WA 2917
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Columbia Analytical Services, Inc.
1152 3rd Avenue • Longview, WA 98632 • (206) 577-7222

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FILE COPY

February 15, 1989

Jim Bailey
Sweet - Edwards/EMCON
18912 N. Creek Pkwy
Suite 210
Bothell, WA 98011

RE: Chempro, Pier 91 Project

Dear Jim:

Enclosed are the results of the soil samples submitted to our lab on January 3, 1989. For your reference, our service request number for this work is 89001.

Sorry for the delay on this work. We overlooked two of the samples requested for metals. Waiting for these two held up the job.

Please call if you have any questions.

Respectfully submitted:
COLUMBIA ANALYTICAL SERVICES, INC.

Mike Shelton

Mike Shelton
srr/MIS

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MAR 22 1989
WASTE MANAGEMENT BRANCH

USEPA RCRA
3012588

CAS

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: Sweet - Edwards/EMCON
SUBMITTED BY: Stephen Nelson
PROJECT: Chempro, Pier 91
SAMPLE DESCRIPTION: Soil

DATE COLLECTED: 12/29-30/88
DATE RECEIVED: 01/03/89
WORK ORDER #: 89001

mg/Kg
Dry Weight Basis

Sample Name:	Composite CP110-0-5	Composite CP110-6-10	CP110-2.5
Lab Code:	001-1, 4	001-5, 7	001-8
Arsenic	1.7	1.8	1.4
Beryllium	<1	<1	<1
Cadmium	<1	<1	<1
Chromium	16	18	11
Copper	7.8	14	7.7
Lead	12	18	<7
Mercury	<0.1	<0.1	<0.1
Nickel	18	23	16
Zinc	34	36	18

Approved by Mike Shelton Date 2/15/89

CAS

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: Sweet - Edwards/EMCON
SUBMITTED BY: Stephen Nelson
PROJECT: Chempro, Pier 91
SAMPLE DESCRIPTION: Soil

DATE COLLECTED: 12/29-30/88
DATE RECEIVED: 01/03/89
WORK ORDER #: 89001

mg/Kg
Dry Weight Basis

Sample Name:	CP110-15	Composite CP107-0-5	Composite CP107-6-10
Lab Code:	001-9	001-10, 13	001-14, 16
Arsenic	1.7	1.6	1.7
Beryllium	<1	<1	<1
Cadmium	<1	<1	<1
Chromium	24	12	18
Copper	9.4	13	6.0
Lead	<7	9.5	<7
Mercury	<0.1	<0.1	<0.1
Nickel	30	20	22
Zinc	25	45	23

Approved by Mike [illegible] Date 2/15/89

CAS

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: Sweet - Edwards/EMCON
SUBMITTED BY: Stephen Nelson
PROJECT: Chempro, Pier 91
SAMPLE DESCRIPTION: Soil

DATE COLLECTED: 12/29-30/88
DATE RECEIVED: 01/03/89
WORK ORDER #: 89001

mg/Kg
Dry Weight Basis

Sample Name:	CP107-2.5	CP107-15
Lab Code:	001-17	001-18
Arsenic	2.4	3.7
Beryllium	<1	<1
Cadmium	<1	<1
Chromium	14	18
Copper	11	5.4
Lead	9.2	<7
Mercury	<0.1	<0.1
Nickel	19	27
Zinc	63	22

Approved by Mike Shelton Date 2/15/89

APPENDIX A

LABORATORY QC RESULTS

CAS

COLUMBIA ANALYTICAL SERVICES, INC.

CLIENT: Sweet - Edwards/EMCON
SUBMITTED BY: Stephen Nelson
PROJECT: Chempro, Pier 91
SAMPLE DESCRIPTION: Soil

DATE COLLECTED: 12/29-30/88
DATE RECEIVED: 01/03/89
WORK ORDER #: 89001

QA/QC Report
mg/Kg
Dry Weight Basis

Sample Name: Composite CP110-0-5
Lab Code: 001-1

Element	A	B	Average	Spike Level	% Recovery
Arsenic*	1.4	2.2	1.8	4.5	91
Beryllium	<1	<1	<1	5.2	84
Cadmium	<1	<1	<1	5.2	83
Chromium	18	14	16	21	76
Copper	9.0	6.6	7.8	26	95
Lead	15	9.6	12	52	92
Mercury	<0.1	<0.1	<0.1	0.39	86
Nickel	17	18	18	52	95
Zinc	38	31	34	52	92

