ALCO HAZMAT 94 SEP 21 PM 1: 14

SOIL CHARACTERIZATION Westinghouse Emeryville Facility

Prepared for
Westinghouse Electric Corporation
August 1993

Prepared by

EMCON Associates 1921 Ringwood Avenue San Jose, California 95131-1721

Project 0F88-001.14



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August 30, 1993 Project 0F88-001.14

Mr. Gordon Taylor Senior Project Engineer Westinghouse Electric Corporation Gateway Center Pittsburgh, Pennsylvania 15222

Re: Soil sampling and analysis, Emeryville facility

Dear Mr. Taylor:

EMCON Associates (EMCON) is pleased to submit this soil characterization report for a soils investigation at the Westinghouse Electric Corporation (Westinghouse facility) in Emeryville, California.

The investigation showed that polychlorinated biphenyls were detected in only 2 of 45 soil samples collected under buildings 24 and 37. Total petroleum hydrocarbons as diesel or hydraulic oil, above 100 parts per million were detected in only 4 of the 45 samples. No volatile organic compounds, total petroleum hydrocarbons as gasoline, or benzene, toluene, ethylbenzene and xylene compound were detected in any of the 45 soil samples.

If you have questions, please call.

mark & wolley

Sincerely,

EMCON Associates

Mark Smolley Project Manager

Attachment: Soil Characterization Report

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1 INTRODUCTION

This report discusses the results of a soil sampling event conducted by EMCON Associates (EMCON) at the Westinghouse Electric Corporation (Westinghouse) facility at 5840 Landregen Street, Emeryville, California (Figure 1). Soil samples were collected at 23 locations beneath buildings 24 and 37 according to the investigation approach described in the Sampling and Analysis Plan (EMCON, May 12, 1993).

1.1 Background

Westinghouse owns a facility at 5840 Landregen Street in Emeryville, California (the Facility) at which Westinghouse formerly operated an apparatus service plant. In the early days of its operation, some transformers and other electrical apparatus were manufactured at the Facility. Facility operations historically included regional and district administration, engineering services, warehousing, and repair of transformers and other electrical apparatus. Westinghouse ceased using the Facility for on-site repair of electrical apparatus in 1982 and ceased using the Facility entirely in 1992.

Some of the manufacture, repair, and service activities at the Facility involved handling, storing, and using dielectric fluids, some of which contained polychlorinated biphenyls (PCBs). In addition, previous environmental investigations identified the presence of volatile organic compounds (VOCs) and petroleum hydrocarbons (gasoline and diesel).

1.2 Objective

The primary objective of the soil sampling was to determine whether the soils beneath buildings 24 and 37 may have been impacted by chemicals that were used during the manufacturing and repair operations at the site. The soil samples were analyzed for PCBs, halogenated VOCs, high-boiling-point hydrocarbons (HBHCs) which include total petroleum hydrocarbons (TPH) as diesel and hydraulic oil, TPH as gasoline, and benzene, toluene, ethylbenzene, and xylenes (BTEX).

2 SITE CHARACTERIZATION

This section describes the rationale for soil sampling, the methods and procedures used during drilling and sampling activities, and the analytical methods used to test the soil samples. This section also presents the observations made during the field investigation.

2.1 Soil Sampling Rationale

Two samples were collected and analyzed at each boring location to evaluate the vertical extent of any impact on the unsaturated soils. Twenty-four (24) soil borings (SB-1 through SB-24) were drilled and sampled from beneath the concrete floor of buildings 24 and 37. Two samples were collected from each boring (except SB-5 and SB-6) at depths of 1.5 to 2.0 feet and 3.0 feet to 3.5 feet, as measured from the base of the concrete pad. In borings SB-5 and SB-6, attempts were made to sample just below the base of the truck pit which is at approximately 4.5 feet below the base of the concrete pad. No samples were collected from boring SB-5 because of an obstruction encountered at a depth of 4 feet. Only one sample was collected from boring SB-6 to 4.5 feet). A second sample could not be collected from boring SB-6 because saturated soils were encountered at this same depth.

Proposed soil borings SB-1, SB-5, SB-6, SB-18, and SB-22 were located within the truck pits. However, upon mobilization the truck pits were found to be either paved over or filled with gravel. Therefore, these borings were repositioned approximately to 1 to 2 feet outside the pit areas but within the concrete pads.

2.2 Soil Boring Procedures

Before drilling began, a concrete cutting service was contracted to core the concrete at each boring location. The borings were drilled using hand-augers and samples were collected using push-drive samplers. The hand-auger and push-drive sampler were steam-cleaned or washed with phosphate-free detergent and rinsed between each soil sample.

The augers were used to drill down to the top of the first sampling zone then removed from the boring. The push-drive sampler, fitted with a stainless-steel ring, was inserted into the boring and a sample collected by driving the sampler into the undisturbed soil (from 1.5 to 2.0 feet). After the sampler was removed from the boring, the ring was

removed and its ends covered with Teflon® tape and plastic end-caps. The sample was then labeled, placed inside a plastic zip-lock bag, and stored in a cooler containing ice. Hand-augering was continued down to the top of the second sampling zone (3.0 feet) and a second sample was collected (from 3.0 to 3.5 feet).

The samples were delivered to Columbia Analytical Services (CAS), a state-certified laboratory, along with appropriate chain-of-custody forms to document possession and transfer of samples.

2.3 Analytical Methods - Soil Samples

All the samples were analyzed for PCBs (by U.S. Environmental Protection Agency [EPA] method 8080), VOCs (by EPA method 8010), HBHC (including TPH as diesel and hydraulic oil) and TPH as gasoline by the Leaking Underground Fuel Tank [LUFT] method), and BTEX (by EPA method 8020). The certified analytical reports are presented in Appendix A.

2.4 Field Observations

The field investigation generally indicates that the Westinghouse Emeryville site lies upon a fill layer between 1 and 4 feet thick, consisting of silty gravel. This fill layer overlies Bay Mud deposits, which consist of silt, clay, and clayey sand. As seen in boring SB-6, groundwater was encountered at approximately 4.5 feet below the ground surface (BGS) as measured from the base of the concrete pad.

3 ANALYTICAL RESULTS

This section discusses the analytical results for the soil samples collected. Table 1 summarizes all of the analytical results. Figure 2 presents the PCB concentrations and Figure 3 presents the TPH concentrations for each sample collected. The certified analytical reports are presented in Appendix A and an evaluation of the laboratory quality control results is presented in Appendix B.

Figures 2 and 3 also present analyses from borings EB-1 and EB-2, which were drilled in January 1992 as part of geotechnical engineering evaluation. Borings EB-1 and EB-2 are the only other borings completed in Buildings 24 and 37.

3.1 PCBs

Only two samples had detectable concentrations of PCBs. Boring SB-8 contained 1.0 parts per million (ppm) PCBs at the 1.5 foot level, and SB-21 contained PCBs at 0.2 ppm at the 1.5 feet level. All other samples did not contain PCBs above the analytical method reporting limit of 0.1 ppm.

3.2 Petroleum Hydrocarbons

Although TPH concentrations as hydraulic oil or diesel were detected in 17 of the 45 soil samples, only 4 samples exceeded 100 ppm. Fifteen of the 45 soil samples contained detectable concentrations of TPH as hydraulic oil between 8 and 680 ppm. Two of the 45 samples contained TPH as diesel; SB-3 at 1.5 feet (2 ppm) and SB-12 at 3 feet (9,400 ppm).

The soil from a depth of 3 feet at boring SB-12 (which contained 9,400 ppm TPH as diesel) was black and consisted of slag fragments with debris, including very flaky material similar to decomposed plastic along with pottery shards, nails, and bolts. No odor was detected. The upper sample collected at SB-12 (at 1.5 feet) was a brown sandy gravel which may be fill material placed over the debris.

The three other borings containing TPH concentrations (as hydraulic oil) above 100 ppm were SB-6 at 4.5 feet (680 ppm), SB-8 at 1.5 feet (190 ppm), and SB-10 at 3 feet

(320 ppm). These three borings and boring SB-12 are located in the central portion of building 37.

3.3 VOCs, TPHG, and BTEX

No VOCs, TPHG, or BTEX were detected in any of the 45 soil samples collected at the site

3.4 Summary of Soil Analyses

PCBs were detected in only 2 of the 45 soil samples collected under buildings 24 and 37: boring SB-8 at 1.5 feet (1.0 ppm) and SB-21 at 1.5 feet (0.2 ppm). The highest TPH concentration (as diesel) was 9,400 ppm in SB-12 at 3 feet. Three other samples, also collected under building 37, contained TPH concentrations (as hydraulic oil) above 100 ppm. Eleven borings contained soil samples with TPH concentrations between 8 and 41 ppm.

No VOCs, TPHG, or BTEX compounds were detected in any of the 45 soil samples.

Table 1
Soil Analytical Results

Boring	Depth (feet)	Sample	PCBs (2)	TPHD (3)	Hydraulic	TPHG (4)	VOCs (5
Number	(feet)	Date			Oil		
SB-1	1.5	06/18/93	<0.1	<1	31	ND (6)	ND
SB-1	3	06/18/93	<0.1	<1	<5	ND ND	ND
SB-2	1.5	06/17/93	<0.1	<1	<5	ND	ND
SB-2	3	06/17/93	<0.1	<1	<5	ND	ND
SB-3	1.5	06/17/93	<0.1	2	<5	ND	ND
SB-3	3	06/17/93	<0.1	<1	11	ND ·	ND
SB-4	1.5	06/17/93	<0.1	<1	9	ND	ND
SB-4	3	06/17/93	<0.1	<1	<5	ND	ND
SB-6	4.5	06/18/93	<0.1	<10	680	ND	ND
SB-7	1.5	06/17/93	<0.1	<1	17	ND	ND
SB-7	3	06/17/93	<0.1	<1	18	ND	ND
SB-8	1.5	06/17/93	1	<10	190	ND	ND
SB-8	3	06/17/93	<0.1	<1	21	ND	ND
SB-9	1.5	06/17/93	<0.1	<1	<5	ND	ND
SB-9	3	06/17/93	<0.1	<1	<5	ND	ND
SB-10	1.5	06/17/93	<0.1	<1	41	ND	ND
SB-10	3	06/17/93	<0.1	<10	320	ND	ND
SB-11	1.5	06/17/93	<0.1	<1	<5	ND	ND
SB-11	3	06/17/93	<0.1	<1	28	ND	ND
SB-12	1.5	06/17/93	<0.1	_41_	30	ND	ND
SB-12	3	06/17/93	<0.1	9400 (7)	<500	ND	ND
SB-13	1.5	06/17/93	<0.1	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	· <5	ND	ND
SB-13	3	06/17/93	<0.1	<1	<5	ND	ND
SB-14	1.5	06/17/93	<0.1	<1	11	ND	ND
SB-14	3	06/17/93	<0.1	<1	<5	ND	ND
SB-15	1.5	06/17/93	<0.1	<1	<5	ND	ND
SB-15	3	06/17/93	<0.1	<1	<5	ND	ND
SB-16	1.5	06/17/93	<0.1	<1	<5	ND	ND
SB-16	3	06/17/93	<0.1	<1	<5	ND	ND
SB-17	1.5	06/17/93	<0.1	<1	<5	ND	ND
SB-17	3	06/17/93	<0.1	<1	<5	ND	ND
SB-18	1.5	06/18/93	<0.1	<1	21	ND	ND
SB-18	3	06/18/93	<0.1	<1	<5	ND	ND
SB-19	1.5	06/18/93	<0.1	<1	<5	ND	ND
SB-19	3	06/18/93	<0.1	<1	<5	ND	ND
SB-20	1.5	06/17/93	<0.1	<1	<5	ND	ND
SB-20	3	06/17/93	<0.1	<1	<5	ND	ND

Table 1

Soil Analytical Results (continued)

Units: ma/ka (1)

Boring	Depth	Sample	PCBs (2)	TPHD (3)	Hydraulic	TPHG (4)	VOCs (5)
Number	(feet)	Date			Oil		
SB-21	1.5	06/18/93	0.2	<1	< 5	ND	ND
\$B-21	3	06/18/93	<0.1	<1	8	ND	ND
SB-22	1.5	06/18/93	<0.1	<1	<5	ND	ND
SB-22	3	06/18/93	<0.1	<1	<5	ND	ND
SB-23	1.5	06/17/93	<0.1	<1	<5	ND	ND
SB-23	3	06/17/93	<0.1	<1	<5	ND	ND
SB-24	1.5	06/18/93	<0.1	<1	<5	ND	ND
SB-24	3	06/18/93	<0.1	<1	<5	ND	ND

⁽¹⁾ mg/kg = milligrams per kilogram

⁽²⁾ PCBs = polychlorinated biphenyls analyzed by Environmental Protection Agency (EPA) method 8080.

⁽³⁾ TPHD = total petroleum hydrocarbons as diesel.

⁽⁴⁾ TPHG = total petroleum hydrocarbons as gasoline.

⁽⁵⁾ VOC = volatile organic compounds analyzed by EPA methods 8010 and 8020.

⁽⁶⁾ ND = not detected above their respective method reporting limits (MRLs). See certified analytical reports in Appendix A for MRLs.

⁽⁷⁾ Unknown high boiling point hydrocarbon in the volatility range of diesel. Chromatogram does not match the typical diesel pattern. Note: SB-5 not sampled because of an obstruction at 4 feet.

SB-6 not sampled below 4.5 feet because of saturated soils.



