

**DETERMINATION OF PCDD/PCDF LEVELS**

**Prepared for:**  
**ESS Laboratory**  
**Attn: Jena Paola**  
**185 Frances Avenue**  
**Cranston, RI 02910-2211**



This report contains 18 pages.

The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

**Project: Chemical Analysis**

**Client Project Number: 0606374**

**REPORT OF LABORATORY ANALYSIS**

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**REPORT OF: CHEMICAL ANALYSES**

**PROJECT:** PCDD/PCDF ANALYSES

**DATE:** July 11, 2006

**ISSUED TO:** ESS Laboratory  
Attn: Jena Paola  
185 Frances Avenue  
Cranston, RI 02910-2211

**REPORT NO:** 06-1034312

**INTRODUCTION**

This report presents the results from the analyses performed on eight samples submitted by a representative of ESS Laboratory. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290.

**SAMPLE IDENTIFICATION**

<u>Client ID</u>	<u>Sample Type</u>	<u>Date Received</u>	<u>PACE ID</u>
0606374-01	Solid	06/24/06	1034312001
0606374-03	Solid	06/24/06	1034312002
0606374-05	Solid	06/24/06	1034312003
0606374-07	Solid	06/24/06	1034312004
0606374-09	Solid	06/24/06	1034312005
0606374-11	Solid	06/24/06	1034312006
0606374-13	Solid	06/24/06	1034312007
0606374-15	Solid	06/24/06	1034312008

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# ESS Laboratory Pace Analytical CHAIN OF CUSTODY

Division of Tbielisch Engineering, Inc.  
 185 Frances Avenue, Cranston, RI 02910-2211  
 Tel. (401) 461-7181 Fax (401) 461-4486  
 www.esslaboratory.com

Turn Time  Standard Other   
 If faster than 5 days, prior approval by laboratory is required # \_\_\_\_\_  
 State where samples were collected from:  
 MA (R) CT NH NJ NY ME Other \_\_\_\_\_  
 Is this project for any of the following: USACE Other \_\_\_\_\_  
 MA-MCP Navy \_\_\_\_\_

Reporting Limits \_\_\_\_\_  
 Electronic Deliverable Yes  No   
 Format: Excel  Access  PDF  Other

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis
	6-22-06	11:30				0606374-01	1	1	G	
		12:10				-03	1	1	G	
		12:30				-05	1	1	G	
		13:15				-07	1	1	G	
		14:00				-09	1	1	G	
		14:35				-11	1	1	G	
		15:30				-13	1	1	G	
	6-22-06	15:00				0606374-15	1	1	G	

Container Type: P-Poly  G-Glass  S-Sterile  V-VOA  Matrix: S-Soil  SD-Solid  D-Sludge  WW-Waste Water  GW-Ground Water  SW-Surface Water  DW-Drinking Water  O-Oil  W-Wipes  F-Filters

Cooler Present  Yes  No  Internal Use Only  Yes  No  NA:   Pickup   Technicians \_\_\_\_\_

Seals Intact  Yes  No  NA:

Cooler Temp: 4.8

Preservation Code: 1-NP, 2-HCl, 3-H<sub>2</sub>SO<sub>4</sub>, 4-HNO<sub>3</sub>, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-Zn/Act, 9-\_\_\_\_\_

Sampled by: \_\_\_\_\_  
 Comments: \_\_\_\_\_

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
<i>[Signature]</i>	6/22/06 11:30	<i>[Signature]</i>	6/24/06 8:25
<i>[Signature]</i>	6/23/06 11:30	<i>[Signature]</i>	6/24/06 8:25

\*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VIIA

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

**REPORT OF: CHEMICAL ANALYSES**

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**RESULTS**

The results are included in the following:

- Appendix A – Chain of Custody Documentation
- Appendix B – PCDD/PCDF Results

**DISCUSSION**

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 48-140%. With the exception of one value, which was flagged "P" on the sample results table; the labeled standard recoveries obtained for the samples were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners. The affected values were flagged "I" where incorrect isotope ratios were obtained, or "E" where polychlorinated diphenyl ethers were present.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank, with the exception of a trace level of OCDD, to be free of PCDDs and PCDFs at the reporting limits. The OCDD was below the calibration range of the method. Sample levels similar to the corresponding blank level were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

A laboratory spike sample was also prepared with the sample batch using clean sand that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 81-105%. These results indicate a high degree of accuracy for these determinations.

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**REMARKS**

The sample extracts will be retained for a period of 15 days from the date of this report and then discarded unless other arrangements are made. The raw mass spectral data will be archived on magnetic tape for a period of not less than one year. Questions regarding the data contained in this report may be directed to the author at the number provided below.

**Pace Analytical Services, Inc.**



Scott C. Unze  
Project Manager, HRMS  
(612) 607-6383

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**TABLE 1. 2,3,7,8-TCDD Equivalency Factors (TEFs) for the Polychlorinated Dibenzo-p-dioxins and Dibenzofurans**

Number	Compound(s)	TEF
1	2,3,7,8-TCDD	1.00
2	1,2,3,7,8-PeCDD	0.50
3	1,2,3,6,7,8-HxCDD	0.1
4	1,2,3,7,8,9-HxCDD	0.1
5	1,2,3,4,7,8-HxCDD	0.1
6	1,2,3,4,6,7,8-HpCDD	0.01
7	OCDD	0.001
8	* Total - TCDD	0.0
9	* Total - PeCDD	0.0
10	* Total - HxCDD	0.0
11	* Total - HpCDD	0.0
12	2,3,7,8-TCDF	0.10
13	1,2,3,7,8-PeCDF	0.05
14	2,3,4,7,8-PeCDF	0.5
15	1,2,3,6,7,8-HxCDF	0.1
16	1,2,3,7,8,9-HxCDF	0.1
17	1,2,3,4,7,8-HxCDF	0.1
18	2,3,4,6,7,8-HxCDF	0.1
19	1,2,3,4,6,7,8-HpCDF	0.01
20	1,2,3,4,7,8,9-HpCDF	0.01
21	OCDF	0.001
22	* Total - TCDF	0.0
23	* Total - PeCDF	0.0
24	* Total - HxCDF	0.0
25	* Total - HpCDF	0.0

\*Excluding the 2,3,7,8-substituted congeners.

