	48
Dimethylphthalate	ND	9.6
Acenaphthylene	ND	9.6
2,6-Dinitrotoluene	ND	9.6
3-Nitroaniline	ND	48
Acenaphthene	ND	9.6
2,4-Dinitrophenol	ND	48
4-Nitrophenol	ND	48

Semivolatile Organics by GC/MS

Field ID:	DUP	Sampled:	08/20/99
Lab ID:	141067-004	Received:	08/20/99
Matrix:	Water	Extracted:	08/23/99
Batch#:	50096	Analyzed:	09/01/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	9.6
2,4-Dinitrotoluene	ND	9.6
Diethylphthalate	ND	9.6
Fluorene	ND	9.6
4-Chlorophenyl-phenylether	ND	9.6
4-Nitroaniline	ND	48
4,6-Dinitro-2-methylphenol	ND	48
N-Nitrosodiphenylamine	ND	9.6
Azobenzene	ND	9.6
4-Bromophenyl-phenylether	ND	9.6
Hexachlorobenzene	ND	9.6
Pentachlorophenol	ND	48
Phenanthrene	ND	9.6
Anthracene	ND	9.6
Di-n-butylphthalate	ND	9.6
Fluoranthene	ND	9.6
Pyrene	ND	9.6
Butylbenzylphthalate	ND	9.6
3,3'-Dichlorobenzidine	ND	48
Benzo(a)anthracene	ND	9.6
Chrysene	ND	9.6
bis(2-Ethylhexyl)phthalate	ND	9.6
Di-n-octylphthalate	ND	9.6
Benzo(b,k)fluoranthene	ND	9.6
Benzo(a)pyrene	ND	9.6
Indeno(1,2,3-cd)pyrene	ND	9.6
Dibenz(a,h)anthracene	ND	9.6
Benzo(g,h,i)perylene	ND	9.6

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	96	30-136
Phenol-d5	105	33-140
2,4,6-Tribromophenol	90	31-140
Nitrobenzene-d5	100	24-128
2-Fluorobiphenyl	101	35-116
Terphenyl-d14	57	16-139

EPA 8270 Semi-Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 50096
Units: ug/L
Diln Fac: 1

Prep Date: 08/23/99
Analysis Date: 08/24/99

MB Lab ID: QC05644

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
3-,4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	50
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	50
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	50
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	50
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	50
4-Nitrophenol	ND	50
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10

EPA 8270 Semi-Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 50096
Units: ug/L
Diln Fac: 1

Prep Date: 08/23/99
Analysis Date: 08/24/99

MB Lab ID: QC05644

Analyte	Result	Reporting Limit
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	50
4,6-Dinitro-2-methylphenol	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	50
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	50
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b,k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%Rec	Recovery Limits
2-Fluorophenol	75	30-136
Phenol-d5	75	33-140
2,4,6-Tribromophenol	104	31-140
Nitrobenzene-d5	88	24-128
2-Fluorobiphenyl	86	35-116
Terphenyl-d14	76	16-139

Lab #: 141067 BATCH QC REPORT

Curtis & Tompkins, Ltd.

EPA 8270 Semi-Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 50096
Units: ug/L
Diln Fac: 1

Prep Date: 08/23/99
Analysis Date: 08/24/99

BS Lab ID: QC05645

Analyte	Spike Added	BS	%Rec #	Limits
Phenol	100	69.07	69	41-110
2-Chlorophenol	100	78.02	78	38-110
1,4-Dichlorobenzene	50	33.24	66	36-110
N-Nitroso-di-n-propylamine	50	45.34	91	22-112
1,2,4-Trichlorobenzene	50	37.2	74	36-110
4-Chloro-3-methylphenol	100	82.7	83	44-110
Acenaphthene	50	44.06	88	43-110
4-Nitrophenol	100	84.49	84	25-110
2,4-Dinitrotoluene	50	45.63	91	40-110
Pentachlorophenol	100	70.76	71	17-137
Pyrene	50	42	84	35-107

Surrogate	%Rec	Limits
2-Fluorophenol	72	30-136
Phenol-d5	74	33-140
2,4,6-Tribromophenol	117	31-140
Nitrobenzene-d5	89	24-128
2-Fluorobiphenyl	94	35-116
Terphenyl-d14	80	16-139

BSD Lab ID: QC05646

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Phenol	100	74.45	74	41-110	7	26
2-Chlorophenol	100	83.81	84	38-110	7	27
1,4-Dichlorobenzene	50	35.05	70	36-110	5	24
N-Nitroso-di-n-propylamine	50	46.3	93	22-112	2	27
1,2,4-Trichlorobenzene	50	38.31	77	36-110	3	26
4-Chloro-3-methylphenol	100	83.73	84	44-110	1	27
Acenaphthene	50	44.76	90	43-110	2	26
4-Nitrophenol	100	87.32	87	25-110	3	37
2,4-Dinitrotoluene	50	46.58	93	40-110	2	25
Pentachlorophenol	100	73.36	73	17-137	4	43
Pyrene	50	42.85	86	35-107	2	27

Surrogate	%Rec	Limits
2-Fluorophenol	80	30-136
Phenol-d5	80	33-140
2,4,6-Tribromophenol	117	31-140
Nitrobenzene-d5	93	24-128
2-Fluorobiphenyl	94	35-116
Terphenyl-d14	78	16-139

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

Sequoia Analytical

1455 McDowell Blvd. North, Ste. D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342

SEP 14 1999

September 10, 1999

Jim McCarty
Harding Lawson/Oakland
383 4th Street, Suite 300
Oakland, CA 94607

RE: 9th Street and Broadway/P908578

Dear Jim McCarty

Enclosed are the results of analyses for sample(s) received by the laboratory on August 25, 1999. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Debbie Leibensberger
Project Manager

CA ELAP Certificate Number I-2374

Sequoia Analytical

1455 McDowell Blvd. North, Ste. D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342

arding Lawson/Oakland	Project:	9th Street and Broadway	Sampled: 8/20/99 to 8/23/99
3 4th Street, Suite 300	Project Number:	47729	Received: 8/25/99
Oakland, CA 94607	Project Manager:	Jim McCarty	Reported: 9/10/99

ANALYTICAL REPORT FOR P908578

ample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
SB-29	P908578-01	Water	8/23/99
B-28	P908578-02	Water	8/23/99
MW-7	P908578-03	Water	8/20/99
W-20	P908578-04	Water	8/20/99
MW-21	P908578-05	Water	8/20/99
UP	P908578-06	Water	8/20/99

Sequoia Analytical

1455 McDowell Blvd. North, Ste. D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342

Harding Lawson/Oakland	Project:	9th Street and Broadway	Sampled: 8/20/99 to 8/23/99
383 4th Street, Suite 300	Project Number:	47729	Received: 8/25/99
Oakland, CA 94607	Project Manager:	Jim McCarty	Reported: 9/10/99

Dissolved Metals by EPA 6000/7000 Series Methods
Sequoia Analytical - Petaluma

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
SB-29			**P908578-01**				**Water**	
Antimony	9080613	9/8/99	9/8/99	EPA 6020	5.00	ND	ug/l	
Barium	"	"	"	EPA 6020	4.00	**37.3**	"	
Beryllium	"	"	9/7/99	EPA 6020	1.00	ND	"	
Cadmium	"	"	9/8/99	EPA 6020	1.00	ND	"	
Cobalt	"	"	"	EPA 6020	7.00	ND	"	
Copper	"	"	"	EPA 6020	10.0	**21.9**	"	
Lead	"	"	9/7/99	EPA 6020	3.00	ND	"	
Molybdenum	"	"	9/8/99	EPA 6020	20.0	**40.7**	"	
Nickel	"	"	"	EPA 6020	10.0	**14.3**	"	
Selenium	"	"	"	EPA 6020	5.00	ND	"	
Silver	"	"	"	EPA 6020	1.00	ND	"	
Thallium	"	"	9/7/99	EPA 6020	2.00	ND	"	
Vanadium	"	"	9/8/99	EPA 6020	10.0	ND	"	
Zinc	"	"	"	EPA 6020	20.0	**41.8**	"	
Arsenic	9080610	8/26/99	8/27/99	EPA 7060A	5.00	ND	"	
Chromium	"	"	8/30/99	EPA 7191	5.00	ND	"	
Mercury	9080619	8/27/99	8/27/99	EPA 7470A	0.200	ND	"	
SB-28			**P908578-02**				**Water**	
Antimony	9080613	9/8/99	9/8/99	EPA 6020	5.00	ND	ug/l	
Barium	"	"	"	EPA 6020	4.00	**114**	"	
Beryllium	"	"	9/7/99	EPA 6020	1.00	ND	"	
Cadmium	"	"	9/8/99	EPA 6020	1.00	ND	"	
Cobalt	"	"	"	EPA 6020	7.00	ND	"	
Copper	"	"	"	EPA 6020	10.0	**23.0**	"	
Lead	"	"	9/7/99	EPA 6020	3.00	ND	"	
Molybdenum	"	"	9/8/99	EPA 6020	20.0	ND	"	
Nickel	"	"	"	EPA 6020	10.0	ND	"	
Selenium	"	"	"	EPA 6020	5.00	ND	"	
Silver	"	"	"	EPA 6020	1.00	ND	"	
Thallium	"	"	9/7/99	EPA 6020	2.00	ND	"	
Vanadium	"	"	9/8/99	EPA 6020	10.0	ND	"	
Zinc	"	"	"	EPA 6020	20.0	**27.3**	"	
Arsenic	9080610	8/26/99	8/27/99	EPA 7060A	5.00	ND	"	
Chromium	"	"	8/30/99	EPA 7191	5.00	ND	"	
Mercury	9080619	8/27/99	8/27/99	EPA 7470A	0.200	ND	"	
MW-7			**P908578-03**				**Water**	
Antimony	9080613	9/8/99	9/8/99	EPA 6020	5.00	ND	ug/l	
Barium	"	"	"	EPA 6020	4.00	**23.3**	"	
Beryllium	"	"	9/7/99	EPA 6020	1.00	ND	"	

Sequoia Analytical

1455 McDowell Blvd. North, Ste. D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342

Harding Lawson/Oakland	Project: 9th Street and Broadway	Sampled:	8/20/99 to 8/23/99
583 4th Street, Suite 300	Project Number: 47729	Received:	8/25/99
Oakland, CA 94607	Project Manager: Jim McCarty	Reported:	9/10/99

Dissolved Metals by EPA 6000/7000 Series Methods
Sequoia Analytical - Petaluma

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MW-7 (continued)			**P908578-03**				**Water**	
Cadmium	9080613	9/8/99	9/8/99	EPA 6020	1.00	ND	ug/l	
Cobalt	"	"	"	EPA 6020	7.00	ND	"	
Copper	"	"	"	EPA 6020	10.0	ND	"	
Lead	"	"	9/7/99	EPA 6020	3.00	ND	"	
Molybdenum	"	"	9/8/99	EPA 6020	20.0	ND	"	
Nickel	"	"	"	EPA 6020	10.0	ND	"	
Selenium	"	"	"	EPA 6020	5.00	ND	"	
Silver	"	"	"	EPA 6020	1.00	ND	"	
Thallium	"	"	9/7/99	EPA 6020	2.00	ND	"	
Vanadium	"	"	9/8/99	EPA 6020	10.0	ND	"	
Zinc	"	"	"	EPA 6020	20.0	**23.6**	"	
Arsenic	9080610	8/26/99	8/27/99	EPA 7060A	5.00	ND	"	
Chromium	"	"	8/30/99	EPA 7191	5.00	ND	"	
Mercury	9080619	8/27/99	8/27/99	EPA 7470A	0.200	ND	"	
MW-20			**P908578-04**				**Water**	
Antimony	9080613	9/8/99	9/8/99	EPA 6020	5.00	ND	ug/l	
Barium	"	"	"	EPA 6020	4.00	**101**	"	
Beryllium	"	"	9/7/99	EPA 6020	1.00	ND	"	
Cadmium	"	"	9/8/99	EPA 6020	1.00	ND	"	
Cobalt	"	"	"	EPA 6020	7.00	ND	"	
Copper	"	"	"	EPA 6020	10.0	ND	"	
Lead	"	"	9/7/99	EPA 6020	3.00	ND	"	
Molybdenum	"	"	9/8/99	EPA 6020	20.0	ND	"	
Nickel	"	"	"	EPA 6020	10.0	ND	"	
Selenium	"	"	"	EPA 6020	5.00	ND	"	
Silver	"	"	"	EPA 6020	1.00	ND	"	
Thallium	"	"	9/7/99	EPA 6020	2.00	ND	"	
Vanadium	"	"	9/8/99	EPA 6020	10.0	ND	"	
Zinc	"	"	"	EPA 6020	20.0	**20.2**	"	
Arsenic	9080610	8/26/99	8/27/99	EPA 7060A	5.00	ND	"	
Chromium	"	"	8/30/99	EPA 7191	5.00	**7.66**	"	
Mercury	9080619	8/27/99	8/27/99	EPA 7470A	0.200	ND	"	
MW-21			**P908578-05**				**Water**	
Antimony	9080613	9/8/99	9/8/99	EPA 6020	5.00	ND	ug/l	
Barium	"	"	"	EPA 6020	4.00	**23.4**	"	
Beryllium	"	"	9/9/99	EPA 6020	1.00	ND	"	
Cadmium	"	"	9/8/99	EPA 6020	1.00	ND	"	
Cobalt	"	"	"	EPA 6020	7.00	ND	"	
Copper	"	"	"	EPA 6020	10.0	ND	"	

Sequoia Analytical

1455 McDowell Blvd. North, Ste. D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342

Harding Lawson/Oakland	Project:	9th Street and Broadway	Sampled: 8/20/99 to 8/23/99
383 4th Street, Suite 300	Project Number:	47729	Received: 8/25/99
Oakland, CA 94607	Project Manager:	Jim McCarty	Reported: 9/10/99

Dissolved Metals by EPA 6000/7000 Series Methods
Sequoia Analytical - Petaluma

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MW-21 (continued)			**P908578-05**				**Water**	
Lead	9080613	9/8/99	9/9/99	EPA 6020	3.00	ND	ug/l	
Molybdenum	"	"	9/8/99	EPA 6020	20.0	ND	"	
Nickel	"	"	"	EPA 6020	10.0	ND	"	
Selenium	"	"	"	EPA 6020	5.00	ND	"	
Silver	"	"	"	EPA 6020	1.00	ND	"	
Thallium	"	"	9/9/99	EPA 6020	2.00	ND	"	
Vanadium	"	"	9/8/99	EPA 6020	10.0	ND	"	
Zinc	"	"	"	EPA 6020	20.0	**36.6**	"	
Arsenic	9080610	8/26/99	8/27/99	EPA 7060A	5.00	ND	"	
Chromium	"	"	8/30/99	EPA 7191	5.00	**9.45**	"	
Mercury	9080619	8/27/99	8/27/99	EPA 7470A	0.200	ND	"	
DUP			**P908578-06**				**Water**	
Antimony	9080613	9/8/99	9/8/99	EPA 6020	5.00	ND	ug/l	
Barium	"	"	"	EPA 6020	4.00	**21.6**	"	
Beryllium	"	"	9/9/99	EPA 6020	1.00	ND	"	
Cadmium	"	"	9/8/99	EPA 6020	1.00	ND	"	
Cobalt	"	"	"	EPA 6020	7.00	ND	"	
Copper	"	"	"	EPA 6020	10.0	ND	"	
Lead	"	"	9/9/99	EPA 6020	3.00	ND	"	
Molybdenum	"	"	9/8/99	EPA 6020	20.0	ND	"	
Nickel	"	"	"	EPA 6020	10.0	ND	"	
Selenium	"	"	"	EPA 6020	5.00	ND	"	
Silver	"	"	"	EPA 6020	1.00	ND	"	
Thallium	"	"	9/9/99	EPA 6020	2.00	ND	"	
Vanadium	"	"	9/8/99	EPA 6020	10.0	ND	"	
Zinc	"	"	"	EPA 6020	20.0	**35.6**	"	
Arsenic	9080610	8/26/99	8/27/99	EPA 7060A	5.00	ND	"	
Chromium	"	"	8/30/99	EPA 7191	5.00	**10.4**	"	
Mercury	9080619	8/27/99	8/27/99	EPA 7470A	0.200	ND	"	

Sequoia Analytical

1455 McDowell Blvd. North, Ste. D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342

rding Lawson/Oakland	Project: 9th Street and Broadway	Sampled:	8/20/99 to 8/23/99
3 4th Street, Suite 300	Project Number: 47729	Received:	8/25/99
Oakland, CA 94607	Project Manager: Jim McCarty	Reported:	9/10/99

Dissolved Metals by EPA 6000/7000 Series Methods/Quality Control
Sequoia Analytical - Petaluma

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 9080610	**Date Prepared: 8/26/99**					**Extraction Method: EPA 3020A**				
ank	**9080610-BLK1**									
senic	8/27/99			ND	ug/l	5.00				
Chromium	8/30/99			ND	"	5.00				
CS	**9080610-BS1**									
Arsenic	8/27/99	500		521	ug/l	80.0-120	104			
Chromium	8/30/99	500		493	"	85.0-115	98.6			
trix Spike	**9080610-MS1**		**P908529-01**							
Arsenic	8/27/99	500	ND	467	ug/l	75.0-125	93.4			
romium	8/30/99	500	ND	391	"	75.0-125	78.2			
Matrix Spike Dup	**9080610-MSD1**		**P908529-01**							
Arsenic	8/27/99	500	ND	459	ug/l	75.0-125	91.8	20.0	1.73	
romium	8/30/99	500	ND	401	"	75.0-125	80.2	20.0	2.53	
Batch: 9080613	**Date Prepared: 9/8/99**					**Extraction Method: EPA 3010A**				
Blank	**9080613-BLK1**									
timony	9/8/99			ND	ug/l	5.00				
arium	"			ND	"	4.00				
Beryllium	"			ND	"	1.00				
dmium	"			ND	"	1.00				
balt	"			ND	"	7.00				
Copper	"			ND	"	10.0				
Lead	"			ND	"	3.00				
lybdenum	"			ND	"	20.0				
ckel	"			ND	"	10.0				
Selenium	"			ND	"	5.00				
ver	"			ND	"	1.00				
allium	"			ND	"	2.00				
Vanadium	"			ND	"	10.0				
Zinc	"			ND	"	20.0				
CS	**9080613-BS1**									
Antimony	9/8/99	500		519	ug/l	80.0-120	104			
rium	"	500		518	"	80.0-120	104			
ryllium	"	50.0		52.5	"	80.0-120	105			
Cadmium	"	50.0		52.6	"	80.0-120	105			
Cobalt	"	500		527	"	80.0-120	105			
pper	"	500		519	"	80.0-120	104			
ad	"	500		459	"	80.0-120	91.8			

Sequoia Analytical

1455 McDowell Blvd. North, Ste. D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342

Harding Lawson/Oakland	Project:	9th Street and Broadway	Sampled: 8/20/99 to 8/23/99
383 4th Street, Suite 300	Project Number:	47729	Received: 8/25/99
Oakland, CA 94607	Project Manager:	Jim McCarty	Reported: 9/10/99

Dissolved Metals by EPA 6000/7000 Series Methods/Quality Control
Sequoia Analytical - Petaluma

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
LCS (continued)	**9080613-BS1**									
Molybdenum	9/8/99	500		530	ug/l	85.0-115	106			
Nickel	"	500		521	"	80.0-120	104			
Selenium	"	500		517	"	80.0-120	103			
Silver	"	50.0		48.5	"	80.0-120	97.0			
Thallium	"	500		464	"	80.0-120	92.8			
Vanadium	"	500		554	"	80.0-120	111			
Zinc	"	500		515	"	80.0-120	103			
Matrix Spike	**9080613-MS1**		**P908561-01**							
Antimony	9/8/99	500	ND	479	ug/l	75.0-125	**95.8**			
Barium	"	500	73.5	539	"	75.0-125	**93.1**			
Beryllium	"	50.0	ND	48.7	"	75.0-125	**97.4**			
Cadmium	"	50.0	ND	47.4	"	75.0-125	**94.8**			
Cobalt	"	500	ND	455	"	75.0-125	**91.0**			
Copper	"	500	ND	457	"	75.0-125	**91.4**			
Lead	"	500	ND	421	"	75.0-125	**84.2**			
Molybdenum	"	500	ND	485	"	75.0-125	**97.0**			
Nickel	"	500	ND	455	"	75.0-125	**91.0**			
Selenium	"	500	ND	471	"	75.0-125	**94.2**			
Silver	"	50.0	ND	43.1	"	75.0-125	**86.2**			
Thallium	"	500	ND	429	"	75.0-125	**85.8**			
Vanadium	"	500	ND	501	"	75.0-125	**100**			
Zinc	"	500	25.7	473	"	75.0-125	**89.5**			
Matrix Spike Dup	**9080613-MSD1**		**P908561-01**							
Antimony	9/8/99	500	ND	487	ug/l	75.0-125	**97.4**	20.0	**1.66**	
Barium	"	500	73.5	539	"	75.0-125	**93.1**	20.0	**0**	
Beryllium	"	50.0	ND	47.1	"	75.0-125	**94.2**	20.0	**3.34**	
Cadmium	"	50.0	ND	48.4	"	75.0-125	**96.8**	20.0	**2.09**	
Cobalt	"	500	ND	474	"	75.0-125	**94.8**	20.0	**4.09**	
Copper	"	500	ND	467	"	75.0-125	**93.4**	20.0	**2.16**	
Lead	"	500	ND	418	"	75.0-125	**83.6**	20.0	**0.715**	
Molybdenum	"	500	ND	496	"	75.0-125	**99.2**	20.0	**2.24**	
Nickel	"	500	ND	485	"	75.0-125	**97.0**	20.0	**6.38**	
Selenium	"	500	ND	473	"	75.0-125	**94.6**	20.0	**0.424**	
Silver	"	50.0	ND	44.1	"	75.0-125	**88.2**	20.0	**2.29**	
Thallium	"	500	ND	422	"	75.0-125	**84.4**	20.0	**1.65**	
Vanadium	"	500	ND	518	"	75.0-125	**104**	20.0	**3.92**	
Zinc	"	500	25.7	500	"	75.0-125	**94.9**	20.0	**5.86**	

