A Report Prepared for

7/19/88

California Regional Water Quality Control Board
San Francisco Bay Region
1111 Jackson Street, Room 6000
Oakland, California 94607

REPORT OF SYSTEM MONITORING: JUNE 1988
DEWATERING EFFLUENT TREATMENT SYSTEM
CHINATOWN REDEVELOPMENT PROJECT AREA
OAKLAND, CALIFORNIA

HLA Job No. 9382,018.02

Submitted on behalf of:

City of Oakland Redevelopment Agency
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July 19, 1988

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I INTRODUCTION

This report discusses the operation and monitoring of the dewatering effluent treatment system at 10th and Webster streets, Oakland, California, between June 1 and June 31, 1988. The system is treating water produced during ground-water dewatering of the block bounded by 10th, 11th, Webster, and Franklin streets, in conjunction with excavation and construction in progress at the site. It is designed to remove petroleum hydrocarbons from dewatering effluent before the effluent is discharged to the storm drain.

This report has been prepared by Harding Lawson Associates (HLA) and is submitted in compliance with a letter dated April 25, 1988 from Roger James, Executive Director of the California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region, to Randall A. Lum of the City of Oakland in response to a NPDES Permit Application submitted by the City of Oakland Redevelopment Agency (Agency) to the RWQCB and dated February 1, 1988.

As noted in the letter, treatment system discharge limits shall not exceed 5 parts per billion (ppb) for any constituent identifiable by EPA Test Methods 601 and 602, and 50 ppb for total petroleum hydrocarbons (TPH), as measured by EPA Test Method 8015.

II TREATMENT SYSTEM OPERATION

The dewatering effluent treatment system was installed March 8, 1988, and has been in continuous operation since March 14. Water is treated by pumping it through four carbon contactors arranged in pairs. Organic compounds in the influent are adsorbed on the carbon. Each pair of contactors is arranged in parallel, and together constitute a module; the two modules are arranged in series. The system is configured so that water from the dewatering wells may be pumped through either module first. The system also comprises a holding tank, pumps, filters, piping, and instrumentation. Four water sampling ports - one influent, two intermediate, and one effluent - enable water samples to be collected at significant stages of the treatment process. The intermediate ports are located between the two modules so the effectiveness of the first pair of contactors in reducing influent concentrations can be monitored. Depending on the configuration of modules, only one of these ports is intermediate in the system at any one time.

Treated effluent is discharged to the storm drain. From June 1 to July 1, total discharge of the system was 1,000,500 gallons, based on readings of the flow totalizing meter located in the discharge line. Average flow for this period was 23.2 gallons per minute (gpm), with weekly average flows ranging from 14.1 to 33.0 gpm.

The system was backwashed on June 4, June 5, June 11, June 12, June 15, June 19 and June 26.

On June 8, a bag filter unit was installed in the treatment system. The bag filter serves to reduce the amount of suspended solids which would otherwise flow directly into the cartridge filter assembly. The bag filter unit was installed because it is simpler

and less costly to maintain than the cartridge filter assembly. The addition of the bag filter does not affect the discharge concentrations of the system.

On the evening of June 8, a release of water from the treatment system occurred after installation of the bag filter unit described previously. A valve which is part of the bag filter assembly was left closed, preventing normal flow of water through the system and causing an overflow in the system holding tank. The conditions leading to the release were corrected immediately upon notification of HLA personnel on the evening of June 8. The release was described in detail in a letter to the California RWQCB dated June 28.

The carbon in vessels C-3 and C-4 was replaced on June 9 by Northwestern Carbon Company.

Two additional Baker tanks were delivered to the site on June 30. The two new tanks will be installed in series with two of the three existing tanks to form a holding and settling system with greater capacity than the existing system.

A chlorinator (residential swimming pool type) was used throughout the month to retard algae growth in the treatment system. The floating device is employed in the holding tank.

III TREATMENT SYSTEM MONITORING

A. Sample Collection and Analysis

Samples of treatment system water were collected weekly during this reporting period from the influent, intermediate, and effluent sampling ports. Quality Assurance/Quality Control samples consisted of weekly trip blanks.

The first four treatment system samples collected during this period were analyzed by WESCO Laboratories, Novato, California, a California certified laboratory. As of July 1, 1988, WESCO has become part of Pace Laboratories, Inc. and will be referred to as Pace in future reports. The last set of treatment system samples collected during this period was analyzed by NET Pacific, Inc. of Santa Rosa, California, also a California certified laboratory. All samples were analyzed for TPH as gasoline by EPA Test Method 8015. Samples collected June 3, 16, and 24 were analyzed for purgeable volatile organic compounds by EPA Test Method 602, and for halogenated hydrocarbons by EPA Test Method 601. Samples collected June 10 and June 24 were analyzed for volatile organics by EPA Test Method 624.

Results of analyses of influent, intermediate, effluent and blank water samples collected May 5 through June 30 are summarized in Tables 1 through 4.

Laboratory reports for treatment system samples collected June 3, June 10 and June 16 are presented in the Appendix. Results for June 24 and June 30 are based on verbal reports from the respective laboratories and may be revised once written reports are received.

B. Discharge Limit Exceedences

There was one reported exceedence of a permitted effluent discharge limit during this reporting period. The reported concentration of trichloroethene in the effluent sample on June 30 was 11 μg/l (micrograms per liter, equivalent to ppb) as measured by EPA Test Method 624. It should be noted that this result is based on a verbal report from the laboratory and is subject to change.

There were no other exceedences of permitted effluent discharge limits for Test Method 601, 602, or 624 compounds or for TPH as measured by Method 8015 during this reporting period.

IV RESULTS

Results of influent, intermediate, and effluent sample analyses for TPH, and for EPA Test Method 601, 602 and 624 compounds, indicate that on most days the treatment system removed all individual constituents to detection levels. Trichloroethene was detected in an effluent sample on June 30 at a concentration of 11 μg/l (micrograms per liter, equivalent to ppb).

Dissolved oxygen in the effluent was measured on June 3 at a concentration of 4.4 mg/l (milligrams per liter).

Methylene chloride was detected in a trip blank on June 3 at a concentration of 3.6 μg/l.

V HAZARDOUS WASTE SHIPMENTS AND AERATION OF STOCKPILED SOILS

During this reporting period, soils exhibiting evidence of the presence of petroleum hydrocarbons unearthed in the northeastern and southwestern corner of the site have been aerated and restockpiled. Samples of these soils have been collected and submitted to Crown Environmental, Inc. (a mobile lab located at the site) and to WESCO for analysis to confirm aeration of hydrocarbons. At the present time, approximately 1,700 yd^3 are stockpiled on site. As of the end of June, approximately 5000 yd^3 of soils aerated to remove hydrocarbons have been transported from the site. After aeration, these soils exhibited TPH concentrations of less than 100 parts per million (ppm), which is the RWQCB guideline for designated wastes. The soils were transported by Charles Campanella, Inc. to the West Contra Costa Sanitary Landfill in Richmond, California for disposal.

Activities associated with soils handling and aeration are being conducted with the permission of the Bay Area Air Quality Management District (BAAQMD) and in accordance with BAAQMD regulations, in particular Regulation 8-40.