*Based on CP110-6-10

Approved by Mike Shelton Date 2/13/89

APPENDIX B

CHAIN OF CUSTODY INFORMATION

Sweet-Edwards / EMCON, Inc.
Kelso, WA (206) 423-3580
Bothell, WA (206) 485-5000

Chain of Custody / Laboratory Analysis Request

DATE 12 30 88 PAGE 1 OF 2

PROJECT Chinpro Pier 91 # 5940702
CLIENT INFO.
CONTACT
ADDRESS
TELEPHONE# 485-5000
SAMPLERS NAME Steve Nelson PHONE#
SAMPLERS SIGNATURE [signature]

ANALYSIS REQUESTED — GENERAL CHEMISTRY (Specify) — OTHER (Specify)

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE	BASE/NEU/ACID ORGAN. GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One)	METALS (TOTAL) (See Special Inst.)	TCLP ORGANICS	pH, COND ALK	NO_3/NO_2, Cl SO_4	Ca, Mg, Na, K							NUMBER OF CONTAINERS
1. CP110-0-1.5	12 30	925		SOIL									X											1
2. CP110-1.5-3		935																						1
3. CP110-3-4.5		945																						1
4. CP110-4.5-6		950																						1
5. CP110-6-7.5		955																						1
6. CP110-7.5-9		1000																						1
7. CP110-9-10.5		1005																						1
8. CP110-2.5		930																						1

Relinquished By Sweet Edwards & Assoc.	Relinquished By	Relinquished By	PROJECT INFORMATION	SAMPLE RECEIPT
Signature [signature]	Signature	Signature		8
Printed Name Steve Nelson	Printed Name	Printed Name	Shipping I.D. No.	Total No. of Containers
Firm SEIE	Firm	Firm	VIA	Chain of Custody Seals
Date/Time 12-30-88 1700	Date/Time	Date/Time	Project	Received in good condition
				LAB NO.

Received By	Received By	Received By	SPECIAL INSTRUCTIONS/COMMENTS
Signature [signature]	Signature	Signature	Metals As Be Cd Cr Cu Hg Ni Pb Zn
Printed Name [illegible]	Printed Name	Printed Name	[illegible] #1 2 3 + 4 + analyze as CP110-0-5
Firm [illegible]	Firm	Firm	No [illegible] for #5 6 + 7 analyze as CP110-6-10
Date/Time 1/2/89 1:30	Date/Time	Date/Time	[illegible] analyze #8 separately

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator.

S-E/E 400.05

Sweet-Edwards / EMCON, Inc.
Kelso, WA (206) 423-3580
Bothell, WA (206) 485-5000

Chain of Custody / Laboratory Analysis Request

DATE 12 30 86 PAGE 2 OF 2

PROJECT Champion Pier 91 # 5940762
CLIENT INFO.
CONTACT
ADDRESS
TELEPHONE# 485-5000
SAMPLERS NAME Steve Nelson PHONE#
SAMPLERS SIGNATURE [signature]

ANALYSIS REQUESTED — GENERAL CHEMISTRY (Specify) — OTHER (Specify)

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE	BASE/NEU/ACID ORGAN. GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One)	METALS (TOTAL) (See Special Inst.)	TCLP ORGANICS	pH, COND ALK	NO_3/NO_2, Cl SO_4	Ca, Mg, Na, K							NUMBER OF CONTAINERS
1. CP110-15	1230	1030		SOIL	X	X							X											1
2.																								
3.																								
4.																								
5.																								
6.																								
7.																								
8.																								

Relinquished By Sweet, Edwards & Assoc.	Relinquished By	Relinquished By	PROJECT INFORMATION	SAMPLE RECEIPT
Signature [signature]	Signature	Signature	1	1
Printed Name Steve Nelson	Printed Name	Printed Name	Shipping I.D. No.	Total No. of Containers
Firm SE/E	Firm	Firm	VIA	Chain of Custody Seals
Date/Time 12 30 881700	Date/Time	Date/Time	Project	Received in good condition
				LAB NO.

Received By	Received By	Received By	SPECIAL INSTRUCTIONS/COMMENTS
Signature [signature]	Signature	Signature	Metals As Pb Cd Cr Cu Hg N. Pb Zn
Printed Name [illegible]	Printed Name	Printed Name	
Firm [illegible] 7:30	Firm	Firm	
Date/Time	Date/Time	Date/Time	

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator.