Reference: International Toxic Equivalence

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## APPENDIX A

### REPORT OF LABORATORY ANALYSIS

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**Pace Analytical Services, Inc.**  
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## APPENDIX B

### **REPORT OF LABORATORY ANALYSIS**

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### Method 8290 Blank Analysis Results

Client - ESS Laboratory

Lab Sample ID	BLANK-10057	Matrix	Solid
Filename	F60630A_04	Dilution	NA
Total Amount Extracted	10.2 g	Extracted	06/28/2006
ICAL Date	05/31/2006	Analyzed	06/30/2006 11:34
CCal Filename(s)	F60630A_01 & F60630A_13	Injected By	CVS

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.200	2,3,7,8-TCDF-13C	2.00	76
Total TCDF	ND	----	0.200	2,3,7,8-TCDD-13C	2.00	76
				1,2,3,7,8-PeCDF-13C	2.00	73
2,3,7,8-TCDD	ND	----	0.200	2,3,4,7,8-PeCDF-13C	2.00	79
Total TCDD	ND	----	0.200	1,2,3,7,8-PeCDD-13C	2.00	103
				1,2,3,4,7,8-HxCDF-13C	2.00	75
1,2,3,7,8-PeCDF	ND	----	0.980	1,2,3,6,7,8-HxCDF-13C	2.00	70
2,3,4,7,8-PeCDF	ND	----	0.980	2,3,4,6,7,8-HxCDF-13C	2.00	79
Total PeCDF	ND	----	0.980	1,2,3,7,8,9-HxCDF-13C	2.00	75
				1,2,3,4,7,8-HxCDD-13C	2.00	78
1,2,3,7,8-PeCDD	ND	----	0.980	1,2,3,6,7,8-HxCDD-13C	2.00	76
Total PeCDD	ND	----	0.980	1,2,3,4,6,7,8-HpCDF-13C	2.00	70
				1,2,3,4,7,8,9-HpCDF-13C	2.00	59
1,2,3,4,7,8-HxCDF	ND	----	0.980	1,2,3,4,6,7,8-HpCDD-13C	2.00	79
1,2,3,6,7,8-HxCDF	ND	----	0.980	OCDD-13C	4.00	61
2,3,4,6,7,8-HxCDF	ND	----	0.980			
1,2,3,7,8,9-HxCDF	ND	----	0.980	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	0.980	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.980	2,3,7,8-TCDD-37Cl4	0.20	78
1,2,3,6,7,8-HxCDD	ND	----	0.980			
1,2,3,7,8,9-HxCDD	ND	----	0.980			
Total HxCDD	ND	----	0.980			
1,2,3,4,6,7,8-HpCDF	ND	----	0.980	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.980	Equivalence: 0.0056 ng/Kg		
Total HpCDF	ND	----	0.980	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	0.980			
Total HpCDD	ND	----	0.980			
OCDF	ND	----	2.000			
OCDD	5.6	----	2.000 J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).  
 EMPC = Estimated Maximum Possible Concentration  
 LRL = Lower Reporting Limit  
 J = Concentration detected is below the calibration range  
 P = Recovery outside of target range  
 A = Detection Limit based on signal-to-noise measurement

I = Interference  
 E = PCDE interference  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

Report No.....1034312

## REPORT OF LABORATORY ANALYSIS

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**Method 8290 Analysis Results**

Client - ESS Laboratory

Client's Sample ID	0606374-01		
Lab Sample ID	1034312001		
Filename	U60701A_13		
Injected By	BAL		
Total Amount Extracted	16.1 g	Matrix	Solid
% Moisture	17.7	Dilution	NA
Dry Weight Extracted	13.2 g	Collected	06/22/2006
ICAL Date	07/01/2006	Received	06/24/2006
CCal Filename(s)	U60701A_09 & U60701A_23	Extracted	06/28/2006
Method Blank ID	BLANK-10057	Analyzed	07/01/2006 23:51