TABLES

TABLE 1. TREATMENT SYSTEM WATER ANALYSIS: INFLUENT SAMPLES

HLA SAMPLE ID #	88180504	88191122	88201821	88212722	88220321	88231001	88241624	88262402	88263023
DATE	05/05	05/11	05/18	05/27	06/03	06/10	06/16	06/24	06/30
TEST METHOD/ COMPOUNDS									
EPA 602									
Benzene	83	6.3	25	4.8	2.1	NT	0.9	1.9	8.5
Toluene	95	2.4	2	1.0	ND < 0.2	NT	0.3	ND < 0.2	5
Chlorobenzene	7.1	1.7	5.8	5.0	2.0	NT	ND < 0.2	ND < 0.2	ND < 0.2
Ethylbenzene	1.1	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
Xylenes	55	ND < 0.2	1.7	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	4
1,2-Dichlorobenzene	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
All other 602 compounds	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
TPH									
Gasoline	720	91	140	130	110	80	90	ND	140
Diesel	NT	NT	NT	NT	NT	NT	NT	NT	
EPA 601									
1,1-dichloroethane	0.6	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	NT	ND < 0.5	ND < 0.5	NT
Chloroform	1.0	ND < 0.5	ND < 0.5	1.0	3.6	NT	ND < 0.5	ND < 0.5	NT
1,2-dichloroethane	42	16.0	28.6	40	25	NT	6.4	3.8	NT
Trichloroethene	620	160	223	330	212	NT	52	63	NT
Tetrachloroethene	0.6	ND < 0.5	0.6	0.7	ND < 0.5	NT	ND < 0.5	ND < 0.5	NT
Chlorobenzene	7.1	1.7	5.8	5.0	2.0	NT	ND < 0.5	ND < 0.5	NT
Bromoform	ND < 0.5	2.2	7.8	ND < 0.5	ND < 0.5	NT	ND < 0.5	ND < 0.5	NT
Dibromochloromethane	ND < 0.5	ND < 0.5	0.6	ND < 0.5	ND < 0.5	NT	ND < 0.5	ND < 0.5	NT
All other 601 compounds	ND	ND	ND	ND	ND	NT	ND	ND	NT
EPA 624									
Chloroform	NT	NT	NT	NT	NT	1.4	NT	NT	ND < 0.5
1,2-dichloroethane	NT	NT	NT	NT	NT	20	NT	NT	ND < 0.5
Benzene	NT	NT	NT	NT	NT	2	NT	NT	8
Trichloroethene	NT	NT	NT	NT	NT	79	NT	NT	330
Toluene	NT	NT	NT	NT	NT	12	NT	NT	ND < 0.5
1,1,2-trichloroethane	NT	NT	NT	NT	NT	0.9	NT	NT	ND < 0.5
Tetrachloroethene	NT	NT	NT	NT	NT	0.8	NT	NT	ND < 0.5
Chlorobenzene	NT	NT	NT	NT	NT	1.8	NT	NT	ND < 0.5
All other 624 compounds	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	ND < 0.5

ND - Not detected at stated detection limit.

NT - Not tested.

All results reported in parts per billion (ppb).

TABLE 2. TREATMENT SYSTEM WATER ANALYSIS: INTERMEDIATE SAMPLES

HLA SAMPLE ID #	88180503	88191121	---	88212721	88220322	88231004	88241623	88262403	---
DATE	05/05	05/11	05/18	05/27	06/03	06/10	06/16	06/24	06/30
TEST METHOD/COMPOUNDS									
EPA 602									
Benzene	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	NT
Toluene	1.9	11.0	NT	ND < 0.2	0.8	NT	ND < 0.2	ND < 0.2	NT
Ethylbenzene	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	NT
Xylenes	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	NT
Chlorobenzene	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	NT
1,3-Dichlorobenzene	ND < 0.2	ND < 0.2	NT	0.8	ND < 0.2	NT	ND < 0.2	ND < 0.2	NT
All other 602 compounds	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	NT
TPH									
Gasoline	ND < 50	ND < 50	NT	ND < 50	ND < 50	ND < 50	ND < 50	ND < 50	NT
Diesel	NT	NT	NT	NT	NT	NT	NT	NT	NT
EPA 601									
1,2-dichloroethane	ND < 0.5	ND < 0.5	NT	3.6	2.8	NT	0.5	1	NT
Trichloroethene	ND < 0.5	ND < 0.5	NT	3.0	1.7	NT	ND < 0.5	ND < 0.5	NT
1,3-dichlorobenzene	ND < 0.5	ND < 0.5	NT	0.8	ND < 0.5	NT	ND < 0.5	ND < 0.5	NT
Methylene chloride	ND < 0.5	ND < 0.5	NT	ND < 0.5	ND < 0.5	NT	2	ND < 0.5	NT
All other 601 compounds	ND	ND	NT	ND	ND	NT	ND	ND	NT
EPA 624									
1,2-dichloroethane	NT	NT	NT	NT	NT	0.8	NT	NT	NT
Chloroform	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	NT
Trichloroethene	NT	NT	NT	NT	NT	4.4	NT	NT	NT
Toluene	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	NT
1,2-dichlorobenzene	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	NT
All other 624 compounds	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	NT

ND - Not detected at stated detection limit.

NT - Not tested.

All results reported in parts per billion (ppb).

TABLE 3. TREATMENT SYSTEM WATER ANALYSIS: EFFLUENT SAMPLES

HLA SAMPLE ID #	88180502	88191124	88201824	88212723	88220323	88231002	88241622	88262404	88263021
DATE	05/05	05/11	05/18	05/27	06/03	06/10	06/16	06/24	06/30
TOTAL FLOW (THOUSAND GALLONS	1394.6	1542.6	1651.3	1902.4	2234.8	2537.2	2759.3	2969.6	3112.0
AVERAGE FLOW (GPM)	13.7	17.1	10.8	19.4	33.0	30.0	22.0	20.9	14.1
TEST METHOD/COMPOUNDS									
EPA 602									
Benzene	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
Toluene	ND < 0.2	0.9	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
Ethylbenzene	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
Xylenes	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
Diphenylhydrazine	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
All other 602 compounds	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
TPH									
Gasoline	ND < 50	ND < 50	ND < 50	ND < 50	ND < 50	ND < 50	ND < 50	ND < 50	ND < 50
Diesel	NT	NT	NT	NT	NT	NT	NT	NT	NT
EPA 601									
1,2 dichloroethane	0.8	1.8	ND < 0.5	ND < 0.5	ND < 0.5	NT	ND < 0.5	ND < 0.5	NT
Trichloroethene	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	NT	ND < 0.5	ND < 0.5	NT
All other 601 compounds	ND	ND	ND	ND	ND	NT	ND	ND	NT
EPA 624									
Toluene	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	ND < 0.5
Methylene Chloride	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	ND < 0.5
1,2-Dichloroethane	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	ND < 0.5
Trichloroethene	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	11
All other 624 compounds	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	ND < 0.5
EPA 625									
All compounds	NT	NT	NT	NT	NT	NT	NT	NT	NT
EPA 360.2									
Dissolved oxygen	0.9	0.9	2.1	2.9	4.4	NT	NT	NT	NT

ND - Not detected at stated detection limit.

NT - Not Tested.

NA - Analytic results not yet available.

All results reported in parts per billion (ppb).

TABLE 4. TREATMENT SYSTEM WATER ANALYSIS: BLANK SAMPLES

HLA SAMPLE ID #	88180503	88191121	88201823	88212708	88220324	88231003	88241604	88262401	88263024
DATE	05/05	05/11	05/18	05/27	06/03	06/10	06/16	06/24	06/30
TEST METHOD/COMPOUNDS									
EPA 602									
Benzene	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
Toluene	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
Ethylbenzene	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
Xylenes	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
All other 602 compounds	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	ND < 0.2	NT	ND < 0.2	ND < 0.2	ND < 0.2
TPH									
Gasoline	ND < 50	ND < 50	ND < 50	ND < 50	ND < 50	ND < 50	ND < 50	ND < 50	ND < 50
Diesel	NT	NT	NT	NT	NT	NT	NT	NT	NT
EPA 601									
Methylene chloride	1.3	ND < 0.5	ND < 0.5	ND < 0.5	3.6	NT	NT	ND < 0.5	NT
All other 601 compounds	ND	ND	ND	ND	ND	NT	NT	ND	NT
EPA 624									
Toluene	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	ND < 0.5
Methylene Chloride	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	ND < 0.5
Chloroform	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	ND < 0.5
Diphenylhydrazine	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	ND < 0.5
All other 624 compounds	NT	NT	NT	NT	NT	ND < 0.5	NT	NT	ND < 0.5
EPA 625									
All compounds	NT	NT	NT	NT	NT	NT	NT	NT	NT

ND - Not detected at stated detection level.

NT - Not Tested.

NA - Analytic results not yet available.

All results reported in parts per billion (ppb).