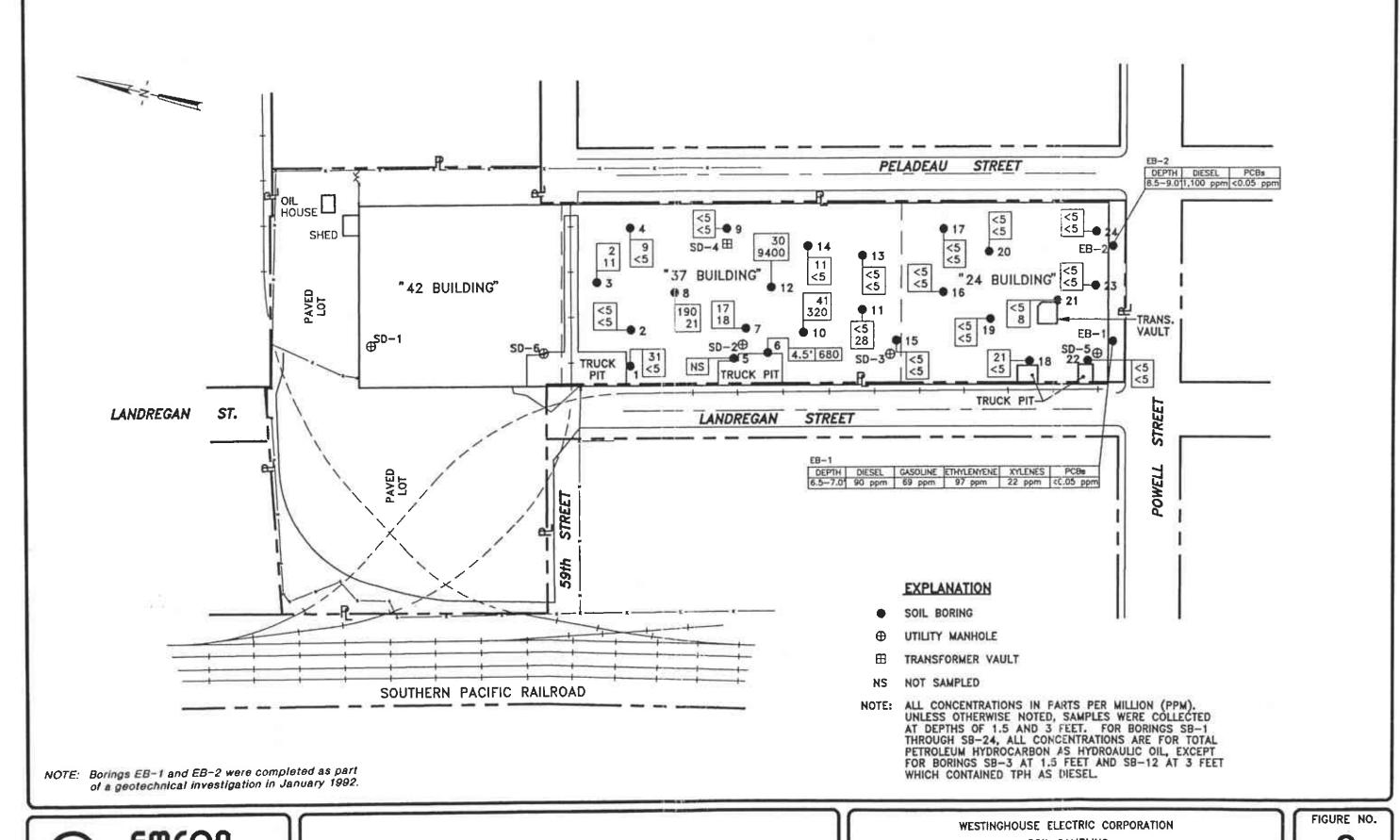


WESTINGHOUSE ELECTRIC CORPORATION SOIL SAMPLING EMERYVILLE, CALIFORNIA

SITE LOCATION

FIGURE 1

F88-01.14



EMCON Associates

SCALE: 0 100 200 FEET

SOIL SAMPLING
EMERYVILLE, CALIFORNIA

TOTAL PETROLEUM HYDROCARBON CONCENTRATIONS

PROJECT NO.

F88-01.14

APPENDIX A

CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION



July 9, 1993

Service Request No: SJ93-0802

Vivian Hsiong EMCON Associates 1921 Ringwood Avenue San Jose, CA 95131

Re: Westinghouse-Emeryville/0F88-001.14

Dear Ms. Hsiong:

Attached are the results of the soil samples submitted to our lab on June 18, 1993. For your reference, these analyses have been assigned our service request number SJ93-0802.

All analyses were performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and CAS is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions.

Respectfully submitted:

Keoni A. Murphy

COLUMBIA ANALYTICAL SERVICES, INC.

KAM/drf

Acronyms

ASTM American Society for Testing and Materials

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology

DOH Department of Health

EPA U. S. Environmental Protection Agency

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit

MRL Method Reporting Limit

NA Not Applicable

NAN Not Analyzed

NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected at or above the MRL

NR Not Requested

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

VPH Volatile Petroleum Hydrocarbons

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse-Emeryville/0F88-001.14

Sample Matrix:

Soil

Date Received:

06/18/93

Date Extracted:

06/30/93

Date Analyzed:

07/02/93

Service Request No.:

SJ93-0802

Hydrocarbon Scan EPA Methods 3550/California DHS LUFT Method mg/Kg (ppm) As Received Basis

Sample Name	MRL	Mineral <u>Spirits</u>	Jet <u>Fuel</u>	<u>Kerosene</u>	Diesel	Hydraulic <u>Oil</u> *
SB1 (1.5-2)	1	ND	ND	ND	ND	31.
SB18 (3-4)	1	ND	ND	ND	ND	< 5.
Method Blank	1	ND	ND	ND	ND	<5 .

The MRL for Hydraulic Oil is five times greater than the MRL for the other petroleum products in the Hydrocarbon Scan.

Analytical Report

Client:

EMCON Associates

Project: Sample Matrix: Westinghouse-Emeryville/0F88-001.14

Soil

Date Received:
Date Extracted:

06/18/93 06/30/93 07/06/93

Date Analyzed: Service Request No.: 07/06/93 SJ93-0802

Hydrocarbon Scan
EPA Methods 3550/California DHS LUFT Method
mg/Kg (ppm)
As Received Basis

Sample Name	<u>MRL</u>	Mineral <u>Spirits</u>	Jet <u>Fuel</u>	Kerosene	Diesel	Hydraulic <u>Oil</u> *
SB1 (3-4)	1	ND	ND	ND	ND	<5.
SB19 (1.5-2)	1	ND	ND	ND	ND	< 5.
SB19 (3-4)	1	ND	ND	ND	ND	<5.
SB6 (4.5-5.5)	1	<10. **	<10. **	<10. **	<10. **	680.
SB24 (1.5-2)	1	ND	ND	ND	ND	< 5.
SB24 (3-4)	1	ND	ND	ND	ND	< 5.
SB18 (1.5-2)	1	ND	ND	ND	ND	21.
SB21 (1.5-2)	1	ND	ND	ND	ND	< 5.
SB21 (3-4)	1	ND	ND	ND	ND	8.
SB22 (1.5-2)	1	ND	ND	ND	ND	< 5.
SB22 (3-4)	1	ND	ND	ND	ND	<5.
Method Blank	1	ND	ND	ND	ND	<5 .

* The MRL for Hydraulic Oil is five times greater than the MRL for the other petroleum products in the Hydrocarbon Scan.

** Raised MRL due to high analyte concentration requiring sample dilution.

Approved by:

Kom & Murshy

Date:

ly 9,1993

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse-Emeryville/0F88-001.14

Date Received:

06/18/93

Sample Matrix: Soil

Service Request No.: SJ93-0802

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

	ample Name: te Analyzed:	SB1 (1.5-2) 06/29/93	<u>SB1 (3-4)</u> 06/29/93	SB19 (1.5-2) 06/29/93
Analyte	MRL			
Benzene	0.05	ND	ND	ND
Toluene	0.1	ND	ND	ND
Ethylbenzene	0.1	ND	ND	ND
Total Xylenes	0.1	ND	ND	ND
TPH as Gasoline	5	ND	ND	ND

Kommunly

Date: July 9,1993

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse-Emeryville/0F88-001.14

Date Received:

Service Request No.: SJ93-0802

06/18/93

rroject.

Sample Matrix: Soil

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

	Sample Name: Date Analyzed:		<u>SB19 (3-4)</u> 06/29/93	SB6 (4.5-5.5) 06/29/93	SB24 (1.5-2) 06/29/93
<u>Analyte</u>		MRL			
Benzene Toluene Ethylbenzene Total Xylenes		0.05 0.1 0.1 0.1	ND ND ND ND	ND ND ND ND	ND ND ND ND
TPH as Gasoline		5	ND	ND	ND

Approved by: Keny Muysky

Date: Jdy 9,1993

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse-Emeryville/0F88-001.14

Date Received:

06/18/93

Sample Matrix: Soil

Service Request No.: SJ93-0802

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

	ample Name: ate Analyzed:	SB-24 (3-4) 06/29/93	SB18 (1.5-2) 06/29/93	SB18 (3-4) 06/29/93
<u>Analyte</u>	MRL			
Benzene	0.05	ND	ND	ND
Toluene	0.1	ND	ND	ND
Ethylbenzene	0.1	ND	ND	ND
Total Xylenes	0.1	ND	ND	ND
TPH as Gasoline	5	ND	ND	ND

Comot Muysly Approved by:

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse-Emeryville/0F88-001.14

Date Received:

06/18/93

Service Request No.: SJ93-0802

Sample Matrix: Soil

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

	Sample Name: Date Analyzed:		<u>SB21 (1.5-2)</u> 06/29/93	<u>SB21 (3-4)</u> 06/29/93	SB22 (1.5-2) 06/29/93
<u>Analyte</u>		<u>MRL</u>			
Benzene		0.05	ND	ND	ND
Toluene		0.1	ND	ND	ND
Ethylbenzene		0.1	ND	ND	ND
Total Xylenes		0.1	ND	ND	ND
TPH as Gasoline		5	ND	ND	ND

Keom AMuyly

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse-Emeryville/0F88-001.14

Date Received:

06/18/93

Sample Matrix: Soil

Service Request No.: SJ93-0802

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

Sample Date An		<u>SB22 (3-4)</u> 06/29/93 *	Method Blank 06/29/93 *	
<u>Analyte</u>	<u>MRL</u>			
Benzene	0.05	ND	ND	
Toluene	0.1	ND	ND	
Ethylbenzene	0.1	ND	ND	
Total Xylenes	0.1	ND	ND	
TPH as Gasoline	5	ND	ND	

This sample was part of the analytical batch started on June 29, 1993. However, it was analyzed after midnight so the actual date analyzed is June 30, 1993.

Analytical Report

Client:

EMCON Associates

Date Received:

06/18/93

Project: Sample Matrix: Westinghouse-Emeryville/0F88-001.14

Soil

Service Request No.: SJ93-0802

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		<u>SB1 (1.5-2)</u> 06/28/93	SB1 (3-4) 06/28/93	SB19 (1.5-2) 06/28/93
Analyte	MRL			
Analyte Dichlorodifluoromethane (Freon 12) Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane (Freon 11) 1,1-Dichloroethene Trichlorotrifluoroethane (Freon 113) Methylene Chloride trans-1,2-Dichloroethene cis-1,2-Dichloroethene 1,1-Dichloroethane Chloroform 1,1,1-Trichloroethane (TCA) Carbon Tetrachloride 1,2-Dichloroethane Trichloroethene (TCE) 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl Vinyl Ether trans-1,3-Dichloropropene cis-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene (PCE) Dibromochloromethane Chlorobenzene Bromoform	MRL 0.1 0.05 0.05 0.05 0.05 0.05 0.05 0.05	00000000000000000000000000000000000000	22222222222222222222222222222222222222	000000000000000000000000000000000000000
1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene	0.05 0.1 0.1 0.1	ND ND ND ND	ND ND ND ND	ND ND ND ND
1,2-Dichlorobenzene	0.1	ND	ND	110

Date: July 9, 1993

Analytical Report

Client:

EMCON Associates Westinghouse-Emeryville/0F88-001.14

Date Received:

06/18/93

Project: Sample Matrix:

Service Request No.: SJ93-0802

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm)

As Received Basis

Sample Name: Date Analyzed:		<u>SB19 (3-4)</u> 06/28/93	SB6 (4.5-5.5) 06/28/93	SB24 (1.5-2) 06/28/93
Analyte	MRL			
Dichlorodifluoromethane (Freon 12) Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane (Freon 11) 1,1-Dichloroethene Trichlorotrifluoroethane (Freon 113) Methylene Chloride trans-1,2-Dichloroethene cis-1,2-Dichloroethene 1,1-Dichloroethane Chloroform 1,1,1-Trichloroethane (TCA) Carbon Tetrachloride 1,2-Dichloroethane Trichloroethene (TCE)	0.1 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0	ND N	20 20 20 20 20 20 20 20 20 20 20 20 20 2	ND N
1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl Vinyl Ether trans-1,3-Dichloropropene cis-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene (PCE) Dibromochloromethane Chlorobenzene Bromoform 1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	ND ND ND ND ND ND ND ND ND ND ND	ND N	ND DD ND N

Keny My My Date: July 9,1893

Analytical Report

Client:

EMCON Associates

Date Received:

06/18/93

Project: Sample Matrix: Westinghouse-Emeryville/0F88-001.14 Soil

Service Request No.: SJ93-0802

Halogenated and Aromatic Volatile Organic Compounds EPA Methods 5030/8010/8020

mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		SB24 (3-4) 06/28/93	SB18 (1.5-2) 06/28/93	SB18 (3-4) 06/28/93
Date Analyzed,		00/20/00	55, 25, 55	00,-0
Analyte	MRL			
Dichlorodifluoromethane (Freon 12)	0.1	ND	ND	ND
Chloromethane	0.1	ND	ND	ND
Vinyl Chloride	0.05	ND	ND	ND
Bromomethane	0.05	NĎ	ND	ND
Chloroethane	0.05	ND	ND	ND
Trichlorofluoromethane (Freon 11)	0.05	ND	ND	ND
1,1-Dichloroethene	0.05	ND	ND	ND
Trichlorotrifluoroethane (Freon 113)	0.05	ND	ND	ND
Methylene Chloride	0.05	ND	ND	ND
trans-1,2-Dichloroethene	0.05	ND	ND	ND
cis-1,2-Dichloroethene	0.05	ND	ND	ND
1,1-Dichloroethane	0.05	ND	ND	ND
Chloroform	0.05	ND	ND	ND
1,1,1-Trichloroethane (TCA)	0.05	ND	ND	ND
Carbon Tetrachloride	0.05	ND	ND	ND
1,2-Dichloroethane	0.05	ND	ND	ND
Trichloroethene (TCE)	0.05	ND	ND	ND
1,2-Dichloropropane	0.05	ND	ND	ND
Bromodichloromethane	0.05	ND	ND	ND
2-Chloroethyl Vinyl Ether	0.5	ND	ND	ND
trans-1,3-Dichloropropene	0.05	ND	ND	ND
cis-1,3-Dichloropropene	0.05	ND	ND	ND
1,1,2-Trichloroethane	0.05	ND	ND	ND
Tetrachloroethene (PCE)	0.05	ND	ND	ND
Dibromochloromethane	0.05	ND	ND	ND
Chlorobenzene	0.05	ND	ND	ИĎ
Bromoform	0.05	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.05	ND	ND	ND
1,3-Dichlorobenzene	0.1	ND	ND	ND
1,4-Dichlorobenzene	0.1	ND	ND	ND
1,2-Dichlorobenzene	0.1	ND	ND	ND