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.19	----	0.15 J	2,3,7,8-TCDF-13C	2.00	87
Total TCDF	3.10	----	0.15	2,3,7,8-TCDD-13C	2.00	73
				1,2,3,7,8-PeCDF-13C	2.00	77
2,3,7,8-TCDD	ND	----	0.15	2,3,4,7,8-PeCDF-13C	2.00	82
Total TCDD	ND	----	0.15	1,2,3,7,8-PeCDD-13C	2.00	92
				1,2,3,4,7,8-HxCDF-13C	2.00	87
1,2,3,7,8-PeCDF	ND	----	0.76	1,2,3,6,7,8-HxCDF-13C	2.00	81
2,3,4,7,8-PeCDF	0.86	----	0.76 J	2,3,4,6,7,8-HxCDF-13C	2.00	81
Total PeCDF	7.40	----	0.76	1,2,3,7,8,9-HxCDF-13C	2.00	81
				1,2,3,4,7,8-HxCDD-13C	2.00	83
1,2,3,7,8-PeCDD	ND	----	0.76	1,2,3,6,7,8-HxCDD-13C	2.00	73
Total PeCDD	ND	----	0.76	1,2,3,4,6,7,8-HpCDF-13C	2.00	77
				1,2,3,4,7,8,9-HpCDF-13C	2.00	71
1,2,3,4,7,8-HxCDF	ND	----	0.76	1,2,3,4,6,7,8-HpCDD-13C	2.00	88
1,2,3,6,7,8-HxCDF	ND	----	0.76	OCDD-13C	4.00	83
2,3,4,6,7,8-HxCDF	ND	----	0.76			
1,2,3,7,8,9-HxCDF	ND	----	0.76	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	3.00	----	0.76 J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.76	2,3,7,8-TCDD-37Cl4	0.20	70
1,2,3,6,7,8-HxCDD	ND	----	0.76			
1,2,3,7,8,9-HxCDD	ND	----	0.76			
Total HxCDD	ND	----	0.76			
1,2,3,4,6,7,8-HpCDF	ND	----	0.76	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.76	Equivalence: 0.49 ng/Kg		
Total HpCDF	1.10	----	0.76 J	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	2.20	----	0.76 J			
Total HpCDD	3.90	----	0.76			
OCDF	1.60	----	1.50 J			
OCDD	16.00	----	1.50 B			

Results reported on a dry weight basis  
 Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
 EMPC = Estimated Maximum Possible Concentration  
 A = Detection Limit based on signal-to-noise measurement  
 J = Concentration detected is below the calibration range  
 B = Less than 10 times higher than method blank level  
 P = Recovery outside of target range  
 Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit  
 I = Interference  
 E = PCDE Interference  
 S = Saturated signal  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

Report No.....1034312

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### Method 8290 Analysis Results

Client - ESS Laboratory

Client's Sample ID	0606374-03		
Lab Sample ID	1034312002		
Filename	U60701A_17		
Injected By	BAL		
Total Amount Extracted	20.6 g	Matrix	Solid
% Moisture	71.7	Dilution	NA
Dry Weight Extracted	5.81 g	Collected	06/22/2006
ICAL Date	07/01/2006	Received	06/24/2006
CCal Filename(s)	U60701A_09 & U60701A_23	Extracted	06/28/2006
Method Blank ID	BLANK-10057	Analyzed	07/02/2006 03:07

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	7.6	----	0.70	A	2,3,7,8-TCDF-13C	2.00	94
Total TCDF	420.0	----	0.34		2,3,7,8-TCDD-13C	2.00	88
					1,2,3,7,8-PeCDF-13C	2.00	86
2,3,7,8-TCDD	1.4	----	0.57	JA	2,3,4,7,8-PeCDF-13C	2.00	87
Total TCDD	29.0	----	0.34		1,2,3,7,8-PeCDD-13C	2.00	100
					1,2,3,4,7,8-HxCDF-13C	2.00	113
1,2,3,7,8-PeCDF	8.4	----	2.50	JA	1,2,3,6,7,8-HxCDF-13C	2.00	94
2,3,4,7,8-PeCDF	150.0	----	2.00	A	2,3,4,6,7,8-HxCDF-13C	2.00	87
Total PeCDF	1300.0	----	1.70		1,2,3,7,8,9-HxCDF-13C	2.00	92
					1,2,3,4,7,8-HxCDD-13C	2.00	121
1,2,3,7,8-PeCDD	4.8	----	1.70	J	1,2,3,6,7,8-HxCDD-13C	2.00	72
Total PeCDD	47.0	----	1.70		1,2,3,4,6,7,8-HpCDF-13C	2.00	83
					1,2,3,4,7,8,9-HpCDF-13C	2.00	84
1,2,3,4,7,8-HxCDF	-----	33	1.70	E	1,2,3,4,6,7,8-HpCDD-13C	2.00	103
1,2,3,6,7,8-HxCDF	26.0	----	1.70		OCDD-13C	4.00	102
2,3,4,6,7,8-HxCDF	51.0	----	1.70				
1,2,3,7,8,9-HxCDF	8.4	----	1.70	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	510.0	----	1.70		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	3.3	----	1.70	J	2,3,7,8-TCDD-37Cl4	0.20	84
1,2,3,6,7,8-HxCDD	6.8	----	1.70	J			
1,2,3,7,8,9-HxCDD	3.4	----	1.70	J			
Total HxCDD	87.0	----	1.70				
1,2,3,4,6,7,8-HpCDF	37.0	----	1.70		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	4.4	----	1.70	J	Equivalence: 92 ng/Kg		
Total HpCDF	89.0	----	1.70		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	71.0	----	1.70				
Total HpCDD	140.0	----	1.70				
OCDF	36.0	----	3.40				
OCDD	470.0	----	3.40				

Results reported on a dry weight basis

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
EMPC = Estimated Maximum Possible Concentration  
A = Detection Limit based on signal-to-noise measurement  
J = Concentration detected is below the calibration range  
B = Less than 10 times higher than method blank level  
P = Recovery outside of target range  
Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit  
I = Interference  
E = PCDE Interference  
S = Saturated signal  
ND = Not Detected  
NA = Not Applicable  
NC = Not Calculated  
\* = See Discussion

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**Method 8290 Analysis Results**

Client - ESS Laboratory

Client's Sample ID	0606374-05		
Lab Sample ID	1034312003		
Filename	U60701A_14		
Injected By	BAL		
Total Amount Extracted	16.2 g	Matrix	Solid
% Moisture	23.3	Dilution	NA
Dry Weight Extracted	12.4 g	Collected	06/22/2006
ICAL Date	07/01/2006	Received	06/24/2006
CCal Filename(s)	U60701A_09 & U60701A_23	Extracted	06/28/2006
Method Blank ID	BLANK-10057	Analyzed	07/02/2006 00:40