Appendix

LABORATORY ANALYTICAL RESULTS FOR TREATMENT SYSTEM SAMPLES

TREATMENT SYSTEM 6-3-88

WESCO Laboratories

Report Date:	10-Jun-88	Client Contract/PO:	9382,026.02
Client:	Harding Lawson Associates	Date Sampled:	03-Jun-88
Attn:	David Leland	Site:	City Of Oakland
Sampled by:	Larkin/Lieberman	Date Received:	03-Jun-88
Submitted by:	C. Larkin	Extract/Digest/Purge Date:	07-Jun-88
Preservatives:	none	Analysis Completion Date:	07-Jun-88
Analyst:	Mark Lewis		
WESCO JOB #:	HLA 0831.72-L	Hold Time:	4 days
Analytical Method:	EPA 5030/8015		
Matrix:	WATER		

LAB #: 8-5576 CLIENT ID: 220321 Influent

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Total Petroleum Hydrocarbons (light)-----	110.0	50.0

QUALITY CONTROL DATA
Surrogate Spike % Recovery
Fluorobenzene 103 %

LAB #: 8-5577 CLIENT ID: 220322 Middle

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Total Petroleum Hydrocarbons (light)-----	N.D.	50.0

QUALITY CONTROL DATA
Surrogate Spike % Recovery
Fluorobenzene 107 %

LAB #: 8-5578 CLIENT ID: 220323 Effluent

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Total Petroleum Hydrocarbons (light)-----	N.D.	50.0

QUALITY CONTROL DATA
Surrogate Spike % Recovery
Fluorobenzene 110 %

LAB #: 8-5579 CLIENT ID: 220324 Trip Blank

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Total Petroleum Hydrocarbons (light)-----	N.D.	50.0

QUALITY CONTROL DATA
Surrogate Spike % Recovery
Fluorobenzene 92 %

HARDING LAWSON ASSOC.
JUN 15 1988

N.D.: Not Detected

Analytical Supervisor

14 Galli Drive, Suite A
Novato, California 94949 415 883-6425
A Division of Western Ecological Services Company, Inc

QUALITY CONTROL DATA
BLANK, SPIKE DUPLICATE AND SPIKE REPORT FOR JOB # HLA 0831.72-L
METHOD: EPA 5030/8015

COMPOUND	Blank ug/l	Spike Duplicate % deviation	Spike % recovery
Gasoline----------	N.D.	12	92
QUALITY CONTROL DATA Surrogate Spike % Recovery			
Fluorobenzene	104 %	83 %	85 %

N.D.: Not Detected

Analytical Supervisor

Report Date:	10-Jun-88	Client Contract/PO:	9382,026.02
Client:	Harding Lawson Associates	Date Sampled:	03-Jun-88
Attn:	David Leland	Site:	City Of Oakland
Sampled by:	Larkin/Lieberman	Date Received:	03-Jun-88
Submitted by:	C. Larkin	Extract/Digest/Purge	
Preservatives:	none	Date:	07-Jun-88
Analyst:	Lewis/Attia	Analysis Completion	
WESCO JOB #:	HLA 0831.72-L	Date:	07-Jun-88
Analytical Method:	EPA 602	Hold Time:	4 days

LAB #: 8-5576 MATRIX: WATER
CLIENT'S ID: 220321 Influent

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Benzene	2.1	0.2
Toluene	N.D.	0.2
Chlorobenzene	2.0	0.2
Ethylbenzene	N.D.	0.2
Xylene	N.D.	0.2
1,3-Dichlorobenzene	N.D.	0.2
1,4-Dichlorobenzene	N.D.	0.2
1,2-Dichlorobenzene	N.D.	0.2

QUALITY CONTROL DATA

Surrogate Spike	Percent Recovery
Fluorobenzene	103 %

LAB #: 8-5577 MATRIX: WATER
CLIENT'S ID: 220322 Middle

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Benzene	N.D.	0.2
Toluene	0.8	0.2
Chlorobenzene	N.D.	0.2
Ethylbenzene	N.D.	0.2
Xylene	N.D.	0.2
1,3-Dichlorobenzene	N.D.	0.2
1,4-Dichlorobenzene	N.D.	0.2
1,2-Dichlorobenzene	N.D.	0.2

QUALITY CONTROL DATA

Surrogate Spike	Percent Recovery
Fluorobenzene	107 %

N.D.: Not Detected

Analytical Supervisor

Report Date:	10-Jun-88	Client Contract/PO:	9382,026.02
Client:	Harding Lawson Associates	Date Sampled:	03-Jun-88
Attn:	David Leland	Site:	City Of Oakland
Sampled by:	Larkin/Lieberman	Date Received:	03-Jun-88
Submitted by:	C. Larkin	Extract/Digest/Purge Date:	07-Jun-88
Preservatives:	none	Analysis Completion Date:	07-Jun-88
Analyst:	Lewis/Attia	Hold Time:	4 days
WESCO JOB #:	HLA 0831.72-L		
Analytical Method:	EPA 602		

LAB #: 8-5578 MATRIX: WATER
CLIENT'S ID: 220323 Effluent

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Benzene	N.D.	0.2
Toluene	N.D.	0.2
Chlorobenzene	N.D.	0.2
Ethylbenzene	N.D.	0.2
Xylene	N.D.	0.2
1,3-Dichlorobenzene	N.D.	0.2
1,4-Dichlorobenzene	N.D.	0.2
1,2-Dichlorobenzene	N.D.	0.2

QUALITY CONTROL DATA

Surrogate Spike	Percent Recovery
Fluorobenzene	110 %

LAB #: 8-5579 MATRIX: WATER
CLIENT'S ID: 220324 Blank

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Benzene	N.D.	0.2
Toluene	N.D.	0.2
Chlorobenzene	N.D.	0.2
Ethylbenzene	N.D.	0.2
Xylene	N.D.	0.2
1,3-Dichlorobenzene	N.D.	0.2
1,4-Dichlorobenzene	N.D.	0.2
1,2-Dichlorobenzene	N.D.	0.2

QUALITY CONTROL DATA

Surrogate Spike	Percent Recovery
Fluorobenzene	92 %

N.D.: Not Detected

Analytical Supervisor

QUALITY CONTROL DATA
BLANK, SPIKE DUPLICATE AND SPIKE REPORT FOR JOB # HLA 0831.72-L
METHOD: EPA 602

COMPOUND	Blank (ug/l)	Spike Duplicate % deviation	Spike % recovery
Benzene----------	N.D.	8	98
Toluene----------	N.D.	6	100
p-Xylene----------	N.D.	7	95
QUALITY CONTROL DATA			
Surrogate Spike % Recovery			
Fluorobenzene	104 %	83 %	85 %

N.D.: Not Detected

Analytical Supervisor

Report Date: 10-Jun-88
Client: Harding Lawson Associates
Attn: David Leland
Sampled by: Larkin/Lieberman
Submitted by: C. Larkin
Preservatives: none
Analyst: Lewis/Attia
WESCO JOB #: HLA 0831.72-L
Analytical Method: EPA 601
MATRIX: WATER

Client Contract/PO 9382,026.02
Date Sampled: 03-Jun-88
Site: City Of Oakland
Date Received: 03-Jun-88
Extract/Digest/Purge Date: 07-Jun-88
Analysis Completion Date: 07-Jun-88
Hold time, days: 4

LAB #:		8-5576	8-5577	
CLIENT'S ID:	Influent	220321	220322	Middle

COMPOUND	RESULT (ug/l)	RESULT (ug/l)	Detection Limit (ug/l)
Dichlorodifluoromethane	N.D.	N.D.	2.0
Chloromethane	N.D.	N.D.	2.0
Vinyl Chloride	N.D.	N.D.	2.0
Bromomethane	N.D.	N.D.	2.0
Chloroethane	N.D.	N.D.	2.0
Trichlorofluoromethane	N.D.	N.D.	2.0
1,1-Dichloroethene	N.D.	N.D.	0.5
Methylene Chloride	N.D.	N.D.	0.5
trans-1,2-Dichloroethene	N.D.	N.D.	0.5
1,1-Dichloroethane	N.D.	N.D.	0.5
Chloroform	3.6	N.D.	0.5
1,1,1-Trichloroethane (TCA)	N.D.	N.D.	0.5
Carbon Tetrachloride	N.D.	N.D.	0.5
1,2-Dichloroethane (EDC)	25	2.8	0.5
Trichloroethene (TCE)	212	1.7	0.5
1,2-Dichloropropane	N.D.	N.D.	0.5
Bromodichloromethane	N.D.	N.D.	0.5
2-Chloroethylvinyl ether	N.D.	N.D.	0.5
trans-1,3-Dichloropropene	N.D.	N.D.	0.5
cis-1,3-Dichloropropene	N.D.	N.D.	0.5
1,1,2-Trichloroethane	N.D.	N.D.	0.5
Tetrachloroethene	N.D.	N.D.	0.5
Dibromochloromethane	N.D.	N.D.	0.5
Chlorobenzene	2.0	N.D.	0.5
Bromoform	N.D.	N.D.	0.5
1,1,2,2-Tetrachloroethane	N.D.	N.D.	0.5
1,3-Dichlorobenzene	N.D.	N.D.	0.5
1,4-Dichlorobenzene	N.D.	N.D.	0.5
1,2-Dichlorobenzene	N.D.	N.D.	0.5