KomuMuysly Date: Ily 9,1893

Analytical Report

Client:

EMCON Associates

Date Received:

06/18/93

Project: Sample Matrix: Westinghouse-Emeryville/0F88-001.14 Soil

Service Request No.: SJ93-0802

Halogenated and Aromatic Volatile Organic Compounds EPA Methods 5030/8010/8020

mg/Kg (ppm) As Received Basis

Sample Name:		<u>SB21 (1.5-2)</u>	SB21 (3-4)	SB22 (1.5-2)
Date Analyzed:		06/28/93	06/28/93	06/28/93
Analyte	MRL			
Dichlorodifluoromethane (Freon 12)	0.1	ND	ND	ND
Chloromethane	0.1	ND	ND	ND
Vinyl Chloride	0.05	ND	ND	ND
Bromomethane	0.05	ND	ND	ND
Chloroethane Trichlorofluoromethane (Freon 11)	0.05	ND	ND	ND
	0.05	ND	ND	ND
1,1-Dichloroethene	0.05	ND	ND	ND
Trichlorotrifluoroethane (Freon 113) Methylene Chloride	0.05	ND	ND	ND
	0.05	ND	ND	ND
trans-1,2-Dichloroethene cis-1,2-Dichloroethene	0.05	ND	ND	ND
	0.05	ND	ND	ND
1,1-Dichloroethane	0.05	ND	ND	ND
Chloroform	0.05		ND	ND
1,1,1-Trichloroethane (TCA)	0.05	ND ND	ND	ND
Carbon Tetrachloride 1,2-Dichloroethane	0.05	ND	ND	ND
	0.05	ND	ND	ND
Trichloroethene (TCE) 1,2-Dichloropropane	0.05	ND	ND	ND
	0.05	ND	ND	ND
Bromodichloromethane	0.05	ND	ND	ND
2-Chloroethyl Vinyl Ether trans-1,3-Dichloropropene	0.5	ND	ND	ND
	0.05	ND	ND	ND
cis-1,3-Dichloropropene 1,1,2-Trichloroethane	0.05	ND	ND	ND
	0.05	ND	ND	ND
Tetrachloroethene (PCE) Dibromochloromethane	0.05	ND	ND	ND
	0.05	ND	ND	ND
Chlorobenzene	0.05	ND	ND	ND
Bromoform	0.05	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.05	ND	ND	ND
1,3-Dichlorobenzene	0.1	ND	ND	ND
1,4-Dichlorobenzene	0.1	ND	ND	ND
1,2-Dichlorobenzene	0.1	ND	ND	ND

Low Amnyly

Analytical Report

Client:

EMCON Associates

Westinghouse-Emeryville/0F88-001.14

Date Received:

06/18/93

Project: Sample Matrix:

Service Request No.: SJ93-0802

EPA Methods 5030/8010/8020 mg/Kg (ppm) As Received Basis

Halogenated and Aromatic Volatile Organic Compounds

Dichlorodifluoromethane (Freon 12)	Sample Name: Date Analyzed:		SB22 (3-4) 06/28/93	Method Blank 06/28/93
Chloromethane 0.1 ND ND Vinyl Chloride 0.05 ND ND Bromomethane 0.05 ND ND Chloroethane 0.05 ND ND Trichloroffuoromethane (Freon 11) 0.05 ND ND 1,1-Dichloroethene 0.05 ND ND Methylene Chloride 0.05 ND ND Methylene Chloroethane 0.05 ND ND ND ND ND ND Cis-1,2-Dichloroethane 0.05 ND ND ND ND ND ND 1,2-Dichloroethane (TCE) 0.05 ND ND 1,2-Dichloroethane (TCE) 0.05 <td< th=""><th>Analyte</th><th>MRL</th><th></th><th></th></td<>	Analyte	MRL		
1,1,2,2-Tetrachloroethane 0.05 ND ND 1,3-Dichlorobenzene 0.1 ND ND 1,4-Dichlorobenzene 0.1 ND ND	Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane (Freon 11) 1,1-Dichloroethene Trichlorotrifluoroethane (Freon 113) Methylene Chloride trans-1,2-Dichloroethene cis-1,2-Dichloroethene 1,1-Dichloroethane Chloroform 1,1,1-Trichloroethane (TCA) Carbon Tetrachloride 1,2-Dichloroethane Trichloroethene (TCE) 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl Vinyl Ether trans-1,3-Dichloropropene cis-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene (PCE) Dibromochloromethane Chlorobenzene	0.1 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
THE MINITURGUESTS U. I NO NO NO	1,3-Dichlorobenzene 1,4-Dichlorobenzene	0.05 0.1 0.1	ND ND ND	ND ND

Komut Muysly Date: July 9, 1993

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse-Emeryville/0F88-001.14

Sample Matrix:

Date Received:

06/18/93

Date Extracted: Work Order No.:

07/01/93 SJ93-0802

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		<u>SB1 (1.5-2)</u> 07/01/93	<u>SB1 (3-4)</u> 07/01/93	SB19 (1.5-2) 07/01/93 *
Analyte	MRL			
Arocior 1016	0.1	ND	ND	ND
Arocior 1221	0.1	ND	ND	ND
Aroclor 1232	0.1	ND	ND	ND
Aroclor 1242	0.1	ND	ND	ND
Aroclor 1248	0.1	ND	ND	ND
Aroclor 1254	0.1	ND	ND	ND
Aroclor 1260	0.1	ND	ND	ND

This sample was part of the analytical batch started on July 1, 1993. However, it was analyzed after midnight so the actual date analyzed is July 2, 1993.

KomAMunch Date: July 9,1993

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse-Emeryville/0F88-001.14

Sample Matrix:

Date Received:

06/18/93

Date Extracted:

07/01/93

Work Order No.: SJ93-0802

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		<u>SB19 (3-4)</u> 07/01/93 *	SB6 (4.5-5.5) 07/01/93 *	SB24 (1.5-2) 07/01/93 *
Analyte	MRL			
Aroclor 1016	0.1	ND	ND	ND
Arocior 1221	0.1	ND	ND	ND
Aroclor 1232	0.1	ND	ND	ND
Aroclor 1242	0.1	ND	ND	ND
Aroclor 1248	0.1	ND	ND	ND
Aroclor 1254	0.1	ND	ND	ND
Aroclor 1260	0.1	ND	ND	ND

This sample was part of the analytical batch started on July 1, 1993. However, it was analyzed after midnight so the actual date analyzed is July 2, 1993.

Analytical Report

Client:

EMCON Associates

Project: Sample Matrix: Westinghouse-Emeryville/0F88-001.14

Date Received: Date Extracted: 06/18/93 07/01/93

Work Order No.: SJ93-0802

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		<u>SB24 (3-4)</u> 07/01/93 *	SB18 (1.5-2) 07/01/93 *	SB18 (3-4) 07/01/93 *
Analyte	MRL			
Aroclor 1016	0.1	ND	ND	ND
Aroclor 1221	0.1	ND	ND	ND
Arocior 1232	0.1	ND	ND	ND
Arocior 1242	0.1	ND	ND	ND
Aroclor 1248	0.1	ND	ND	ND
Arocior 1254	0.1	ND	ND	ND
Aroclor 1260	0.1	ND	ND	ND

This sample was part of the analytical batch started on July 1, 1993. However, it was analyzed after midnight so the actual date analyzed is July 2, 1993.

K Em & Menghy

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse-Emeryville/0F88-001.14

Sample Matrix:

Date Received:

06/18/93

Date Extracted:

07/01/93

Work Order No.:

SJ93-0802

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		SB21 (1.5-2) 07/01/93 *	SB21 (3-4) 07/01/93 *	SB22 (1.5-2) 07/01/93 *
Analyte	MRL			
Aroclor 1016	0.1	ND	ND	ND
Aroclor 1221	0.1	ND	ND	ND
Arocior 1232	0.1	ND	ND	ND
Aroclor 1242	0.1	ND	ND	ND
Arocior 1248	0.1	ND	ND	ND
Aroclor 1254	0.1	ND.	ND	ND
Aroclor 1260	0.1	0.2	ND	ND

This sample was part of the analytical batch started on July 1, 1993. However, it was analyzed after midnight so the actual date analyzed is July 2, 1993.

Date:

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse-Emeryville/0F88-001.14

Sample Matrix:

Date Received:

06/18/93

Date Extracted:

07/01/93 Work Order No.: SJ93-0802

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

	e Name: nalyzed:	SB22 (3-4) 07/01/93 *	Method Blank 07/01/93
Analyte	MRL		
Aroclor 1016	0.1	ND	ND
Aroclor 1221	0.1	ND	ND
Aroclor 1232	0.1	ND	ND
Aroclor 1242	0.1	ND	ND
Aroclor 1248	0.1	ND	ND
Aroclor 1254	0.1	ND	ND
Aroclor 1260	0.1	ND	ND

This sample was part of the analytical batch started on July 1, 1993. However, it was analyzed after midnight so the actual date analyzed is July 2, 1993.

QA/QC Report

Client:

EMCON Associates

Date Received:

06/18/93

Project:

Westinghouse-Emeryville/0F88-001.14

Service Request No.: SJ93-0802

Sample Matrix:

Surrogate Recovery Summary Total Petroleum Hydrocarbons as Diesel EPA Methods 3550/California DHS LUFT Method

Sample Name	Date Analyzed	Percent Recovery p-Terphenyi
SB1 (1.5-2)	07/02/93	84.
SB1 (3-4)	07/06/93	70.
SB19 (1.5-2)	07/06/93	80.
SB19 (3-4)	07/06/93	81.
SB6 (4.5-5.5)	07/06/93	101.
SB24 (1.5-2)	07/06/93	79.
SB24 (3-4)	07/06/93	88.
SB18 (1.5-2)	07/06/93	79.
SB18 (3-4)	07/02/93	87.
SB21 (1.5-2)	07/06/93	64.
SB21 (3-4)	07/06/93	82.
SB22 (1.5-2)	07/06/93	84.
SB22 (3-4)	07/06/93	78.
SB18 (3-4) MS	07/02/93	88.
SB18 (3-4) DMS	07/02/93	99.
Method Blank	07/02/93	93.
Method Blank	07/06/93	95.

CAS Acceptance Criteria

46-154

Date: __

QA/QC Report

Client:

EMCON Associates

Project:

Sample Matrix:

Westinghouse-Emeryville/0F88-001.14

Date Received:

06/18/93 07/02/93

Date Analyzed: Service Request No.: SJ93-0802

Matrix Spike/Duplicate Matrix Spike Summary

Hydrocarbon Scan EPA Methods 3510/California DHS LUFT Method

mg/Kg (ppm) As Received Basis

Sample Name: SB18 (3-4)

Percent Recovery

<u>Analyte</u>	Spike <u>Level</u>	Sample <u>Result</u>	Spike <u>MS</u>	Result DMS	<u>MS</u>	DMS	CAS Acceptance <u>Criteria</u>
Diesel	100.	ND	84.	8 6.	84.	86.	45-145

QA/QC Report

Client:

EMCON Associates

Date Received:

06/18/93

Project:

Westinghouse-Emeryville/0F88-001.14

Service Request No.: SJ93-0802

Sample Matrix: Soil

Surrogate Recovery Summary BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method

Sample Name	Date Analyzed	Percent Recovery a,a,a-Trifluorotoluene
SB1 (1.5-2)	06/29/93	90.
SB1 (3-4)	06/29/93	94.
SB19 (1.5-2)	06/29/93	92.
SB19 (3-4)	06/29/93	90.
SB6 (4.5-5.5)	06/29/93	92.
SB24 (1.5-2)	06/29/93	93.
SB24 (3-4)	06/29/93	92.
SB18 (1.5-2)	06/29/93	92.
SB18 (3-4)	06/29/93	90.
SB21 (1.5-2)	06/29/93	91.
SB21 (3-4)	06/29/93	91.
SB22 (1.5-2)	06/29/93	92.
SB22 (3-4)	06/29/93	90.
SB1 (3-4) MS	06/29/93	98.
SB1 (3-4) DMS	06/29/93	95.
Method Blank	06/29/93	93.
	CAS Acceptance Criteria	63-137

FrankMuyly Date: July 9,1953

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse-Emeryville/0F88-001.14

Date Received: Service Request No.: SJ93-0802

06/18/93

Sample Matrix:

Matrix Spike Summary TPH as Gasoline

EPA Methods 5030/California DHS LUFT Method mg/Kg (ppm)

Sample Name: Date Analyzed:

SB1 (3-4) 06/29/93

Percent Recovery

Analyte	Spike <u>Level</u>	Sample <u>Result</u>	Spik Resu <u>MS</u>		MS	DMS	CAS Acceptance <u>Criteria</u>
TPH as Gasoline	25.	ND	22.7	23.3	91.	93.	69-131

Konstmushy Date: July 9,1823

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse-Emeryville/0F88-001.14

Date Received:

06/18/93 Service Request No.: SJ93-0802

Sample Matrix:

Surrogate Recovery Summary Halogenated Volatile Organic Compounds EPA Methods 5030/8010

Sample Name	Date Analyzed	Percent Recovery 4-Bromofluorobenzene
SB1 (1.5-2)	06/28/93	112.
SB1 (3-5)	06/28/93	108.
SB19 (1.5-2)	06/28/93	106.
SB19 (3-4)	06/28/93	117.
SB6 (4.5-5.5)	06/28/93	95.
SB24 (1.5-2)	06/28/93	115.
SB24 (3-4)	06/28/93	112.
SB18 (1.5-2)	06/28/93	99.
SB18 (3-4)	06/28/93	99.
SB21 (1.5-2)	06/28/93	106.
SB21 (3-4)	06/28/93	102.
SB22 (1.5-2)	06/28/93	94.
SB22 (3-4)	06/28/93	107.
SB1 (1.5-2) MS	06/28/93	121.
SB1 (1.5-2) DMS	06/28/93	116.
Method Blank	06/28/93	109.