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.16	2,3,7,8-TCDF-13C	2.00	91
Total TCDF	1.3	----	0.16	2,3,7,8-TCDD-13C	2.00	84
				1,2,3,7,8-PeCDF-13C	2.00	79
2,3,7,8-TCDD	ND	----	0.16	2,3,4,7,8-PeCDF-13C	2.00	84
Total TCDD	ND	----	0.16	1,2,3,7,8-PeCDD-13C	2.00	96
				1,2,3,4,7,8-HxCDF-13C	2.00	90
1,2,3,7,8-PeCDF	ND	----	0.80	1,2,3,6,7,8-HxCDF-13C	2.00	82
2,3,4,7,8-PeCDF	ND	----	0.80	2,3,4,6,7,8-HxCDF-13C	2.00	84
Total PeCDF	3.1	----	0.80 J	1,2,3,7,8,9-HxCDF-13C	2.00	87
				1,2,3,4,7,8-HxCDD-13C	2.00	85
1,2,3,7,8-PeCDD	ND	----	0.80	1,2,3,6,7,8-HxCDD-13C	2.00	76
Total PeCDD	ND	----	0.80	1,2,3,4,6,7,8-HpCDF-13C	2.00	80
				1,2,3,4,7,8,9-HpCDF-13C	2.00	81
1,2,3,4,7,8-HxCDF	ND	----	0.80	1,2,3,4,6,7,8-HpCDD-13C	2.00	96
1,2,3,6,7,8-HxCDF	ND	----	0.80	OCDD-13C	4.00	92
2,3,4,6,7,8-HxCDF	ND	----	0.80			
1,2,3,7,8,9-HxCDF	ND	----	0.80	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	1.1	----	0.80 J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.80	2,3,7,8-TCDD-37Cl4	0.20	80
1,2,3,6,7,8-HxCDD	ND	----	0.80			
1,2,3,7,8,9-HxCDD	ND	----	0.80			
Total HxCDD	ND	----	0.80			
1,2,3,4,6,7,8-HpCDF	ND	----	0.80	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.80	Equivalence: 0.0044 ng/Kg		
Total HpCDF	ND	----	0.80	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	0.80			
Total HpCDD	ND	----	0.80			
OCDF	ND	----	1.60			
OCDD	4.4	----	1.60 BJ			

Results reported on a dry weight basis

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
EMPC = Estimated Maximum Possible Concentration  
A = Detection Limit based on signal-to-noise measurement  
J = Concentration detected is below the calibration range  
B = Less than 10 times higher than method blank level  
P = Recovery outside of target range  
Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit  
I = Interference  
E = PCDE Interference  
S = Saturated signal  
ND = Not Detected  
NA = Not Applicable  
NC = Not Calculated  
\* = See Discussion

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**REPORT OF LABORATORY ANALYSIS**

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**Method 8290 Analysis Results**

Client - ESS Laboratory

Client's Sample ID	0606374-07			
Lab Sample ID	1034312004			
Filename	U60701A_20			
Injected By	BAL			
Total Amount Extracted	20.4 g	Matrix	Solid	
% Moisture	85.6	Dilution	NA	
Dry Weight Extracted	2.95 g	Collected	06/22/2006	
ICAL Date	07/01/2006	Received	06/24/2006	
CCal Filename(s)	U60701A_09 & U60701A_23	Extracted	06/28/2006	
Method Blank ID	BLANK-10057	Analyzed	07/02/2006 05:34	

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	82	----	20.0	A	2,3,7,8-TCDF-13C	2.00	102
Total TCDF	6900	----	0.68		2,3,7,8-TCDD-13C	2.00	91
					1,2,3,7,8-PeCDF-13C	2.00	71
2,3,7,8-TCDD	16	----	1.7	A	2,3,4,7,8-PeCDF-13C	2.00	71
Total TCDD	380	----	0.68		1,2,3,7,8-PeCDD-13C	2.00	76
					1,2,3,4,7,8-HxCDF-13C	2.00	130
1,2,3,7,8-PeCDF	----	3500	17.0	EA	1,2,3,6,7,8-HxCDF-13C	2.00	102
2,3,4,7,8-PeCDF	2800	----	9.0	A	2,3,4,6,7,8-HxCDF-13C	2.00	95
Total PeCDF	7300	----	3.4		1,2,3,7,8,9-HxCDF-13C	2.00	96
					1,2,3,4,7,8-HxCDD-13C	2.00	118
1,2,3,7,8-PeCDD	56	----	3.4		1,2,3,6,7,8-HxCDD-13C	2.00	77
Total PeCDD	1000	----	3.4		1,2,3,4,6,7,8-HpCDF-13C	2.00	72
					1,2,3,4,7,8,9-HpCDF-13C	2.00	68
1,2,3,4,7,8-HxCDF	330	----	11.0	A	1,2,3,4,6,7,8-HpCDD-13C	2.00	82
1,2,3,6,7,8-HxCDF	570	----	9.5	A	OCDD-13C	4.00	64
2,3,4,6,7,8-HxCDF	400	----	5.2	A			
1,2,3,7,8,9-HxCDF	190	----	5.6	A	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	16000	----	3.4		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	41	----	3.4		2,3,7,8-TCDD-37Cl4	0.20	87
1,2,3,6,7,8-HxCDD	120	----	4.1	A			
1,2,3,7,8,9-HxCDD	56	----	3.4				
Total HxCDD	1400	----	3.4				
1,2,3,4,6,7,8-HpCDF	570	----	5.8	A	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	92	----	8.7	A	Equivalence: 1600 ng/Kg		
Total HpCDF	1400	----	3.4		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	480	----	3.4				
Total HpCDD	970	----	3.4				
OCDF	250	----	6.8				
OCDD	2300	----	6.8				