QUALITY CONTROL DATA
Surrogate Spike Percent Recovery

Bromochloromethane	89 %	84 %
1,4-Dichlorobutane	83 %	76 %

N.D.: Not Detected

Analytical Supervisor

Report Date: 10-Jun-88
Client: Harding Lawson Associates
Attn: David Leland
Sampled by: Larkin/Lieberman
Submitted by: C. Larkin
Preservatives: none
Analyst: Lewis/Attia
WESCO JOB #: HLA 0831.72-L
Analytical Method: EPA 601
MATRIX: WATER

Client Contract/PO9382,026.02
Date Sampled: 03-Jun-88
Site: City Of Oakland
Date Received: 03-Jun-88
Extract/Digest/Purge Date: 07-Jun-88
Analysis Completion Date: 07-Jun-88
Hold time, days: 4

LAB #:	8-5578	8-5579	
CLIENT'S ID:	Effluent 220323	220324	Blank

COMPOUND	RESULT (ug/l)	RESULT (ug/l)	Detection Limit (ug/l)
Dichlorodifluoromethane	N.D.	N.D.	2.0
Chloromethane	N.D.	N.D.	2.0
Vinyl Chloride	N.D.	N.D.	2.0
Bromomethane	N.D.	N.D.	2.0
Chloroethane	N.D.	N.D.	2.0
Trichlorofluoromethane	N.D.	N.D.	2.0
1,1-Dichloroethene	N.D.	N.D.	0.5
Methylene Chloride	N.D.	3.6	0.5
trans-1,2-Dichloroethene	N.D.	N.D.	0.5
1,1-Dichloroethane	N.D.	N.D.	0.5
Chloroform	N.D.	N.D.	0.5
1,1,1-Trichloroethane (TCA)	N.D.	N.D.	0.5
Carbon Tetrachloride	N.D.	N.D.	0.5
1,2-Dichloroethane (EDC)	N.D.	N.D.	0.5
Trichloroethene (TCE)	N.D.	N.D.	0.5
1,2-Dichloropropane	N.D.	N.D.	0.5
Bromodichloromethane	N.D.	N.D.	0.5
2-Chloroethylvinyl ether	N.D.	N.D.	0.5
trans-1,3-Dichloropropene	N.D.	N.D.	0.5
cis-1,3-Dichloropropene	N.D.	N.D.	0.5
1,1,2-Trichloroethane	N.D.	N.D.	0.5
Tetrachloroethene	N.D.	N.D.	0.5
Dibromochloromethane	N.D.	N.D.	0.5
Chlorobenzene	N.D.	N.D.	0.5
Bromoform	N.D.	N.D.	0.5
1,1,2,2-Tetrachloroethane	N.D.	N.D.	0.5
1,3-Dichlorobenzene	N.D.	N.D.	0.5
1,4-Dichlorobenzene	N.D.	N.D.	0.5
1,2-Dichlorobenzene	N.D.	N.D.	0.5

QUALITY CONTROL DATA

Surrogate Spike Percent Recovery		
Bromochloromethane	82 %	79 %
1,4-Dichlorobutane	76 %	80 %

N.D.: Not Detected

Analytical Supervisor

QUALITY CONTROL DATA
BLANK, SPIKE DUPLICATE AND SPIKE REPORT JOB # HLA 0831.72-L
METHOD: EPA 601

COMPOUND	Blank (ug/l)	Spike Duplicate % deviation	Spike % recovery
Dichlorodifluoromethane	N.D.	-	N.S.
Chloromethane	N.D.	-	N.S.
Vinyl Chloride	N.D.	-	N.S.
Bromomethane	N.D.	-	N.S.
Chloroethane	N.D.	-	N.S.
Trichlorofluoromethane	N.D.	-	N.S.
1,1-Dichloroethene	N.D.	-	N.S.
Methylene Chloride	N.D.	-	N.S.
trans-1,2-Dichloroethene	N.D.	-	N.S.
1,1-Dichloroethane(M.S.)	N.D.	2	103
Chloroform	N.D.	-	N.S.
1,1,1-Trichloroethane (TCA)	N.D.	-	N.S.
Carbon Tetrachloride	N.D.	-	N.S.
1,2-Dichloroethane (EDC)	N.D.	-	N.S.
Trichloroethene (TCE)(M.S.)	N.D.	0	121
1,2-Dichloropropane	N.D.	-	N.S.
Bromodichloromethane	N.D.	-	N.S.
2-Chloroethylvinyl ether	N.D.	-	N.S.
trans-1,3-Dichloropropene(M.S.)	N.D.	7	91
cis-1,3-Dichloropropene	N.D.	-	N.S.
1,1,2-Trichloroethane	N.D.	-	N.S.
Tetrachloroethene(M.S.)	N.D.	3	144
Dibromochloromethane	N.D.	-	N.S.
Chlorobenzene	N.D.	-	N.S.
Bromoform	N.D.	-	N.S.
1,1,2,2-Tetrachloroethane	N.D.	-	N.S.
1,3-Dichlorobenzene	N.D.	-	N.S.
1,4-Dichlorobenzene	N.D.	-	N.S.
1,2-Dichlorobenzene	N.D.	-	N.S.

QUALITY CONTROL DATA Surrogate Spike % recovery			
Bromochloromethane	100 %	107 %	111 %
1,4-Dichlorobutane	98 %	111 %	130 %

N.D.: Not Detected
N.S.: Not Spiked

Analytical Supervisor

Report Date:	10-Jun-88	Client Contract/PO:	9382,026.02
Client:	Harding Lawson Associates	Date Sampled:	03-Jun-88
Attn:	David Leland	Site:	City Of Oakland
Sampled by:	Larkin/Lieberman	Date Received:	03-Jun-88
Submitted by:	C. Larkin	Extract/Digest/Purge Date:	08-Jun-88
Preservatives:	none	Analysis Completion Date:	08-Jun-88
Analyst:	Staggs	Hold Time:	5 days
WESCO JOB #:	HLA 0831.72-L		
Analytical Method:	Dissolved Oxygen		

MATRIX: WATER

LAB #	CLIENT ID		Dissolved Oxygen (mg/l O2)
8-5580	220321	Influent	8.8
8-5581	220323	Effluent	4.4
Detection Limit			0.2
Method Number			EPA 600;4-79-020, 1983 Method 360.2

Analytical Supervisor

[redacted] Affiliate
7655 Redwood Blvd.
P.O. Box 578
Novato, CA 94948
(415) 892-0821

CHAIN OF CUSTODY FORM

AL A0837.12-C

Samplers: C. Lankin / Gray Ligaerna...

Job Number: 9382,026.02

Name/Location: City of Oakland

Project Manager: Dave Leland

Recorder: Christopher Lankin (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	Ice, 4°C	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb. (4)	Dissolved O2
23	X				3			2	88	22	0321	88	06	03	11:20		X	X					X	X
23	X				3				88	22	0322	88	06	03	11:30	✓	X	X					X	
23	X				3			2	88	22	0323	88	06	03	11:50		X	X					X	X
23					3				88	22	0324	88	06	03	11:50	✓	X	X					X	

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						5 day

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Christopher Lankin		
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) Christopher Lankin	DATE/TIME	RECEIVED FOR LAB BY: (Signature) M Blanchard — DATE/TIME 6/3/88 17:...
METHOD OF SHIPMENT		

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

652...

TREATMENT SYSTEM 6-10-88

WESCO Laboratories

Report date: June 27, 1988 Wescojob #: HLA 0831.74-L
Client: Harding Lawson Associates
P.O Box 578
Novato, CA 94947

Date sampled: June 10, 1988 Site: CITY OF OAKLAND
Sampled by: TIM WALKER Attn.: DAVID LELAND

Date received: June 10, 1988 P.O.: 9382,026.02
Submitted by: TIM WALKER

Lab #	Client ID	Matrix	Analysis
8- 5741	88231001 Influent	water	Purg. Org. Hal. 601
8- 5741	88231001	water	TPH with 602
8- 5742	88231002 Effluent	water	Purg. Org. Hal. 601
8- 5742	88231002	water	TPH with 602
8- 5743	88231003 Blank	water	Purg. Org. Hal. 601
8- 5743	88231003	water	TPH with 602
8- 5744	88231004 Intermediate	water	Purg. Org. Hal. 601
8- 5744	88231004	water	TPH with 602

Dear Client,

No problems were encountered with the analysis of your samples. We will store samples for 30 days after the report date. The samples will be returned to you after the 30-day period, unless other arrangements are made.
If you have any questions, please feel free to call, (415)883-6425.