CAS Acceptance Criteria

70-130

Noom AMunghy Date: July 9, 1993

QA/QC Report

Client:

EMCON Associates

Project:

Sample Matrix:

Westinghouse-Emeryville/0F88-001.14

Date Received:

06/18/93

Service Request No.: SJ93-0802

Matrix Spike/Duplicate Matrix Spike Summary Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm)

As Received Basis

Sample Name: Date Analyzed:

SB1 (1.5-2) 06/28/93

Percent Recovery

	Spike	Sample	Spike	Result			EPA Acceptance
<u>Analyte</u>	<u>Level</u>	Result	MS	<u>DMS</u>	<u>MS</u>	<u>DMS</u>	<u>Criteria</u>
1,1-Dichloroethene	0.5	ND	0.54	0.55	108.	110.	28-167
Trichloroethene	0.5	ND	0.44	0.46	88.	92.	35-146
Tetrachloroethene	0.5	ND	0.44	0.45	88.	90.	26-162

Approved by:

Kom Muyely

QA/QC Report

Client: Project: **EMCON Associates**

t: Westinghouse-Emeryville/0F88-001.14

Date Received: Work Order No.:

06/18/93 SJ93-0802

Sample Matrix:

Soil

Surrogate Recovery Summary Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080

Sample Name	Date Analyzed	Percent Recovery Tetrachloro-m-xylene.
SB1 (1.5-2)	07/01/93	78.
SB1 (3-4)	07/01/93	77.
SB19 (1.5-2)	07/01/93	82.
SB19 (3-4)	07/01/93	86.
SB6 (4.5-5.5)	07/01/93	60.
SB24 (1.5-2)	07/01/93	84.
SB24 (3-4)	07/01/93	83.
SB18 (1.5-2)	07/01/93	79.
SB18 (3-4)	07/01/93	78.
SB21 (1.5-2)	07/01/93	82.
SB21 (3-4)	07/01/93	80.
SB22 (1.5-2)	07/01/93	83.
SB22 (3-4)	07/01/93	80.
SB19 (3-4) MS	07/01/93	74.
SB19 (3-4) DMS	07/01/93	78.
Method Blank	07/01/93	77.
	CAS Acceptance Criteria	45-112

approved by: Ken & Mayphy

Date: ______

2

QA/QC Report

Client: Project: **EMCON Associates**

Westinghouse-Emeryville/0F88-001.14

Sample Matrix:

Date Received: Date Extracted: 06/18/93 07/01/93

Date Analyzed:

07/01/93

Work Order No.: SJ93-0802

Matrix Spike/Duplicate Matrix Spike Summary Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name:

SB19 (3-4)

Percent Recovery

		Sample	Spike	Result			CAS Acceptance	Relative Percent
<u>Analyte</u>	Spike Level	Result	<u>MS</u>	<u>DMS</u>	<u>M\$</u>	<u>DMS</u>	<u>Criteria</u>	<u>Difference</u>
Aroclor 1260	0.167	ND	0.126	0.119	75.	71.	62-154	6.

28



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

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July 14, 1993

Service Request No: SJ93-0797

Vivian Hsiong EMCON Associates 1921 Ringwood Avenue San Jose, CA 95131

Re: Westinghouse, Emeryville/0F88-001.14

Dear Ms. Hsiong:

Attached are the results of the soil samples submitted to our lab on June 18, 1993. For your reference, these analyses have been assigned our service request number SJ93-0797.

All analyses were performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and CAS is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions.

Respectfully submitted:

Keem AM uply

Keoni A. Murphy

COLUMBIA ANALYTICAL SERVICES, INC.

KAM/kmh

Acronyms

ASTM American Society for Testing and Materials

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology

DOH Department of Health

EPA U. S. Environmental Protection Agency

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA. MCL

MDL Method Detection Limit

MRL Method Reporting Limit

NA Not Applicable

NAN Not Analyzed

NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected at or above the MRL

NR Not Requested

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

VPH Volatile Petroleum Hydrocarbons

Analytical Report

Client:

EMCON Associates

Project: Sample Matrix: Westinghouse, Emeryville/OF88-001.14

Soil

Date Received:

06/18/93 06/28/93

Date Extracted: Service Request No.:

SJ93-0797

Hydrocarbon Scan
EPA Methods 3550/California DHS LUFT Method
mg/Kg (ppm)
As Received Basis

Sample Name	Date Analyzed	Mineral <u>Spirits</u>	Jet <u>Fuel</u>	Kerosene	<u>Diesel</u>	Hydraulic <u>Oil</u>
SB4 (1.5-2) SB4 (3-4) SB3 (1.5-2) SB2 (1.5-2)	07/01/93 06/30/93 07/08/93 06/30/93	ND ND ND ND	ND ND ND ND	ND ND ND ND	ND ND 2. ND	9. ND ND ND
SB2 (3-4)	06/30/93	ND	ND	ND	ND	ND
SB8 (1.5-2) SB8 (3-4) SB9 (1.5-2) SB9 (3-4)	07/01/93 06/30/93 06/30/93 06/30/93	<10. * ND ND ND	<10. * ND ND ND	<10. * ND ND ND	< 10. * ND ND ND	190. 21. ND ND
Method Blank	06/30/93	ND	ND	ND	ND	ND
MRL		1	1	1	1	5

Raised MRL due to high analyte concentration requiring sample dilution.

Approved by:

Konut Murshy

Date: ___

Date. ____

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/OF88-001.14

Sample Matrix: So

Date Received:
Date Extracted:

06/18/93 06/29/93

Date Extracted: 06/29/93 Service Request No.: SJ93-0797

Hydrocarbon Scan
EPA Methods 3550/California DHS LUFT Method
mg/Kg (ppm)
As Received Basis

Sample Name	Date Analyzed	Mineral <u>Spirits</u>	Jet <u>Fuel</u>	Kerosene	Diesel	Hydraulic <u>Oil</u>
SB7 (1.5-2)	07/02/93	ND	ND	ND	ND	17.
SB7 (3-4)	07/01/93	ND	ND	ND	ND	18.
SB12 (1.5-2)	07/01/93	ND	ND	ND	ND	30.
SB12 (3-4)	07/06/93	<100. *	<100. *	<100. *	9,400. **	<500. *
SB14 (1.5-2)	07/01/93	ND	ND	ND	ND	11.
SB14 (3-4)	07/01/93	ND	ND	ND	ND	ND
SB10 (1.5-2)	07/02/93	ND	ND	ND	ND	41.
SB10 (3-4)	07/06/93	<10. *	< 10. *	<10. *	<10. *	320.
SB11 (1.5-2)	07/01/93	ND	ND	ND	ND	ND
SB11 (3-4)	07/01/93	ND	ND	ND	ND	28.
SB16 (1.5-2)	07/02/93	ND	ND	ND	ND	ND
SB16 (3-4)	07/01/93	ND	ND	ND	ND	ND
SB15 (1.5-2)	07/01/93	ND	ND	ND	ND	ND
SB15 (3-4)	07/01/93	ND	ND	ND	ND	ND
SB17 (1.5-2)	07/01/93	ND .	ND	ND	ND	ND
3617 (1.3-2)	07/01/93	ND .	NU	NU	ND	NU
MRL		1	1	1	1	5
IAIL/F		ı		§ .	ı	Ü

* Raised MRL due to high analyte concentration requiring sample dilution.

** The sample contains components eluting in the Diesel range that were quantitated as Diesel. The chromatogram does not match the typical Diesel fingerprint.

Approved by:

How Hamply

Date: July 14, 1983

Analytical Report

Client:

EMCON Associates

Project: Sample Matrix: Westinghouse, Emeryville/OF88-001.14

Soil

Date Received:

06/18/93

Date Extracted: Service Request No.:

06/29/93 SJ93-0797

Hydrocarbon Scan
EPA Methods 3550/California DHS LUFT Method
mg/Kg (ppm)
As Received Basis

Sample Name	Date Analyzed	Mineral <u>Spirits</u>	Jet <u>Fuel</u>	Kerosene	<u>Diesel</u>	Hydraulic <u>Oil</u>
SB17 (3-4)	07/01/93	ND	ND	ND	ND	ND
SB13 (1.5-2)	07/02/93	ND	ND	ND	ND	ND
SB13 (3-4)	07/01/93	ND	ND	ND	ND	ND
SB20 (1.5-2)	07/01/93	ND	ND	ND	ND	ND
SB20 (3-4)	07/02/93	ND	ND	ND	ND	ND
SB23 (1.5-2)	07/02/93	ND	ND	ND	ND	ND
SB23 (3-4)	07/01/93	ND	ND	ND	ND	ND
Method Blank	07/01/93	ND	ND	ND	ND	ND
Method Blank	07/02/93	ND	ND	ND	ND	ND
Method Blank	07/06/93	ND	ND	ND	ND	ND
Method Blank	07/08/93	ND	ND	ND	ND	ND
MRL		1	1	1	1	5

Approved by:

Koon Mughy

Date: July 14, 1882

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/OF88-001.14

Sample Matrix:

Date Received: Date Extracted: 06/18/93

Soil

Service Request No.:

06/30/93 SJ93-0797

Hydrocarbon Scan EPA Methods 3550/California DHS LUFT Method mg/Kg (ppm) As Received Basis

Sample Name	Date Analyzed	Mineral <u>Spirits</u>	Jet <u>Fuel</u>	<u>Kerosene</u>	Diesel	Hydraulic <u>Oil</u>
SB3 (3-4)	07/06/93	ND	ND	ND	ND	11.
Method Blank	07/06/93	ND	ND	ND	ND	ND
MRL		1	1	1	1	5

KEnnymunhy

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received:

Service Request No.: SJ93-0797

06/18/93

Sample Matrix: Soil

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

•	e Name: nalyzed:	<u>SB4 (1.5-2)</u> 06/24/93	<u>SB4 (3-4)</u> 06/24/93	SB3 (1.5-2) 06/24/93
<u>Analyte</u>	MRL			
Benzene	0.05	ND	ND	ND
Toluene	0.1	ND	ND	ND
Ethylbenzene	0.1	ND	ND	ND
Total Xylenes	0.1	ND	ND	ND
TPH as Gasoline	5	ND	ND	ND

Kon AMinghy

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93

Sample Matrix: Soil

Service Request No.: SJ93-0797

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

Sample Name:		<u>SB3 (3-4)</u>	<u>SB2 (1.5-2)</u>	SB2 (3-4)
Date Analyzed:		06/24/93	06/24/93	06/24/93
<u>Analyte</u>	MRL			
Benzene Toluene Ethylbenzene Total Xylenes	0.05 0.1 0.1	ND ND ND	ND ND ND	ND ND ND
TPH as Gasoline	0.1	ND	ND	ND
	5	ND	ND	ND

Com Muyely

Date: July 14,1993

Analytical Report

Client:

EMCON Associates

Westinghouse, Emeryville/0F88-001.14

Date Received: Service Request No.: SJ93-0797

06/18/93

Project:

Sample Matrix: Soil

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

J	Sample Name: Date Analyzed:	SB8 (1.5-2) 06/24/93	SB8 (3-4) 06/24/93	SB9 (1.5-2) 06/24/93
Analyte	<u>MRL</u>			
Benzene	0.05	ND	ND	ND
Toluene	0.1	ND	ND	ND
Ethylbenzene	0.1	ND	ND	ND
Total Xylenes	0.1	ND	ND	ND
TPH as Gasoline	5	ND	ND	ND

Analytical Report

Client:

EMCON Associates

Date Received:

06/18/93

Project:

Westinghouse, Emeryville/0F88-001.14

Service Request No.: SJ93-0797

Sample Matrix: Soil

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

	ple Name: Analyzed:	SB9 (3-4) 06/24/93	SB7 (1.5-2) 06/24/93	SB7 (3-4) 06/24/93 *
Analyte	MRL			
Benzene	0.05	ND	ND	ND
Toluene	0,1	ND	ND	ND
Ethylbenzene	0,1	ND	ND	ND
Total Xylenes	0.1	ND	ND	ND
TPH as Gasoline	5	ND	ND	ND

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

KonviMayshy

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received:

Service Request No.: SJ93-0797

06/18/93

Sample Matrix: Soil

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		SB12 (1.5-2) 06/24/93 *	SB12 (3-4) 06/24/93 *	SB14 (1.5-2) 06/24/93 *	
<u>Analyte</u>		<u>MRL</u>			
Benzene		0.05	ND	ND	ND
Toluene		0.1	ND	ND	ND
Ethylbenzene		0.1	ND	ND	ND
Total Xylenes		0.1	ND	ND	ND
TPH as Gasoline		5	ND	ND	ND

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

K com of Mingshy

Analytical Report

Client:

EMCON Associates

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93

Project:

Sample Matrix: Soil

Service Request No.: SJ93-0797

BTEX and TPH as Gasoline

EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm)

As Received Basis

	Sample Name: Date Analyzed:		<u>SB14 (3-4)</u> 06/24/93 *	SB10 (1.5-2) 06/24/93 *	<u>SB10 (3-4)</u> 06/24/93 *
<u>Analyte</u>		<u>MRL</u>			
Benzene		0.05	ND	ND	ND
Toluene		0.1	ND	ND	NĐ
Ethylbenzene		0.1	ND	ND	ND
Total Xylenes		0.1	ND	ND	ND
TPH as Gasoline		5	ND	ND	ND

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93

Service Request No.: SJ93-0797

Sample Matrix: Soil

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

	Sample Name: Date Analyzed:		<u>SB11 (1.5-2)</u> 06/24/93 *	SB11 (3-4) 06/24/93 *	SB16 (1.5-2) 06/28/93
Analyte	!	<u>MRL</u>			
Benzene Toluene		0.05 0.1	ND ND	ND ND	ND ND
Ethylbenzene Total Xylenes		0.1 0.1	ND ND	ND ND	ND ND
TPH as Gasoline		5	ND	ND	ND