Sequoia Analytical

1455 McDowell Blvd. North, Ste. D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342

rding Lawson/Oakland	Project:	9th Street and Broadway	Sampled: 8/20/99 to 8/23/99
3 4th Street, Suite 300	Project Number:	47729	Received: 8/25/99
Oakland, CA 94607	Project Manager:	Jim McCarty	Reported: 9/10/99

Dissolved Metals by EPA 6000/7000 Series Methods/Quality Control
Sequoia Analytical - Petaluma

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 9080619	**Date Prepared: 8/27/99**					**Extraction Method: EPA 7470A**				
lank	**9080619-BLK1**									
ercury	8/27/99			**ND**	ug/l	**0.200**				
CS	**9080619-BS1**									
ercury	8/27/99	1.60		1.54	ug/l	80.0-120	96.2			
Matrix Spike	**9080619-MS1**		**P908545-01**							
ercury	8/27/99	1.60	ND	1.25	ug/l	75.0-125	**78.1**			
Matrix Spike Dup	**9080619-MSD1**		**P908545-01**							
Mercury	8/27/99	1.60	ND	1.05	ug/l	75.0-125	**65.6**	20.0	**17.4**	1

Sequoia Analytical

1455 McDowell Blvd. North, Ste. D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342

Harding Lawson/Oakland	Project:	9th Street and Broadway	Sampled:	8/20/99 to 8/23/99
383 4th Street, Suite 300	Project Number:	47729	Received:	8/25/99
Oakland, CA 94607	Project Manager:	Jim McCarty	Reported:	9/10/99

Notes and Definitions

#	Note
1	The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

HLA
383 Fourth Street, Third Floor
Oakland, California 94607
(510) 451-1001 - Phone
(510) 451-3165 - Fax

CHAIN OF CUSTODY RECORD

No. 2346

Lab: Sequoia

Samplers: JGM/HDL

Job Number: 47729

Name/Location: 9th St. & Broadway

Project Manager: 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	DATE: Yr	Mo	Day	Time	STATION DESCRIPTION/ NOTES
	X						1			SB-29	98	08	23	0940	PROJ 78-01 1
	X						1			SB-28	98	08	23	1400	2
	X						1			MW-7	98	08	20	0950	3
	X						1			MW-20	98	08	20	0817	4
	X						1			MW-21	98	08	20	1055	5
	X						1			DUP	98	08	20	1120	6

ANALYSIS REQUESTED	EPA 8010	EPA 8020	EPA 8260	EPA 8270	METALS	EPA 8015M/TPHG	EPA 8020/BTEX	EPA 8015M/TPHd,o	CAM17 Metals by Atomic Absorption
									X (8)
									X
									X
									X
									X
									X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						STD TAT
						sample were filtered in field

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) James McCarty	RECEIVED BY: (Signature) Michael Ramos	DATE/TIME 8/25/98 12:57
RELINQUISHED BY: (Signature) Michael Ramos	RECEIVED BY: (Signature) [illegible]	DATE/TIME 8/25/98 17:00
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

SAMPLE CONDITION WHEN RECEIVED BY THE LABORATORY

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

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900, Fax (510) 486-0532

ANALYTICAL REPORT

Prepared for:

Harding Lawson Associates
383 Fourth Street, Third Floor
Oakland, CA 94607

Date: 10-SEP-99
Lab Job Number: 141125
Project ID: 47729.2
Location: 9th & Broadway

Reviewed by: Tracy Babiz

Reviewed by:

Harding Lawson Associates
383 Fourth Street, Third Floor
Oakland, California 94607
(510) 451-1001 - Phone
(510) 451-3165 - Fax

14/125

CHAIN OF CUSTODY FORM

No. 2358

Lab: Curtis & Tompkins

Samplers: Heather Lee

Job Number: 47729.2

Name/Location: 9th Street & Broadway

Project Manager: Jim McCarty

Recorder: Heather D Lee (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	ANALYSIS REQUESTED: EPA 8010	EPA 8020	EPA 8260B / MTBE	EPA 8270 SVOCs	METALS	EPA 8015M/TPHG	EPA 8020/BTEX	EPA 8015M/TPHd, mo*	EPA 8310 - PAHs	Tot organic carbon
1			X		1					29	→	2 - 2.5	99	08	23	0745				X	X	X	X	X	X	
2			X		1					29	→	9.5 - 10	99	08	23	0803				X	X	X	X	X	X	
3			X		1					29	→	27 - 27.5	99	08	23	0833				X	X	X	X	X	X	X
4	X				3		1	6		SB	29		99	08	23	0940				X	X	X	X	X	X	
5			X		1					28	→	2 - 2.5	99	08	23	1134				X	X	X	X	X	X	
6			X		1					28	→	9.5 - 10	99	08	23	1152				X	X	X	X	X	X	
7			X		1					28	→	26.5 - 27	99	08	23	1300				X	X	X	X	X	X	
8	X				3		1	6		SB	28		99	08	23	1400				X	X	(4)	X	X	X	

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						Standard TAT
						** H2O samples metals = field filtered
						CAM 17 (CCR 17)
						* TPHd, mo - silica gel cleanup
						(4) Cancel metals
						8/24/99

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) Heather D Lee	RECEIVED BY: (Signature)	DATE/TIME 8/24/99 8:25
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) JOW	DATE/TIME 8/24/99 8:30

METHOD OF SHIPMENT

SAMPLE CONDITION WHEN RECEIVED BY THE LABORATORY: Chilled ; Intact

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

TEH-Tot Ext Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
141125-004	SB29	50215	08/23/99	08/27/99	09/04/99	
141125-008	SB28	50215	08/23/99	08/27/99	09/06/99	

Matrix: Water

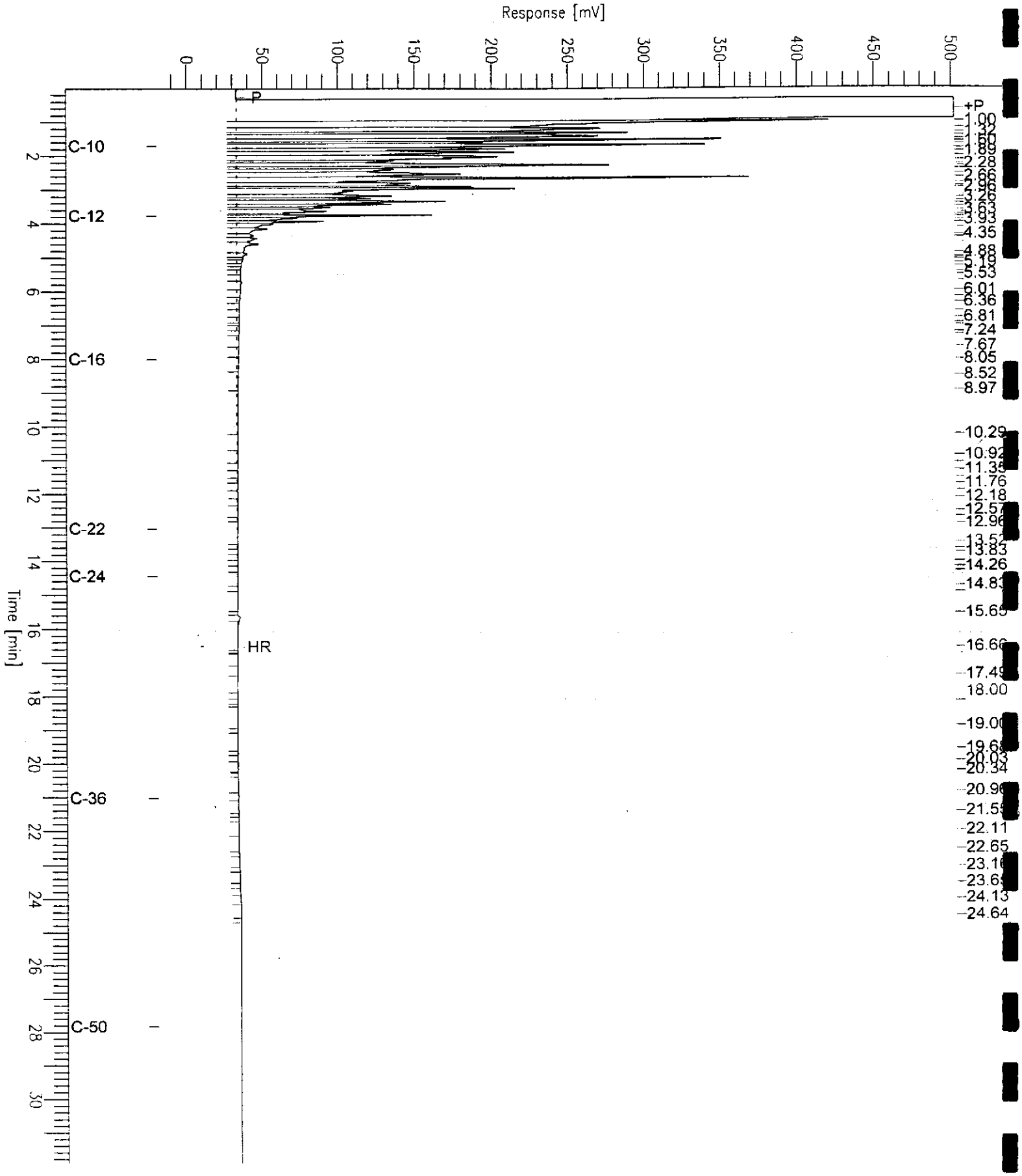
Analyte	Units	141125-004	141125-008	
Diln Fac:		1	50	
Diesel C10-C24	ug/L	<50	120000	YL
Motor Oil C24-C36	ug/L	<300	<25000	
Surrogate				
Hexacosane	%REC	100		DO

DO: Surrogate diluted out
Y: Sample exhibits fuel pattern which does not resemble standard
L: Lighter hydrocarbons than indicated standard

Chromatogram

Sample Name : 141125-008sg,50215
FileName : G:\GC11\CHA\248A022.RAW
Method : ATEH245.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -19 mV

Sample #: 50215
Date : 9/7/99 02:11 PM
Time of Injection: 9/6/99 06:13 AM
Low Point : -19.36 mV High Point : 502.24 mV
Plot Scale: 521.6 mV



TEH-Tot Ext Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: CA LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
141125-001	29-2-2.5	50296	08/23/99	08/31/99	09/04/99	
141125-002	29-9.5-10	50296	08/23/99	08/31/99	09/04/99	
141125-003	29-27-27.5	50296	08/23/99	08/31/99	09/04/99	
141125-005	28-2-2.5	50296	08/23/99	08/31/99	09/06/99	

Matrix: Soil

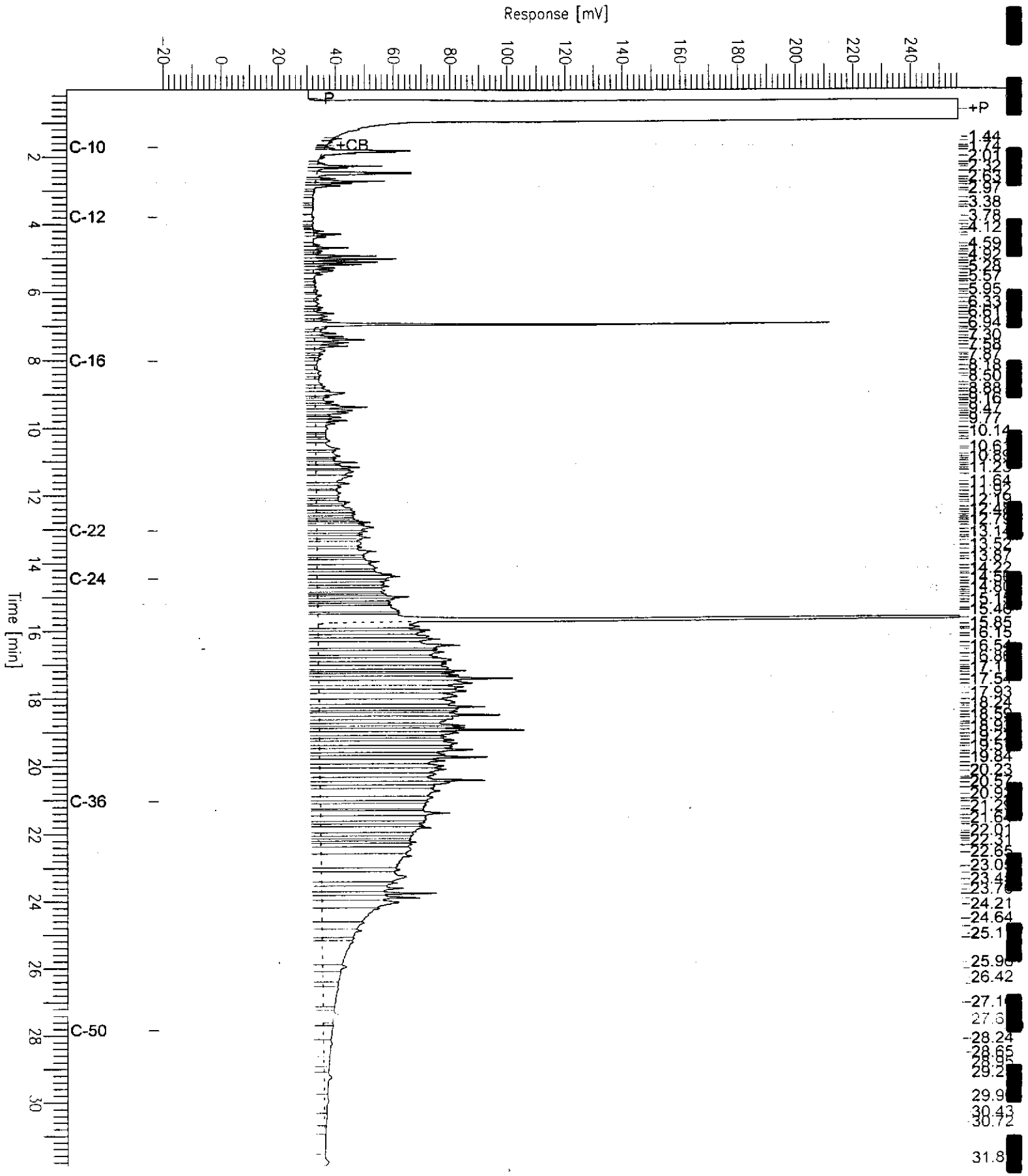
Analyte	Units	141125-001	141125-002	141125-003	141125-005
Diln Fac:		1	1	1	20
Diesel C10-C24	mg/Kg	10 YH	26 H	<1	160 YH
Motor Oil C24-C36	mg/Kg	53 H	62 LH	<5	1200 H
Surrogate					
Hexacosane	%REC	86	92	101	DO

DO: Surrogate diluted out
Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard
L: Lighter hydrocarbons than indicated standard

Chromatogram

Sample Name : 141125-001sg,50296
FileName : G:\GC11\CHA\244A095.RAW
Method : ATEH245.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -22 mV

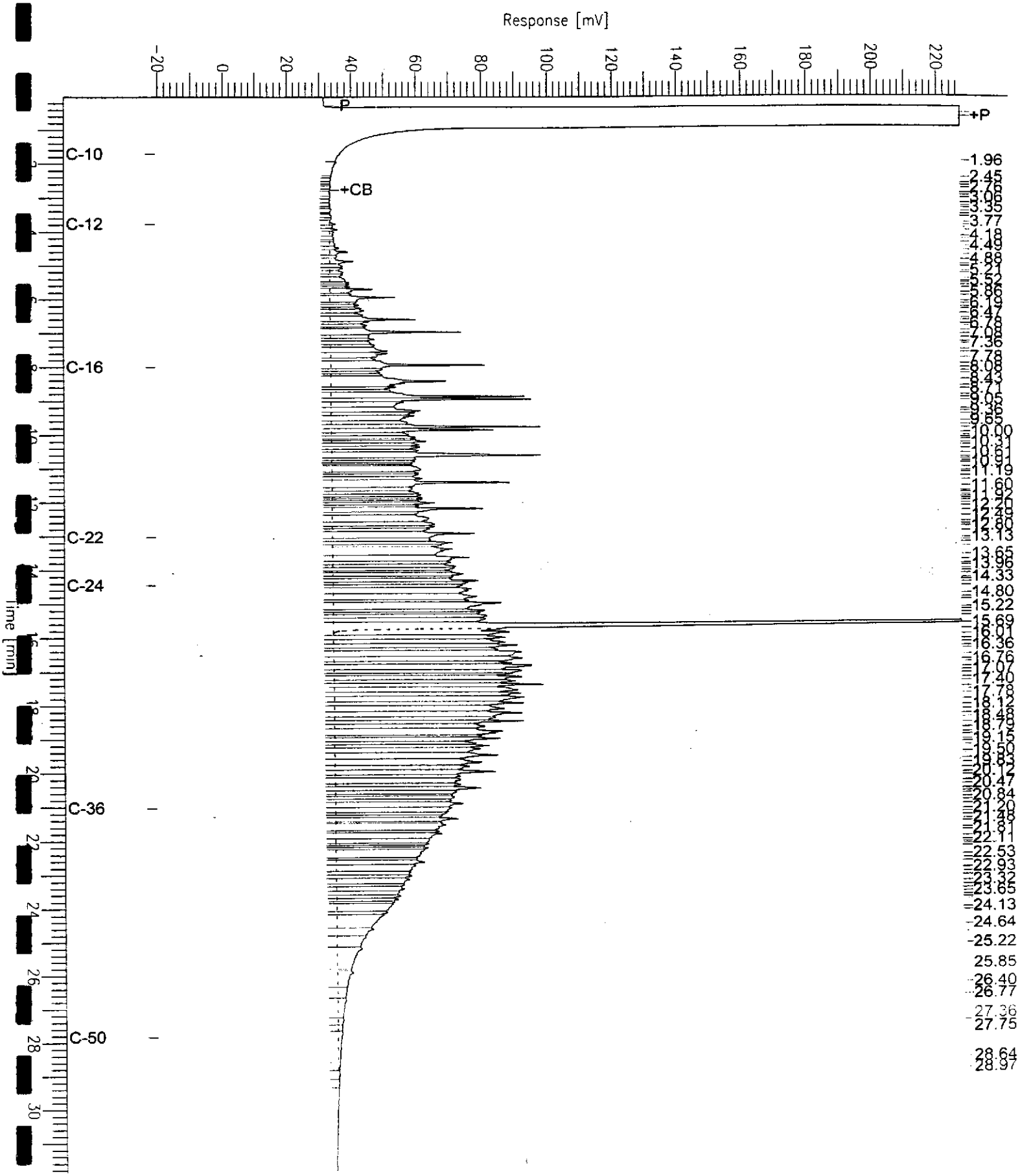
Sample #: 50296 Page 1 of 1
Date : 9/7/99 01:01 PM
Time of Injection: 9/4/99 04:05 PM
Low Point : -21.90 mV High Point : 256.43 mV
Plot Scale: 278.3 mV



Chromatogram

Sample Name : 141125-002sg,50215
FileName : G:\GC11\CHA\244A087.RAW
Method : ATEH245.MTH
Start Time : 0.01 min End Time : 31.87 min
Scale Factor: 0.0 Plot Offset: -21 mV