M Blanchard

Sample Controller

14 Galli Drive, Suite A
Novato, California 94947 415 883-6425
A Division of Western Ecological Services Company

Report Date: 24-Jun-88 Extract/Purge: 16-Jun-88
WESCO JOB #: HLA 0831.74-L Completion Date: 16-Jun-88
Analytical Method: EPA 5030/8015 Analyst: Attia
Matrix: WATER

LAB #: 8-5741 CLIENT ID: 231001 Influent

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Total Petroleum Hydrocarbons (light)-----	80	50.0

QUALITY CONTROL DATA
Surrogate Spike % Recovery
Fluorobenzene 73 %

LAB #: 8-5742 CLIENT ID: 231002 Effluent

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Total Petroleum Hydrocarbons (light)-----	N.D.	50.0

QUALITY CONTROL DATA
Surrogate Spike % Recovery
Fluorobenzene 82 %

LAB #: 8-5743 CLIENT ID: 231003 Blank

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Total Petroleum Hydrocarbons (light)-----	N.D.	50.0

QUALITY CONTROL DATA
Surrogate Spike % Recovery
Fluorobenzene 96 %

LAB #: 8-5744 CLIENT ID: 231004 Intermediate

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Total Petroleum Hydrocarbons (light)-----	N.D.	50.0

QUALITY CONTROL DATA
Surrogate Spike % Recovery
Fluorobenzene 98 %

N.D.: Not Detected

Analytical Supervisor

QUALITY CONTROL DATA
BLANK, SPIKE DUPLICATE AND SPIKE REPORT FOR JOB # HLA 0831.74-L
METHOD: EPA 5030/8015

COMPOUND	Blank ug/l	Spike Duplicate % deviation	Spike % recovery
Gasoline----------	N.D.	31	78

QUALITY CONTROL DATA
Surrogate Spike % Recovery

Fluorobenzene	86 %	74 %	87 %

N.D.: Not Detected

Analytical Supervisor

Report Date: 27-Jun-88 Extract/Purge: 16-Jun-88
WESCO JOB #: HLA 0831.74-L Completion Date: 16-Jun-88
Analytical Method: EPA 624 Analyst: Moezzi
MATRIX: WATER

LAB # 8-5741 CLIENT'S ID 231001 Influent

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Dichlorodifluoromethane	N.D.	0.5
Chloromethane	N.D.	0.5
Vinyl Chloride	N.D.	0.5
Bromomethane	N.D.	0.5
Chloroethane	N.D.	0.5
Trichlorofluoromethane	N.D.	0.5
1,1-Dichloroethene	N.D.	0.5
Methylene Chloride	N.D.	0.5
trans-1,2-Dichloroethene	N.D.	0.5
1,1-Dichloroethane	N.D.	0.5
Chloroform	1.4	0.5
1,1,1-Trichloroethane	N.D.	0.5
1,2-Dichloroethane	20	0.5
Carbon Tetrachloride	N.D.	0.5
Benzene	2	0.5
1,2-Dichloropropane	N.D.	0.5
Trichloroethene	79	0.5
Bromodichloromethane	N.D.	0.5
trans-1,3-Dichloropropene	N.D.	0.5
Toluene	12	0.5
cis-1,3-Dichloropropene	N.D.	0.5
1,1,2-Trichloroethane	0.9	0.5
2-Chloroethylvinyl ether	N.D.	0.5
Dibromochloromethane	N.D.	0.5
Tetrachloroethene	0.8	0.5
Chlorobenzene	1.8	0.5
Ethylbenzene	N.D.	0.5
Bromoform	N.D.	0.5
Xylene	N.D.	0.5
1,1,2,2,-Tetrachloroethane	N.D.	0.5
1,3-Dichlorobenzene	N.D.	0.5
1,4-Dichlorobenzene	N.D.	0.5
1,2-Dichlorobenzene	N.D.	0.5

QUALITY CONTROL DATA

Surrogate Spike	Percent Recovery
1,2-Dichloroethane-d4	98 %
Toluene-d8	101 %
4-Bromofluorobenzene	95 %

N. D.: Not Detected

Analytical Supervisor

Report Date: 24-Jun-88 Extract/Purge: 16-Jun-88
WESCO JOB #: HLA 0831.74-L Completion Date: 16-Jun-88
Analytical Method: EPA 624 Analyst: Moezzi
MATRIX: WATER

LAB # 8-5742 CLIENT'S ID 231002 Effluent

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Dichlorodifluoromethane	N.D.	0.5
Chloromethane	N.D.	0.5
Vinyl Chloride	N.D.	0.5
Bromomethane	N.D.	0.5
Chloroethane	N.D.	0.5
Trichlorofluoromethane	N.D.	0.5
1,1-Dichloroethene	N.D.	0.5
Methylene Chloride	N.D.	0.5
trans-1,2-Dichloroethene	N.D.	0.5
1,1-Dichloroethane	N.D.	0.5
Chloroform	N.D.	0.5
1,1,1-Trichloroethane	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5
Carbon Tetrachloride	N.D.	0.5
Benzene	N.D.	0.5
1,2-Dichloropropane	N.D.	0.5
Trichloroethene	N.D.	0.5
Bromodichloromethane	N.D.	0.5
trans-1,3-Dichloropropene	N.D.	0.5
Toluene	N.D.	0.5
cis-1,3-Dichloropropene	N.D.	0.5
1,1,2-Trichloroethane	N.D.	0.5
2-Chloroethylvinyl ether	N.D.	0.5
Dibromochloromethane	N.D.	0.5
Tetrachloroethene	N.D.	0.5
Chlorobenzene	N.D.	0.5
Ethylbenzene	N.D.	0.5
Bromoform	N.D.	0.5
Xylene	N.D.	0.5
1,1,2,2,-Tetrachloroethane	N.D.	0.5
1,3-Dichlorobenzene	N.D.	0.5
1,4-Dichlorobenzene	N.D.	0.5
1,2-Dichlorobenzene	N.D.	0.5

QUALITY CONTROL DATA

Surrogate Spike	Percent Recovery
1,2-Dichloroethane-d4	87 %
Toluene-d8	108 %
4-Bromofluorobenzene	77 %

N. D.: Not Detected

Analytical Supervisor

Report Date: 24-Jun-88 Extract/Purge: 16-Jun-88
WESCO JOB #: HLA 0831.74-L Completion Date: 16-Jun-88
Analytical Method: EPA 624 Analyst: Moezzi
MATRIX: WATER

LAB # 8-5743 CLIENT'S ID 231003 Blank

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Dichlorodifluoromethane	N.D.	0.5
Chloromethane	N.D.	0.5
Vinyl Chloride	N.D.	0.5
Bromomethane	N.D.	0.5
Chloroethane	N.D.	0.5
Trichlorofluoromethane	N.D.	0.5
1,1-Dichloroethene	N.D.	0.5
Methylene Chloride	N.D.	0.5
trans-1,2-Dichloroethene	N.D.	0.5
1,1-Dichloroethane	N.D.	0.5
Chloroform	N.D.	0.5
1,1,1-Trichloroethane	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5
Carbon Tetrachloride	N.D.	0.5
Benzene	N.D.	0.5
1,2-Dichloropropane	N.D.	0.5
Trichloroethene	N.D.	0.5
Bromodichloromethane	N.D.	0.5
trans-1,3-Dichloropropene	N.D.	0.5
Toluene	N.D.	0.5
cis-1,3-Dichloropropene	N.D.	0.5
1,1,2-Trichloroethane	N.D.	0.5
2-Chloroethylvinyl ether	N.D.	0.5
Dibromochloromethane	N.D.	0.5
Tetrachloroethene	N.D.	0.5
Chlorobenzene	N.D.	0.5
Ethylbenzene	N.D.	0.5
Bromoform	N.D.	0.5
Xylene	N.D.	0.5
1,1,2,2,-Tetrachloroethane	N.D.	0.5
1,3-Dichlorobenzene	N.D.	0.5
1,4-Dichlorobenzene	N.D.	0.5
1,2-Dichlorobenzene	N.D.	0.5