S-E/E 400-05

Sweet-Edwards / EMCON, Inc.
Kelso, WA (206) 423-3580
Bothell, WA (206) 485-5000

Chain of Custody / Laboratory Analysis Request

DATE 12 29-88 PAGE 1 OF 2

PROJECT Chapin Pit 91 # 5940702
CLIENT INFO.
CONTACT
ADDRESS
TELEPHONE# 485 5000
SAMPLERS NAME Steve Nelson PHONE#
SAMPLERS SIGNATURE

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE	BASE/NEU/ACID ORGAN. GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One)	METALS (TOTAL) (See Special Inst.)	TCLP ORGANICS	GENERAL CHEMISTRY (Specify): pH, COND ALK	NO_3/NO_2, Cl SO_4	Ca, Mg, Na, K	OTHER (Specify)	NUMBER OF CONTAINERS
1. CP107 0-1.5	12 29	1035		soil									X						1
2. CP107-1.5-3		1045																	1
3. CP107-3-4.5		1030																	1
4. CP107-4.5-6		1055																	1
5. CP107-6-7.5		1100																	1
6. CP107-7.5-9		1115																	1
7. CP107-9-10.5		1125																	1
8. CP107-2.5		1040																	1

Relinquished By Sweet, Edwards & Assoc.	Relinquished By	Relinquished By	PROJECT INFORMATION	SAMPLE RECEIPT
Signature Steve Nelson	Signature	Signature	Shipping I.D. No.	8 Total No. of Containers
Printed Name Steve	Printed Name	Printed Name	VIA	Chain of Custody Seals
Firm	Firm	Firm	Project	Received in good condition
Date/Time	Date/Time	Date/Time		LAB NO.

Received By	Received By	Received By	SPECIAL INSTRUCTIONS/COMMENTS
Signature	Signature	Signature	[illegible] Al Be Cd Cr Cu Fe Mg Mn Pb Zn composite part use of #1 2 3 + 4 + analyze CP107-0-5 [illegible] #5, 6 + 7 + analyze as CP107-6 10 [illegible] #[illegible] composite archive remainder
Printed Name	Printed Name	Printed Name	
Firm 1/3/89	Firm	Firm	
Date/Time	Date/Time	Date/Time	

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator

Sweet-Edwards / EMCON, Inc.
Kelso, WA (206) 423-3580
Bothell, WA (206) 485-5000

Chain of Custody / Laboratory Analysis Request

DATE 12-29-88 PAGE 2 OF 2

PROJECT [illegible] # [illegible]
CLIENT INFO.
CONTACT
ADDRESS
TELEPHONE# [illegible]
SAMPLERS NAME Steve Nelson PHONE#
SAMPLERS SIGNATURE [illegible]

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE	BASE/NEU/ACID ORGAN GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/831C	TOTAL ORGANIC CARBON (TOC) 415.9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One)	METALS (TOTAL) (See Special Inst.)	TCLP ORGANICS	DH. COND ALK	NO_3/NO_2, Cl SO_4	Ca, Mg, Na, K							NUMBER OF CONTAINERS
1. [illegible] 15	12-29	1150			X								X											1
2. ~~[illegible] 20~~				15									~~X~~											
3.																								
4.																								
5.																								
6.																								
7.																								
8.																								

Relinquished By Sweet, Edwards & Assoc.	Relinquished By	Relinquished By	PROJECT INFORMATION	SAMPLE RECEIPT
Signature [illegible]	Signature	Signature	Shipping I.D. No.	1 Total No. of Containers
Printed Name [illegible]	Printed Name	Printed Name	VIA	Chain of Custody Seals
Firm [illegible]	Firm	Firm	Project	Received in good condition
Date/Time	Date/Time	Date/Time		LAB NO.

Received By [illegible]	Received By	Received By	SPECIAL INSTRUCTIONS/COMMENTS
Signature [illegible]	Signature	Signature	[illegible] As Se Cd Cr Hg Ni Pb Zn
Printed Name [illegible]	Printed Name	Printed Name	
Firm 12/29/88 1:30	Firm	Firm	
Date/Time	Date/Time	Date/Time	

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator.

S-E/E 400-05