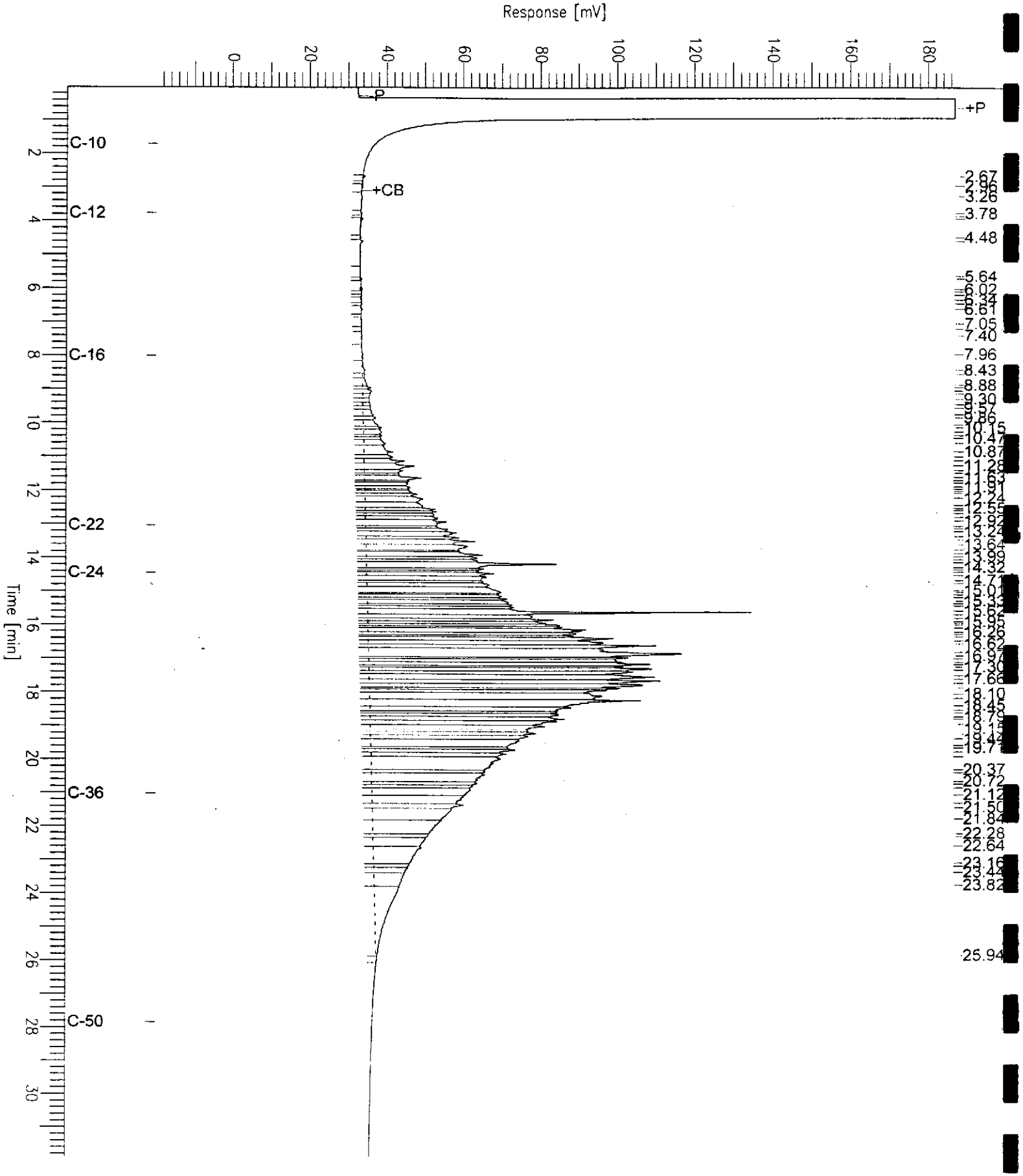
Sample #: 50296
Date : 9/7/99 12:57 PM
Time of Injection: 9/4/99 10:44 AM
Low Point : -20.74 mV High Point : 227.26 mV
Plot Scale: 248.0 mV



Chromatogram

Sample Name : 141125-005sg,50296
FileName : G:\GC11\CHA\248A020.RAW
Method : ATEH245.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -20 mV

Sample #: 50296 Page 1 of 1
Date : 9/7/99 02:09 PM
Time of Injection: 9/6/99 04:53 AM
Low Point : -19.71 mV High Point : 186.82 mV
Plot Scale: 206.5 mV



TEH-Tot Ext Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: CA LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
141125-006	28-9.5-10	50296	08/23/99	08/31/99	09/04/99	
141125-007	28-26.5-27	50296	08/23/99	08/31/99	09/06/99	

Matrix: Soil

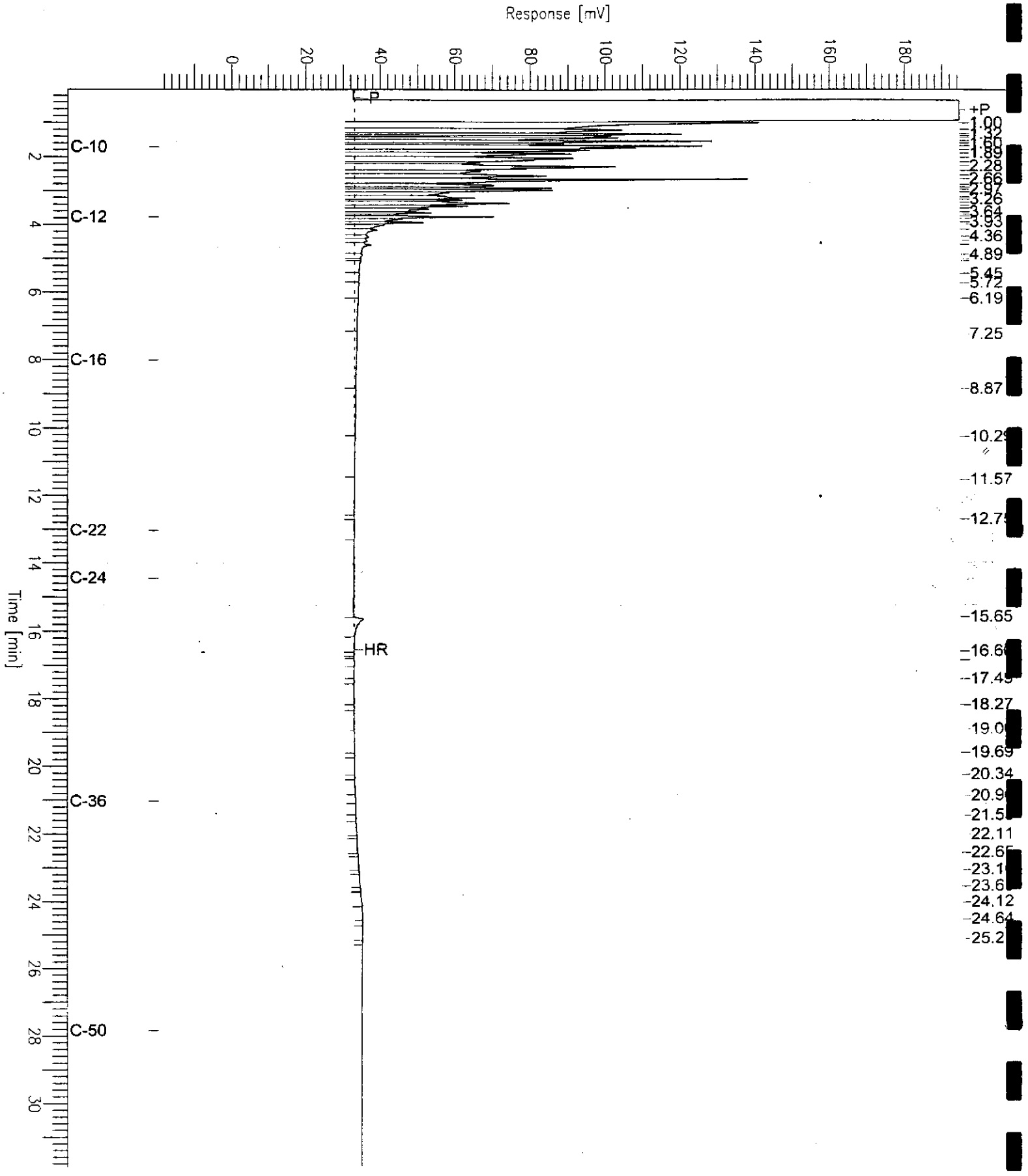
Analyte	Units	141125-006	141125-007	
Diln Fac:		1	50	
Diesel C10-C24	mg/Kg	<1	460	YL
Motor Oil C24-C36	mg/Kg	<5	<250	
Surrogate				
Hexacosane	%REC	92		DO

DO: Surrogate diluted out
Y: Sample exhibits fuel pattern which does not resemble standard
L: Lighter hydrocarbons than indicated standard

Chromatogram

ple Name : 141125-007sg,50296
eName : G:\GC11\CHA\248A021.RAW
hod : ATEH245.MTH
rt Time : 0.01 min End Time : 31.91 min
le Factor: 0.0 Plot Offset: -19 mV

Sample #: 50296 Page 1 of 1
Date : 9/7/99 02:10 PM
Time of Injection: 9/6/99 05:33 AM
Low Point : -19.41 mV High Point : 194.47 mV
Plot Scale: 213.9 mV



TEH-Tot Ext Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 50215
Units: ug/L
Diln Fac: 1

Prep Date: 08/27/99
Analysis Date: 09/04/99

MB Lab ID: QC06109

Analyte	Result
Diesel C10-C24	<50
Motor Oil C24-C36	<300

Surrogate	%Rec	Recovery Limits
Hexacosane	114	58-128

TEH-Tot Ext Hydrocarbons

Client:	Harding Lawson Associates	Analysis Method:	EPA 8015M
Project#:	47729.2	Prep Method:	CA LUFT
Location:	9th & Broadway		

METHOD BLANK

Matrix:	Soil	Prep Date:	08/31/99
Batch#:	50296	Analysis Date:	09/04/99
Units:	mg/Kg		
Diln Fac:	1		

MB Lab ID: QC06447

Analyte	Result
Diesel C10-C24	<1.0
Motor Oil C24-C36	<5.0

Surrogate	%Rec	Recovery Limits
Hexacosane	112	52-137

Lab #: 141125 BATCH QC REPORT Page

TEH-Tot Ext Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: CA LUFT

LABORATORY CONTROL SAMPLE

Matrix: Soil
Batch#: 50296
Units: mg/Kg
Diln Fac: 1

Prep Date: 08/31/99
Analysis Date: 09/04/99

LCS Lab ID: QC06448

Analyte	Result	Spike Added	%Rec #	Limits
Diesel C10-C24	42.01	49.5	85	52-117
Surrogate	**%Rec**	**Limits**		
Hexacosane	97	52-137		

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

Lab #: 141125 BATCH QC REPORT Page

TEH-Tot Ext Hydrocarbons			
Client:	Harding Lawson Associates	Analysis Method:	EPA 8015M
Project#:	47729.2	Prep Method:	CA LUFT
Location:	9th & Broadway		

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID:	ZZZZZZ	Sample Date:	08/26/99
Lab ID:	141163-002	Received Date:	08/27/99
Matrix:	Soil	Prep Date:	08/31/99
Batch#:	50296	Analysis Date:	09/04/99
Units:	mg/Kg		
Diln Fac:	1		

MS Lab ID: QC06449

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Diesel C10-C24	49.5	1.165	43.7	86	41-135
Surrogate	**%Rec**	**Limits**			
Hexacosane	96	52-137			

MSD Lab ID: QC06450

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Diesel C10-C24	49.5	51.56	102	41-135	16	37
Surrogate	**%Rec**	**Limits**				
Hexacosane	115	52-137				

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Lab #: 141125 BATCH QC REPORT Page

TEH-Tot Ext Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 50215
Units: ug/L
Diln Fac: 1

Prep Date: 08/27/99
Analysis Date: 09/04/99

BS Lab ID: QC06110

Analyte	Spike Added	BS	%Rec	#	Limits
Diesel C10-C24	2475	1736	70		50-114

Surrogate	%Rec	Limits
Hexacosane	93	58-128

BSD Lab ID: QC06111

Analyte	Spike Added	BSD	%Rec	#	Limits	RPD	#	Limit
Diesel C10-C24	2475	1668	67		50-114	4		25

Surrogate	%Rec	Limits
Hexacosane	88	58-128

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

TVH-Total Volatile Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
141125-004	SB29	50244	08/23/99	08/31/99	08/31/99	
141125-008	SB28	50292	08/23/99	09/01/99	09/01/99	

Matrix: Water

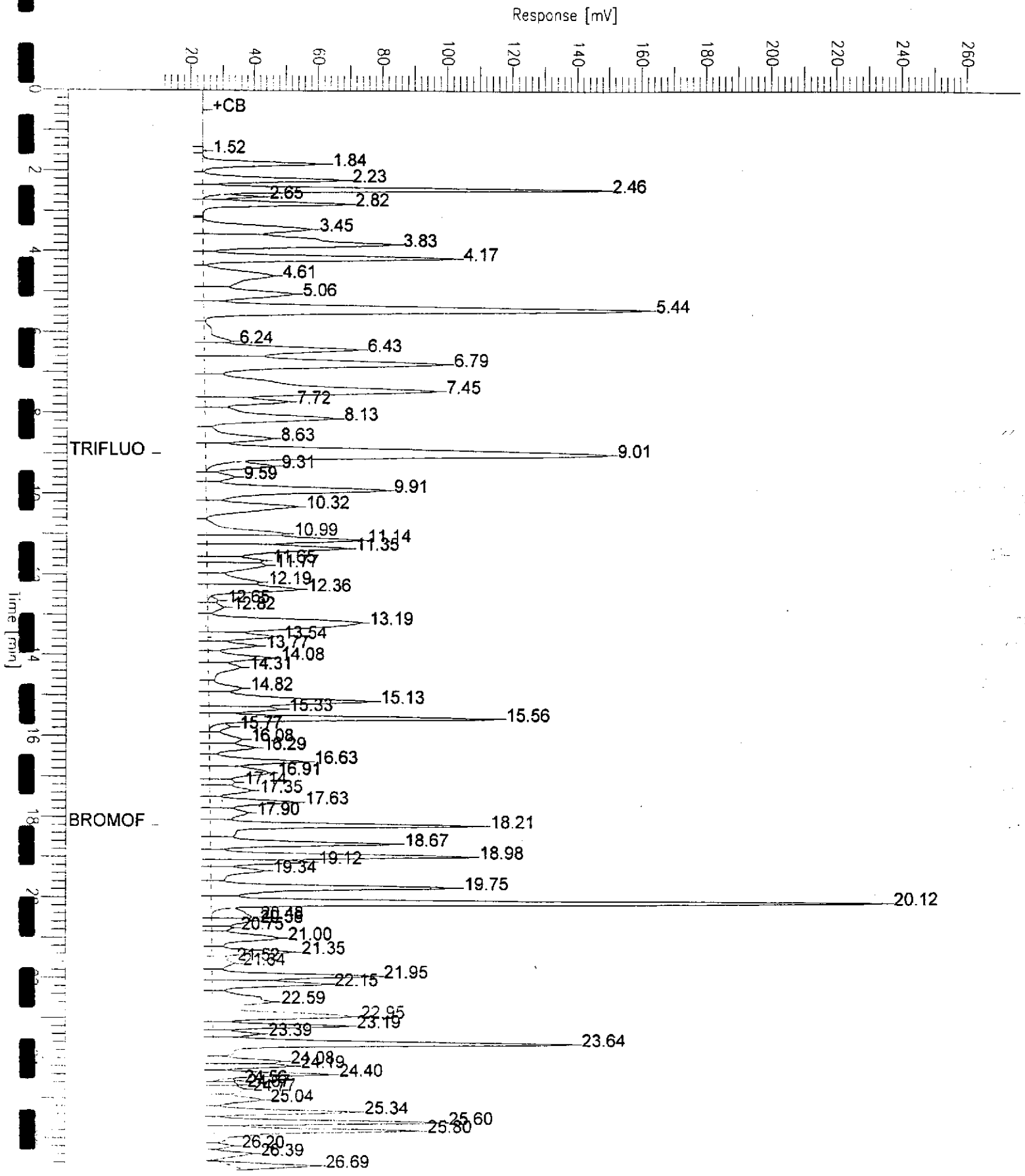
Analyte	Units	141125-004	141125-008	
Diln Fac:		1	5	
Gasoline C7-C12	ug/L	<50	17000	
Surrogate				
Trifluorotoluene	%REC	89	212	*
Bromofluorobenzene	%REC	89	119	

* Values outside of QC limits

Chromatogram

Sample Name : 141125-008,50292
FileName : G:\GC05\DATA\243G044.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 11 mV

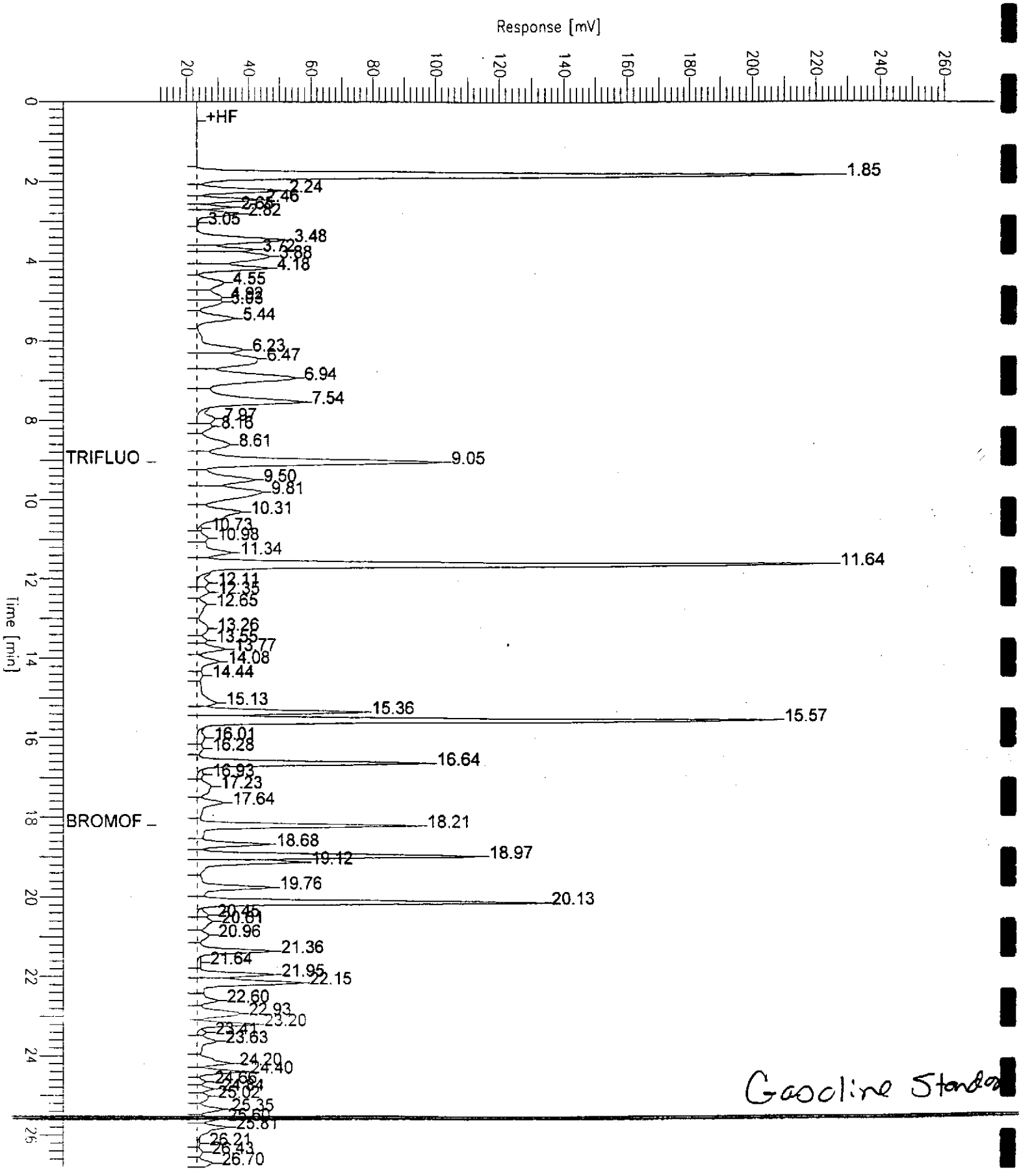
Sample #: Page 1 of 1
Date : 9/1/99 06:35 PM
Time of Injection: 9/1/99 06:08 PM
Low Point : 11.09 mV High Point : 261.09 mV
Plot Scale: 250.0 mV



Chromatogram

ple Name : CCV/LCS,QC06223,99WS7998,50244
leName : G:\GC05\DATA\242G002.raw
thod : TVHBTXE
art Time : 0.00 min End Time : 26.80 min
ale Factor: -1.0 Plot Offset: 11 mV

Sample #: GAS Page 1 of 1
Date : 8/31/99 09:36 AM
Time of Injection: 8/30/99 10:17 AM
Low Point : 10.55 mV High Point : 260.55 mV
Plot Scale: 250.0 mV



Gasoline Standard

TVH-Total Volatile Hydrocarbons

Client:	Harding Lawson Associates	Analysis Method:	EPA 8015M
Project#:	47729.2	Prep Method:	EPA 5030
Location:	9th & Broadway		

METHOD BLANK

Matrix:	Water	Prep Date:	08/30/99
Batch#:	50244	Analysis Date:	08/30/99
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC06225

Analyte	Result
Gasoline C7-C12	<50

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	84	53-150
Bromofluorobenzene	83	53-149

Lab #: 141125

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client:	Harding Lawson Associates	Analysis Method:	EPA 8015M
Project#:	47729.2	Prep Method:	EPA 5030
Location:	9th & Broadway		