**Results reported on a dry weight basis**

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
 EMPC = Estimated Maximum Possible Concentration  
 A = Detection Limit based on signal-to-noise measurement  
 J = Concentration detected is below the calibration range  
 B = Less than 10 times higher than method blank level  
 P = Recovery outside of target range  
 Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit  
 I = Interference  
 E = PCDE Interference  
 S = Saturated signal  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

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### Method 8290 Analysis Results

Client - ESS Laboratory

Client's Sample ID	0606374-09		
Lab Sample ID	1034312005		
Filename	U60701A_19		
Injected By	BAL		
Total Amount Extracted	20.4 g	Matrix	Solid
% Moisture	84.9	Dilution	NA
Dry Weight Extracted	3.09 g	Collected	06/22/2006
ICAL Date	07/01/2006	Received	06/24/2006
CCal Filename(s)	U60701A_09 & U60701A_23	Extracted	06/28/2006
Method Blank ID	BLANK-10057	Analyzed	07/02/2006 04:45

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	120	----	16.0	A	2,3,7,8-TCDF-13C	2.00	101
Total TCDF	12000	----	0.65		2,3,7,8-TCDD-13C	2.00	83
					1,2,3,7,8-PeCDF-13C	2.00	71
2,3,7,8-TCDD	30	----	2.5	A	2,3,4,7,8-PeCDF-13C	2.00	69
Total TCDD	800	----	0.65		1,2,3,7,8-PeCDD-13C	2.00	74
					1,2,3,4,7,8-HxCDF-13C	2.00	140 P
1,2,3,7,8-PeCDF	----	18000	32.0	EA	1,2,3,6,7,8-HxCDF-13C	2.00	105
2,3,4,7,8-PeCDF	6200	----	12.0	A	2,3,4,6,7,8-HxCDF-13C	2.00	94
Total PeCDF	9600	----	3.2		1,2,3,7,8,9-HxCDF-13C	2.00	96
					1,2,3,4,7,8-HxCDD-13C	2.00	116
1,2,3,7,8-PeCDD	98	----	6.1	A	1,2,3,6,7,8-HxCDD-13C	2.00	82
Total PeCDD	2000	----	3.2		1,2,3,4,6,7,8-HpCDF-13C	2.00	71
					1,2,3,4,7,8,9-HpCDF-13C	2.00	66
1,2,3,4,7,8-HxCDF	670	----	3.2		1,2,3,4,6,7,8-HpCDD-13C	2.00	81
1,2,3,6,7,8-HxCDF	1300	----	14.0	A	OCDD-13C	4.00	63
2,3,4,6,7,8-HxCDF	910	----	11.0	A			
1,2,3,7,8,9-HxCDF	390	----	8.0	A	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	23000	----	3.2		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	74	----	3.8	A	2,3,7,8-TCDD-37Cl4	0.20	82
1,2,3,6,7,8-HxCDD	190	----	5.7	A			
1,2,3,7,8,9-HxCDD	97	----	3.6	A			
Total HxCDD	2600	----	3.2				
1,2,3,4,6,7,8-HpCDF	1000	----	7.2	A	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	170	----	13.0	A	Equivalence: 3600 ng/Kg		
Total HpCDF	2800	----	3.2		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	640	----	3.3	A			
Total HpCDD	1300	----	3.2				
OCDF	300	----	6.5				
OCDD	2700	----	6.5				

**Results reported on a dry weight basis**

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
EMPC = Estimated Maximum Possible Concentration  
A = Detection Limit based on signal-to-noise measurement  
J = Concentration detected is below the calibration range  
B = Less than 10 times higher than method blank level  
P = Recovery outside of target range  
Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit  
I = Interference  
E = PCDE Interference  
S = Saturated signal  
ND = Not Detected  
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NC = Not Calculated  
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## REPORT OF LABORATORY ANALYSIS

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### Method 8290 Analysis Results

Client - ESS Laboratory

Client's Sample ID	0606374-11		
Lab Sample ID	1034312006		
Filename	U60701A_18		
Injected By	BAL		
Total Amount Extracted	16.3 g	Matrix	Solid
% Moisture	77.7	Dilution	NA
Dry Weight Extracted	3.65 g	Collected	06/22/2006
ICAL Date	07/01/2006	Received	06/24/2006
CCal Filename(s)	U60701A_09 & U60701A_23	Extracted	06/28/2006
Method Blank ID	BLANK-10057	Analyzed	07/02/2006 03:56