QUALITY CONTROL DATA

Surrogate Spike	Percent Recovery
1,2-Dichloroethane-d4	94 %
Toluene-d8	108 %
4-Bromofluorobenzene	81 %

N. D.: Not Detected

Analytical Supervisor

Report Date: 27-Jun-88 Extract/Purge: 16-Jun-88
WESCO JOB #: HLA 0831.74-L Completion Date: 16-Jun-88
Analytical Method: EPA 624 Analyst: Moezzi
MATRIX: WATER

LAB # 8-5744 CLIENT'S ID 231004 Intermediate

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Dichlorodifluoromethane	N.D.	0.5
Chloromethane	N.D.	0.5
Vinyl Chloride	N.D.	0.5
Bromomethane	N.D.	0.5
Chloroethane	N.D.	0.5
Trichlorofluoromethane	N.D.	0.5
1,1-Dichloroethene	N.D.	0.5
Methylene Chloride	N.D.	0.5
trans-1,2-Dichloroethene	N.D.	0.5
1,1-Dichloroethane	0.8	0.5
Chloroform	N.D.	0.5
1,1,1-Trichloroethane	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5
Carbon Tetrachloride	N.D.	0.5
Benzene	N.D.	0.5
1,2-Dichloropropane	N.D.	0.5
Trichloroethene	4.4	0.5
Bromodichloromethane	N.D.	0.5
trans-1,3-Dichloropropene	N.D.	0.5
Toluene	N.D.	0.5
cis-1,3-Dichloropropene	N.D.	0.5
1,1,2-Trichloroethane	N.D.	0.5
2-Chloroethylvinyl ether	N.D.	0.5
Dibromochloromethane	N.D.	0.5
Tetrachloroethene	N.D.	0.5
Chlorobenzene	N.D.	0.5
Ethylbenzene	N.D.	0.5
Bromoform	N.D.	0.5
Xylene	N.D.	0.5
1,1,2,2,-Tetrachloroethane	N.D.	0.5
1,3-Dichlorobenzene	N.D.	0.5
1,4-Dichlorobenzene	N.D.	0.5
1,2-Dichlorobenzene	N.D.	0.5

QUALITY CONTROL DATA

Surrogate Spike	Percent Recovery
1,2-Dichloroethane-d4	93 %
Toluene-d8	107 %
4-Bromofluorobenzene	83 %

N. D.: Not Detected

Analytical Supervisor

BLANK, SPIKE DUPLICATE AND SPIKE REPORT JOB # HLA 0831.74-L
METHOD: EPA 624
Sample #: 8-5741 - 8-5744

COMPOUND	Blank (ug/l)	Spike Duplicate % deviation	Spike % recovery
Dichlorodifluoromethane	N.D.	-	N.S.
Chloromethane	N.D.	-	N.S.
Vinyl Chloride	N.D.	-	N.S.
Bromomethane	N.D.	-	N.S.
Chloroethane	N.D.	-	N.S.
Trichlorofluoromethane	N.D.	-	N.S.
1,1-Dichloroethene	N.D.	-	N.S.
Methylene Chloride	N.D.	-	N.S.
trans-1,2-Dichloroethene	N.D.	-	N.S.
1,1-Dichloroethane(M.S.)	N.D.	2	95
Chloroform	N.D.	-	N.S.
1,1,1-Trichloroethane	N.D.	-	N.S.
1,2-Dichloroethane	N.D.	-	N.S.
Carbon Tetrachloride	N.D.	-	N.S.
Benzene(M.S.)	N.D.	3	104
1,2-Dichloropropane	N.D.	-	N.S.
Trichloroethene(M.S.)	N.D.	2	103
Bromodichloromethane	N.D.	-	N.S.
trans-1,3-Dichloropropene	N.D.	-	N.S.
Toluene(M.S.)	N.D.	9	95
cis-1,3-Dichloropropene	N.D.	-	N.S.
1,1,2-Trichloroethane	N.D.	-	N.S.
2-Chloroethylvinyl ether	N.D.	-	N.S.
Dibromochloromethane	N.D.	-	N.S.
Tetrachloroethene	N.D.	-	N.S.
Chlorobenzene(M.S.)	N.D.	1	96
Ethylbenzene	N.D.	-	N.S.
Bromoform	N.D.	-	N.S.
Xylene	N.D.	-	N.S.
1,1,2,2,-Tetrachloroethane	N.D.	-	N.S.
1,3-Dichlorobenzene	N.D.	-	N.S.
1,4-Dichlorobenzene	N.D.	-	N.S.
1,2-Dichlorobenzene	N.D.	-	N.S.
QUALITY CONTROL DATA			
Surrogate Spike % Recovery			
1,2-Dichloroethane-d4	99 %	89 %	101 %
Toluene-d8	100 %	101 %	109 %
4-Bromofluorobenzene	98 %	98 %	88 %

N.D.: Not Detected
N.S.: Not Spiked

Analytical Supervisor

Harding Lawson Associates
Environmental Services Division
200 Rush Landing Road
Novato, California 94947
(415) 892-0821

CHAIN OF CUSTODY FORM

Samplers: Jim Walker

Job Number: 9362 026 02

Name/Location: City of Oakland

Project Manager: Dave Deland

Recorder: Jim Walker (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	ANALYSIS REQUESTED: EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb. (G)
23	X				X			6823	10	01	06	10	11	00		X	X					X
23	X				X			6823	10	02	06	10	11	00		X	X					X
23	X				X			6823	10	03	06	10	11	00		X	X					X
23	X				X			6823	10	04	06	10	11	00		X	X					X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						STANDARD TURNAROUND

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME: 10 JUN 1700	RECEIVED FOR LAB BY: (Signature)	DATE/TIME: 6/10/93 1700
METHOD OF SHIPMENT		

Laboratory Copy Project Office Copy Field or Office Copy

pace laboratories, inc
FORMERLY WESCO LABORATORIES

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

Report date: July 6, 1988
Pace job #: HLA 0831.75-L

Client: Harding Lawson Associates
P.O Box 578
Novato, CA 94947

Date sampled: June 16, 1988
Site: City of Oakland
Sampled by: B. Loskutoff
Attn.: D. Leland

Date received: June 17, 1988
P.O.: 09382,022.02
Submitted by: B. Loskutoff

Lab #	Client ID	Matrix	Analysis

Dear Client,

No problems were encountered with the analysis of your samples. We will store samples for 30 days after the report date. The samples will be returned to the client after the 30-day period, unless other arragements are made.
If you have any questions, please feel free to call, (415)883-6100.

M Blanchard

Sample Controller

pace laboratories, inc
FORMERLY WESCO LABORATORIES

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

Report date: July 6, 1988 Pace job #: HLA 0831.75-L
Client: Harding Lawson Associates
P.O Box 578
Novato, CA 94947

Date sampled: June 16, 1988 Site: City of Oakland
Sampled by: B. Loskutoff Attn.: D. Leland

Date received: June 17, 1988 P.O.: 09382,022.02
Submitted by: B. Loskutoff

Lab #	Client ID	Matrix	Analysis
8- 5930	88241601	water	TPH only 5030/8015
8- 5930	88241601	water	Vol Org. Cpds.601+ 602
8- 5931	88241602	water	TPH only 5030/8015
8- 5931	88241602	water	Vol Org. Cpds.601+ 602
8- 5932	88241603	water	TPH only 5030/8015
8- 5932	88241603	water	Vol Org. Cpds.601+ 602
8- 5933	88241604	water	TPH only 5030/8015
8- 5933	88241604	water	Vol Org. Cpds.601+ 602
8- 5934	88241605	water	TPH only 5030/8015
8- 5934	88241605	water	Vol Org. Cpds.601+ 602
8- 5935	88241606	water	TPH only 5030/8015
8- 5935	88241606	water	Vol Org. Cpds.601+ 602
8- 5936	88241607	water	TPH only 5030/8015
8- 5936	88241607	water	Vol Org. Cpds.601+ 602
8- 5937	88241608	water	TPH only 5030/8015
8- 5937	88241608	water	Vol Org. Cpds.601+ 602
8- 5938	88241621	water	TPH only 5030/8015
8- 5938	88241621	water	Vol Org. Cpds.601+ 602
8- 5939	88241622	water	TPH only 5030/8015
8- 5939	88241622	water	Vol Org. Cpds.601+ 602
8- 5940	88241623	water	TPH only 5030/8015
8- 5940	88241623	water	Vol Org. Cpds.601+ 602
8- 5941	88241624	water	TPH only 5030/8015
8- 5941	88241624	water	Vol Org. Cpds.601+ 602

pace laboratories, inc.
FORMERLY WESCO LABORATORIES

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

Report Date: 05-Jul-88 Extract/Purge Date: 23-Jun-88
WESCO JOB #: HLA 0831.75-L Completion Date: 23-Jun-88
Analytical Method: EPA 5030/8015/602 Analyst: Attia
MATRIX: WATER