METHOD BLANK

Matrix:	Water	Prep Date:	08/31/99
Batch#:	50292	Analysis Date:	08/31/99
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC06430

Analyte	Result
Gasoline C7-C12	<50

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	84	53-150
Bromofluorobenzene	91	53-149

Lab #: 141125 BATCH QC REPORT Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client:	Harding Lawson Associates	Analysis Method:	EPA 8015M
Project#:	47729.2	Prep Method:	EPA 5030
Location:	9th & Broadway		

LABORATORY CONTROL SAMPLE

Matrix:	Water	Prep Date:	08/30/99
Batch#:	50244	Analysis Date:	08/30/99
Units:	ug/L		
Diln Fac:	1		

LCS Lab ID: QC06223

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline C7-C12	1799	2000	90	77-117

Surrogate	%Rec	Limits
Trifluorotoluene	94	53-150
Bromofluorobenzene	85	53-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

Lab #: 141125 BATCH QC REPORT Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client:	Harding Lawson Associates	Analysis Method:	EPA 8015M
Project#:	47729.2	Prep Method:	EPA 5030
Location:	9th & Broadway		

LABORATORY CONTROL SAMPLE

Matrix:	Water	Prep Date:	08/31/99
Batch#:	50292	Analysis Date:	08/31/99
Units:	ug/L		
Diln Fac:	1		

LCS Lab ID: QC06427

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline C7-C12	1918	2000	96	77-117

Surrogate	%Rec	Limits
Trifluorotoluene	95	53-150
Bromofluorobenzene	84	53-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

TVH-Total Volatile Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 141114-006
Matrix: Water
Batch#: 50244
Units: ug/L
Diln Fac: 1

Sample Date: 08/25/99
Received Date: 08/25/99
Prep Date: 08/30/99
Analysis Date: 08/30/99

MS Lab ID: QC06226

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline C7-C12	2000	<50	1687	84	69-131

Surrogate	%Rec	Limits
Trifluorotoluene	97	53-150
Bromofluorobenzene	90	53-149

MSD Lab ID: QC06227

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline C7-C12	2000	1769	88	69-131	5	13

Surrogate	%Rec	Limits
Trifluorotoluene	99	53-150
Bromofluorobenzene	90	53-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

TVH-Total Volatile Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 141160-007
Matrix: Water
Batch#: 50292
Units: ug/L
Diln Fac: 1

Sample Date: 08/26/99
Received Date: 08/26/99
Prep Date: 09/01/99
Analysis Date: 09/01/99

MS Lab ID: QC06431

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline C7-C12	2000	<50	1710	85	69-131

Surrogate	%Rec	Limits
Trifluorotoluene	103	53-150
Bromofluorobenzene	96	53-149

MSD Lab ID: QC06432

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline C7-C12	2000	1733	87	69-131	1	13

Surrogate	%Rec	Limits
Trifluorotoluene	104	53-150
Bromofluorobenzene	97	53-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

TVH-Total Volatile Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
141125-001	29-2-2.5	50359	08/23/99	09/03/99	09/03/99	
141125-002	29-9.5-10	50359	08/23/99	09/03/99	09/03/99	
141125-003	29-27-27.5	50359	08/23/99	09/03/99	09/03/99	
141125-005	28-2-2.5	50359	08/23/99	09/03/99	09/03/99	

Matrix: Soil

Analyte	Units	141125-001	141125-002	141125-003	141125-005
Diln Fac:		1	1	1	1
Gasoline C7-C12	mg/Kg	<1	<1	<1	<1
Surrogate					
Trifluorotoluene	%REC	91	81	85	91
Bromofluorobenzene	%REC	78	110	108	84

TVH-Total Volatile Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
141125-006	28-9.5-10	50359	08/23/99	09/03/99	09/03/99	
141125-007	28-26.5-27	50377	08/23/99	09/04/99	09/04/99	

Matrix: Soil

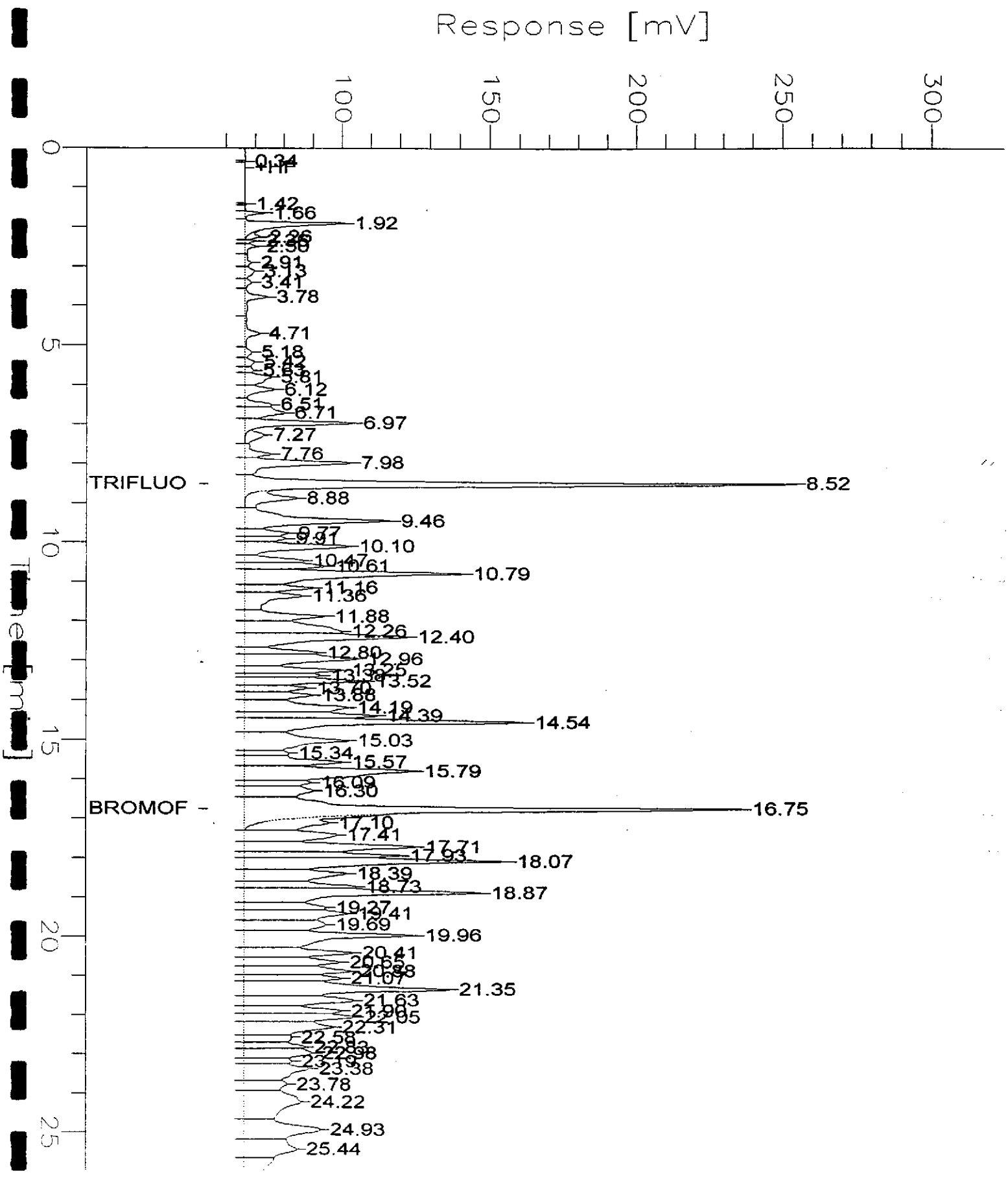
Analyte	Units	141125-006	141125-007	
Diln Fac:		1	100	
Gasoline C7-C12	mg/Kg	<1	1900	H
Surrogate				
Trifluorotoluene	%REC	83	86	
Bromofluorobenzene	%REC	110	165	*

* Values outside of QC limits
H: Heavier hydrocarbons than indicated standard

GC04 TVH 'J' Data File Rtx1FID

Sample Name : rd,141125-007,50377,tvh only
FileName : G:\GC04\DATA\246J022.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: -1.0 Plot Offset: 54 mV

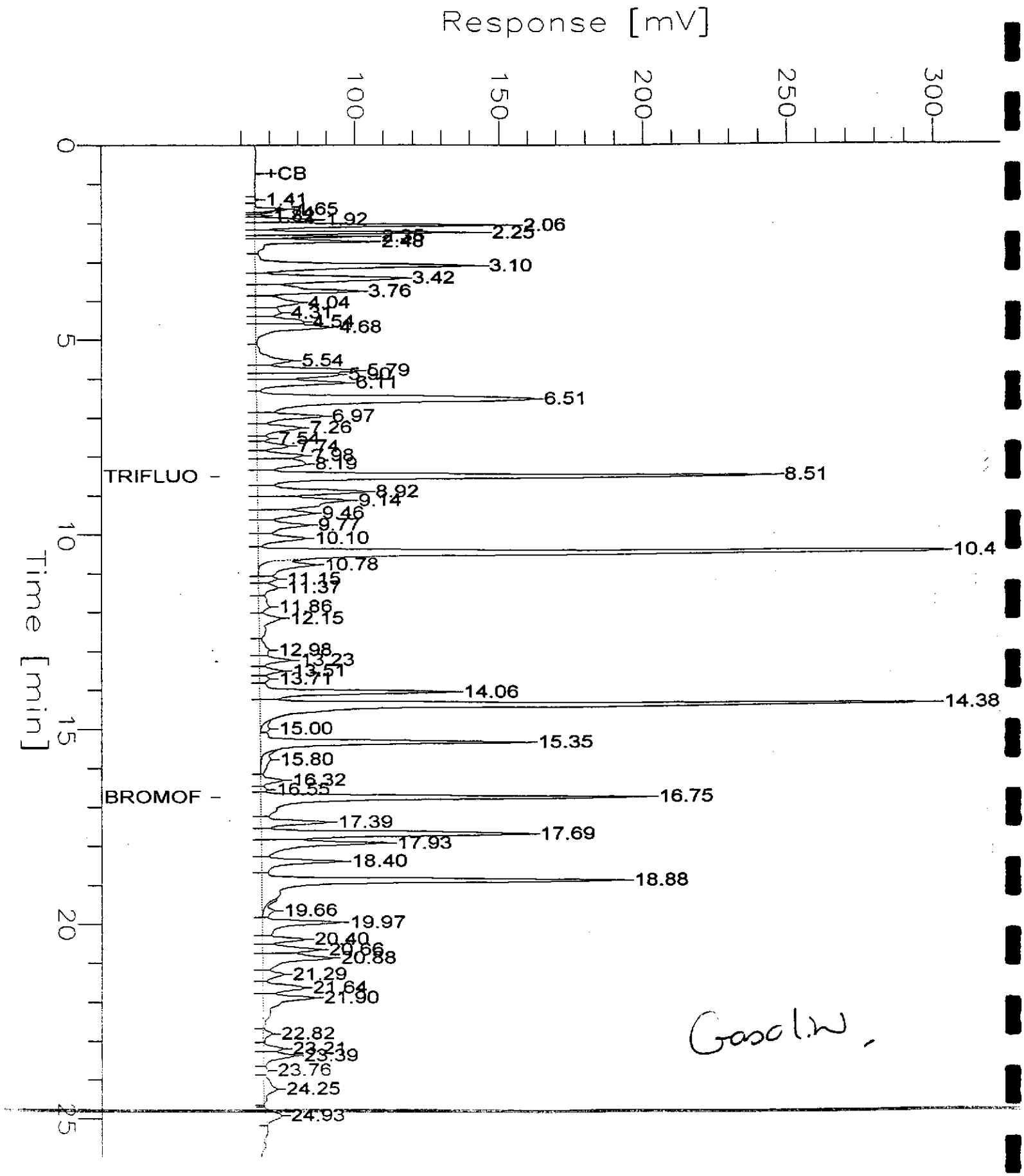
Sample #: 100x Page 1 of 1
Date : 9/7/99 11:22 AM
Time of Injection: 9/4/99 03:27 AM
Low Point : 53.58 mV High Point : 303.58 mV
Plot Scale: 250.0 mV



GC04 TVH 'J' Data File RtxlFID

ple Name : ccv\lcs,qc06803,99ws7998,50377
eName : G:\GC04\DATA\246J001.raw
hod : TVHBTXE
art Time : 0.00 min End Time : 26.00 min
le Factor: -1.0 Plot Offset: 52 mV

Sample #: gas
Date : 9/3/99 01:20 PM
Time of Injection: 9/3/99 12:54 PM
Low Point : 52.17 mV High Point : 302.17 mV
Plot Scale: 250.0 mV



Gasoline

Lab #: 141125

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client:	Harding Lawson Associates	Analysis Method:	EPA 8015M
Project#:	47729.2	Prep Method:	EPA 5030
Location:	9th & Broadway		

METHOD BLANK

Matrix:	Soil	Prep Date:	09/03/99
Batch#:	50377	Analysis Date:	09/03/99
Units:	mg/Kg		
Diln Fac:	1		

MB Lab ID: QC06802

Analyte	Result
Gasoline C7-C12	<1.0

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	81	62-143
Bromofluorobenzene	108	59-150

Lab #: 141125

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client:	Harding Lawson Associates	Analysis Method:	EPA 8015M
Project#:	47729.2	Prep Method:	EPA 5030
Location:	9th & Broadway		

LABORATORY CONTROL SAMPLE

Matrix:	Soil	Prep Date:	09/03/99
Batch#:	50377	Analysis Date:	09/03/99
Units:	mg/Kg		
Diln Fac:	1		

LCS Lab ID: QC06803

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline C7-C12	9.81	10	98	77-122

Surrogate	%Rec	Limits
Trifluorotoluene	79	62-143
Bromofluorobenzene	90	59-150

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

Lab #: 141125 BATCH QC REPORT

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client:	Harding Lawson Associates	Analysis Method:	EPA 8015M
Project#:	47729.2	Prep Method:	EPA 5030
Location:	9th & Broadway		

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID:	ZZZZZZ	Sample Date:	08/26/99
Lab ID:	141197-002	Received Date:	08/27/99
Matrix:	Soil	Prep Date:	09/03/99
Batch#:	50377	Analysis Date:	09/03/99
Units:	mg/Kg		
Diln Fac:	1		

MS Lab ID: QC06855

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline C7-C12	10	<1	10.08	101	55-134

Surrogate	%Rec	Limits
Trifluorotoluene	81	62-143
Bromofluorobenzene	96	59-150

MSD Lab ID: QC06856

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline C7-C12	10	10.16	102	55-134	1	30

Surrogate	%Rec	Limits
Trifluorotoluene	81	62-143
Bromofluorobenzene	94	59-150

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Lab #: 141125

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client:	Harding Lawson Associates	Analysis Method:	EPA 8015M
Project#:	47729.2	Prep Method:	EPA 5030
Location:	9th & Broadway		

METHOD BLANK

Matrix:	Soil	Prep Date:	09/02/99
Batch#:	50359	Analysis Date:	09/02/99
Units:	mg/Kg		
Diln Fac:	1		

MB Lab ID: QC06728

Analyte	Result	
Gasoline C7-C12	<1.0	
Surrogate	**%Rec**	**Recovery Limits**
Trifluorotoluene	83	62-143
Bromofluorobenzene	110	59-150

Lab #: 141125

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client:	Harding Lawson Associates	Analysis Method:	EPA 8015M
Project#:	47729.2	Prep Method:	EPA 5030
Location:	9th & Broadway		

LABORATORY CONTROL SAMPLE

Matrix:	Soil	Prep Date:	09/02/99
Batch#:	50359	Analysis Date:	09/02/99
Units:	mg/Kg		
Diln Fac:	1		

LCS Lab ID: QC06729

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline C7-C12	9.89	10	99	77-122

Surrogate	%Rec	Limits
Trifluorotoluene	81	62-143
Bromofluorobenzene	90	59-150

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

Lab #: 141125

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8015M
Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 141108-004
Matrix: Soil
Batch#: 50359
Units: mg/Kg
Diln Fac: 1

Sample Date: 08/23/99
Received Date: 08/24/99
Prep Date: 09/02/99
Analysis Date: 09/02/99

MS Lab ID: QC06731

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline C7-C12	10	<1	6.76	68	55-134

Surrogate	%Rec	Limits
Trifluorotoluene	78	62-143
Bromofluorobenzene	84	59-150

MSD Lab ID: QC06732

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline C7-C12	10	6.1	61	55-134	10	30

Surrogate	%Rec	Limits
Trifluorotoluene	76	62-143
Bromofluorobenzene	84	59-150

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Volatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SB29
Lab ID: 141125-004
Matrix: Water
Batch#: 50373
Units: ug/L
Diln Fac: 1

Sampled: 08/23/99
Received: 08/24/99
Extracted: 09/03/99
Analyzed: 09/03/99

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

Volatile Organics by GC/MS

Field ID:	SB29	Sampled:	08/23/99
Lab ID:	141125-004	Received:	08/24/99
Matrix:	Water	Extracted:	09/03/99
Batch#:	50373	Analyzed:	09/03/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	98	81-121
1,2-Dichloroethane-d4	100	76-127
Toluene-d8	101	90-109
Bromofluorobenzene	96	82-118

Volatile Organics by GC/MS

Client:	Harding Lawson Associates	Analysis Method:	EPA 8260
Project#:	47729.2	Prep Method:	EPA 5030
Location:	9th & Broadway		

Field ID:	SB28	Sampled:	08/23/99
Lab ID:	141125-008	Received:	08/24/99
Matrix:	Water	Extracted:	09/03/99
Batch#:	50352	Analyzed:	09/03/99
Units:	ug/L		
Diln Fac:	5		

Analyte	Result	Reporting Limit
Freon 12	ND	50
Chloromethane	ND	50
Vinyl Chloride	ND	50
Bromomethane	ND	50
Chloroethane	ND	50
Trichlorofluoromethane	ND	25
Acetone	ND	100
Freon 113	ND	25
1,1-Dichloroethene	ND	25
Methylene Chloride	ND	100
Carbon Disulfide	ND	25
MTBE	ND	25
trans-1,2-Dichloroethene	ND	25
Vinyl Acetate	ND	250
1,1-Dichloroethane	ND	25
2-Butanone	ND	50
cis-1,2-Dichloroethene	ND	25
2,2-Dichloropropane	ND	25
Chloroform	ND	25
Bromochloromethane	ND	50
1,1,1-Trichloroethane	ND	25
1,1-Dichloropropene	ND	25
Carbon Tetrachloride	ND	25
1,2-Dichloroethane	ND	25
Benzene	16 J	25
Trichloroethene	ND	25
1,2-Dichloropropane	ND	25
Bromodichloromethane	ND	25
Dibromomethane	ND	25
4-Methyl-2-Pentanone	ND	50
cis-1,3-Dichloropropene	ND	25
Toluene	29	25
trans-1,3-Dichloropropene	ND	25
1,1,2-Trichloroethane	ND	25
2-Hexanone	ND	50
1,3-Dichloropropane	ND	25
Tetrachloroethene	ND	25
Dibromochloromethane	ND	25

Volatile Organics by GC/MS

Field ID:	SB28	Sampled:	08/23/99
Lab ID:	141125-008	Received:	08/24/99
Matrix:	Water	Extracted:	09/03/99
Batch#:	50352	Analyzed:	09/03/99
Units:	ug/L		
Diln Fac:	5		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	25
Chlorobenzene	ND	25
1,1,1,2-Tetrachloroethane	ND	25
Ethylbenzene	41	25
m,p-Xylenes	300	25
o-Xylene	66	25
Styrene	ND	25
Bromoform	ND	25
Isopropylbenzene	130	25
1,1,2,2-Tetrachloroethane	ND	25
1,2,3-Trichloropropane	ND	25
Propylbenzene	140	25
Bromobenzene	ND	25
1,3,5-Trimethylbenzene	180	25
2-Chlorotoluene	ND	25
4-Chlorotoluene	ND	25
tert-Butylbenzene	ND	25
1,2,4-Trimethylbenzene	990	25
sec-Butylbenzene	36	25
para-Isopropyl Toluene	80	25
1,3-Dichlorobenzene	ND	25
1,4-Dichlorobenzene	ND	25
n-Butylbenzene	92	25
1,2-Dichlorobenzene	ND	25
1,2-Dibromo-3-Chloropropane	ND	25
1,2,4-Trichlorobenzene	ND	25
Hexachlorobutadiene	ND	25
Naphthalene	290	25
1,2,3-Trichlorobenzene	ND	25

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	118	81-121
1,2-Dichloroethane-d4	114	76-127
Toluene-d8	98	90-109
Bromofluorobenzene	105	82-118

J: Estimated Value

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 50352
Units: ug/L
Diln Fac: 1

Prep Date: 09/02/99
Analysis Date: 09/02/99

MB Lab ID: QC06697

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 50352
Units: ug/L
Diln Fac: 1

Prep Date: 09/02/99
Analysis Date: 09/02/99

MB Lab ID: QC06697

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%Rec	Recovery Limits
Dibromofluoromethane	111	81-121
1,2-Dichloroethane-d4	104	76-127
Toluene-d8	99	90-109
Bromofluorobenzene	103	82-118

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 50373
Units: ug/L
Diln Fac: 1

Prep Date: 09/03/99
Analysis Date: 09/03/99

MB Lab ID: QC06791

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 50373
Units: ug/L
Diln Fac: 1

Prep Date: 09/03/99
Analysis Date: 09/03/99

MB Lab ID: QC06791

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%Rec	Recovery Limits
Dibromofluoromethane	104	81-121
1,2-Dichloroethane-d4	103	76-127
Toluene-d8	99	90-109
Bromofluorobenzene	97	82-118

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 50352
Units: ug/L
Diln Fac: 1

Prep Date: 09/02/99
Analysis Date: 09/02/99

BS Lab ID: QC06695

Analyte	Spike Added	BS	%Rec	#	Limits
1,1-Dichloroethene	50	58.16	116		64-139
Benzene	50	48.84	98		71-127
Trichloroethene	50	50.24	100		72-129
Toluene	50	47.74	95		73-129
Chlorobenzene	50	47.12	94		77-126

Surrogate	%Rec	Limits
Dibromofluoromethane	108	81-121
1,2-Dichloroethane-d4	103	76-127
Toluene-d8	98	90-109
Bromofluorobenzene	101	82-118

BSD Lab ID: QC06696

Analyte	Spike Added	BSD	%Rec	#	Limits	RPD	#	Limit
1,1-Dichloroethene	50	59.49	119		64-139	2		13
Benzene	50	49.11	98		71-127	1		10
Trichloroethene	50	49.81	100		72-129	1		10
Toluene	50	47.66	95		73-129	0		10
Chlorobenzene	50	47.4	95		77-126	1		10

Surrogate	%Rec	Limits
Dibromofluoromethane	109	81-121
1,2-Dichloroethane-d4	104	76-127
Toluene-d8	98	90-109
Bromofluorobenzene	101	82-118

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

Lab #: 141125

BATCH QC REPORT

Curtis & Tompkins, Ltd.