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	58	----	5.5	A	2,3,7,8-TCDF-13C	2.00	95
Total TCDF	6500	----	0.55		2,3,7,8-TCDD-13C	2.00	89
					1,2,3,7,8-PeCDF-13C	2.00	72
2,3,7,8-TCDD	21	----	2.2	A	2,3,4,7,8-PeCDF-13C	2.00	70
Total TCDD	510	----	0.55		1,2,3,7,8-PeCDD-13C	2.00	80
					1,2,3,4,7,8-HxCDF-13C	2.00	118
1,2,3,7,8-PeCDF	----	2000	42.0	EA	1,2,3,6,7,8-HxCDF-13C	2.00	96
2,3,4,7,8-PeCDF	3500	----	14.0	A	2,3,4,6,7,8-HxCDF-13C	2.00	86
Total PeCDF	8800	----	2.7		1,2,3,7,8,9-HxCDF-13C	2.00	90
					1,2,3,4,7,8-HxCDD-13C	2.00	108
1,2,3,7,8-PeCDD	69	----	5.0	A	1,2,3,6,7,8-HxCDD-13C	2.00	77
Total PeCDD	1400	----	2.7		1,2,3,4,6,7,8-HpCDF-13C	2.00	74
					1,2,3,4,7,8,9-HpCDF-13C	2.00	66
1,2,3,4,7,8-HxCDF	390	----	8.4	A	1,2,3,4,6,7,8-HpCDD-13C	2.00	82
1,2,3,6,7,8-HxCDF	620	----	20.0	A	OCDD-13C	4.00	65
2,3,4,6,7,8-HxCDF	540	----	9.1	A			
1,2,3,7,8,9-HxCDF	250	----	8.7	A	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	12000	----	2.7		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	51	----	2.7		2,3,7,8-TCDD-37Cl4	0.20	86
1,2,3,6,7,8-HxCDD	120	----	3.1	A			
1,2,3,7,8,9-HxCDD	59	----	2.7				
Total HxCDD	1600	----	2.7				
1,2,3,4,6,7,8-HpCDF	510	----	4.5	A	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	110	----	7.1	A	Equivalence: 2000 ng/Kg		
Total HpCDF	1400	----	2.7		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	270	----	2.7				
Total HpCDD	580	----	2.7				
OCDF	100	----	5.5				
OCDD	930	----	5.5				

Results reported on a dry weight basis  
 Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
 EMPC = Estimated Maximum Possible Concentration  
 A = Detection Limit based on signal-to-noise measurement  
 J = Concentration detected is below the calibration range  
 B = Less than 10 times higher than method blank level  
 P = Recovery outside of target range  
 Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit  
 I = Interference  
 E = PCDE Interference  
 S = Saturated signal  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

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## REPORT OF LABORATORY ANALYSIS

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## Method 8290 Analysis Results

Client - ESS Laboratory

Client's Sample ID	0606374-13		
Lab Sample ID	1034312007		
Filename	U60701A_15		
Injected By	BAL		
Total Amount Extracted	19.1 g	Matrix	Solid
% Moisture	23.3	Dilution	NA
Dry Weight Extracted	14.7 g	Collected	06/22/2006
ICAL Date	07/01/2006	Received	06/24/2006
CCal Filename(s)	U60701A_09 & U60701A_23	Extracted	06/28/2006
Method Blank ID	BLANK-10057	Analyzed	07/02/2006 01:29

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.14	2,3,7,8-TCDF-13C	2.00	83
Total TCDF	1.2	----	0.14	2,3,7,8-TCDD-13C	2.00	77
				1,2,3,7,8-PeCDF-13C	2.00	73
2,3,7,8-TCDD	ND	----	0.14	2,3,4,7,8-PeCDF-13C	2.00	79
Total TCDD	ND	----	0.14	1,2,3,7,8-PeCDD-13C	2.00	89
				1,2,3,4,7,8-HxCDF-13C	2.00	88
1,2,3,7,8-PeCDF	ND	----	0.68	1,2,3,6,7,8-HxCDF-13C	2.00	81
2,3,4,7,8-PeCDF	ND	----	0.68	2,3,4,6,7,8-HxCDF-13C	2.00	83
Total PeCDF	4.4	----	0.68	1,2,3,7,8,9-HxCDF-13C	2.00	84
				1,2,3,4,7,8-HxCDD-13C	2.00	85
1,2,3,7,8-PeCDD	ND	----	0.68	1,2,3,6,7,8-HxCDD-13C	2.00	75
Total PeCDD	ND	----	0.68	1,2,3,4,6,7,8-HpCDF-13C	2.00	80
				1,2,3,4,7,8,9-HpCDF-13C	2.00	77
1,2,3,4,7,8-HxCDF	ND	----	0.68	1,2,3,4,6,7,8-HpCDD-13C	2.00	91
1,2,3,6,7,8-HxCDF	ND	----	0.68	OCDD-13C	4.00	88
2,3,4,6,7,8-HxCDF	ND	----	0.68			
1,2,3,7,8,9-HxCDF	ND	----	0.68	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	1.7	----	0.68 J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.68	2,3,7,8-TCDD-37Cl4	0.20	74
1,2,3,6,7,8-HxCDD	ND	----	0.68			
1,2,3,7,8,9-HxCDD	ND	----	0.68			
Total HxCDD	ND	----	0.68			
1,2,3,4,6,7,8-HpCDF	ND	----	0.68	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.68	Equivalence: 0.0035 ng/Kg		
Total HpCDF	ND	----	0.68	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	0.68			
Total HpCDD	ND	----	0.68			
OCDF	ND	----	1.40			
OCDD	3.5	----	1.40 BJ			

### Results reported on a dry weight basis

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
EMPC = Estimated Maximum Possible Concentration  
A = Detection Limit based on signal-to-noise measurement  
J = Concentration detected is below the calibration range  
B = Less than 10 times higher than method blank level  
P = Recovery outside of target range  
Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit  
I = Interference  
E = PCDE Interference  
S = Saturated signal  
ND = Not Detected  
NA = Not Applicable  
NC = Not Calculated  
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**Method 8290 Analysis Results**

Client - ESS Laboratory

Client's Sample ID	0606374-15		
Lab Sample ID	1034312008		
Filename	U60701A_16		
Injected By	BAL		
Total Amount Extracted	15.3 g	Matrix	Solid
% Moisture	22.4	Dilution	NA
Dry Weight Extracted	11.9 g	Collected	06/22/2006
ICAL Date	07/01/2006	Received	06/24/2006
CCal Filename(s)	U60701A_09 & U60701A_23	Extracted	06/28/2006
Method Blank ID	BLANK-10057	Analyzed	07/02/2006 02:18