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93

Sample Matrix: Soil

Service Request No.: SJ93-0797

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

	Sample Name: Date Analyzed:		SB16 (3-4) 06/28/93	SB15 (1.5-2) 06/28/93	<u>SB15 (3-4)</u> 06/28/93
<u>Analyte</u>	1	MRL			
Benzene Toluene		0.05 0.1	ND ND	ND ND	ND ND
Ethylbenzene		0.1	ND	ND	ND
Total Xylenes		0.1	ND	ND	ND
TPH as Gasoline		5	ND	ND	ND

Krow AM wysky

Date: July 14,1993

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received:

Service Request No.: SJ93-0797

06/18/93

Sample Matrix: Soil

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		SB17 (1.5-2) 06/28/93	SB17 (3-4) 06/28/93	SB13 (1.5-2) 06/28/93	
<u>Analyte</u>		<u>MRL</u>			
Benzene		0.05	ND	ND	ND
Toluene		0.1	ND	ND	ND
Ethylbenzene		0.1	ND	ND	ND
Total Xylenes		0.1	ND	ND	ND
TPH as Gasoline		5	ND	ND	ND

Kcomom ny dry

Date: July 14, 1893

Analytical Report

Client:

EMCON Associates

Date Received:

06/18/93

Project:

Westinghouse, Emeryville/0F88-001.14

Service Request No.: SJ93-0797

Sample Matrix: Soil

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

	Sample Name: Date Analyzed:	<u>SB13 (3-4)</u> 06/28/93	SB20 (1.5-2) 06/28/93	<u>SB20 (3-4)</u> 06/28/93
<u>Analyte</u>	<u>MRI</u>	:		
Benzene	0.0	-	ND	ND
Toluene	0.1	ND	ND	ND
Ethylbenzene	0.1	ND	ND	ND
Total Xylenes	0.1	ND	ND	ND
TPH as Gasoline	5	ND	ND	ND

Kromomyshy Date: July 14,1893

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received:

Service Request No.: SJ93-0797

06/18/93

Sample Matrix: Soil

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

	Sample Name: Date Analyzed:		SB23 (1.5-2) 06/28/93 *	SB23 (3-4) 06/28/93 *	Method Blank 06/24/93
<u>Analyte</u>		MRL			
Benzene Toluene		0.05 0.1	ND ND	ND ND	ND ND
Ethylbenzene Total Xylenes		0.1 0.1	ND ND	ND ND	ND ND
TPH as Gasoline		5	ND	МD	ND

This sample was part of the analytical batch started on June 28, 1993. However, it was analyzed after midnight so the actual date analyzed is June 29, 1993.

Kommuny Date: July 14, 1993

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93

Sample Matrix: Soil

Service Request No.: SJ93-0797

BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed: Method Blank 06/28/93

<u>Analyte</u>	MRL	
Benzene	0.05	ND
Toluene	0.1	ND
Ethylbenzene	0.1	ND
Total Xylenes	0.1	ND
TPH as Gasoline	5	ND

Ktom of Merythy

Analytical Report

Client: Project: **EMCON Associates**

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93 Service Request No.: SJ93-0797

Sample Matrix:

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm)

As Received Basis

Sample Name: Date Analyzed:		SB4 (1.5-2) 06/24/93	<u>SB4 (3-4)</u> 06/24/93	SB3 (1.5-2) 06/24/93
Analyte	MRL			
Dichlorodifluoromethane (Freon 12)	0.1	ND	ND	ND
Chloromethane	0.1	ND	ND	ND
Vinyl Chloride	0.05	ND	ND	ND
Bromomethane	0.05	ND	ND	ND
Chloroethane	0.05	ND	ND	ND
Trichlorofluoromethane (Freon 11)	0.05	ND	ND	ND
1,1-Dichloroethene	0.05	ND	ND	ND
Trichlorotrifluoroethane (Freon 113)	0.05	ND	ND	ND
Methylene Chloride	0.05	ND	ND	ND
trans-1,2-Dichloroethene	0.05	ND	ND	ND
cis-1,2-Dichloroethene	0.05	ND	ND	ND
1,1-Dichloroethane	0.05	ND	ND	ND
Chloroform	0.05	ND	ND	ND
1,1,1-Trichloroethane (TCA)	0.05	ND	ND	ND
Carbon Tetrachloride	0.05	ND	ND	ND
1,2-Dichloroethane	0.05	ND	ND	ND
Trichloroethene (TCE)	0.05	ND	ND	ND
1,2-Dichloropropane	0.05	ND	ND	ND
Bromodichloromethane	0.05	ND	ND	ND
2-Chloroethyl Vinyl Ether	0.5	ND	ND	ND
trans-1,3-Dichloropropene	0.05	ND	ND	ND
cis-1,3-Dichloropropene	0.05	ND	ND	ND
1,1,2-Trichloroethane	0.05	ND	ND	ND
Tetrachloroethene (PCE)	0.05	ND	ND	ND
Dibromochloromethane	0.05	ND	ND	ND
Chlorobenzene	0.05	ND	ND	ND
Bromoform	0.05	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.05	ND	ND	ND
1,3-Dichlorobenzene	0.1	ND	ND	ND
1,4-Dichlorobenzene	0.1	ND	ND	ND
1,2-Dichlorobenzene	0.1	ND	ND	ND

Approved by: Keely AM wyshy Date: July 14,1923

Analytical Report

Client: Project: **EMCON Associates**

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93 Service Request No.: SJ93-0797

Sample Matrix:

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		SB3 (3-4) 06/24/93	SB2 (1.5-2) 06/24/93	SB2 (3-4) 06/24/93
·		00/2-//00	00,2 ,,00	00/2 1/00
Analyte	MRL			
Dichlorodifluoromethane (Freon 12)	0.1	ND	ND	ND
Chloromethane	0.1	ND	ND	ND
Vinyl Chloride	0.05	ND	ND	ND
Bromomethane	0.05	ND	ND	ND
Chloroethane	0.05	ND	ND	ND
Trichlorofluoromethane (Freon 11)	0.05	ND	ND	ND
1,1-Dichloroethene	0.05	ND	ND	ND
Trichlorotrifluoroethane (Freon 113)	0.05	ND	ND	ND
Methylene Chloride	0.05	ND	ND	ND
trans-1,2-Dichloroethene	0.05	ND	ND	ND
cis-1,2-Dichloroethene	0.05	ND	ND	ND
1,1-Dichloroethane	0.05	ND	ND	ND
Chloroform	0.05	ND	ND	ND
1,1,1-Trichloroethane (TCA)	0.05	ND	ND	ND
Carbon Tetrachloride	0.05	ND	ND	ND
1,2-Dichloroethane	0.05	ND	ND	ND
Trichloroethene (TCE)	0.05	ND	ND	ND
1,2-Dichloropropane	0.05	ND	ND	ND
Bromodichloromethane	0.05	ND	ND	ND
2-Chloroethyl Vinyl Ether	0.5	ND	ND	ND
trans-1,3-Dichloropropene	0.05	ND	ND	ND
cis-1,3-Dichloropropene	0.05	ND	ND	ND
1,1,2-Trichloroethane	0.05	ND	ND	ND
Tetrachloroethene (PCE)	0.05	ND	ND	ND
Dibromochloromethane	0.05	ND	ND	ND
Chlorobenzene	0.05	ND	ND	ND
Bromoform	0.05	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.05	ND	ND	ND
1,3-Dichlorobenzene	0.1	ND	ND	ND
1,4-Dichlorobenzene	0.1	ND	ND	ND
1,2-Dichlorobenzene	0.1	ND	ND	ND

Analytical Report

Client: Project: **EMCON Associates**

Westinghouse, Emeryville/0F88-001.14

Date Received: 06/18/93 Service Request No.: SJ93-0797

Sample Matrix:

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		SB8 (1.5-2) 06/24/93	SB8 (3-4) 06/24/93	SB9 (1.5-2) 06/24/93
Analyte	MRL			
Dichlorodifluoromethane (Freon 12)	0.1	ND	ND	ND
Chloromethane	0.1	ND	ND	ND
Vinyl Chloride	0.05	ND	ND	ND
Bromomethane	0.05	ND	ND	ND
Chloroethane	0.05	ND	ND	ND
Trichlorofluoromethane (Freon 11)	0.05	ND	ND	NĐ
1,1-Dichloroethene	0.05	ND	ND	ND
Trichlorotrifluoroethane (Freon 113)	0.05	ND	ND	ND
Methylene Chloride	0.05	ND	ND	ND
trans-1,2-Dichloroethene	0.05	ND	ND	ND
cis-1,2-Dichloroethene	0.05	ND	ND	ИD
1,1-Dichloroethane	0.05	ND	ND	ND
Chloroform	0.05	ND	ND	ND
1,1,1-Trichloroethane (TCA)	0.05	ND	ND	ND
Carbon Tetrachloride	0.05	ND	ND	ND
1,2-Dichloroethane	0.05	ND	ND	ND
Trichloroethene (TCE)	0.05	ND	ND	ND
1,2-Dichloropropane	0.05	ND	ND	ND
Bromodichloromethane	0.05	ND	ND	ND
2-Chloroethyl Vinyl Ether	0.5	ND	ND	ND
trans-1,3-Dichloropropene	0.05	ND	ND	ND
cis-1,3-Dichloropropene	0.05	ND	ND	ND
1,1,2-Trichloroethane	0.05	ND	ND	ND
Tetrachloroethene (PCE)	0.05	ND	ND	ND
Dibromochloromethane	0.05	ND	ND	ND
Chlorobenzene	0.05	ND	ND	ND
Bromoform	0.05	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.05	ND	ND	ND
1,3-Dichlorobenzene	0.1	ND	ND	ND
1,4-Dichlorobenzene	0.1	ND	ND	ND
1,2-Dichlorobenzene	0.1	ND	ND	ND

Approved by: Now AM my My

Analytical Report

Client:

EMCON Associates

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93

Project: Sample Matrix:

Soil

Service Request No.: SJ93-0797

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		<u>SB9 (3-4)</u> 06/24/93	SB7 (1.5-2) 06/24/93	<u>SB7 (3-4)</u> 06/24/93 *
Analyte	MRL			
Dichlorodifluoromethane (Freon 12)	0.1	ND	ND	ND
Chloromethane	0.1	ND	ND	ND
Vinyl Chloride	0.05	ND	ND	ND
Bromomethane	0.05	ND	ND	ND
Chloroethane	0.05	ND	ND	ND
Trichlorofluoromethane (Freon 11)	0.05	ND	ND	ND
1,1-Dichloroethene	0.05	ND	ND	ND
Trichlorotrifluoroethane (Freon 113)	0.05	ND	ND	ND
Methylene Chloride	0.05	ND	ND	ND
trans-1,2-Dichloroethene	0.05	ND	ND	ND
cis-1,2-Dichloroethene	0.05	ND	ND	ND
1,1-Dichloroethane	0.05	ND	ND	ND
Chloroform	0.05	ND	ND	ND
1,1,1-Trichloroethane (TCA)	0.05	ND	ND	ND
Carbon Tetrachloride	0.05	ND	ND	ND
1,2-Dichloroethane	0.05	ND	ND	ND
Trichloroethene (TCE)	0.05	ND	ND	ND
1,2-Dichloropropane	0.05	ND	ND	ND
Bromodichloromethane	0.05	ND	ND	ND
2-Chloroethyl Vinyl Ether	0.5	ND	ND	ND ·
trans-1,3-Dichloropropene	0.05	ND	ND	ND
cis-1,3-Dichloropropene	0.05	ND	ND	ND
1,1,2-Trichloroethane	0.05	ND	ND	ND
Tetrachloroethene (PCE)	0.05	ND	ND	ND
Dibromochloromethane	0.05	ND	ND	ND
Chlorobenzene	0.05	ND	ND	ND
Bromoform	0.05	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.05	ND	ND	ND
1,3-Dichlorobenzene	0.1	NÐ	ND	ND
1,4-Dichlorobenzene	0.1	ND	ND	ND
1,2-Dichlorobenzene	0.1	ND	ND	ND

COM AM myshy Date: July 19, 1953

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Analytical Report

Client: Project: **EMCON Associates**

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93 Service Request No.: SJ93-0797

Sample Matrix:

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		SB12 (1.5-2) 06/24/93 *	SB12 (3-4) 06/24/93 *	SB14 (1.5-2) 06/24/93 *
Analyte	MRL			
Dichlorodifluoromethane (Freon 12)	0.1	ND	ND	ND
Chloromethane	0.1	ND	ND	ND
Vinyl Chloride	0.05	ND	ND	ND
Bromomethane	0.05	ND	ND	ND
Chloroethane	0.05	ND	ND	ND
Trichlorofluoromethane (Freon 11)	0.05	ND	ND	ND
1,1-Dichloroethene	0.05	ND	ND	ND
Trichlorotrifluoroethane (Freon 113)	0.05	ND	ND	ND
Methylene Chloride	0.05	ND	ND	ND
trans-1,2-Dichloroethene	0.05	ND	ND	ND
cis-1,2-Dichloroethene	0.05	ND	ND	ND
1,1-Dichloroethane	0.05	ND	ND	ND
Chloroform	0.05	ND	ND	ND
1,1,1-Trichloroethane (TCA)	0.05	ND	ND	ND
Carbon Tetrachloride	0.05	ND	ND	ND
1,2-Dichloroethane	0.05	ND	ND	ND
Trichloroethene (TCE)	0.05	ND	ND	ND
1,2-Dichloropropane	0.05	ND	ND	ND
Bromodichloromethane	0.05	ND	ND	ND
2-Chloroethyl Vinyl Ether	0.5	ND	ND	ND
trans-1,3-Dichloropropene	0.05	ND	ND	ND
cis-1,3-Dichloropropene	0.05	ND	ND	ND
1,1,2-Trichloroethane	0.05	ND	ND	ND
Tetrachloroethene (PCE)	0.05	ND	ND	ND
Dibromochloromethane	0.05	ND	ND	ND
Chlorobenzene	0.05	ND	ND	ND
Bromoform	0.05	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.05	ND	ND	ND
1,3-Dichlorobenzene	0.1	ND	ND	ND
1,4-Dichlorobenzene	0.1	ND	ND	ND
1,2-Dichlorobenzene	0.1	ND	ND	ND