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 50373
Units: ug/L
Diln Fac: 1

Prep Date: 09/03/99
Analysis Date: 09/03/99

BS Lab ID: QC06788

Analyte	Spike Added	BS	%Rec	#	Limits
1,1-Dichloroethene	50	57.18	114		64-139
Benzene	50	48.78	98		71-127
Trichloroethene	50	47.4	95		72-129
Toluene	50	50.39	101		73-129
Chlorobenzene	50	48.92	98		77-126

Surrogate	%Rec	Limits
Dibromofluoromethane	100	81-121
1,2-Dichloroethane-d4	100	76-127
Toluene-d8	100	90-109
Bromofluorobenzene	97	82-118

BSD Lab ID: QC06789

Analyte	Spike Added	BSD	%Rec	#	Limits	RPD	#	Limit
1,1-Dichloroethene	50	57.38	115		64-139	0		13
Benzene	50	50.34	101		71-127	3		10
Trichloroethene	50	47.88	96		72-129	1		10
Toluene	50	51.75	103		73-129	3		10
Chlorobenzene	50	50.12	100		77-126	2		10

Surrogate	%Rec	Limits
Dibromofluoromethane	98	81-121
1,2-Dichloroethane-d4	99	76-127
Toluene-d8	102	90-109
Bromofluorobenzene	97	82-118

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

Volatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: 29-2-2.5
Lab ID: 141125-001
Matrix: Soil
Batch#: 50250
Units: ug/Kg
Diln Fac: 0.9615

Sampled: 08/23/99
Received: 08/24/99
Extracted: 08/30/99
Analyzed: 08/30/99

Analyte	Result	Reporting Limit
Freon 12	ND	9.6
Chloromethane	ND	9.6
Vinyl Chloride	ND	9.6
Bromomethane	ND	9.6
Chloroethane	ND	9.6
Trichlorofluoromethane	ND	4.8
Acetone	ND	19
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.8
MTBE	ND	4.8
trans-1,2-Dichloroethene	ND	4.8
Vinyl Acetate	ND	48
1,1-Dichloroethane	ND	4.8
2-Butanone	ND	9.6
cis-1,2-Dichloroethene	ND	4.8
2,2-Dichloropropane	ND	4.8
Chloroform	ND	4.8
Bromochloromethane	ND	4.8
1,1,1-Trichloroethane	ND	4.8
1,1-Dichloropropene	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
Dibromomethane	ND	4.8
4-Methyl-2-Pentanone	ND	9.6
cis-1,3-Dichloropropene	ND	4.8
Toluene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
2-Hexanone	ND	9.6
1,3-Dichloropropane	ND	4.8
Tetrachloroethene	ND	4.8
Dibromochloromethane	ND	4.8

Volatile Organics by GC/MS

Field ID:	29-2-2.5	Sampled:	08/23/99
Lab ID:	141125-001	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50250	Analyzed:	08/30/99
Units:	ug/Kg		
Diln Fac:	0.9615		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	4.8
Chlorobenzene	ND	4.8
1,1,1,2-Tetrachloroethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Styrene	ND	4.8
Bromoform	ND	4.8
Isopropylbenzene	ND	4.8
1,1,2,2-Tetrachloroethane	ND	4.8
1,2,3-Trichloropropane	ND	4.8
Propylbenzene	ND	4.8
Bromobenzene	ND	4.8
1,3,5-Trimethylbenzene	ND	4.8
2-Chlorotoluene	ND	4.8
4-Chlorotoluene	ND	4.8
tert-Butylbenzene	ND	4.8
1,2,4-Trimethylbenzene	ND	4.8
sec-Butylbenzene	ND	4.8
para-Isopropyl Toluene	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
n-Butylbenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8
1,2-Dibromo-3-Chloropropane	ND	4.8
1,2,4-Trichlorobenzene	ND	4.8
Hexachlorobutadiene	ND	4.8
Naphthalene	ND	4.8
1,2,3-Trichlorobenzene	ND	4.8

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	106	67-140
1,2-Dichloroethane-d4	110	80-129
Toluene-d8	104	88-111
Bromofluorobenzene	100	76-128

Volatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: 29-9.5-10
Lab ID: 141125-002
Matrix: Soil
Batch#: 50250
Units: ug/Kg
Diln Fac: 0.9615

Sampled: 08/23/99
Received: 08/24/99
Extracted: 08/30/99
Analyzed: 08/30/99

Analyte	Result	Reporting Limit
Freon 12	ND	9.6
Chloromethane	ND	9.6
Vinyl Chloride	ND	9.6
Bromomethane	ND	9.6
Chloroethane	ND	9.6
Trichlorofluoromethane	ND	4.8
Acetone	ND	19
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.8
MTBE	ND	4.8
trans-1,2-Dichloroethene	ND	4.8
Vinyl Acetate	ND	48
1,1-Dichloroethane	ND	4.8
2-Butanone	ND	9.6
cis-1,2-Dichloroethene	ND	4.8
2,2-Dichloropropane	ND	4.8
Chloroform	ND	4.8
Bromochloromethane	ND	4.8
1,1,1-Trichloroethane	ND	4.8
1,1-Dichloropropene	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
Dibromomethane	ND	4.8
4-Methyl-2-Pentanone	ND	9.6
cis-1,3-Dichloropropene	ND	4.8
Toluene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
2-Hexanone	ND	9.6
1,3-Dichloropropane	ND	4.8
Tetrachloroethene	ND	4.8
Dibromochloromethane	ND	4.8

Volatile Organics by GC/MS

Field ID:	29-9.5-10	Sampled:	08/23/99
Lab ID:	141125-002	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50250	Analyzed:	08/30/99
Units:	ug/Kg		
Diln Fac:	0.9615		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	4.8
Chlorobenzene	ND	4.8
1,1,1,2-Tetrachloroethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Styrene	ND	4.8
Bromoform	ND	4.8
Isopropylbenzene	ND	4.8
1,1,2,2-Tetrachloroethane	ND	4.8
1,2,3-Trichloropropane	ND	4.8
Propylbenzene	ND	4.8
Bromobenzene	ND	4.8
1,3,5-Trimethylbenzene	ND	4.8
2-Chlorotoluene	ND	4.8
4-Chlorotoluene	ND	4.8
tert-Butylbenzene	ND	4.8
1,2,4-Trimethylbenzene	ND	4.8
sec-Butylbenzene	ND	4.8
para-Isopropyl Toluene	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
n-Butylbenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8
1,2-Dibromo-3-Chloropropane	ND	4.8
1,2,4-Trichlorobenzene	ND	4.8
Hexachlorobutadiene	ND	4.8
Naphthalene	ND	4.8
1,2,3-Trichlorobenzene	ND	4.8

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	104	67-140
1,2-Dichloroethane-d4	110	80-129
Toluene-d8	103	88-111
Bromofluorobenzene	107	76-128

Volatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: 29-27-27.5
Lab ID: 141125-003
Matrix: Soil
Batch#: 50250
Units: ug/Kg
Diln Fac: 0.9434

Sampled: 08/23/99
Received: 08/24/99
Extracted: 08/30/99
Analyzed: 08/30/99

Analyte	Result	Reporting Limit
Freon 12	ND	9.4
Chloromethane	ND	9.4
Vinyl Chloride	ND	9.4
Bromomethane	ND	9.4
Chloroethane	ND	9.4
Trichlorofluoromethane	ND	4.7
Acetone	ND	19
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.7
MTBE	ND	4.7
trans-1,2-Dichloroethene	ND	4.7
Vinyl Acetate	ND	47
1,1-Dichloroethane	ND	4.7
2-Butanone	ND	9.4
cis-1,2-Dichloroethene	ND	4.7
2,2-Dichloropropane	ND	4.7
Chloroform	ND	4.7
Bromochloromethane	ND	4.7
1,1,1-Trichloroethane	ND	4.7
1,1-Dichloropropene	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
Dibromomethane	ND	4.7
4-Methyl-2-Pentanone	ND	9.4
cis-1,3-Dichloropropene	ND	4.7
Toluene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
2-Hexanone	ND	9.4
1,3-Dichloropropane	ND	4.7
Tetrachloroethene	ND	4.7
Dibromochloromethane	ND	4.7

Volatile Organics by GC/MS

Field ID:	29-27-27.5	Sampled:	08/23/99
Lab ID:	141125-003	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50250	Analyzed:	08/30/99
Units:	ug/Kg		
Diln Fac:	0.9434		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	4.7
Chlorobenzene	ND	4.7
1,1,1,2-Tetrachloroethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7
Styrene	ND	4.7
Bromoform	ND	4.7
Isopropylbenzene	ND	4.7
1,1,2,2-Tetrachloroethane	ND	4.7
1,2,3-Trichloropropane	ND	4.7
Propylbenzene	ND	4.7
Bromobenzene	ND	4.7
1,3,5-Trimethylbenzene	ND	4.7
2-Chlorotoluene	ND	4.7
4-Chlorotoluene	ND	4.7
tert-Butylbenzene	ND	4.7
1,2,4-Trimethylbenzene	ND	4.7
sec-Butylbenzene	ND	4.7
para-Isopropyl Toluene	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
n-Butylbenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7
1,2-Dibromo-3-Chloropropane	ND	4.7
1,2,4-Trichlorobenzene	ND	4.7
Hexachlorobutadiene	ND	4.7
Naphthalene	ND	4.7
1,2,3-Trichlorobenzene	ND	4.7

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	102	67-140
1,2-Dichloroethane-d4	107	80-129
Toluene-d8	108	88-111
Bromofluorobenzene	98	76-128

Volatile Organics by GC/MS

Client:	Harding Lawson Associates	Analysis Method:	EPA 8260
Project#:	47729.2	Prep Method:	EPA 5030
Location:	9th & Broadway		
Field ID:	28-2-2.5	Sampled:	08/23/99
Lab ID:	141125-005	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50250	Analyzed:	08/30/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

Volatile Organics by GC/MS

Field ID:	28-2-2.5	Sampled:	08/23/99
Lab ID:	141125-005	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50250	Analyzed:	08/30/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	103	67-140
1,2-Dichloroethane-d4	109	80-129
Toluene-d8	103	88-111
Bromofluorobenzene	96	76-128

Volatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: 28-9.5-10
Lab ID: 141125-006
Matrix: Soil
Batch#: 50250
Units: ug/Kg
Diln Fac: 0.9434

Sampled: 08/23/99
Received: 08/24/99
Extracted: 08/30/99
Analyzed: 08/30/99

Analyte	Result	Reporting Limit
Freon 12	ND	9.4
Chloromethane	ND	9.4
Vinyl Chloride	ND	9.4
Bromomethane	ND	9.4
Chloroethane	ND	9.4
Trichlorofluoromethane	ND	4.7
Acetone	ND	19
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.7
MTBE	ND	4.7
trans-1,2-Dichloroethene	ND	4.7
Vinyl Acetate	ND	47
1,1-Dichloroethane	ND	4.7
2-Butanone	ND	9.4
cis-1,2-Dichloroethene	ND	4.7
2,2-Dichloropropane	ND	4.7
Chloroform	ND	4.7
Bromochloromethane	ND	4.7
1,1,1-Trichloroethane	ND	4.7
1,1-Dichloropropene	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
Dibromomethane	ND	4.7
4-Methyl-2-Pentanone	ND	9.4
cis-1,3-Dichloropropene	ND	4.7
Toluene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
2-Hexanone	ND	9.4
1,3-Dichloropropane	ND	4.7
Tetrachloroethene	ND	4.7
Dibromochloromethane	ND	4.7

Volatile Organics by GC/MS

Field ID:	28-9.5-10	Sampled:	08/23/99
Lab ID:	141125-006	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50250	Analyzed:	08/30/99
Units:	ug/Kg		
Diln Fac:	0.9434		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	4.7
Chlorobenzene	ND	4.7
1,1,1,2-Tetrachloroethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7
Styrene	ND	4.7
Bromoform	ND	4.7
Isopropylbenzene	ND	4.7
1,1,2,2-Tetrachloroethane	ND	4.7
1,2,3-Trichloropropane	ND	4.7
Propylbenzene	ND	4.7
Bromobenzene	ND	4.7
1,3,5-Trimethylbenzene	ND	4.7
2-Chlorotoluene	ND	4.7
4-Chlorotoluene	ND	4.7
tert-Butylbenzene	ND	4.7
1,2,4-Trimethylbenzene	ND	4.7
sec-Butylbenzene	ND	4.7
para-Isopropyl Toluene	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
n-Butylbenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7
1,2-Dibromo-3-Chloropropane	ND	4.7
1,2,4-Trichlorobenzene	ND	4.7
Hexachlorobutadiene	ND	4.7
Naphthalene	ND	4.7
1,2,3-Trichlorobenzene	ND	4.7

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	107	67-140
1,2-Dichloroethane-d4	106	80-129
Toluene-d8	99	88-111
Bromofluorobenzene	98	76-128

Volatile Organics by GC/MS

Client:	Harding Lawson Associates	Analysis Method:	EPA 8260
Project#:	47729.2	Prep Method:	EPA 5030
Location:	9th & Broadway		
Field ID:	28-26.5-27	Sampled:	08/23/99
Lab ID:	141125-007	Received:	08/24/99
Matrix:	Soil	Extracted:	09/02/99
Batch#:	50327	Analyzed:	09/02/99
Units:	ug/Kg		
Diln Fac:	100		

Analyte	Result	Reporting Limit
Freon 12	ND	1000
Chloromethane	ND	1000
Vinyl Chloride	ND	1000
Bromomethane	ND	1000
Chloroethane	ND	1000
Trichlorofluoromethane	ND	500
Acetone	ND	2000
Freon 113	ND	500
1,1-Dichloroethene	ND	500
Methylene Chloride	ND	2000
Carbon Disulfide	ND	500
MTBE	ND	500
trans-1,2-Dichloroethene	ND	500
Vinyl Acetate	ND	5000
1,1-Dichloroethane	ND	500
2-Butanone	ND	1000
cis-1,2-Dichloroethene	ND	500
2,2-Dichloropropane	ND	500
Chloroform	ND	500
Bromochloromethane	ND	500
1,1,1-Trichloroethane	ND	500
1,1-Dichloropropene	ND	500
Carbon Tetrachloride	ND	500
1,2-Dichloroethane	ND	500
Benzene	ND	500
Trichloroethene	ND	500
1,2-Dichloropropane	ND	500
Bromodichloromethane	ND	500
Dibromomethane	ND	500
4-Methyl-2-Pentanone	ND	1000
cis-1,3-Dichloropropene	ND	500
Toluene	ND	500
trans-1,3-Dichloropropene	ND	500
1,1,2-Trichloroethane	ND	500
2-Hexanone	ND	1000
1,3-Dichloropropane	ND	500
Tetrachloroethene	ND	500
Dibromochloromethane	ND	500

Volatile Organics by GC/MS

Field ID:	28-26.5-27	Sampled:	08/23/99
Lab ID:	141125-007	Received:	08/24/99
Matrix:	Soil	Extracted:	09/02/99
Batch#:	50327	Analyzed:	09/02/99
Units:	ug/Kg		
Diln Fac:	100		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	500
Chlorobenzene	ND	500
1,1,1,2-Tetrachloroethane	ND	500
Ethylbenzene	800	500
m,p-Xylenes	3700	500
o-Xylene	380 J	500
Styrene	ND	500
Bromoform	ND	500
Isopropylbenzene	1100	500
1,1,2,2-Tetrachloroethane	ND	500
1,2,3-Trichloropropane	ND	500
Propylbenzene	1700	500
Bromobenzene	ND	500
1,3,5-Trimethylbenzene	4200	500
2-Chlorotoluene	ND	500
4-Chlorotoluene	ND	500
tert-Butylbenzene	ND	500
1,2,4-Trimethylbenzene	12000	500
sec-Butylbenzene	670	500
para-Isopropyl Toluene	1700	500
1,3-Dichlorobenzene	ND	500
1,4-Dichlorobenzene	ND	500
n-Butylbenzene	2300	500
1,2-Dichlorobenzene	ND	500
1,2-Dibromo-3-Chloropropane	ND	500
1,2,4-Trichlorobenzene	ND	500
Hexachlorobutadiene	ND	500
Naphthalene	2300	500
1,2,3-Trichlorobenzene	ND	500

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	93	67-140
1,2-Dichloroethane-d4	92	80-129
Toluene-d8	100	88-111
Bromofluorobenzene	103	76-128

J: Estimated Value

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Soil
Batch#: 50250
Units: ug/Kg
Diln Fac: 1

Prep Date: 08/30/99
Analysis Date: 08/30/99

MB Lab ID: QC06252

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Soil
Batch#: 50250
Units: ug/Kg
Diln Fac: 1

Prep Date: 08/30/99
Analysis Date: 08/30/99

MB Lab ID: QC06252

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%Rec	Recovery Limits
Dibromofluoromethane	101	67-140
1,2-Dichloroethane-d4	105	80-129
Toluene-d8	105	88-111
Bromofluorobenzene	102	76-128

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Soil
Batch#: 50250
Units: ug/Kg
Diln Fac: 1

Prep Date: 08/30/99
Analysis Date: 08/30/99

MB Lab ID: QC06266

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Soil
Batch#: 50250
Units: ug/Kg
Diln Fac: 1

Prep Date: 08/30/99
Analysis Date: 08/30/99

MB Lab ID: QC06266

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%Rec	Recovery Limits
Dibromofluoromethane	103	67-140
1,2-Dichloroethane-d4	110	80-129
Toluene-d8	105	88-111
Bromofluorobenzene	101	76-128

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 50327
Units: ug/L
Diln Fac: 1

Prep Date: 09/01/99
Analysis Date: 09/01/99

MB Lab ID: QC06579

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 50327
Units: ug/L
Diln Fac: 1

Prep Date: 09/01/99
Analysis Date: 09/01/99

MB Lab ID: QC06579

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%Rec	Recovery Limits
Dibromofluoromethane	96	81-121
1,2-Dichloroethane-d4	93	76-127
Toluene-d8	98	90-109
Bromofluorobenzene	97	82-118

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Soil
Batch#: 50250
Units: ug/Kg
Diln Fac: 1

Prep Date: 08/30/99
Analysis Date: 08/30/99

LCS Lab ID: QC06251

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	60.95	50	122	63-144
Benzene	54.51	50	109	74-127
Trichloroethene	58.88	50	118	70-131
Toluene	57.89	50	116	72-131
Chlorobenzene	51.51	50	103	74-126

Surrogate	%Rec	Limits
Dibromofluoromethane	98	67-140
1,2-Dichloroethane-d4	104	80-129
Toluene-d8	105	88-111
Bromofluorobenzene	106	76-128

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 5 outside limits

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 50327
Units: ug/L
Diln Fac: 1

Prep Date: 09/01/99
Analysis Date: 09/01/99

LCS Lab ID: QC06578

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	55.34	50	111	64-139
Benzene	50.59	50	101	71-127
Trichloroethene	50.62	50	101	72-129
Toluene	49.65	50	99	73-129
Chlorobenzene	51.03	50	102	77-126

Surrogate	%Rec	Limits
Dibromofluoromethane	97	81-121
1,2-Dichloroethane-d4	97	76-127
Toluene-d8	98	90-109
Bromofluorobenzene	96	82-118