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	1.80	0.17	E	2,3,7,8-TCDF-13C	2.00	56
Total TCDF	140.00	-----	0.17		2,3,7,8-TCDD-13C	2.00	54
					1,2,3,7,8-PeCDF-13C	2.00	50
2,3,7,8-TCDD	-----	0.18	0.17	I	2,3,4,7,8-PeCDF-13C	2.00	53
Total TCDD	3.60	-----	0.17		1,2,3,7,8-PeCDD-13C	2.00	60
					1,2,3,4,7,8-HxCDF-13C	2.00	62
1,2,3,7,8-PeCDF	2.30	-----	1.10	JA	1,2,3,6,7,8-HxCDF-13C	2.00	53
2,3,4,7,8-PeCDF	44.00	-----	0.84		2,3,4,6,7,8-HxCDF-13C	2.00	56
Total PeCDF	460.00	-----	0.84		1,2,3,7,8,9-HxCDF-13C	2.00	59
					1,2,3,4,7,8-HxCDD-13C	2.00	60
1,2,3,7,8-PeCDD	0.95	-----	0.84	J	1,2,3,6,7,8-HxCDD-13C	2.00	48
Total PeCDD	8.10	-----	0.84		1,2,3,4,6,7,8-HpCDF-13C	2.00	53
					1,2,3,4,7,8,9-HpCDF-13C	2.00	53
1,2,3,4,7,8-HxCDF	3.40	-----	0.84	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	62
1,2,3,6,7,8-HxCDF	7.30	-----	0.84		OCDD-13C	4.00	59
2,3,4,6,7,8-HxCDF	16.00	-----	0.84				
1,2,3,7,8,9-HxCDF	2.40	-----	0.84	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	200.00	-----	0.84		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.84		2,3,7,8-TCDD-37Cl4	0.20	37
1,2,3,6,7,8-HxCDD	1.30	-----	0.84	J			
1,2,3,7,8,9-HxCDD	ND	-----	0.84				
Total HxCDD	13.00	-----	0.84				
1,2,3,4,6,7,8-HpCDF	6.50	-----	0.84		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	1.20	-----	0.84	J	Equivalence: 26 ng/Kg		
Total HpCDF	17.00	-----	0.84		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	4.50	-----	0.84				
Total HpCDD	8.80	-----	0.84				
OCDF	2.20	-----	1.70	J			
OCDD	25.00	-----	1.70	B			

Results reported on a dry weight basis

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
EMPC = Estimated Maximum Possible Concentration  
A = Detection Limit based on signal-to-noise measurement  
J = Concentration detected is below the calibration range  
B = Less than 10 times higher than method blank level  
P = Recovery outside of target range  
Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit  
I = Interference  
E = PCDE Interference  
S = Saturated signal  
ND = Not Detected  
NA = Not Applicable  
NC = Not Calculated  
\* = See Discussion

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**Method 8290 Laboratory Control Spike Results**

Client - ESS Laboratory

Lab Sample ID	LCS-10058	Matrix	Solid
Filename	F60630A_02	Dilution	NA
Total Amount Extracted	10.0 g	Extracted	06/28/2006
ICAL Date	05/31/2006	Analyzed	06/30/2006 09:54
CCal Filename(s)	F60630A_01 & F60630A_13	Injected By	CVS
Method Blank ID	BLANK-10057		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.17	86	2,3,7,8-TCDF-13C	2.00	70
				2,3,7,8-TCDD-13C	2.00	69
				1,2,3,7,8-PeCDF-13C	2.00	65
2,3,7,8-TCDD	0.20	0.18	90	2,3,4,7,8-PeCDF-13C	2.00	71
				1,2,3,7,8-PeCDD-13C	2.00	96
				1,2,3,4,7,8-HxCDF-13C	2.00	78
1,2,3,7,8-PeCDF	1.00	0.99	99	1,2,3,6,7,8-HxCDF-13C	2.00	73
2,3,4,7,8-PeCDF	1.00	0.91	91	2,3,4,6,7,8-HxCDF-13C	2.00	79
				1,2,3,7,8,9-HxCDF-13C	2.00	76
				1,2,3,4,7,8-HxCDD-13C	2.00	83
1,2,3,7,8-PeCDD	1.00	0.81	81	1,2,3,6,7,8-HxCDD-13C	2.00	76
				1,2,3,4,6,7,8-HpCDF-13C	2.00	72
				1,2,3,4,7,8,9-HpCDF-13C	2.00	61
1,2,3,4,7,8-HxCDF	1.00	0.87	87	1,2,3,4,6,7,8-HpCDD-13C	2.00	82
1,2,3,6,7,8-HxCDF	1.00	0.91	91	OCDD-13C	4.00	62
2,3,4,6,7,8-HxCDF	1.00	0.92	92			
1,2,3,7,8,9-HxCDF	1.00	0.91	91	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	0.96	96	2,3,7,8-TCDD-37Cl4	0.20	68
1,2,3,6,7,8-HxCDD	1.00	1.00	100			
1,2,3,7,8,9-HxCDD	1.00	1.01	101			
1,2,3,4,6,7,8-HpCDF	1.00	1.00	100			
1,2,3,4,7,8,9-HpCDF	1.00	1.05	105			
1,2,3,4,6,7,8-HpCDD	1.00	0.84	84			
OCDF	2.00	1.71	86			
OCDD	2.00	1.77	88			

Qs = Quantity Spiked  
Qm = Quantity Measured  
Rec. = Recovery (Expressed as Percent)  
P = Recovery outside of target range  
X = Background subtracted value  
Nn = Value obtained from additional analysis  
NA = Not Applicable  
\* = See Discussion