Kom AMuychy Date: Tely 14, 1993

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Analytical Report

Client:

EMCON Associates

Date Received:

06/18/93

Project:

Westinghouse, Emeryville/0F88-001.14

Service Request No.: SJ93-0797

Sample Matrix:

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		SB14 (3-4) 06/24/93 *	SB10 (1.5-2) 06/24/93 *	SB10 (3-4) 06/24/93 *
Analyte	MRL			
Dichlorodifluoromethane (Freon 12)	0.1	ND	ND	ND
Chloromethane	0.1	ND	ND	ND
Vinyl Chloride	0.05	ND	ND	ND
Bromomethane	0.05	ND	ND	ND
Chloroethane	0.05	ND	ND	ND
Trichlorofluoromethane (Freon 11)	0.05	ND	ND	ND
1,1-Dichloroethene	0.05	ND	ND	ND
Trichlorotrifluoroethane (Freon 113)	0.05	ND	ND	ND
Methylene Chloride	0.05	ND	ND	ND
trans-1,2-Dichloroethene	0.05	ND	ND	ND
cis-1,2-Dichloroethene	0.05	ND	ND	ND
1,1-Dichloroethane	0.05	ND	ND	ND
Chloroform	0.05	ND	ND	ND
1,1,1-Trichloroethane (TCA)	0.05	ND	ND	ND
Carbon Tetrachloride	0.05	ND	ND	ND
1,2-Dichloroethane	0.05	ND	ND	ND
Trichloroethene (TCE)	0.05	ND	ND	ND
1,2-Dichloropropane	0.05	ND	ND	ND
Bromodichloromethane	0.05	ND	ND	ND
2-Chloroethyl Vinyl Ether	0.5	ND	ND	ND
trans-1,3-Dichloropropene	0.05	ND	ND	ND
cis-1,3-Dichloropropene	0.05	ND	ND	ND
1,1,2-Trichloroethane	0.05	ND	ND	ND
Tetrachloroethene (PCE)	0.05	ND	ND	ND
Dibromochloromethane	0.05	ND	ND	ND
Chlorobenzene	0.05	ND	ND	ND
Bromoform	0.05	ND	ND	ND
1,1,2,2-Tetrachioroethane	0.05	ND	ND	ND
1,3-Dichlorobenzene	0.1	ND	ND	ND
1,4-Dichlorobenzene	0.1	ND	ND	ND
1,2-Dichlorobenzene	0.1	ND	ND	ND

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Analytical Report

Client:

EMCON Associates

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93 Service Request No.: SJ93-0797

Project: Sample Matrix:

Soil

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		SB11 (1.5-2) 06/24/93 *	SB11 (3-4) 06/24/93	SB16 (1.5-2) 06/25/93
Analyte	MRL			
Dichlorodifluoromethane (Freon 12) Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane (Freon 11) 1,1-Dichloroethene Trichlorotrifluoroethane (Freon 113) Methylene Chloride trans-1,2-Dichloroethene cis-1,2-Dichloroethene 1,1-Dichloroethane Chloroform 1,1,1-Trichloroethane Chloroform 1,1,1-Trichloroethane Trichloroethane Trichloroethane Trichloroethene (TCE) 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl Vinyl Ether trans-1,3-Dichloropropene cis-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene (PCE) Dibromochloromethane Chlorobenzene Bromoform 1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene	0.1 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0	000000000000000000000000000000000000000	222222222222222222222222222222222222222	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1,2-Dichlorobenzene	0.,			

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Kernet Maryly Date: July 14,1953

Analytical Report

Client: Project: **EMCON Associates**

Westinghouse, Emeryville/0F88-001.14

Date Received: Service Request No.: SJ93-0797

06/18/93

Sample Matrix:

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name:		<u>SB16 (3-4)</u>	SB15 (1.5-2)	SB15 (3-4)
Date Analyzed:		06/25/93	06/25/93	06/25/93
Analyte	MRL			
Dichlorodifluoromethane (Freon 12) Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane (Freon 11) 1,1-Dichloroethene Trichlorotrifluoroethane (Freon 113) Methylene Chloride trans-1,2-Dichloroethene cis-1,2-Dichloroethene 1,1-Dichloroethane Chloroform 1,1,1-Trichloroethane (TCA) Carbon Tetrachloride 1,2-Dichloroethane Trichloroethane Trichloroethene (TCE) 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl Vinyl Ether trans-1,3-Dichloropropene cis-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene (PCE) Dibromochloromethane Chlorobenzene Bromoform 1,1,2,2-Tetrachloroethane	0.1 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0		00000000000000000000000000000000000000	00000000000000000000000000000000000000
1,3-Dichlorobenzene	0.1	ND	ND	ND
1,4-Dichlorobenzene	0.1	ND	ND	ND
1,2-Dichlorobenzene	0.1	ND	ND	ND

Date:

Analytical Report

Client: Project: **EMCON Associates**

Westinghouse, Emeryville/0F88-001.14

Date Received: Service Request No.: SJ93-0797

06/18/93

Sample Matrix:

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name:		SB17 (1.5-2)	SB17 (3-4)	SB13 (1.5-2)
Date Analyzed:		06/25/93	06/25/93	06/25/93
Analyte	MRL			
Dichlorodifluoromethane (Freon 12) Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane (Freon 11) 1,1-Dichloroethene Trichlorotrifluoroethane (Freon 113) Methylene Chloride trans-1,2-Dichloroethene cis-1,2-Dichloroethene 1,1-Dichloroethane Chloroform 1,1,1-Trichloroethane (TCA) Carbon Tetrachloride 1,2-Dichloroethane Trichloroethene (TCE) 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl Vinyl Ether trans-1,3-Dichloropropene cis-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene (PCE) Dibromochloromethane Chlorobenzene Bromoform	0.1 0.05	00000000000000000000000000000000000000	00000000000000000000000000000000000000	222222222222222222222222222222222222222
1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	0.05	ND	ND	ND
	0.1	ND	ND	ND
	0.1	ND	ND	ND
	0.1	ND	ND	ND

Kow M vy My Date: July 14,1953

Analytical Report

Client: Project: **EMCON Associates**

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93 Service Request No.: SJ93-0797

Sample Matrix:

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		SB13 (3-4) 06/25/93	SB20 (1.5-2) 06/25/93 *	SB20 (3-4) 06/25/93 *
Analyte	MRL			
Dichlorodifluoromethane (Freon 12) Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane (Freon 11) 1,1-Dichloroethene Trichlorotrifluoroethane (Freon 113) Methylene Chloride trans-1,2-Dichloroethene cis-1,2-Dichloroethene 1,1-Dichloroethane Chloroform 1,1,1-Trichloroethane (TCA) Carbon Tetrachloride 1,2-Dichloroethane Trichloroethene (TCE) 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl Vinyl Ether trans-1,3-Dichloropropene cis-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene (PCE) Dibromochloromethane Chlorobenzene Bromoform	0.1 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0		000000000000000000000000000000000000000	
1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene	0.05 0.1 0.1	ND ND ND	ND ND ND	ND ND ND
1,2-Dichlorobenzene	0.1	ND	ND	ND

Approved by: Kom Munyky

This sample was part of the analytical batch started on June 25, 1993. However, it was analyzed after midnight so the actual date analyzed is June 26, 1993.

Analytical Report

Client:

EMCON Associates

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93

Project: Sample Matrix:

Service Request No.: SJ93-0797

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name:		SB23 (1.5-2)	SB23 (3-4)	Method Blank
Date Analyzed:		06/25/93 *	06/25/93 *	06/24/93
Analyte	MRL			
Dichlorodifluoromethane (Freon 12) Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane (Freon 11) 1,1-Dichloroethene Trichlorotrifluoroethane (Freon 113) Methylene Chloride trans-1,2-Dichloroethene cis-1,2-Dichloroethene 1,1-Dichloroethane Chloroform 1,1,1-Trichloroethane (TCA) Carbon Tetrachloride 1,2-Dichloroethane Trichloroethene (TCE) 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl Vinyl Ether trans-1,3-Dichloropropene cis-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene (PCE) Dibromochloromethane Chlorobenzene Bromoform	0.1 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0	00000000000000000000000000000000000000	000000000000000000000000000000000000000	22222222222222222222222222222222222222
1,1,2,2-Tetrachloroethane	0.05	ND	ND	ND
1,3-Dichlorobenzene	0.1	ND	ND	ND
1,4-Dichlorobenzene	0.1	ND	ND	ND
1,2-Dichlorobenzene	0.1	ND	ND	ND

10 m AM myshy Date: Jy 19,1983

This sample was part of the analytical batch started on June 25, 1993. However, it was analyzed after midnight so the actual date analyzed is June 26, 1993.

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received: Service Request No.: SJ93-0797

06/18/93

Sample Matrix:

Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		Method Blank 06/25/93
Analyte	MRL	
Dichlorodifluoromethane (Freon 12)	0.1 0.1	ND ND
Chloromethane	_	ND
Vinyl Chloride	0.05	ND
Bromomethane	0.05 0.05	ND ND
Chloroethane	0.05	ND ND
Trichlorofluoromethane (Freon 11)	0.05	ND
1,1-Dichloroethene Trichlorotrifluoroethane (Freon 113)	0.05	ND
Methylene Chloride	0.05	ND
trans-1,2-Dichloroethene	0.05	ND
cis-1,2-Dichloroethene	0.05	ND
1,1-Dichloroethane	0.05	ND
Chloroform	0.05	ND
1,1,1-Trichloroethane (TCA)	0.05	ND
Carbon Tetrachloride	0.05	ND
1,2-Dichloroethane	0.05	ND
Trichloroethene (TCE)	0.05	ND
1,2-Dichloropropane	0.05	ND
Bromodichloromethane	0.05	ND
2-Chloroethyl Vinyl Ether	0.5	ND
trans-1,3-Dichloropropene	0.05	ND
cis-1,3-Dichloropropene	0.05	ND
1,1,2-Trichloroethane	0.05	ND
Tetrachloroethene (PCE)	0.05	ND
Dibromochloromethane	0.05	ND
Chlorobenzene	0.05	ND
Bromoform	0.05	ND
1,1,2,2-Tetrachloroethane	0.05	ND
1,3-Dichlorobenzene	0.1	ND
1,4-Dichlorobenzene	0.1	ND
1,2-Dichlorobenzene	0.1	ND

Klom AM ingly

Date: July 14,1993

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Sample Matrix:

Date Received:

06/18/93

Date Extracted:

06/18/93

Work Order No.:

SJ93-0797

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		<u>SB4 (1.5-2)</u> 06/24/93 *	SB4 (3-4) 06/24/93 *	SB3 (1.5-2) 06/24/93 *
Analyte	MRL			
Aroclor 1016	0.1	ND	ND	ND
Arocior 1221	0.1	ND	ND	ND
Aroclor 1232	0.1	ND	ND	ND
Aroclor 1242	0.1	ND	ND	ND
Aroclor 1248	0.1	ND	ND	ND
Aroclor 1254	0.1	ND	ND	ND
Aroclor 1260	0.1	ND	ND	ND

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Date: July

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Analytical Report

Client:

EMCON Associates

Project: Sample Matrix: Westinghouse, Emeryville/0F88-001.14

Date Received: Date Extracted: 06/18/93 06/18/93

SJ93-0797

Work Order No.:

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		<u>SB3 (3-4)</u> 06/24/93 *	SB2 (1.5-2) 06/24/93 *	<u>SB2 (3-4)</u> 06/24/93 *
Analyte	MRL			
Aroclor 1016	0.1	ND	ND	ND
Aroclor 1221	0.1	ND	ND	ND
Aroclor 1232	0.1	ND	ND	ND
Aroclor 1242	0.1	ND	ND	ND
Aroclor 1248	0.1	ND	ND	ND
Aroclor 1254	0.1	ND	ND	ND
Aroclor 1260	0.1	ND	ND	ND

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Leon Amuyth

Date: J / 14/9

Analytical Report

Client:

EMCON Associates

Project: Sample Matrix: Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93

Date Extracted:

06/18/93

Work Order No.:

SJ93-0797

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		<u>SB8 (1.5-2)</u> 06/24/93 *	SB8 (3-4) 06/24/93 *	SB9 (1.5-2) 06/24/93 *
Analyte	MRL			
Arocior 1016	0.1	<0.2 **	ND	ND
Arocior 1221	0.1	<0.2 **	ND	ND
Aroclor 1232	0.1	< 0.2 **	ND	ND
Aroclor 1242	0.1	<0.2 **	ND	ND
Aroclor 1248	0.1	<0.2 **	ND	ND
Arocior 1254	0.1	<0.2 **	ND	ND
Arocior 1260	0.1	1.	ND	ND

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Raised MRL due to high analyte concentration requiring sample dilution.