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 5 outside limits

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 141088-011
Matrix: Soil
Batch#: 50250
Units: ug/Kg
Diln Fac: 0.9804

Sample Date: 08/19/99
Received Date: 08/20/99
Prep Date: 08/30/99
Analysis Date: 08/30/99

MS Lab ID: QC06264

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	49.02	<4.902	61.07	125	51-137
Benzene	49.02	<4.902	52.32	107	53-128
Trichloroethene	49.02	43.99	107.6	130	33-153
Toluene	49.02	<4.902	55.48	113	45-134
Chlorobenzene	49.02	<4.902	47.84	98	39-132

Surrogate	%Rec	Limits
Dibromofluoromethane	105	67-140
1,2-Dichloroethane-d4	107	80-129
Toluene-d8	103	88-111
Bromofluorobenzene	102	76-128

MSD Lab ID: QC06265

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	49.02	57.29	117	51-137	6	35
Benzene	49.02	51.06	104	53-128	2	34
Trichloroethene	49.02	96.62	107	33-153	11	44
Toluene	49.02	53.48	109	45-134	4	44
Chlorobenzene	49.02	46.57	95	39-132	3	47

Surrogate	%Rec	Limits
Dibromofluoromethane	102	67-140
1,2-Dichloroethane-d4	109	80-129
Toluene-d8	104	88-111
Bromofluorobenzene	103	76-128

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

EPA 8260 Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8260A
Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: 28-26.5-27
Lab ID: 141125-007
Matrix: Soil
Batch#: 50327
Units: ug/Kg
Diln Fac: 100

Sample Date: 08/23/99
Received Date: 08/24/99
Prep Date: 09/02/99
Analysis Date: 09/02/99

MS Lab ID: QC06627

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	5000	<500	5211	104	51-137
Benzene	5000	<500	4909	98	53-128
Trichloroethene	5000	<500	4999	100	33-153
Toluene	5000	191.4	4985	96	45-134
Chlorobenzene	5000	<500	5250	105	39-132

Surrogate	%Rec	Limits
Dibromofluoromethane	93	67-140
1,2-Dichloroethane-d4	91	80-129
Toluene-d8	98	88-111
Bromofluorobenzene	103	76-128

MSD Lab ID: QC06628

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	5000	5318	106	51-137	2	35
Benzene	5000	5047	101	53-128	3	34
Trichloroethene	5000	5038	101	33-153	1	44
Toluene	5000	5073	98	45-134	2	44
Chlorobenzene	5000	5296	106	39-132	1	47

Surrogate	%Rec	Limits
Dibromofluoromethane	94	67-140
1,2-Dichloroethane-d4	91	80-129
Toluene-d8	100	88-111
Bromofluorobenzene	104	76-128

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Semivolatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3520

Field ID: SB29
Lab ID: 141125-004
Matrix: Water
Batch#: 50167
Units: ug/L
Diln Fac: 1

Sampled: 08/23/99
Received: 08/24/99
Extracted: 08/25/99
Analyzed: 08/31/99

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	11
Phenol	ND	11
bis(2-Chloroethyl)ether	ND	11
2-Chlorophenol	ND	11
1,3-Dichlorobenzene	ND	11
1,4-Dichlorobenzene	ND	11
Benzyl alcohol	ND	11
1,2-Dichlorobenzene	ND	11
2-Methylphenol	ND	11
bis(2-Chloroisopropyl) ether	ND	11
3-,4-Methylphenol	ND	11
N-Nitroso-di-n-propylamine	ND	11
Hexachloroethane	ND	11
Nitrobenzene	ND	11
Isophorone	ND	11
2-Nitrophenol	ND	57
2,4-Dimethylphenol	ND	11
Benzoic acid	ND	57
bis(2-Chloroethoxy)methane	ND	11
2,4-Dichlorophenol	ND	11
1,2,4-Trichlorobenzene	ND	11
Naphthalene	ND	11
4-Chloroaniline	ND	11
Hexachlorobutadiene	ND	11
4-Chloro-3-methylphenol	ND	11
2-Methylnaphthalene	ND	11
Hexachlorocyclopentadiene	ND	57
2,4,6-Trichlorophenol	ND	11
2,4,5-Trichlorophenol	ND	11
2-Chloronaphthalene	ND	11
2-Nitroaniline	ND	57
Dimethylphthalate	ND	11
Acenaphthylene	ND	11
2,6-Dinitrotoluene	ND	11
3-Nitroaniline	ND	57
Acenaphthene	ND	11
2,4-Dinitrophenol	ND	57
4-Nitrophenol	ND	57

Semivolatile Organics by GC/MS

Field ID:	SB29	Sampled:	08/23/99
Lab ID:	141125-004	Received:	08/24/99
Matrix:	Water	Extracted:	08/25/99
Batch#:	50167	Analyzed:	08/31/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	11
2,4-Dinitrotoluene	ND	11
Diethylphthalate	ND	11
Fluorene	ND	11
4-Chlorophenyl-phenylether	ND	11
4-Nitroaniline	ND	57
4,6-Dinitro-2-methylphenol	ND	57
N-Nitrosodiphenylamine	ND	11
Azobenzene	ND	11
4-Bromophenyl-phenylether	ND	11
Hexachlorobenzene	ND	11
Pentachlorophenol	ND	57
Phenanthrene	ND	11
Anthracene	ND	11
Di-n-butylphthalate	ND	11
Fluoranthene	ND	11
Pyrene	ND	11
Butylbenzylphthalate	ND	11
3,3'-Dichlorobenzidine	ND	57
Benzo(a)anthracene	ND	11
Chrysene	ND	11
bis(2-Ethylhexyl)phthalate	ND	11
Di-n-octylphthalate	ND	11
Benzo(b,k)fluoranthene	ND	11
Benzo(a)pyrene	ND	11
Indeno(1,2,3-cd)pyrene	ND	11
Dibenz(a,h)anthracene	ND	11
Benzo(g,h,i)perylene	ND	11

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	81	30-136
Phenol-d5	89	33-140
2,4,6-Tribromophenol	85	31-140
Nitrobenzene-d5	85	24-128
2-Fluorobiphenyl	74	35-116
Terphenyl-d14	13*	16-139

* Values outside of QC limits

Semivolatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3520

Field ID: SB28
Lab ID: 141125-008
Matrix: Water
Batch#: 50167
Units: ug/L
Diln Fac: 1

Sampled: 08/23/99
Received: 08/24/99
Extracted: 08/25/99
Analyzed: 08/31/99

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
3-,4-Methylphenol	8.4 J	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	50
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	150	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	44	10
Hexachlorocyclopentadiene	ND	50
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	50
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	50
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	50
4-Nitrophenol	ND	50

Semivolatile Organics by GC/MS

Field ID:	SB28	Sampled:	08/23/99
Lab ID:	141125-008	Received:	08/24/99
Matrix:	Water	Extracted:	08/25/99
Batch#:	50167	Analyzed:	08/31/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	50
4,6-Dinitro-2-methylphenol	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	50
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	50
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b,k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	89	30-136
Phenol-d5	2*	33-140
2,4,6-Tribromophenol	86	31-140
Nitrobenzene-d5	87	24-128
2-Fluorobiphenyl	39	35-116
Terphenyl-d14	11*	16-139

J: Estimated Value
* Values outside of QC limits

EPA 8270 Semi-Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 50167
Units: ug/L
Diln Fac: 1

Prep Date: 08/25/99
Analysis Date: 08/26/99

MB Lab ID: QC05920

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
3-,4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	50
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	50
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	50
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	50
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	50
4-Nitrophenol	ND	50
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10

EPA 8270 Semi-Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 50167
Units: ug/L
Diln Fac: 1

Prep Date: 08/25/99
Analysis Date: 08/26/99

MB Lab ID: QC05920

Analyte	Result	Reporting Limit
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	50
4,6-Dinitro-2-methylphenol	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	50
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	50
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b,k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%Rec	Recovery Limits
2-Fluorophenol	84	30-136
Phenol-d5	85	33-140
2,4,6-Tribromophenol	115	31-140
Nitrobenzene-d5	99	24-128
2-Fluorobiphenyl	99	35-116
Terphenyl-d14	89	16-139

EPA 8270 Semi-Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 50167
Units: ug/L
Diln Fac: 1

Prep Date: 08/25/99
Analysis Date: 08/26/99

BS Lab ID: QC05921

Analyte	Spike Added	BS	%Rec	#	Limits
Phenol	100	79.51	80		41-110
2-Chlorophenol	100	88.46	88		38-110
1,4-Dichlorobenzene	50	30.06	60		36-110
N-Nitroso-di-n-propylamine	50	50.86	102		22-112
1,2,4-Trichlorobenzene	50	33.35	67		36-110
4-Chloro-3-methylphenol	100	87.73	88		44-110
Acenaphthene	50	45.5	91		43-110
4-Nitrophenol	100	83.93	84		25-110
2,4-Dinitrotoluene	50	46.23	92		40-110
Pentachlorophenol	100	74.3	74		17-137
Pyrene	50	47.83	96		35-107

Surrogate	%Rec	Limits
2-Fluorophenol	81	30-136
Phenol-d5	85	33-140
2,4,6-Tribromophenol	122	31-140
Nitrobenzene-d5	98	24-128
2-Fluorobiphenyl	99	35-116
Terphenyl-d14	88	16-139

BSD Lab ID: QC05922

Analyte	Spike Added	BSD	%Rec	#	Limits	RPD	#	Limit
Phenol	100	78.06	78		41-110	2		26
2-Chlorophenol	100	87.38	87		38-110	1		27
1,4-Dichlorobenzene	50	30.53	61		36-110	2		24
N-Nitroso-di-n-propylamine	50	51.64	103		22-112	2		27
1,2,4-Trichlorobenzene	50	33.38	67		36-110	0		26
4-Chloro-3-methylphenol	100	90.68	91		44-110	3		27
Acenaphthene	50	45.14	90		43-110	1		26
4-Nitrophenol	100	87.67	88		25-110	4		37
2,4-Dinitrotoluene	50	47.12	94		40-110	2		25
Pentachlorophenol	100	75.8	76		17-137	2		43
Pyrene	50	47.9	96		35-107	0		27

Surrogate	%Rec	Limits
2-Fluorophenol	79	30-136
Phenol-d5	83	33-140
2,4,6-Tribromophenol	120	31-140
Nitrobenzene-d5	97	24-128
2-Fluorobiphenyl	98	35-116
Terphenyl-d14	90	16-139

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

Semivolatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3550

Field ID: 29-2-2.5
Lab ID: 141125-001
Matrix: Soil
Batch#: 50271
Units: ug/Kg
Diln Fac: 1

Sampled: 08/23/99
Received: 08/24/99
Extracted: 08/30/99
Analyzed: 09/02/99

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	670
Phenol	ND	670
bis(2-Chloroethyl)ether	ND	670
2-Chlorophenol	ND	670
1,3-Dichlorobenzene	ND	670
1,4-Dichlorobenzene	ND	670
Benzyl alcohol	ND	670
1,2-Dichlorobenzene	ND	670
2-Methylphenol	ND	670
bis(2-Chloroisopropyl) ether	ND	670
3-,4-Methylphenol	ND	670
N-Nitroso-di-n-propylamine	ND	670
Hexachloroethane	ND	670
Nitrobenzene	ND	670
Isophorone	ND	670
2-Nitrophenol	ND	3300
2,4-Dimethylphenol	ND	670
Benzoic acid	ND	3300
bis(2-Chloroethoxy)methane	ND	670
2,4-Dichlorophenol	ND	670
1,2,4-Trichlorobenzene	ND	670
Naphthalene	ND	670
4-Chloroaniline	ND	670
Hexachlorobutadiene	ND	670
4-Chloro-3-methylphenol	ND	670
2-Methylnaphthalene	ND	670
Hexachlorocyclopentadiene	ND	3300
2,4,6-Trichlorophenol	ND	670
2,4,5-Trichlorophenol	ND	670
2-Chloronaphthalene	ND	670
2-Nitroaniline	ND	3300
Dimethylphthalate	ND	670
Acenaphthylene	ND	670
2,6-Dinitrotoluene	ND	670
3-Nitroaniline	ND	3300
Acenaphthene	ND	670
2,4-Dinitrophenol	ND	3300
4-Nitrophenol	ND	3300

Semivolatile Organics by GC/MS

Field ID:	29-2-2.5	Sampled:	08/23/99
Lab ID:	141125-001	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50271	Analyzed:	09/02/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	670
2,4-Dinitrotoluene	ND	670
Diethylphthalate	ND	670
Fluorene	ND	670
4-Chlorophenyl-phenylether	ND	670
4-Nitroaniline	ND	3300
4,6-Dinitro-2-methylphenol	ND	3300
N-Nitrosodiphenylamine	ND	670
Azobenzene	ND	670
4-Bromophenyl-phenylether	ND	670
Hexachlorobenzene	ND	670
Pentachlorophenol	ND	3300
Phenanthrene	ND	670
Anthracene	ND	670
Di-n-butylphthalate	ND	670
Fluoranthene	ND	670
Pyrene	ND	670
Butylbenzylphthalate	ND	670
3,3'-Dichlorobenzidine	ND	3300
Benzo(a)anthracene	ND	670
Chrysene	ND	670
bis(2-Ethylhexyl)phthalate	ND	670
Di-n-octylphthalate	ND	670
Benzo(b,k)fluoranthene	ND	670
Benzo(a)pyrene	ND	670
Indeno(1,2,3-cd)pyrene	ND	670
Dibenz(a,h)anthracene	ND	670
Benzo(g,h,i)perylene	ND	670

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	81	15-129
Phenol-d5	86	38-132
2,4,6-Tribromophenol	60	23-144
Nitrobenzene-d5	74	22-132
2-Fluorobiphenyl	81	26-137
Terphenyl-d14	85	22-149

Semivolatile Organics by GC/MS

Client:	Harding Lawson Associates	Analysis Method:	EPA 8270B
Project#:	47729.2	Prep Method:	EPA 3550
Location:	9th & Broadway		

Field ID:	29-9.5-10	Sampled:	08/23/99
Lab ID:	141125-002	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50271	Analyzed:	09/03/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	670
Phenol	ND	670
bis(2-Chloroethyl)ether	ND	670
2-Chlorophenol	ND	670
1,3-Dichlorobenzene	ND	670
1,4-Dichlorobenzene	ND	670
Benzyl alcohol	ND	670
1,2-Dichlorobenzene	ND	670
2-Methylphenol	ND	670
bis(2-Chloroisopropyl) ether	ND	670
3-,4-Methylphenol	ND	670
N-Nitroso-di-n-propylamine	ND	670
Hexachloroethane	ND	670
Nitrobenzene	ND	670
Isophorone	ND	670
2-Nitrophenol	ND	3300
2,4-Dimethylphenol	ND	670
Benzoic acid	ND	3300
bis(2-Chloroethoxy)methane	ND	670
2,4-Dichlorophenol	ND	670
1,2,4-Trichlorobenzene	ND	670
Naphthalene	ND	670
4-Chloroaniline	ND	670
Hexachlorobutadiene	ND	670
4-Chloro-3-methylphenol	ND	670
2-Methylnaphthalene	ND	670
Hexachlorocyclopentadiene	ND	3300
2,4,6-Trichlorophenol	ND	670
2,4,5-Trichlorophenol	ND	670
2-Chloronaphthalene	ND	670
2-Nitroaniline	ND	3300
Dimethylphthalate	ND	670
Acenaphthylene	ND	670
2,6-Dinitrotoluene	ND	670
3-Nitroaniline	ND	3300
Acenaphthene	ND	670
2,4-Dinitrophenol	ND	3300
4-Nitrophenol	ND	3300

Semivolatile Organics by GC/MS

Field ID:	29-9.5-10	Sampled:	08/23/99
Lab ID:	141125-002	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50271	Analyzed:	09/03/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	670
2,4-Dinitrotoluene	ND	670
Diethylphthalate	ND	670
Fluorene	ND	670
4-Chlorophenyl-phenylether	ND	670
4-Nitroaniline	ND	3300
4,6-Dinitro-2-methylphenol	ND	3300
N-Nitrosodiphenylamine	ND	670
Azobenzene	ND	670
4-Bromophenyl-phenylether	ND	670
Hexachlorobenzene	ND	670
Pentachlorophenol	ND	3300
Phenanthrene	ND	670
Anthracene	ND	670
Di-n-butylphthalate	ND	670
Fluoranthene	ND	670
Pyrene	ND	670
Butylbenzylphthalate	ND	670
3,3'-Dichlorobenzidine	ND	3300
Benzo(a)anthracene	ND	670
Chrysene	ND	670
bis(2-Ethylhexyl)phthalate	ND	670
Di-n-octylphthalate	ND	670
Benzo(b,k)fluoranthene	ND	670
Benzo(a)pyrene	ND	670
Indeno(1,2,3-cd)pyrene	ND	670
Dibenz(a,h)anthracene	ND	670
Benzo(g,h,i)perylene	ND	670

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	66	15-129
Phenol-d5	72	38-132
2,4,6-Tribromophenol	51	23-144
Nitrobenzene-d5	60	22-132
2-Fluorobiphenyl	79	26-137
Terphenyl-d14	87	22-149

Semivolatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3550

Field ID: 29-27-27.5
Lab ID: 141125-003
Matrix: Soil
Batch#: 50271
Units: ug/Kg
Diln Fac: 1

Sampled: 08/23/99
Received: 08/24/99
Extracted: 08/30/99
Analyzed: 09/01/99

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
3-,4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	1700
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700
Acenaphthene	ND	330
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700

Semivolatile Organics by GC/MS

Field ID:	29-27-27.5	Sampled:	08/23/99
Lab ID:	141125-003	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50271	Analyzed:	09/01/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	330
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	1700
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b,k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	77	15-129
Phenol-d5	81	38-132
2,4,6-Tribromophenol	99	23-144
Nitrobenzene-d5	88	22-132
2-Fluorobiphenyl	88	26-137
Terphenyl-d14	89	22-149

Semivolatile Organics by GC/MS

Client:	Harding Lawson Associates	Analysis Method:	EPA 8270B
Project#:	47729.2	Prep Method:	EPA 3550
Location:	9th & Broadway		

Field ID:	28-2-2.5	Sampled:	08/23/99
Lab ID:	141125-005	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50271	Analyzed:	09/02/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
3-,4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	1700
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	170 J	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700
Acenaphthene	ND	330
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700

Semivolatile Organics by GC/MS

Field ID:	28-2-2.5	Sampled:	08/23/99
Lab ID:	141125-005	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50271	Analyzed:	09/02/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result		Reporting Limit
Dibenzofuran	ND		330
2,4-Dinitrotoluene	ND		330
Diethylphthalate	ND		330
Fluorene	ND		330
4-Chlorophenyl-phenylether	ND		330
4-Nitroaniline	ND		1700
4,6-Dinitro-2-methylphenol	ND		1700
N-Nitrosodiphenylamine	ND		330
Azobenzene	ND		330
4-Bromophenyl-phenylether	ND		330
Hexachlorobenzene	ND		330
Pentachlorophenol	ND		1700
Phenanthrene	810		330
Anthracene	180	J	330
Di-n-butylphthalate	ND		330
Fluoranthene	870		330
Pyrene	1400		330
Butylbenzylphthalate	ND		330
3,3'-Dichlorobenzidine	ND		1700
Benzo(a)anthracene	490		330
Chrysene	570		330
bis(2-Ethylhexyl)phthalate	ND		330
Di-n-octylphthalate	ND		330
Benzo(b,k)fluoranthene	840		330
Benzo(a)pyrene	550		330
Indeno(1,2,3-cd)pyrene	270	J	330
Dibenz(a,h)anthracene	ND		330
Benzo(g,h,i)perylene	330	J	330

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	77	15-129
Phenol-d5	78	38-132
2,4,6-Tribromophenol	101	23-144
Nitrobenzene-d5	95	22-132
2-Fluorobiphenyl	97	26-137
Terphenyl-d14	116	22-149

J: Estimated Value

Semivolatile Organics by GC/MS

Client:	Harding Lawson Associates	Analysis Method:	EPA 8270B
Project#:	47729.2	Prep Method:	EPA 3550
Location:	9th & Broadway		

Field ID:	28-9.5-10	Sampled:	08/23/99
Lab ID:	141125-006	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50271	Analyzed:	09/01/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
3-,4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	1700
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700
Acenaphthene	ND	330
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700

Semivolatile Organics by GC/MS

Field ID:	28-9.5-10	Sampled:	08/23/99
Lab ID:	141125-006	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50271	Analyzed:	09/01/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	330
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	1700
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b,k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	87	15-129
Phenol-d5	85	38-132
2,4,6-Tribromophenol	101	23-144
Nitrobenzene-d5	98	22-132
2-Fluorobiphenyl	100	26-137
Terphenyl-d14	96	22-149

Semivolatile Organics by GC/MS

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3550

Field ID: 28-26.5-27
Lab ID: 141125-007
Matrix: Soil
Batch#: 50271
Units: ug/Kg
Diln Fac: 1

Sampled: 08/23/99
Received: 08/24/99
Extracted: 08/30/99
Analyzed: 09/01/99

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
3-,4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	1700	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	1000	330
Hexachlorocyclopentadiene	ND	1700
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700
Acenaphthene	ND	330
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700