LAB #: 8-5938 CLIENT'S ID: Effluent 241621

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Total Petroleum Hydrocarbons (light)---	N.D.	50.0

QUALITY CONTROL DATA
Surrogate Spike % Recovery
Fluorobenzene 85 %

LAB #: 8-5939 CLIENT'S ID: Effluent 241622

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Total Petroleum Hydrocarbons (light)---	N.D.	50.0

QUALITY CONTROL DATA
Surrogate Spike % Recovery
Fluorobenzene 79 %

LAB #: 8-5940 CLIENT'S ID: Intermediate 241623

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Total Petroleum Hydrocarbons (light)---	N.D.	50.0

QUALITY CONTROL DATA
Surrogate Spike % Recovery
Fluorobenzene 92 %

LAB #: 8-5941 CLIENT'S ID: Influent 241624

COMPOUND	RESULT (ug/l)	Detection Limit (ug/l)
Total Petroleum Hydrocarbons (light)---	90	50.0

QUALITY CONTROL DATA
Surrogate Spike % Recovery
Fluorobenzene 89 %

N.D.: Not Detected

Analytical Supervisor

pace laboratories, inc
FORMERLY WESCO LABORATORIES

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

QUALITY CONTROL DATA
METHOD: EPA 5030/8015/602 WESCO JOB #: HLA 0831.75-L

COMPOUND	Blank ug/l	Spike Duplicate % deviation	Spike % recovery
Gasoline----------	N.D.	7	94

QUALITY CONTROL DATA
Surrogate Spike % Recovery

Fluorobenzene	104 %	95 %	99 %

N.D.: Not Detected

Analytical Supervisor

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FORMERLY WESCO LABORATORIES

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

REPORT OF LABORATORY ANALYSIS

Report Date: 30-Jun-88
WESCO JOB #: HLA 8831.75-L
Analytical Method: EPA 601
Matrix: WATER

Extract/Purge Date: 24-Jun-88
Completion Date: 24-Jun-88
Analyst: Attia/Levis

Effluent

LAB #	8-5934	8-5935	8-5936	8-5937	8-5938	
CLIENT ID	241605	241606	241607	241608	241621	
COMPOUND	RESULT (ug/l)	RESULT (ug/l)	RESULT (ug/l)	RESULT (ug/l)	RESULT (ug/l)	Detection Limit(ug/l)
Dichlorodifluoromethane	N.D.	N.D.	N.D.	N.D.	N.D.	2.0
Chloromethane	N.D.	N.D.	N.D.	N.D.	N.D.	2.0
Vinyl Chloride	N.D.	N.D.	N.D.	N.D.	N.D.	2.0
Bromomethane	N.D.	N.D.	N.D.	N.D.	N.D.	2.0
Chloroethane	N.D.	N.D.	N.D.	N.D.	N.D.	2.0
Trichlorofluoromethane	N.D.	N.D.	N.D.	N.D.	N.D.	2.0
1,1-Dichloroethene	N.D.	22.5	N.D.	2.1	N.D.	0.5
Methylene Chloride	N.D.	N.D.	N.D.	N.D.	N.D.	0.5
trans-1,2-Dichloroethene	N.D.	N.D.	0.7	1.1	N.D.	0.5
1,1-Dichloroethane	N.D.	7.2	N.D.	N.D.	N.D.	0.5
Chloroform	9.4	N.D.	49	28	N.D.	0.5
1,1,1-Trichloroethane	N.D.	0.9	N.D.	N.D.	N.D.	0.5
Carbon Tetrachloride	N.D.	N.D.	N.D.	N.D.	N.D.	0.5
1,2-Dichloroethane	1.3	1.0	2.8	3.2	N.D.	0.5
Trichloroethene	1,150	8.7	3,900	5,300	N.D.	0.5
1,2-Dichloropropane	N.D.	N.D.	N.D.	N.D.	N.D.	0.5
Bromodichloromethane	N.D.	N.D.	N.D.	N.D.	N.D.	0.5
2-Chloroethylvinyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	0.5
trans-1,3-Dichloropropene	N.D.	N.D.	N.D.	N.D.	N.D.	0.5
cis-1,3-Dichloropropene	N.D.	N.D.	2.5	2.4	N.D.	0.5
1,1,2-Trichloroethane	N.D.	N.D.	1.6	2.0	N.D.	0.5
Tetrachloroethene	N.D.	N.D.	27	31	N.D.	0.5
Dibromochloromethane	N.D.	N.D.	N.D.	N.D.	N.D.	0.5
Chlorobenzene	N.D.	N.D.	2.2	5.0	N.D.	0.5
Bromoform	N.D.	N.D.	N.D.	N.D.	N.D.	0.5
1,1,2,2,-Tetrachloroethane	N.D.	N.D.	N.D.	N.D.	N.D.	0.5
1,3-Dichlorobenzene	N.D.	N.D.	6.5	2.0	N.D.	0.5
1,4-Dichlorobenzene	N.D.	N.D.	7.0	2.8	N.D.	0.5
1,2-Dichlorobenzene	N.D.	N.D.	6.4	4.5	N.D.	0.5

QUALITY CONTROL DATA	Surrogate Spike % Recovery				
Bromochloromethane	80 %	87 %	87 %	74 %	102 %
1,4-Dichlorobutane	91 %	81 %	88 %	82 %	79 %

N.D.: Not Detected

Analytical Supervisor

pace laboratories, inc.
FORMERLY WESCO LABORATORIES

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

REPORT OF LABORATORY ANALYSIS

Report Date: 30-Jun-88
WESCO JOB #: HLA 0831.75-L
Analytical Method: EPA 601
Matrix: WATER

Extract/Purge Date: 24-Jun-88
Completion Date: 24-Jun-88
Analyst: Attia/Lewis

	Effluent	Interm	Influent	
LAB #	8-5939	8-5940	8-5941	
CLIENT ID	241622	241623	241624	
COMPOUND	RESULT (ug/l)	RESULT (ug/l)	RESULT (ug/l)	Detection Limit(ug/l)
Dichlorodifluoromethane	N.D.	N.D.	N.D.	2.0
Chloromethane	N.D.	N.D.	N.D.	2.0
Vinyl Chloride	N.D.	N.D.	N.D.	2.0
Bromomethane	N.D.	N.D.	N.D.	2.0
Chloroethane	N.D.	N.D.	N.D.	2.0
Trichlorofluoromethane	N.D.	N.D.	N.D.	2.0
1,1-Dichloroethene	N.D.	N.D.	N.D.	0.5
Methylene Chloride	N.D.	2.0	N.D.	0.5
trans-1,2-Dichloroethene	N.D.	N.D.	N.D.	0.5
1,1-Dichloroethane	N.D.	N.D.	N.D.	0.5
Chloroform	N.D.	N.D.	N.D.	0.5
1,1,1-Trichloroethane	N.D.	N.D.	N.D.	0.5
Carbon Tetrachloride	N.D.	N.D.	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5	6.4	0.5
Trichloroethene	N.D.	N.D.	52	0.5
1,2-Dichloropropane	N.D.	N.D.	N.D.	0.5
Bromodichloromethane	N.D.	N.D.	N.D.	0.5
2-Chloroethylvinyl ether	N.D.	N.D.	N.D.	0.5
trans-1,3-Dichloropropene	N.D.	N.D.	N.D.	0.5
cis-1,3-Dichloropropene	N.D.	N.D.	N.D.	0.5
1,1,2-Trichloroethane	N.D.	N.D.	N.D.	0.5
Tetrachloroethene	N.D.	N.D.	N.D.	0.5
Dibromochloromethane	N.D.	N.D.	N.D.	0.5
Chlorobenzene	N.D.	N.D.	N.D.	0.5
Bromoform	N.D.	N.D.	N.D.	0.5
1,1,2,2,-Tetrachloroethane	N.D.	N.D.	N.D.	0.5
1,3-Dichlorobenzene	N.D.	N.D.	N.D.	0.5
1,4-Dichlorobenzene	N.D.	N.D.	N.D.	0.5
1,2-Dichlorobenzene	N.D.	N.D.	N.D.	0.5
QUALITY CONTROL DATA	Surrogate Spike % Recovery			
Bromochloromethane	64 %	85 %	101 %	
2,4-Dichlorobutane	76 %	79 %	81 %	