From All mychy Date: July 14/993

Analytical Report

Client:

EMCON Associates

Project:

Sample Matrix:

Westinghouse, Emeryville/0F88-001.14

Date Received: Date Extracted: 06/18/93 06/18/93

Work Order No.:

SJ93-0797

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		<u>SB9 (3-4)</u> 06/24/93 *	Method Blank 06/24/93	
Analyte	MRL			
Aroclor 1016	0.1	ND	ND	
Aroclor 1221	0.1	ND	ND	
Arocior 1232	0.1	ND	ND	
Aroclor 1242	0.1	ND	ND	
Aroclor 1248	0.1	ND	ND	
Aroclor 1254	0.1	ND	ND	
Aroclor 1260	0.1	ND	ND	

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

F-COMHManshy 34

Analytical Report

Client:

EMCON Associates

Project: Sample Matrix: Westinghouse, Emeryville/0F88-001.14

Date Received: Date Extracted: 06/18/93 06/22/93

SJ93-0797 Work Order No.:

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

	Sample Name: Date Analyzed:	<u>SB12 (1.5-2'</u> 06/24/93 *	SB12 (3-4) 06/24/93 *	SB14 (1.5-2) 06/24/93 *
Analyte	MRL			
Aroclor 1016	0.1	ND	ND	ND
Arocior 1221	0.1	ND	ND	ND
Aroclor 1232	0.1	ND	ND	ND
Aroclor 1242	0.1	ND	ND	ND
Aroclor 1248	0.1	ND	ND	ND
Aroclor 1254	0.1	ND	ND	ND
Aroclor 1260	0.1	ND	ND	ND

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Kom AM mythy Date: July 14/1993

Analytical Report

Client:

EMCON Associates

Project: Sample Matrix: Westinghouse, Emeryville/0F88-001.14

Soil

Date Received: Date Extracted: 06/18/93 06/22/93

Work Order No.:

SJ93-0797

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		<u>SB14 (3-4)</u> 06/24/93 *	SB10 (1.5-2) 06/24/93 *	SB10 (3-4) 06/24/93 *
Analyte	MRL			
Aroclor 1016	0.1	ND	NĐ	ND
Aroclor 1221	0.1	ND	ND	ND
Aroclor 1232	0.1	ND	ND	ND
Aroclor 1242	0.1	ND	ND	ND
Aroclor 1248	0.1	ND	ND	ND
Aroclor 1254	0.1	ND	ND	ND
Aroclor 1260	0.1	ND	ND	ND

* This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Approved by:

K-com AM unly

Date

te: July 14,1993

Analytical Report

Client:

EMCON Associates

Project: Sample Matrix: Westinghouse, Emeryville/0F88-001.14

Soil

Date Received: Date Extracted: 06/18/93

06/22/93

Work Order No.: SJ93-0797

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		SB11 (1.5-2) 06/24/93 *	SB11 (3-4) 06/24/93 *	SB16 (1.5-2) 06/24/93 *
Analyte	MRL			
Aroclor 1016	0.1	ND	ND	ND
Aroclor 1221	0.1	ND	ND	ND
Aroclor 1232	0.1	ND	ND	ND
Aroclor 1242	0.1	ND	ND	ND
Aroclor 1248	0.1	ND	ND	ND
Aroclor 1254	0.1	ND	ND	ND
Arocior 1260	0.1	ND	ND	ND

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Kom Mayly

Date: July 14,1993

Analytical Report

Client: Project:

EMCON Associates

Westinghouse, Emeryville/0F88-001.14

Sample Matrix:

06/18/93

Date Received: Date Extracted:

06/22/93

Work Order No.:

SJ93-0797

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		<u>SB7 (1.5-2)</u> 06/24/93 *	<u>SB7 (3-4)</u> 06/24/93 *	Method Blank 06/24/93 *
Analyte	MRL			
Aroclor 1016	0.1	ND	ND	ND
Aroclor 1221	0.1	ND	ND	ND
Aroclor 1232	0.1	ND	ND	ND
Aroclor 1242	0.1	ND	ND	ND
Aroclor 1248	0.1	ND	ND	ND
Aroclor 1254	0.1	ND	ND	ND
Aroclor 1260	0.1	ND	ND	ND

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

From Muyly Date: July 14, 1993

Analytical Report

Client:

EMCON Associates

Project: Sample Matrix: Westinghouse, Emeryville/0F88-001.14

Soil

Date Received:

06/18/93

Date Extracted: Work Order No.: 06/29/93 SJ93-0797

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		SB16 (3-4) 06/29/93	SB15 (1.5-2) 06/29/93	SB15 (3-4) 06/29/93 *
Analyte	MRL			
Aroclor 1016	0.1	ND	ND	ND
Aroclor 1221	0.1	ND	ND	ND
Aroclor 1232	0.1	ND	ND	ND
Aroclor 1242	0.1	ND	ND	ND
Aroclor 1248	0.1	ND	ND	ND
Aroclor 1254	0.1	ND	ND	ND
Aroclor 1260	0.1	ND	ND	ND

This sample was part of the analytical batch started on June 29, 1993. However, it was analyzed after midnight so the actual date analyzed is June 30, 1993.

Kom M my Date: J-4 14, 1893

Analytical Report

Client:

EMCON Associates

Project: Sample Matrix: Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93

Date Extracted:

06/29/93

Work Order No.:

SJ93-0797

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		<u>SB17 (1.5-2)</u> 06/29/93 *	SB17 (3-4) 06/29/93 *	SB13 (1.5-2) 06/29/93 *
Analyte	MRL			
Aroclor 1016	0.1	ND	ND	ND
Aroclor 1221	0.1	ND	ND	ND
Aroclor 1232	0.1	ND	ND	ND
Aroclor 1242	0.1	ND	ND	ND
Aroclor 1248	0.1	ND	ND	ND
Aroclor 1254	0.1	ND	ND	ND
Aroclor 1260	0.1	ND	ND	ND

This sample was part of the analytical batch started on June 29, 1993. However, it was analyzed after midnight so the actual date analyzed is June 30, 1993.

Keom Munyly Date: July 14,1993

Analytical Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Sample Matrix:

Date Received:

06/18/93

Date Extracted:

06/29/93

Work Order No.: SJ93-0797

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:		SB13 (3-4) 06/29/93 *	SB20 (1.5-2) 06/29/93 *	SB20 (3-4) 06/29/93 *
Analyte	MRL			
Aroclor 1016	0.1	ND	ND	ND
Aroclor 1221	0.1	ND	ND	ND
Aroclor 1232	0.1	ND	ND	ND
Aroclor 1242	0.1	ND	ND	ND
Aroclor 1248	0.1	ND	ИD	ND
Aroclor 1254	0.1	ND	ND	ND
Aroctor 1260	0.1	ND	ND	ND

This sample was part of the analytical batch started on June 29, 1993. However, it was analyzed after midnight so the actual date analyzed is June 30, 1993.

Analytical Report

Client:

EMCON Associates

Project: Sample Matrix: Westinghouse, Emeryville/0F88-001.14

Date Received: Date Extracted: 06/18/93 06/29/93

Work Order No.:

SJ93-0797

Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

	Sample Name: Date Analyzed:	<u>\$B23 (1.5-2)</u> 06/29/93 *	SB23 (3-4) 06/29/93 *	Method Blank 06/29/93
Analyte	MRL			
Aroclor 1016	0.1	ND	ND	ND
Aroclor 1221	0.1	ND	NĎ	ND
Aroclor 1232	0.1	ND	ND	ND
Aroclor 1242	0.1	ND	ND	ND
Aroclor 1248	0.1	ND	ND	ND
Aroclor 1254	0.1	ND	ND	ND
Aroclor 1260	0.1	ND	ND	ND

This sample was part of the analytical batch started on June 29, 1993. However, it was analyzed after midnight so the actual date analyzed is June 30, 1993.

KEOM Manyly Date: July 19/1993

QA/QC Report

Client:

EMCON Associates

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93

Project: Sample Matrix:

Service Request No.: SJ93-0797

Surrogate Recovery Summary Hydrocarbon Scan EPA Methods 3550/California DHS LUFT Method

Sample Name	Date Analyzed	<u>Percent Recovery</u> p-Terphenyl
SB4 (1.5-2)	07/01/93	76.
SB4 (3-4)	06/30/93	96.
SB3 (1.5-2)	07/08/93	86.
SB3 (3-4)	07/06/93	80.
SB2 (1.5-2)	06/30/93	76.
SB2 (3-4)	06/30/93	70.
SB8 (1.5-2)	07/01/93	77.
SB8 (3-4)	06/30/93	77.
SB9 (1.5-2)	06/30/93	74.
SB9 (3-4)	06/30/93	69.
SB7 (1.5-2)	07/02/93	76.
SB7 (3-4)	07/01/93	78.
SB12 (1.5-2)	07/01/93	96.
SB12 (3-4)	07/06/93	*
SB14 (1.5-2)	07/01/93	72.
SB14 (3-4)	07/01/93	72.
SB10 (1.5-2)	07/02/93	71.
SB10 (3-4)	07/06/93	90.
SB11 (1.5-2)	07/01/93	92.
SB11 (3-4)	07/01/93	94.

CAS Acceptance Criteria

46-154

No surrogate spike recovery was calculated due to high sample concentration requiring a dilution.

Koom AM wylly Date: July 14,1893

QA/QC Report

Client:

EMCON Associates

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93

Project: Sample Matrix:

Soil

Service Request No.: SJ93-0797

Surrogate Recovery Summary Hydrocarbon Scan EPA Methods 3550/California DHS LUFT Method

Sample Name	Date Analyzed	Percent Recovery p-Terphenyl
SB16 (1.5-2)	07/02/93	83.
SB16 (3-4)	07/01/93	75.
SB15 (1.5-2)	07/01/93	80.
SB15 (3-4)	07/01/93	92.
SB17 (1.5-2)	07/01/93	91.
SB17 (3-4)	07/01/93	78.
SB13 (1.5-2)	07/02/93	68.
SB13 (3-4)	07/01/93	83.
SB20 (1.5-2)	07/01/93	66.
SB20 (3-4)	07/02/93	86.
SB23 (1.5-2)	07/02/93	82.
SB23 (3-4)	07/01/93	77.
SB4 (1.5-2) MS SB4 (1.5-2) DMS SB7 (1.5-2) MS SB7 (1.5-2) DMS SB13 (3-4) MS SB13 (3-4) DMS	06/30/93 06/30/93 07/02/93 07/02/93 07/01/93	68. 73. 83. 81. 77. 92.
Method Blank	06/30/93	83.
Method Blank	07/01/93	95.
Method Blank	07/02/93	88.
Method Blank	07/06/93	94.
Method Blank	07/08/93	87.

CAS Acceptance Criteria

46-154

KEOM AM ayrhy

Date: 3dy 14,1993

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Sample Matrix:

Date Received: Date Extracted: 06/18/93 06/28/93

Date Analyzed:

06/30/93

Service Request No.: SJ93-0797

Matrix Spike/Duplicate Matrix Spike Summary Hydrocarbon Scan

EPA Methods 3510/California DHS LUFT Method

mg/Kg (ppm) As Received Basis

Sample Name: SB4 (1.5-2)

Percent Recovery

<u>Analyte</u>	Spike <u>Level</u>	Sample <u>Result</u>	Spike <u>MS</u>	Result DMS	<u>MS</u>	<u>DMS</u>	CAS Acceptance <u>Criteria</u>
Diesel	100.	9.0 *	64.	9 5.	55.	86.	45-145

Sample Result is Hydraulic Oil, not Diesel. Calculation of spike recovery may be affected.

KomotMnythy Date: July 14, 1983

QA/QC Report

Client:

EMCON Associates

Project:

Sample Matrix:

Westinghouse, Emeryville/0F88-001.14

Date Received: Date Extracted: Date Analyzed:

06/18/93 06/29/93 07/02/93

Service Request No.: SJ93-0797

Matrix Spike/Duplicate Matrix Spike Summary Hydrocarbon Scan EPA Methods 3510/California DHS LUFT Method mg/Kg (ppm) As Received Basis

Sample Name:

SB7 (1.5-2)

Percent Recovery

<u>Analyte</u>	Spike <u>Level</u>	Sample <u>Result</u>	Spike <u>MS</u>	Result DMS	<u>MS</u>	<u>DMS</u>	CAS Acceptance <u>Criteria</u>
Diesel	100.	17. *	72.	73.	55.	56.	45-145

Sample result is Hydraulic Oil, not Diesel. Calculation of spike may be affected.

Kantmushy Date: Jely 14/1983

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Sample Matrix:

Date Received:

06/18/93

Date Extracted: Date Analyzed:

06/29/93 07/01/93

Service Request No.: SJ93-0797

Matrix Spike/Duplicate Matrix Spike Summary Hydrocarbon Scan EPA Methods 3510/California DHS LUFT Method mg/Kg (ppm) As Received Basis

Sample Name:

SB13 (3-4)

Percent Recovery

<u>Analyte</u>	Spike <u>Level</u>	Sample <u>Result</u>	Spike <u>MS</u>	Result DMS	<u>MS</u>	<u>DMS</u>	CAS Acceptance <u>Criteria</u>
Diesel	100	ND	69.	86.	69.	86.	45-145

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Sample Matrix: Soil Date Received:

06/18/93

Service Request No.: SJ93-0797

Surrogate Recovery Summary BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method

Date Analyzed	Percent Recovery a,a,a-Trifluorotoluene
06/24/93	90.
06/24/93	89.
06/24/93	91.
06/24/93	91.
06/24/93	91.
06/24/93	92.
06/24/93	87.
06/24/93	90.
06/24/93	89.
06/24/93	89.
06/24/93 06/24/93 06/24/93 06/24/93	90. 89. 89. 90. 88.
06/24/93	90.
06/24/93	88.
06/24/93	89.
06/24/93	89.
06/24/93	90.
	06/24/93 06/24/93 06/24/93 06/24/93 06/24/93 06/24/93 06/24/93 06/24/93 06/24/93 06/24/93 06/24/93 06/24/93 06/24/93 06/24/93 06/24/93

CAS Acceptance Criteria

63-137

Kom My my Date: July 14,1853

QA/QC Report

Client:

EMCON Associates

Date Received:

06/18/93

Project:

Westinghouse, Emeryville/0F88-001.14

Service Request No.: SJ93-0797

Sample Matrix:

Soil

Surrogate Recovery Summary BTEX and TPH as Gasoline EPA Methods 5030/8020/California DHS LUFT Method

Sample Name	<u>Date Analyzed</u>	Percent Recovery a,a,a-Trifluorotoluene
SB16 (1.5-2)	06/28/93	85.
SB16 (3-4)	06/28/93	88.
SB15 (1.5-2)	06/28/93	88 .
SB15 (3-4)	06/28/93	85.
SB17 (1.5-2)	06/28/93	86.
SB17 (3-4)	06/28/93	87.
SB13 (1.5-2)	06/28/93	88.
SB13 (3-4)	06/28/93	88.
SB20 (1.5-2)	06/28/93	88.
SB20 (3-4)	06/28/93	88.
SB23 (1.5-2)	06/28/93	88.
SB23 (3-4)	06/28/93	88.
SB3 (1.5-2) MS	06/24/93	92.
SB3 (1.5-2) DMS	06/24/93	90.
SB7 (1.5-2) MS	06/24/93	96.
SB7 (1.5-2) DMS	06/24/93	97.
SB16 (3-4) MS	06/28/93	89 .
SB16 (3-4) DMS	06/28/93	91.
Method Blank	06/24/93	81.
Method Blank	06/28/93	89.
	CAS Acceptance Criteria	63-137