Semivolatile Organics by GC/MS

Field ID:	28-26.5-27	Sampled:	08/23/99
Lab ID:	141125-007	Received:	08/24/99
Matrix:	Soil	Extracted:	08/30/99
Batch#:	50271	Analyzed:	09/01/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	330
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	1700
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b,k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	83	15-129
Phenol-d5	83	38-132
2,4,6-Tribromophenol	94	23-144
Nitrobenzene-d5	90	22-132
2-Fluorobiphenyl	86	26-137
Terphenyl-d14	86	22-149

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3550

METHOD BLANK

Matrix: Soil
Batch#: 50271
Units: ug/Kg
Diln Fac: 1

Prep Date: 08/30/99
Analysis Date: 09/01/99

MB Lab ID: QC06338

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
3-,4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	1700
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700
Acenaphthene	ND	330
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3550

METHOD BLANK

Matrix: Soil
Batch#: 50271
Units: ug/Kg
Diln Fac: 1

Prep Date: 08/30/99
Analysis Date: 09/01/99

MB Lab ID: QC06338

Analyte	Result	Reporting Limit
Diethylphthalate	ND	330
Fluorene	ND	330
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	1700
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b,k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

Surrogate	%Rec	Recovery Limits
2-Fluorophenol	79	15-129
Phenol-d5	80	38-132
2,4,6-Tribromophenol	99	23-144
Nitrobenzene-d5	94	22-132
2-Fluorobiphenyl	92	26-137
Terphenyl-d14	86	22-149

EPA 8270 Semi-Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3550

LABORATORY CONTROL SAMPLE

Matrix: Soil
Batch#: 50271
Units: ug/Kg
Diln Fac: 1

Prep Date: 08/30/99
Analysis Date: 09/01/99

LCS Lab ID: QC06339

Analyte	Result	Spike Added	%Rec #	Limits
Phenol	2792	3333	84	30-139
2-Chlorophenol	3164	3333	95	25-142
1,4-Dichlorobenzene	1524	1667	91	28-120
N-Nitroso-di-n-propylamine	1183	1667	71	30-122
1,2,4-Trichlorobenzene	1573	1667	94	29-119
4-Chloro-3-methylphenol	3175	3333	95	29-139
Acenaphthene	1634	1667	98	31-120
4-Nitrophenol	3070	3333	92	26-141
2,4-Dinitrotoluene	1652	1667	99	29-111
Pentachlorophenol	2262	3333	68	15-148
Pyrene	1809	1667	109	22-122

Surrogate	%Rec	Limits
2-Fluorophenol	91	15-129
Phenol-d5	91	38-132
2,4,6-Tribromophenol	124	23-144
Nitrobenzene-d5	107	22-132
2-Fluorobiphenyl	104	26-137
Terphenyl-d14	98	22-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 11 outside limits

EPA 8270 Semi-Volatile Organics

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8270B
Prep Method: EPA 3550

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: 28-9.5-10
Lab ID: 141125-006
Matrix: Soil
Batch#: 50271
Units: ug/Kg
Diln Fac: 1

Sample Date: 08/23/99
Received Date: 08/24/99
Prep Date: 08/30/99
Analysis Date: 09/01/99

MS Lab ID: QC06340

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Phenol	3333	<333.3	2632	79	36-122
2-Chlorophenol	3333	<333.3	2878	86	34-123
1,4-Dichlorobenzene	1667	<333.3	1222	73	21-117
N-Nitroso-di-n-propylamine	1667	<333.3	1570	94	18-116
1,2,4-Trichlorobenzene	1667	<333.3	1321	79	26-119
4-Chloro-3-methylphenol	3333	<333.3	2920	88	35-122
Acenaphthene	1667	<333.3	1445	87	23-129
4-Nitrophenol	3333	<1667	2655	80	24-114
2,4-Dinitrotoluene	1667	<333.3	1463	88	27-110
Pentachlorophenol	3333	<1667	1641	49	15-119
Pyrene	1667	<333.3	1656	99	29-127

Surrogate	%Rec	Limits
2-Fluorophenol	85	15-129
Phenol-d5	86	38-132
2,4,6-Tribromophenol	105	23-144
Nitrobenzene-d5	94	22-132
2-Fluorobiphenyl	97	26-137
Terphenyl-d14	89	22-149

MSD Lab ID: QC06341

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Phenol	3333	2612	78	36-122	1	26
2-Chlorophenol	3333	2859	86	34-123	1	27
1,4-Dichlorobenzene	1667	1051	63	21-117	15	30
N-Nitroso-di-n-propylamine	1667	1532	92	18-116	2	27
1,2,4-Trichlorobenzene	1667	1259	76	26-119	5	27
4-Chloro-3-methylphenol	3333	2954	89	35-122	1	27
Acenaphthene	1667	1498	90	23-129	4	29
4-Nitrophenol	3333	2845	85	24-114	7	32
2,4-Dinitrotoluene	1667	1560	94	27-110	6	31
Pentachlorophenol	3333	1977	59	15-119	19	50
Pyrene	1667	1693	102	29-127	2	45

Surrogate	%Rec	Limits
2-Fluorophenol	83	15-129
Phenol-d5	85	38-132
2,4,6-Tribromophenol	113	23-144
Nitrobenzene-d5	98	22-132
2-Fluorobiphenyl	97	26-137
Terphenyl-d14	92	22-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

Polyaromatic Hydrocarbons by HPLC

Client:	Harding Lawson Associates	Analysis Method:	EPA 8310
Project#:	47729.2	Prep Method:	EPA 3520
Location:	9th & Broadway		

Field ID:	SB29	Sampled:	08/23/99
Lab ID:	141125-004	Received:	08/24/99
Matrix:	Water	Extracted:	08/25/99
Batch#:	50166	Analyzed:	08/27/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Naphthalene	ND	5.5
Acenaphthylene	ND	11
Acenaphthene	ND	1.1
Fluorene	ND	1.1
Phenanthrene	ND	0.55
Anthracene	ND	0.55
Fluoranthene	ND	0.44
Pyrene	ND	0.22
Benzo(a)anthracene	ND	0.11
Chrysene	ND	0.11
Benzo(b)fluoranthene	ND	0.22
Benzo(k)fluoranthene	ND	0.11
Benzo(a)pyrene	ND	0.11
Dibenz(a,h)anthracene	ND	0.22
Benzo(g,h,i)perylene	ND	0.22
Indeno(1,2,3-cd)pyrene	ND	0.15

Surrogate	%Recovery	Recovery Limits
1-Methylnaphthalene (UV)	62	26-123
1-Methylnaphthalene (F)	69	20-127

Polyaromatic Hydrocarbons by HPLC

Client:	Harding Lawson Associates	Analysis Method:	EPA 8310
Project#:	47729.2	Prep Method:	EPA 3520
Location:	9th & Broadway		

Field ID:	SB28	Sampled:	08/23/99
Lab ID:	141125-008	Received:	08/24/99
Matrix:	Water	Extracted:	08/25/99
Batch#:	50166	Analyzed:	08/27/99
Units:	ug/L		
Diln Fac:	5		

Analyte	Result	Reporting Limit
Naphthalene	110	30
Acenaphthylene	230	61
Acenaphthene	ND	6.1
Fluorene	36	6.1
Phenanthrene	ND	3.0
Anthracene	ND	3.0
Fluoranthene	ND	2.4
Pyrene	ND	1.2
Benzo(a)anthracene	ND	0.61
Chrysene	ND	0.61
Benzo(b)fluoranthene	ND	1.2
Benzo(k)fluoranthene	ND	0.61
Benzo(a)pyrene	ND	0.61
Dibenz(a,h)anthracene	ND	1.2
Benzo(g,h,i)perylene	ND	1.2
Indeno(1,2,3-cd)pyrene	ND	0.85

Surrogate	%Recovery	Recovery Limits
1-Methylnaphthalene (UV)	49	26-123
1-Methylnaphthalene (F)	46	20-127

EPA 8310 PAHs by HPLC

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8310
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 50166
Units: ug/L
Diln Fac: 1

Prep Date: 08/25/99
Analysis Date: 08/26/99

MB Lab ID: QC05917

Analyte	Result	Reporting Limit
Naphthalene	ND	5.0
Acenaphthylene	ND	10
Acenaphthene	ND	1.0
Fluorene	ND	1.0
Phenanthrene	ND	0.5
Anthracene	ND	0.5
Fluoranthene	ND	0.4
Pyrene	ND	0.2
Benzo(a)anthracene	ND	0.1
Chrysene	ND	0.1
Benzo(b)fluoranthene	ND	0.2
Benzo(k)fluoranthene	ND	0.1
Benzo(a)pyrene	ND	0.1
Dibenz(a,h)anthracene	ND	0.2
Benzo(g,h,i)perylene	ND	0.2
Indeno(1,2,3-cd)pyrene	ND	0.14

Surrogate	%Rec	Recovery Limits
1-Methylnaphthalene (UV)	67	26-123
1-Methylnaphthalene (F)	66	20-127

Lab #: 141125

BATCH QC REPORT

Curtis & Tompkins, Ltd.

EPA 8310 PAHs by HPLC

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8310
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 50166
Units: ug/L
Diln Fac: 1

Prep Date: 08/25/99
Analysis Date: 08/26/99

BS Lab ID: QC05918

Analyte	Spike Added	BS	%Rec	#	Limits
Naphthalene	10	7.6	76		27-118
Acenaphthylene	20	15.11	76		33-112
Acenaphthene	10	7.66	77		28-120
Fluorene	2	1.52	76		36-117
Phenanthrene	1	0.83	83		32-124
Anthracene	1	0.76	76		19-113
Benzo(k)fluoranthene	1	0.81	81		29-121
Indeno(1,2,3-cd)pyrene	1	0.83	83		31-122

Surrogate	%Rec	Limits
1-Methylnaphthalene (UV)	65	26-123
1-Methylnaphthalene (F)	66	20-127

BSD Lab ID: QC05919

Analyte	Spike Added	BSD	%Rec	#	Limits	RPD	#	Limit
Naphthalene	10	7.29	73		27-118	4		29
Acenaphthylene	20	14.54	73		33-112	4		22
Acenaphthene	10	7.4	74		28-120	3		31
Fluorene	2	1.47	74		36-117	3		25
Phenanthrene	1	0.82	82		32-124	1		28
Anthracene	1	0.74	74		19-113	3		25
Benzo(k)fluoranthene	1	0.79	79		29-121	3		16
Indeno(1,2,3-cd)pyrene	1	0.74	74		31-122	11		35

Surrogate	%Rec	Limits
1-Methylnaphthalene (UV)	65	26-123
1-Methylnaphthalene (F)	66	20-127

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Polyaromatic Hydrocarbons by HPLC

Client:	Harding Lawson Associates	Analysis Method:	EPA 8310
Project#:	47729.2	Prep Method:	EPA 3550
Location:	9th & Broadway		

Field ID:	29-2-2.5	Sampled:	08/23/99
Lab ID:	141125-001	Received:	08/24/99
Matrix:	Soil	Extracted:	08/31/99
Batch#:	50299	Analyzed:	09/02/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Naphthalene	ND	170
Acenaphthylene	ND	340
Acenaphthene	ND	34
Fluorene	ND	34
Phenanthrene	ND	17
Anthracene	ND	17
Fluoranthene	15	13
Pyrene	16	6.7
Benzo(a)anthracene	12	3.3
Chrysene	8.9	3.3
Benzo(b)fluoranthene	18	6.7
Benzo(k)fluoranthene	8.4	3.3
Benzo(a)pyrene	23	3.3
Dibenz(a,h)anthracene	ND	6.7
Benzo(g,h,i)perylene	19	6.7
Indeno(1,2,3-cd)pyrene	32	3.3

Surrogate	%Recovery	Recovery Limits
1-Methylnaphthalene (UV)	89	44-122
1-Methylnaphthalene (F)	87	22-149

Polyaromatic Hydrocarbons by HPLC

Client:	Harding Lawson Associates	Analysis Method:	EPA 8310
Project#:	47729.2	Prep Method:	EPA 3550
Location:	9th & Broadway		

Field ID:	29-9.5-10	Sampled:	08/23/99
Lab ID:	141125-002	Received:	08/24/99
Matrix:	Soil	Extracted:	08/31/99
Batch#:	50299	Analyzed:	09/02/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Naphthalene	ND	170
Acenaphthylene	ND	340
Acenaphthene	ND	34
Fluorene	ND	34
Phenanthrene	ND	17
Anthracene	ND	17
Fluoranthene	ND	13
Pyrene	ND	6.7
Benzo(a)anthracene	4.2	3.3
Chrysene	5.7	3.3
Benzo(b)fluoranthene	ND	6.7
Benzo(k)fluoranthene	ND	3.3
Benzo(a)pyrene	4.4	3.3
Dibenz(a,h)anthracene	ND	6.7
Benzo(g,h,i)perylene	ND	6.7
Indeno(1,2,3-cd)pyrene	3.4	3.3

Surrogate	%Recovery	Recovery Limits
1-Methylnaphthalene (UV)	78	44-122
1-Methylnaphthalene (F)	92	22-149

Polyaromatic Hydrocarbons by HPLC

Client:	Harding Lawson Associates	Analysis Method:	EPA 8310
Project#:	47729.2	Prep Method:	EPA 3550
Location:	9th & Broadway		

Field ID:	29-27-27.5	Sampled:	08/23/99
Lab ID:	141125-003	Received:	08/24/99
Matrix:	Soil	Extracted:	08/31/99
Batch#:	50299	Analyzed:	09/02/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Naphthalene	ND	170
Acenaphthylene	ND	340
Acenaphthene	ND	34
Fluorene	ND	34
Phenanthrene	ND	17
Anthracene	ND	17
Fluoranthene	ND	13
Pyrene	ND	6.7
Benzo(a)anthracene	ND	3.3
Chrysene	ND	3.3
Benzo(b)fluoranthene	ND	6.7
Benzo(k)fluoranthene	ND	3.3
Benzo(a)pyrene	ND	3.3
Dibenz(a,h)anthracene	ND	6.7
Benzo(g,h,i)perylene	ND	6.7
Indeno(1,2,3-cd)pyrene	ND	3.3

Surrogate	%Recovery	Recovery Limits
1-Methylnaphthalene (UV)	54	44-122
1-Methylnaphthalene (F)	58	22-149

Polyaromatic Hydrocarbons by HPLC

Client:	Harding Lawson Associates	Analysis Method:	EPA 8310
Project#:	47729.2	Prep Method:	EPA 3550
Location:	9th & Broadway		

Field ID:	28-2-2.5	Sampled:	08/23/99
Lab ID:	141125-005	Received:	08/24/99
Matrix:	Soil	Extracted:	08/31/99
Batch#:	50299	Analyzed:	09/02/99
Units:	ug/Kg		
Diln Fac:	50		

Analyte	Result	Reporting Limit
Naphthalene	ND	8400
Acenaphthylene	ND	17000
Acenaphthene	ND	1700
Fluorene	ND	1700
Phenanthrene	1600	840
Anthracene	ND	840
Fluoranthene	2100	670
Pyrene	2000	340
Benzo(a)anthracene	1100	170
Chrysene	1400	170
Benzo(b)fluoranthene	770	340
Benzo(k)fluoranthene	430	170
Benzo(a)pyrene	1200	170
Dibenz(a,h)anthracene	ND	340
Benzo(g,h,i)perylene	850	340
Indeno(1,2,3-cd)pyrene	1100	170

Surrogate	%Recovery	Recovery Limits
1-Methylnaphthalene (UV)	DO*	44-122
1-Methylnaphthalene (F)	DO*	22-149

* Values outside of QC limits
DO: Surrogate diluted out

Polyaromatic Hydrocarbons by HPLC

Client:	Harding Lawson Associates	Analysis Method:	EPA 8310
Project#:	47729.2	Prep Method:	EPA 3550
Location:	9th & Broadway		

Field ID:	28-9.5-10	Sampled:	08/23/99
Lab ID:	141125-006	Received:	08/24/99
Matrix:	Soil	Extracted:	08/31/99
Batch#:	50299	Analyzed:	09/02/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Naphthalene	ND	170
Acenaphthylene	ND	340
Acenaphthene	ND	34
Fluorene	ND	34
Phenanthrene	ND	17
Anthracene	ND	17
Fluoranthene	ND	13
Pyrene	ND	6.7
Benzo(a)anthracene	ND	3.3
Chrysene	ND	3.3
Benzo(b)fluoranthene	ND	6.7
Benzo(k)fluoranthene	ND	3.3
Benzo(a)pyrene	ND	3.3
Dibenz(a,h)anthracene	ND	6.7
Benzo(g,h,i)perylene	ND	6.7
Indeno(1,2,3-cd)pyrene	ND	3.3

Surrogate	%Recovery	Recovery Limits
1-Methylnaphthalene (UV)	56	44-122
1-Methylnaphthalene (F)	63	22-149

Polyaromatic Hydrocarbons by HPLC

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8310
Prep Method: EPA 3550

Field ID: 28-26.5-27
Lab ID: 141125-007
Matrix: Soil
Batch#: 50299
Units: ug/Kg
Diln Fac: 5

Sampled: 08/23/99
Received: 08/24/99
Extracted: 08/31/99
Analyzed: 09/02/99

Analyte	Result	Reporting Limit
Naphthalene	2400	840
Acenaphthylene	7800	1700
Acenaphthene	3300	170
Fluorene	1300	170
Phenanthrene	ND	84
Anthracene	ND	84
Fluoranthene	ND	67
Pyrene	ND	34
Benzo(a)anthracene	ND	17
Chrysene	ND	17
Benzo(b)fluoranthene	ND	34
Benzo(k)fluoranthene	ND	17
Benzo(a)pyrene	ND	17
Dibenz(a,h)anthracene	ND	34
Benzo(g,h,i)perylene	ND	34
Indeno(1,2,3-cd)pyrene	ND	17

Surrogate	%Recovery	Recovery Limits
1-Methylnaphthalene (UV)	94	44-122
1-Methylnaphthalene (F)	80	22-149

EPA 8310 PAHs by HPLC

Client:	Harding Lawson Associates	Analysis Method:	EPA 8310
Project#:	47729.2	Prep Method:	EPA 3550
Location:	9th & Broadway		

METHOD BLANK

Matrix:	Soil	Prep Date:	08/31/99
Batch#:	50299	Analysis Date:	09/01/99
Units:	ug/Kg		
Diln Fac:	1		

MB Lab ID: QC06459

Analyte	Result	Reporting Limit
Naphthalene	ND	170
Acenaphthylene	ND	340
Acenaphthene	ND	34
Fluorene	ND	34
Phenanthrene	ND	17
Anthracene	ND	17
Fluoranthene	ND	13
Pyrene	ND	6.7
Benzo(a)anthracene	ND	3.3
Chrysene	ND	3.3
Benzo(b)fluoranthene	ND	6.7
Benzo(k)fluoranthene	ND	3.3
Benzo(a)pyrene	ND	3.3
Dibenz(a,h)anthracene	ND	6.7
Benzo(g,h,i)perylene	ND	6.7
Indeno(1,2,3-cd)pyrene	ND	3.3

Surrogate	%Rec	Recovery Limits
1-Methylnaphthalene (UV)	82	44-122
1-Methylnaphthalene (F)	86	22-149

Lab #: 141125

BATCH QC REPORT

Curtis & Tompkins, Ltd.

EPA 8310 PAHs by HPLC

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8310
Prep Method: EPA 3550

LABORATORY CONTROL SAMPLE

Matrix: Soil
Batch#: 50299
Units: ug/Kg
Diln Fac: 1

Prep Date: 08/31/99
Analysis Date: 09/01/99

LCS Lab ID: QC06460

Analyte	Result	Spike Added	%Rec #	Limits
Naphthalene	273.3	334	82	37-125
Acenaphthylene	487.4	668	73	41-110
Acenaphthene	259.3	334	77	35-118
Fluorene	55.5	67	83	44-118
Phenanthrene	25.5	34	76	43-131
Anthracene	21.7	34	65	29-110
Benzo(k)fluoranthene	27.4	34	82	54-110
Indeno(1,2,3-cd)pyrene	26.7	34	80	16-140

Surrogate	%Rec	Limits
1-Methylnaphthalene (UV)	81	44-122
1-Methylnaphthalene (F)	79	22-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 8 outside limits

Lab #: 141125 BATCH QC REPORT

Curtis & Tompkins, Ltd.