N.D.: Not Detected

Analytical Supervisor

pace laboratories, inc.
FORMERLY WESCO LABORATORIES

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

QUALITY CONTROL DATA
BLANK, SPIKE DUPLICATE AND SPIKE REPORT JOB # HLA 8831.75-L
METHOD: EPA 601
SAMPLE #: 8-5930 - 8-5933

COMPOUND	Blank (ug/l)	Spike Duplicate % deviation	Spike % recovery
Dichlorodifluoromethane	N.D.	-	N.S.
Chloromethane	N.D.	-	N.S.
Vinyl Chloride	N.D.	-	N.S.
Bromomethane	N.D.	-	N.S.
Chloroethane	N.D.	-	N.S.
Trichlorofluoromethane	N.D.	-	N.S.
1,1-Dichloroethene	N.D.	-	N.S.
Methylene Chloride	N.D.	-	N.S.
trans-1,2-Dichloroethene	N.D.	-	N.S.
1,1-Dichloroethane	N.D.	3	92
Chloroform	N.D.	-	N.S.
1,1,1-Trichloroethane	N.D.	-	N.S.
Carbon Tetrachloride	N.D.	-	N.S.
1,2-Dichloroethane	N.D.	-	N.S.
Trichloroethene	N.D.	17	86
1,2-Dichloropropane	N.D.	-	N.S.
Bromodichloromethane	N.D.	-	N.S.
2-Chloroethylvinyl ether	N.D.	-	N.S.
trans-1,3-Dichloropropene	N.D.	6	96
cis-1,3-Dichloropropene	N.D.	-	N.S.
1,1,2-Trichloroethane	N.D.	-	N.S.
Tetrachloroethene	N.D.	17	104
Dibromochloromethane	N.D.	-	N.S.
Chlorobenzene	N.D.	-	N.S.
Bromoform	N.D.	-	N.S.
1,1,2,2,-Tetrachloroethane	N.D.	-	N.S.
1,3-Dichlorobenzene	N.D.	-	N.S.
1,4-Dichlorobenzene	N.D.	-	N.S.
1,2-Dichlorobenzene	N.D.	-	N.S.
1,1,2,2,-Tetrachloroethane	N.D.	-	N.S.
1,3-Dichlorobenzene	N.D.	-	N.S.
1,4-Dichlorobenzene	N.D.	-	N.S.
1,2-Dichlorobenzene	N.D.	-	N.S.

QUALITY CONTROL DATA

Surrogate Spike % Recovery			
Bromochloromethane	97 %	81 %	87 %%
1,4-Dichlorobutane	107 %	95 %	98 %%

N.D.: Not Detected
N.S.: Not Spiked

Analytical Supervisor

pace laboratories, inc
FORMERLY WESCO LABORATORIES

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

Report Date: 07-Jul-88 Extract/Purge Date: 24-Jun-88
PACE JOB #: HLA 0831.75-L Completion Date: 24-Jun-88
Analytical Method: EPA 602 Analyst: Attia
MATRIX: WATER

	Effluent	Effluent	
LAB #:	8-5938	8-5939	
CLIENT'S ID:	241621	241622	
COMPOUND	RESULT (ug/l)	RESULT (ug/l)	Detection Limit (ug/l)
Benzene	N.D.	N.D.	0.2
Toluene	N.D.	N.D.	0.2
Chlorobenzene	N.D.	N.D.	0.2
Ethylbenzene	N.D.	N.D.	0.2
Xylene	N.D.	N.D.	0.2
1,3-Dichlorobenzene	N.D.	N.D.	0.2
1,4-Dichlorobenzene	N.D.	N.D.	0.2
1,2-Dichlorobenzene	N.D.	N.D.	0.2
QUALITY CONTROL DATA			
Surrogate Spike	Percent Recovery		
Fluorobenzene	95%	101%	

	Interm	Influent	
LAB #:	8-5940	8-5941	
CLIENT'S ID:	241623	241624	
COMPOUND	RESULT (ug/l)	RESULT (ug/l)	Detection Limit (ug/l)
Benzene	N.D.	0.9	0.2
Toluene	N.D.	0.3	0.2
Chlorobenzene	N.D.	N.D.	0.2
Ethylbenzene	N.D.	N.D.	0.2
Xylene	N.D.	N.D.	0.2
1,3-Dichlorobenzene	N.D.	N.D.	0.2
1,4-Dichlorobenzene	N.D.	N.D.	0.2
1,2-Dichlorobenzene	N.D.	N.D.	0.2
QUALITY CONTROL DATA			
Surrogate Spike	Percent Recovery		
Fluorobenzene	91%	98%	

Analytical Supervisor

pace laboratories, inc
FORMERLY WESCO LABORATORIES

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

QUALITY CONTROL DATA
METHOD: EPA 602 WESCO JOB#: HLA 0831.75-L
SAMPLE #: 8-5930 - 8-5933

COMPOUND	Blank (ug/l)	Spike Duplicat % deviation	Spike % recovery
Benzene----------	N.D.	3	101
Toluene----------	N.D.	4	101
p-Xylene----------	N.D.	1	103

QUALITY CONTROL DATA
Surrogate Spike % Recovery

Fluorobenzene	89 %	101 %	98 %

N.D.: Not Detected

Analytical Supervisor

pace laboratories, inc.
FORMERLY WESCO LABORATORIES

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

QUALITY CONTROL DATA
METHOD: EPA 602 PACE JOB#: HLA 0831.75-L
SAMPLE #: 8-5934 - 8-5941

COMPOUND	Blank (ug/l)	Spike Duplicat % deviation	Spike % recovery
Benzene----------	N.D.	1	99
Toluene----------	N.D.	8	97
p-Xylene----------	N.D.	2	103

QUALITY CONTROL DATA
Surrogate Spike % Recovery

Fluorobenzene	95 %	95 %	103 %

N.D.: Not Detected

Analytical Supervisor

[redacted] Engineering Laboratory Associates [redacted]
Environmental Services Division
200 Rush Landing Road
Novato, California 94947
(415) 892-0821

CHAIN OF CUSTODY FORM

Samplers: Bill Loskutoff
Patrick Williamson

Job Number: 09382.022-02
Name/Location: City of Oakland
Project Manager: D. Leland
Recorder: Bill Loskutoff
(Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES
23	X				3			88	24	1621	88	06	16	1815	
23	X				3			"	"	22	"	"	"	1825	
23	X				3			"	"	23	"	"	"	1835	
23	X				3			"	"	24	"	"	"	1845	

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb. Light
X	X					X
X	X					X
X	X					X
X	X					X

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

WESCO

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) Bill Loskutoff	RECEIVED BY: (Signature)	DATE/TIME 6/17/88 1030
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME 6/17 1030
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME 6/17/88
METHOD OF SHIPMENT		

Laboratory Copy (White) Project Office Copy (Yellow) Field or Office Copy (Pink)

6533

DISTRIBUTION

REPORT OF SYSTEM MONITORING: JUNE 1988
DEWATERING EFFLUENT TREATMENT SYSTEM
CHINATOWN REDEVELOPMENT PROJECT AREA
OAKLAND, CALIFORNIA
July 19, 1988

COPY NO. _____

		Copy No.
1 copy:	California Regional Water Quality Control Board San Francisco Bay Region 1111 Jackson Street, Room 6000 Oakland, California 94607 Attention: Mr. Peter Johnson	1
2 copies:	City of Oakland Redevelopment Agency One City Hall Plaza Oakland, California 94612 Attention: Mr. Peter Chen	2-3
1 copy:	Alameda County Department of Environmental Health 470 27th Street Oakland, California 94612 Attention: Mr. Storm Goranson	4

CEM/DFL/clm/G4971-R

QUALITY CONTROL REVIEWER

Christopher R. Smith
Associate Hydrogeologist