Lonoth uply

Date: July 14, 1993

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93

Service Request No.: SJ93-0797

Sample Matrix:

Matrix Spike Summary **BTE** EPA Methods 5030/8020 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed: 06/24/93

SB3 (1.5-2)

Percent Recovery

<u>Analyte</u>	Spike <u>Level</u>	Sample <u>Result</u>	Spike MS	Result DMS	MS	DMS	CAS Acceptance <u>Criteria</u>
Benzene Toluene	2.5 2.5	ND ND	2.13 2.08	2.27 2.28	85. 83.	91. 91.	55-138 60-127
Ethylbenzene	2.5	ND	2.13	2.34	85.	94.	56-128

Sample Name:

SB16 (3-4)

06/28/93 Date Analyzed:

Percent Recovery

<u>Analyte</u>	Spike <u>Level</u>	Sample <u>Result</u>	Spike I <u>MS</u>	Result DMS	MS	DMS	CAS Acceptance <u>Criteria</u>
Benzene Toluene	2.5 2.5	ND ND	2.22 2.28	2.16 2.17	89. 91.	86. 87.	55-138 60-127
Ethylbenzene	2.5	ND	2.29	2.19	92.	88.	56-128

Komo Mrysby

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93 Service Request No.: SJ93-0797

Sample Matrix:

Soil

Matrix Spike Summary BTE EPA Methods 5030/8020 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed:

SB7 (1.5-2) 06/24/93

Percent Recovery

Analyte	Spike <u>Level</u>	Sample <u>Result</u>	Spike MS	Result DMS	MS	DMS	CAS Acceptance <u>Criteria</u>
TPH as Gasoline	25.0	ND	22.1	22.4	88.	90.	69-131

The DMS of this sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Keomit Muyly Date: July 14,1993

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93 Service Request No.: SJ93-0797

Sample Matrix:

Surrogate Recovery Summary Halogenated Volatile Organic Compounds EPA Methods 5030/8010

Sample Name	Date Analyzed	<u>Percent Recovery</u> 4-Bromofluorobenzene
SB4 (1.5-2)	06/24/93	110.
SB4 (3-4)	06/24/93	116.
SB3 (1.5-2)	06/24/93	116.
SB3 (3-4)	06/24/93	110.
SB2 (1.5-2)	06/24/93	108.
SB2 (3-4)	06/24/93	115.
SB8 (1.5-2)	06/24/93	108.
SB8 (3-4)	06/24/93	109.
SB9 (1.5-2)	06/24/93	110.
SB9 (3-4)	06/24/93	123.
SB7 (1.5-2)	06/24/93	103.
SB7 (3-4)	06/24/93	111.
SB12 (1.5-2)	06/24/93	121.
SB12 (3-4)	06/24/93	116.
SB14 (1.5-2)	06/24/93	109.
SB14 (3-4)	06/24/93	108.
SB10 (1.5-2)	06/24/93	116.
SB10 (3-4)	06/24/93	112.
SB11 (1.5-2)	06/24/93	120.
SB11 (3-4)	06/24/93	94.

CAS Acceptance Criteria

70-130

KetmutMingely Date: Jely 14, 19

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93 Service Request No.: SJ93-0797

Sample Matrix:

Soil

Surrogate Recovery Summary Halogenated Volatile Organic Compounds EPA Methods 5030/8010

Sample Name	Date Analyzed	<u>Percent Recovery</u> 4-Bromofluorobenzene
SB16 (1.5-2)	06/25/93	104.
SB16 (3-4)	06/25/93	106.
SB15 (1.5-2)	06/25/93	111.
SB15 (3-4)	06/25/93	100.
SB17 (1.5-2)	06/25/93	114.
SB17 (3-4)	06/25/93	104.
SB13 (1.5-2)	06/25/93	85 .
SB13 (3-4)	06/25/93	109.
SB20 (1.5-2)	06/25/93	116.
SB20 (3-4)	06/25/93	105.
SB23 (1.5-2)	06/25/93	104.
SB23 (3-4)	06/25/93	108.
SB11 (3-4) MS	06/24/93	114.
SB11 (3-4) DMS	06/24/93	105.
SB4 (1.5-2) MS	06/24/93	113.
SB4 (1.5-2) DMS	06/24/93	100.
SB16 (1.5-2) MS	06/25/93	104.
SB16 (1.5-2) DMS	06/25/93	112.
Method Blank	06/24/93	105.
Method Blank	06/25/93	123.

CAS Acceptance Criteria

70-130

KEMHMunghy Date: July 14,1993

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received: Service Request No.: SJ93-0797

06/18/93

Sample Matrix:

Matrix Spike/Duplicate Matrix Spike Summary Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name: Date Analyzed: SB11 (3-4) 06/24/93

Percent Recovery

	Spike	Sample	Spike	Result			EPA Acceptance
<u>Analyte</u>	Level	Result	MS	<u>DMS</u>	<u>MS</u>	<u>DMS</u>	<u>Criteria</u>
1,1-Dichloroethene Trichloroethene Tetrachloroethene	0.5 0.5 0.5	ND ND ND	0.44 0.48 0.48	0.43 0.49 0.48	88. 96. 96.	86. 98. 96.	28-167 35-146 26-162

Sample Name: Date Analyzed: 06/24/93

SB4 (1.5-2)

Percent Recovery

<u>Analyte</u>	Spike <u>Level</u>	Sample <u>Result</u>	Spike <u>MS</u>	Result DMS	<u>MS</u>	<u>DMS</u>	EPA Acceptance <u>Criteria</u>
1,1-Dichloroethene	0.5	ND	0.55	0.56	110.	112.	28-167
Trichloroethene	0.5	ND	0.46	0.33	92.	66.	35-146
Tetrachloroethene	0.5	ND	0.47	0.41	94.	82.	26-162

Approved by: Kom Muyth

Date: July 14, 1953

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received:

06/18/93

Service Request No.: SJ93-0797

Sample Matrix:

Matrix Spike/Duplicate Matrix Spike Summary Halogenated Volatile Organic Compounds EPA Methods 5030/8010 mg/Kg (ppm) As Received Basis

Sample Name:

SB16 (1.5-2) 06/25/93

Date Analyzed:

Percent Recovery

<u>Analyte</u>	Spike <u>Level</u>	Sample <u>Result</u>	Spike <u>MS</u>	Result <u>DMS</u>	<u>MS</u>	<u>DMS</u>	EPA Acceptance <u>Criteria</u>
1,1-Dichloroethene	0.5	ND	0.52	0.61	104.	122.	28-167
Trichloroethene	0.5	ND	0.46	0.47	92.	94.	35-146
Tetrachloroethene	0.5	ND	0.44	0.48	88.	96.	26-162

Approved by:

KernoMuydy

QA/QC Report

Client:

EMCON Associates

Date Received:

06/18/93

Project: Sample Matrix:

Westinghouse, Emeryville/0F88-001.14 Soil

Work Order No.: SJ93-0797

Surrogate Recovery Summary Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080

Sample Name	Date Analyzed	<u>Percent Recovery</u> Decachlorobiphenyl
SB4 (1.5-2)	06/24/93	87.
SB4 (3-4)	06/24/93	86.
SB3 (1.5-2)	06/24/93	89 .
SB3 (3-4)	06/24/93	85 .
SB2 (1.5-2)	06/24/93	83.
SB2 (3-4)	06/24/93	83.
SB8 (1.5-2)	06/24/93	88.
SB8 (3-4)	06/24/93	82.
SB9 (1.5-2)	06/24/93	83.
SB9 (3-4)	06/24/93	77.
SB7 (1.5-2)	06/24/93	89.
SB7 (3-4)	06/24/93	86 .
SB12 (1.5-2)	06/24/93	86.
SB12 (3-4)	06/24/93	57.
SB14 (1.5-2)	06/24/93	84.
SB14 (3-4)	06/24/93	83.
SB10 (1.5-2)	06/24/93	82 .
SB10 (3-4)	06/24/93	87 .
SB11 (1.5-2)	06/24/93	84.
SB11 (3-4)	06/24/93	82.

CAS Acceptance Criteria

53-120

Keen Maryky

Date: July 14, 1993

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Date Received: Work Order No.: SJ93-0797

06/18/93

Sample Matrix: Soil

Surrogate Recovery Summary Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080

Sample Name	<u>Date Analyzed</u>	Percent Recovery Decachlorobiphenyl
SB16 (1.5-2)	06/24/93	84.
SB16 (3-4)	06/29/93	76.
SB15 (1.5-2)	06/29/93	77 .
SB15 (3-4)	06/29/93	75 .
SB17 (1.5-2)	06/29/93	76.
SB17 (3-4)	06/29/93	76.
SB13 (1.5-2)	06/29/93	7 6.
SB13 (3-4)	06/29/93	78 .
SB20 (1.5-2)	06/29/93	74.
SB20 (3-4)	06/29/93	84.
SB23 (1.5-2)	06/29/93	77 .
SB23 (3-4)	06/29/93	74.
SB4 (3-4) MS	06/24/93	88.
SB4 (3-4) DMS	06/24/93	87.
SB7 (1.5-2) MS	06/24/93	89.
SB7 (1.5-2) DMS	06/24/93	85.
SB23 (3-4) MS	06/29/93	72 .
SB23 (3-4) DMS	06/29/93	74.
Method Blank	06/24/93	90.
Method Blank	06/24/93	86.
Method Blank	06/29/93	67.

CAS Acceptance Criteria

53-120

Town Hongely Date: July 14,1883

QA/QC Report

Client: Project: **EMCON Associates**

Westinghouse, Emeryville/0F88-001.14

Sample Matrix:

Date Received: **Date Extracted:** Date Analyzed:

06/18/93 06/18/93 06/24/93 *

Work Order No.:

SJ93-0797

Matrix Spike/Duplicate Matrix Spike Summary Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name:

SB4 (3-4)

Percent Recovery

<u>Analyte</u>	Spike <u>Level</u>	Sample <u>Result</u>	Spike i <u>MS</u>	Result <u>DMS</u>	<u>MS</u>	<u>DMS</u>	CAS Acceptance <u>Criteria</u>	Relative Percent <u>Difference</u>
Arocior 1260	0.167	0.045	•• 0.200	0.206	93.	97.	62-154	3.

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

The sample contains Aroclor 1260 at a concentration below the MRL of 0.1 ppm. However, since the level of Aroclor 1260 in the sample is significant to the spike recovery calculation, the below MRL value is shown here.

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Sample Matrix:

Soil

Date Received:

06/18/93

Date Extracted: Date Analyzed:

06/22/93 06/24/93 *

Work Order No.:

\$J93-0797

Matrix Spike/Duplicate Matrix Spike Summary Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name:

SB7 (1.5-2)

Percent Recovery

Anaiyte	Spike <u>Level</u>	Sample <u>Result</u>	Spike I	Result <u>DMS</u>	CAS Relative Percent MS DMS Criteria Difference			
Aroclor 1260	0.167	ND	0.143	0.138	85.	83.	62-154	3.

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

Approved by:

Keemitminghy

Date: July 14,1993

QA/QC Report

Client:

EMCON Associates

Project:

Westinghouse, Emeryville/0F88-001.14

Sample Matrix:

Soil

Date Received:

06/18/93

Date Extracted: Date Analyzed:

06/29/93 06/29/93 *

Work Order No.:

SJ93-0797

Matrix Spike/Duplicate Matrix Spike Summary Polychlorinated Biphenyls (PCBs) EPA Methods 3550/8080 mg/Kg (ppm) As Received Basis

Sample Name:

SB23 (3-4)

Percent Recovery

<u>Analyte</u>	Spike <u>Level</u>	Sample <u>Result</u>	Spike F <u>MS</u>	Result <u>DMS</u>	<u>MS</u>	<u>DMS</u>	CAS Acceptance <u>Criteria</u>	Relative Percent <u>Difference</u>
Aroclor 1260	0.167	0.029 **	0.132	0.133	62.	62.	62-154	<1.

This sample was part of the analytical batch started on June 24, 1993. However, it was analyzed after midnight so the actual date analyzed is June 25, 1993.

The sample contains Aroclor 1260 at a concentration below the MRL of 0.1 ppm. However, since the level of Aroclor is significant to the spike recovery calculation, the below MRL value is shown.

Annroved by:

Keem of May shy

Date:

July 14,1993



921 Ringwood Ave. • San Jose	CA 95131	• (408) 437-2	400, FAX (408)437-9	9356														DATE	4/	18/	133		PAGE	/ OF 7 1/
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APPENDIX B EVALUATION OF LABORATORY QUALITY CONTROL RESULTS

EVALUATION OF LABORATORY QUALITY CONTROL RESULTS

The laboratory quality control (QC) review consisted of checking adherence to the required holding times for all analyses and evaluating laboratory method blanks, surrogate spike recoveries (for organic analysis), matrix spike (MS), and matrix spike duplicate (MSD) recoveries, and method reporting limits (MRLs).

All analyses were performed within the required holding times. No parameters were detected in the method blanks above their MRLs. Surrogate recoveries were within the established acceptance criteria, with one exception. The surrogate recovery for HBHC's in sample SB-12 (at 3 feet) could not be calculated. The sample was diluted 100:1 to quantitate the diesel concentration. In doing so, the surrogate concentration was diluted below quantitation levels. The quality (accuracy) of data does not appear to be affected since the surrogate recoveries in the other samples were acceptable.

MS and MSD recoveries were within the established acceptance criteria, indicating acceptable data accuracy. The relative percent differences (RPDs) between MS and MSD recoveries were also within the established criteria, indicating acceptable data precision.

Routine MRLs were used to quantify and report the analytical results, with the following exceptions. Sample dilutions resulted in elevated MRLs in samples SB-6 (at 4.5 feet), SB-8 (at 1.5 feet), SB-10 (at 3 feet), and SB-12 (at 3 feet) for HBHCs and in sample SB-8 (at 1.5 feet) for PCBs. These sample dilutions were required to quantitate elevated analyte concentrations in the samples. The quality of the data does not appear to be affected.

A review of the laboratory QC data indicates that the data are of acceptable quality and can be used for site characterization.