EPA 8310 PAHs by HPLC

Client: Harding Lawson Associates
Project#: 47729.2
Location: 9th & Broadway

Analysis Method: EPA 8310
Prep Method: EPA 3550

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 141142-003
Matrix: Soil
Batch#: 50299
Units: ug/Kg
Diln Fac: 1

Sample Date: 08/25/99
Received Date: 08/26/99
Prep Date: 08/31/99
Analysis Date: 09/01/99

MS Lab ID: QC06461

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Naphthalene	334	<167	265.4	78	36-120
Acenaphthylene	668	<340	513.4	77	36-132
Acenaphthene	334	<34	267.9	79	25-123
Fluorene	67	<34	53.23	79	40-119
Phenanthrene	34	<16.7	29.79	89	25-137
Anthracene	34	<16.7	24.13	72	39-120
Benzo(k)fluoranthene	34	<3.3	27.92	83	43-134
Indeno(1,2,3-cd)pyrene	34	<3.3	29.44	88	22-129

Surrogate	%Rec	Limits
1-Methylnaphthalene (UV)	78	44-122
1-Methylnaphthalene (F)	79	22-149

MSD Lab ID: QC06462

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Naphthalene	334	262.2	77	36-120	1	24
Acenaphthylene	668	516.3	77	36-132	1	50
Acenaphthene	334	275.4	81	25-123	3	25
Fluorene	67	57.96	87	40-119	9	28
Phenanthrene	34	27.17	81	25-137	9	49
Anthracene	34	23.96	72	39-120	1	28
Benzo(k)fluoranthene	34	28.06	84	43-134	1	19
Indeno(1,2,3-cd)pyrene	34	29.63	88	22-129	1	36

Surrogate	%Rec	Limits
1-Methylnaphthalene (UV)	78	44-122
1-Methylnaphthalene (F)	73	22-149

Curtis & Tompkins, Ltd.

SAMPLE ID: 29-2-2.5
LAB ID: 141125-001
CLIENT: Harding Lawson Associates
PROJECT ID: 47729.2
LOCATION: 9th & Broadway
MATRIX: Soil

DATE SAMPLED: 08/23/99
DATE RECEIVED: 08/24/99
DATE REPORTED: 09/10/99

California TITLE 22 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	2.8	1	50178	EPA 6010B	08/31/99
Arsenic	2.2	0.24	1	50178	EPA 6010B	08/31/99
Barium	33	0.47	1	50178	EPA 6010B	08/31/99
Beryllium	0.24	0.094	1	50178	EPA 6010B	08/31/99
Cadmium	0.39	0.24	1	50178	EPA 6010B	08/31/99
Chromium (total)	36	0.47	1	50178	EPA 6010B	08/31/99
Cobalt	6.4	0.94	1	50178	EPA 6010B	08/31/99
Copper	5.6	0.47	1	50178	EPA 6010B	08/31/99
Lead	3.0	0.14	1	50178	EPA 6010B	08/31/99
Mercury	0.058	0.039	1	50346	EPA 7471	09/02/99
Molybdenum	ND	0.94	1	50178	EPA 6010B	08/31/99
Nickel	34	0.94	1	50178	EPA 6010B	08/31/99
Selenium	ND	0.24	1	50178	EPA 6010B	08/31/99
Silver	ND	0.47	1	50178	EPA 6010B	08/31/99
Thallium	ND	0.24	1	50178	EPA 6010B	08/31/99
Vanadium	26	0.47	1	50178	EPA 6010B	08/31/99
Zinc	17	0.94	1	50178	EPA 6010B	08/31/99

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: 29-9.5-10
LAB ID: 141125-002
CLIENT: Harding Lawson Associates
PROJECT ID: 47729.2
LOCATION: 9th & Broadway
MATRIX: Soil

DATE SAMPLED: 08/23/99
DATE RECEIVED: 08/24/99
DATE REPORTED: 09/10/99

California TITLE 22 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	2.9	1	50178	EPA 6010B	08/31/99
Arsenic	1.9	0.25	1	50178	EPA 6010B	08/31/99
Barium	44	0.49	1	50178	EPA 6010B	08/31/99
Beryllium	0.20	0.098	1	50178	EPA 6010B	08/31/99
Cadmium	0.39	0.25	1	50178	EPA 6010B	08/31/99
Chromium (total)	38	0.49	1	50178	EPA 6010B	08/31/99
Cobalt	5.0	0.98	1	50178	EPA 6010B	08/31/99
Copper	6.1	0.49	1	50178	EPA 6010B	08/31/99
Lead	5.0	0.15	1	50178	EPA 6010B	08/31/99
Mercury	ND	0.038	1	50346	EPA 7471	09/02/99
Molybdenum	ND	0.98	1	50178	EPA 6010B	08/31/99
Nickel	35	0.98	1	50178	EPA 6010B	08/31/99
Selenium	ND	0.25	1	50178	EPA 6010B	08/31/99
Silver	ND	0.49	1	50178	EPA 6010B	08/31/99
Thallium	ND	0.25	1	50178	EPA 6010B	08/31/99
Vanadium	23	0.49	1	50178	EPA 6010B	08/31/99
Zinc	21	0.98	1	50178	EPA 6010B	08/31/99

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: 29-27-27.5
LAB ID: 141125-003
CLIENT: Harding Lawson Associates
PROJECT ID: 47729.2
LOCATION: 9th & Broadway
MATRIX: Soil

DATE SAMPLED: 08/23/99
DATE RECEIVED: 08/24/99
DATE REPORTED: 09/10/99

California TITLE 22 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	3.0	1	50178	EPA 6010B	08/31/99
Arsenic	1.6	0.25	1	50178	EPA 6010B	08/31/99
Barium	27	0.50	1	50178	EPA 6010B	08/31/99
Beryllium	0.14	0.10	1	50178	EPA 6010B	08/31/99
Cadmium	0.44	0.25	1	50178	EPA 6010B	08/31/99
Chromium (total)	49	0.50	1	50178	EPA 6010B	08/31/99
Cobalt	6.4	1.0	1	50178	EPA 6010B	08/31/99
Copper	4.0	0.50	1	50178	EPA 6010B	08/31/99
Lead	1.7	0.15	1	50178	EPA 6010B	08/31/99
Mercury	ND	0.038	1	50346	EPA 7471	09/02/99
Molybdenum	ND	1.0	1	50178	EPA 6010B	08/31/99
Nickel	47	1.0	1	50178	EPA 6010B	08/31/99
Selenium	ND	0.25	1	50178	EPA 6010B	08/31/99
Silver	ND	0.50	1	50178	EPA 6010B	08/31/99
Thallium	ND	0.25	1	50178	EPA 6010B	08/31/99
Vanadium	29	0.50	1	50178	EPA 6010B	08/31/99
Zinc	19	1.0	1	50178	EPA 6010B	08/31/99

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: 28-2-2.5
LAB ID: 141125-005
CLIENT: Harding Lawson Associates
PROJECT ID: 47729.2
LOCATION: 9th & Broadway
MATRIX: Soil

DATE SAMPLED: 08/23/99
DATE RECEIVED: 08/24/99
DATE REPORTED: 09/10/99

California TITLE 22 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	3.0	1	50178	EPA 6010B	08/31/99
Arsenic	2.1	0.25	1	50178	EPA 6010B	08/31/99
Barium	31	0.50	1	50178	EPA 6010B	08/31/99
Beryllium	0.15	0.10	1	50178	EPA 6010B	08/31/99
Cadmium	0.27	0.25	1	50178	EPA 6010B	08/31/99
Chromium (total)	20	0.50	1	50178	EPA 6010B	08/31/99
Cobalt	2.6	1.0	1	50178	EPA 6010B	08/31/99
Copper	13	0.50	1	50178	EPA 6010B	08/31/99
Lead	27	0.15	1	50178	EPA 6010B	08/31/99
Mercury	0.87	0.040	1	50346	EPA 7471	09/02/99
Molybdenum	ND	1.0	1	50178	EPA 6010B	08/31/99
Nickel	16	1.0	1	50178	EPA 6010B	08/31/99
Selenium	ND	0.25	1	50178	EPA 6010B	08/31/99
Silver	ND	0.50	1	50178	EPA 6010B	08/31/99
Thallium	ND	0.25	1	50178	EPA 6010B	08/31/99
Vanadium	15	0.50	1	50178	EPA 6010B	08/31/99
Zinc	31	1.0	1	50178	EPA 6010B	08/31/99

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: 28-9.5-10
LAB ID: 141125-006
CLIENT: Harding Lawson Associates
PROJECT ID: 47729.2
LOCATION: 9th & Broadway
MATRIX: Soil

DATE SAMPLED: 08/23/99
DATE RECEIVED: 08/24/99
DATE REPORTED: 09/10/99

California TITLE 22 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	3.0	1	50178	EPA 6010B	08/31/99
Arsenic	2.0	0.25	1	50178	EPA 6010B	08/31/99
Barium	26	0.50	1	50178	EPA 6010B	08/31/99
Beryllium	0.20	0.10	1	50178	EPA 6010B	08/31/99
Cadmium	0.41	0.25	1	50178	EPA 6010B	08/31/99
Chromium (total)	31	0.50	1	50178	EPA 6010B	08/31/99
Cobalt	5.0	1.0	1	50178	EPA 6010B	08/31/99
Copper	5.4	0.50	1	50178	EPA 6010B	08/31/99
Lead	2.3	0.15	1	50178	EPA 6010B	08/31/99
Mercury	ND	0.040	1	50346	EPA 7471	09/02/99
Molybdenum	ND	1.0	1	50178	EPA 6010B	08/31/99
Nickel	34	1.0	1	50178	EPA 6010B	08/31/99
Selenium	ND	0.25	1	50178	EPA 6010B	08/31/99
Silver	ND	0.50	1	50178	EPA 6010B	08/31/99
Thallium	ND	0.25	1	50178	EPA 6010B	08/31/99
Vanadium	25	0.50	1	50178	EPA 6010B	08/31/99
Zinc	19	1.0	1	50178	EPA 6010B	08/31/99

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: 28-26.5-27
LAB ID: 141125-007
CLIENT: Harding Lawson Associates
PROJECT ID: 47729.2
LOCATION: 9th & Broadway
MATRIX: Soil

DATE SAMPLED: 08/23/99
DATE RECEIVED: 08/24/99
DATE REPORTED: 09/10/99

California TITLE 22 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	2.9	1	50178	EPA 6010B	08/31/99
Arsenic	1.2	0.24	1	50178	EPA 6010B	08/31/99
Barium	27	0.48	1	50178	EPA 6010B	08/31/99
Beryllium	0.14	0.097	1	50178	EPA 6010B	08/31/99
Cadmium	0.27	0.24	1	50178	EPA 6010B	08/31/99
Chromium (total)	30	0.48	1	50178	EPA 6010B	08/31/99
Cobalt	4.9	0.97	1	50178	EPA 6010B	08/31/99
Copper	2.8	0.48	1	50178	EPA 6010B	08/31/99
Lead	1.3	0.14	1	50178	EPA 6010B	08/31/99
Mercury	ND	0.039	1	50346	EPA 7471	09/02/99
Molybdenum	ND	0.97	1	50178	EPA 6010B	08/31/99
Nickel	37	0.97	1	50178	EPA 6010B	08/31/99
Selenium	ND	0.24	1	50178	EPA 6010B	08/31/99
Silver	ND	0.48	1	50178	EPA 6010B	08/31/99
Thallium	ND	0.24	1	50178	EPA 6010B	08/31/99
Vanadium	19	0.48	1	50178	EPA 6010B	08/31/99
Zinc	15	0.97	1	50178	EPA 6010B	08/31/99

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

CLIENT: Harding Lawson Associates
JOB NUMBER: 141125

DATE REPORTED: 09/10/99

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	25	22.2	22.3	mg/Kg	89	89	80-120	0	35	50178	EPA 6010B	08/30/99
Arsenic	100	88	89	mg/Kg	88	89	80-120	1	35	50178	EPA 6010B	08/30/99
Barium	100	91.5	92.5	mg/Kg	92	93	80-120	1	35	50178	EPA 6010B	08/30/99
Beryllium	2.5	2.215	2.24	mg/Kg	89	90	80-120	1	35	50178	EPA 6010B	08/30/99
Cadmium	2.5	2.27	2.3	mg/Kg	91	92	80-120	1	35	50178	EPA 6010B	08/30/99
Chromium (total)	10	8.95	9.05	mg/Kg	90	91	80-120	1	35	50178	EPA 6010B	08/30/99
Cobalt	25	21.7	21.95	mg/Kg	87	88	80-120	1	35	50178	EPA 6010B	08/30/99
Copper	12.5	11.5	11.55	mg/Kg	92	92	80-120	0	35	50178	EPA 6010B	08/30/99
Lead	25	21.65	21.95	mg/Kg	87	88	80-120	1	35	50178	EPA 6010B	08/30/99
Mercury	1.000	1.004	0.9915	mg/Kg	100	99	80-120	1	35	50346	EPA 7471	09/02/99
Molybdenum	20	17.65	17.9	mg/Kg	88	90	80-120	1	35	50178	EPA 6010B	08/30/99
Nickel	25	22.4	22.65	mg/Kg	90	91	80-120	1	35	50178	EPA 6010B	08/30/99
Selenium	100	84.5	85	mg/Kg	85	85	80-120	1	35	50178	EPA 6010B	08/30/99
Silver	5	4.41	4.44	mg/Kg	88	89	80-120	1	35	50178	EPA 6010B	08/30/99
Thallium	100	88.5	89.5	mg/Kg	89	90	80-120	1	35	50178	EPA 6010B	08/30/99
Vanadium	25	22	22.2	mg/Kg	88	89	80-120	1	35	50178	EPA 6010B	08/30/99
Zinc	25	23.8	24.05	mg/Kg	95	96	80-120	1	35	50178	EPA 6010B	08/30/99

Curtis & Tompkins, Ltd.

CLIENT: Harding Lawson Associates
JOB NUMBER: 141125

DATE REPORTED: 09/10/99

BATCH QC REPORT
MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Compound	Sample	Sample Result	Spike Amount	MS Result	MSD Result	Units	MS% Rec.	MSD% Rec.	Rec. Limit	RPD	RPD Lim	QC Batch	Method	Analysis Date
Antimony	141099-001	<2.985	24.76	17.87	15.08	mg/Kg	72	60*	65-135	17	35	50178	EPA 6010B	08/30/99
Arsenic	141099-001	1.9	99.02	86.16	86.44	mg/Kg	85	84	65-135	0	35	50178	EPA 6010B	08/30/99
Barium	141099-001	240	99.02	362.4	422.1	mg/Kg	121	179*	65-135	15	35	50178	EPA 6010B	08/30/9
Beryllium	141099-001	0.53	2.476	2.565	2.578	mg/Kg	82	81	65-135	1	35	50178	EPA 6010B	08/30/9
Cadmium	141099-001	1.8	2.476	4.184	3.995	mg/Kg	95	86	65-135	5	35	50178	EPA 6010B	08/30/9
Chromium (total)	141099-001	49	9.902	58.92	56.79	mg/Kg	103 NM	80 NM	65-135	4	35	50178	EPA 6010B	08/30/99
Cobalt	141099-001	9.2	24.76	28.27	28.14	mg/Kg	77	75	65-135	1	35	50178	EPA 6010B	08/30/99
Copper	141099-001	110	12.38	148	142.2	mg/Kg	274* NM	224* NM	65-135	4	35	50178	EPA 6010B	08/30/9
Lead	141099-001	200	24.76	265.9	257.3	mg/Kg	252* NM	214* NM	65-135	3	35	50178	EPA 6010B	08/30/9
Molybdenum	141099-001	<0.995	19.8	16.24	16.18	mg/Kg	82	80	65-135	0	35	50178	EPA 6010B	08/30/99
Nickel	141099-001	44	24.76	65.36	63.32	mg/Kg	87	78	65-135	3	35	50178	EPA 6010B	08/30/99
Selenium	141099-001	<0.249	99.02	81.2	80.41	mg/Kg	82	80	65-135	1	35	50178	EPA 6010B	08/30/99
Silver	141099-001	<0.498	4.951	4.313	4.357	mg/Kg	87	87	65-135	1	35	50178	EPA 6010B	08/30/9
Thallium	141099-001	0.28	99.02	80.71	80.91	mg/Kg	81	80	65-135	0	35	50178	EPA 6010B	08/30/9
Vanadium	141099-001	77	24.76	103.5	99.5	mg/Kg	105	88	65-135	4	35	50178	EPA 6010B	08/30/99
Zinc	141099-001	73	24.76	97.54	95.48	mg/Kg	98	88	65-135	2	35	50178	EPA 6010B	08/30/99

* = Out of Limits
NM = Not Meaningful

Curtis & Tompkins, Ltd.

CLIENT: Harding Lawson Associates
JOB NUMBER: 141125

DATE REPORTED: 09/10/99

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Limit	Units	IDF	QC Batch	Method	Analysis Date
Antimony	ND	3	mg/Kg	1	50178	EPA 6010B	08/30/99
Arsenic	ND	0.25	mg/Kg	1	50178	EPA 6010B	08/30/99
Barium	ND	0.5	mg/Kg	1	50178	EPA 6010B	08/30/99
Beryllium	ND	0.1	mg/Kg	1	50178	EPA 6010B	08/30/99
Cadmium	ND	0.25	mg/Kg	1	50178	EPA 6010B	08/30/99
Chromium (total)	ND	0.5	mg/Kg	1	50178	EPA 6010B	08/30/99
Cobalt	ND	1	mg/Kg	1	50178	EPA 6010B	08/30/99
Copper	ND	0.5	mg/Kg	1	50178	EPA 6010B	08/30/99
Lead	ND	0.15	mg/Kg	1	50178	EPA 6010B	08/30/99
Mercury	ND	0.04	mg/Kg	1	50346	EPA 7471	09/02/99
Molybdenum	ND	1	mg/Kg	1	50178	EPA 6010B	08/30/99
Nickel	ND	1	mg/Kg	1	50178	EPA 6010B	08/30/99
Selenium	ND	0.25	mg/Kg	1	50178	EPA 6010B	08/30/99
Silver	ND	0.5	mg/Kg	1	50178	EPA 6010B	08/30/99
Thallium	ND	0.25	mg/Kg	1	50178	EPA 6010B	08/30/99
Vanadium	ND	0.5	mg/Kg	1	50178	EPA 6010B	08/30/99
Zinc	ND	1	mg/Kg	1	50178	EPA 6010B	08/30/99

ND = Not Detected at or above reporting limit

Curtis & Tompkins, Ltd.

CLIENT: Harding Lawson Associates
JOB NUMBER: 141125

DATE REPORTED: 09/10/99

BATCH QC REPORT
SAMPLE DUPLICATE

Compound	Sample	Sample Result	Duplicate Result	Units	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Mercury	141125-003	<0.038	<0.038	mg/Kg	NC	35	50346	EPA 7471	09/02/99

NC = Not Calculable

Curtis & Tompkins, Ltd.

CLIENT: Harding Lawson Associates
JOB NUMBER: 141125

DATE REPORTED: 09/10/99

BATCH QC REPORT
SAMPLE SPIKE

Compound	Spike Amount	Sample	Sample Result	Spike Result	Units	Percent Rec.	Rec. Limit	QC Batch	Method	Analysis Date
Mercury	0.9615	141125-003	<0.038	1.02	mg/Kg	106	65-135	50346	EPA 7471	09/02/99

Lab#: 141125
Page 1 of 1

Curtis & Tompkins, Ltd.

Total Organic Carbon (TOC)

Client: Harding Lawson Associates
Project #: 47729.2
Location : 9th & Broadway

Analysis Method: WALKLEY-BLACK
Prep Method: WALKLEY-BLACK

Sample #	Client ID	Batch#	Sampled	Analyzed	Moisture
141125-003	29-27-27.5	50357	23-AUG-99	02-SEP-99	-
QC06718	Method Blank	50357	-	02-SEP-99	-

Analyte: Total Organic Carbon **Matrix:** Soil **Units:** %

Sample #	Client ID	Result	Reporting Limit	Dilution Factor
141125-003	29-27-27.5	0.01	0.01	1
QC06718	Method Blank	ND	0.01	1

ND = None Detected at or above Reporting Limit

Curtis & Tompkins, Ltd.

Total Organic Carbon (TOC)

Client: Harding Lawson Associates
Project #: 47729.2
Location : 9th & Broadway

Analysis Method: WALKLEY-BLACK
Prep Method: WALKLEY-BLACK

Sample #	Client ID	Batch#	Sampled	Analyzed	Moisture
QC06719	Lab Control Sample	50357	-	02-SEP-99	-

Analyte: Total Organic Carbon **Matrix:** Soil **Units:** %

Sample #	Sample Type	Spike Amt.	Result	%Recovery	Limits
QC06719	Lab Control Sample	0.1300	0.1160	90	80-120

Lab#: 141125
Page 1 of 1

Curtis & Tompkins, Ltd.

Total Organic Carbon (TOC)

Client: Harding Lawson Associates
Project #: 47729.2
Location : 9th & Broadway

Analysis Method: WALKLEY-BLACK
Prep Method: WALKLEY-BLACK

Sample #	Client ID	Batch#	Sampled	Analyzed	Moisture
QC06720	MS of 141125-003	50357	23-AUG-99	02-SEP-99	-
QC06721	MSD of 141125-003	50357	23-AUG-99	02-SEP-99	-

Analyte: Total Organic Carbon **Matrix:** Soil **Units:** %

Sample #	Client ID	Spikeamt	Result	%Rec	Limits	%RPD	Limit
QC06720	MS of 141125-003	0.1300	0.1210	82	65-135		
QC06721	MSD of 141125-003	0.1300	0.1200	82	65-135	1	35
141125-003	29-27-27.5		0.01400				