Report No.....1034312

**REPORT OF LABORATORY ANALYSIS**

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# ESS Laboratory

Division of Thielsch Engineering, Inc.  
185 Frances Avenue, Cranston, RI 02910-2211  
Tel. (401) 461-7181 Fax (401) 461-4486  
www.esslaboratory.com

# CHAIN OF CUSTODY

Page 2 of 4

Turn Time: \_\_\_\_\_ Standard \_\_\_\_\_ Other \_\_\_\_\_  
 If faster than 5 days, prior approval by laboratory is required # \_\_\_\_\_  
 State where samples were collected from:  
 MA  RI  CT  NH  NJ  NY  ME   
 Is this project for any of the following: USACE  Navy  Other

ESS LAB PROJECT ID: \_\_\_\_\_  
 Reporting Limits: \_\_\_\_\_  
 Electronic Deliverable: 0606374  
 Yes  No   
 Format: Excel  Access  PDF  Other \_\_\_\_\_

ESS LAB Sample#	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)		Pres Code	Number of Containers	Type of Containers	Circle and/or Write Required Analysis																				
						801 VPH	805 GRO				810 TPH	8015 DCO	808 PCB	8082 PCB	8270 PAH	8270 SVOA	RCA5 RCRA8 P13 TAL23	TCLP-RCRA8 NBC7	MCP METALS (13)	VOA VOA LL	PAH/PCB/METALS/TP	TOC									
1	6-22-06	1130	X	SW	SED1301		7	1/9/10																							
2	"	1150	X	SW	SED1303		5	"																							
3	"	1210	X	SW	SED1401		7	"																							
4	"	1215	X	SW	SED1403		5	"																							
5	"	1230	X	SW	SED1501		7	"																							
6	"	1255	X	SW	SED1503		5	"																							
7	"	1315	X	SW	SED1601		7	"																							
8	"	1330	X	SW	SED1603		5	"																							
9	"	1400	X	SW	SED1801		7	"																							
10	"	1420	X	SW	SED1904		5	"																							

Project # \_\_\_\_\_ Project Name (20 Char. or less) Gorham Site  
 Address \_\_\_\_\_ PO# \_\_\_\_\_  
 State \_\_\_\_\_ Zip \_\_\_\_\_ Email Address \_\_\_\_\_  
 Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters  
 Cooler Present  Yes  No No NA:  Pickup  Technicians

Seals Intact  Yes  No NA:

Cooler Temp: 3.5

Preservation Code: 1- NP, 2- HCl, 3- H2SO4, 4- HNO3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- \_\_\_\_\_

Sampled by: Brian Roden / Tom Hanlon  
 Relinquished by (Signature): David Date/Time: 6-22-06 1442  
 Relinquished by (Signature): \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by (Signature): \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by (Signature): \_\_\_\_\_ Date/Time: \_\_\_\_\_

\*By circling MA-MCP, client acknowledges samples were collected in accordance with MADDP CAM VII A  
 Please fax all changes to Chain of Custody in writing.  
 1 (White) Lab Copy 2 (Yellow) Client Receipt

# ESS Laboratory

Division of Thielisch Engineering, Inc.  
 185 Frances Avenue, Cranston, RI 02910-2211  
 Tel. (401) 461-7181 Fax (401) 461-4486  
 www.esslaboratory.com

Turn Time \_\_\_\_\_ Standard \_\_\_\_\_ Other \_\_\_\_\_  
 If faster than 5 days, prior approval by laboratory is required # \_\_\_\_\_  
 State where samples were collected from:  
 MA RI CT NH NJ NY ME Other \_\_\_\_\_  
 Is this project for any of the following:  
 MA-MCP \_\_\_\_\_ Navy \_\_\_\_\_ USACE \_\_\_\_\_ Other \_\_\_\_\_  
 Project Name (20 Char. or less) \_\_\_\_\_  
**Garban Site**

Reporting Limits \_\_\_\_\_ ESS LAB PROJECT ID \_\_\_\_\_  
 Electronic Deliverable Yes  No   
 Format: Excel \_\_\_\_\_ Access \_\_\_\_\_ PDF \_\_\_\_\_ Other \_\_\_\_\_

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Type of Containers	Number of Containers	Circle and/or Write Required Analysis																													
11	6-22-06	1435	X	X	SP	SED1901		7	7		8260 POA	8021 VPH	8015 GRO	8105 DRD	8100 TPH	8015 VPH	EPI	EPI	8081 4 Dist	8082 PCB	808 PCB	8270 PAH	8270 SVOA	RCRAS P13 TALS	RCRAS P13 TALS	TCLP-RCRAS NBC7	MCP-METALS (13)	MCP METALS (13) w/Hg	VOA	VOA LL	PAH/PEST/PCB/METALS/TM	TOC	PAH/METALS						
12	"	1450	X	X	SP	SED1903		5	5																														
13	"	1530	X	X	SP	SED2301		7	7																														
14	"	1540	X	X	SP	SED2303		5	5																														
15	"	1500	X	X		SED2101		7	7																														
16	"	1510	X	X		SED2103		5	5																														

Bioxins / Fungus X X X X X

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters  
 Cooler Present  Yes  No Internal Use Only  Yes  No  
 Seals Intact  Yes  No NA:   Pickup   Technicians  
 Cooler Temp: 3.5  
 Preservation Code: 1- NR, 2- HCl, 3- H<sub>2</sub>SO<sub>4</sub>, 4- HNO<sub>3</sub>, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAc<sub>2</sub>, 9-  
 Sampled by: Brian Roden / Tom Hanlon  
 Comments:

Relinquished by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
<i>Phil Miller</i>	6-22-06 1642	<i>Carol Miller</i>	6-26-06 1142
Relinquished by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
Received by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

\*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.