

ESS Laboratory

Division of Thielsch Engineering, Inc.

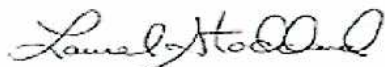
CERTIFICATE OF ANALYSIS

PROJECT NARRATIVE

David Heislein
MACTEC Engineering & Consulting, Inc.
107 Audubon Road
Wakefield, MA 01880

RE: Gorham
ESS Laboratory Work Order Number: 0604387

This signed Certificate of Analysis is our approved release of your analytical results. Beginning with this Project Narrative, the entire report has been paginated. The ESS Laboratory Certifications sheet is the final report page. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been mailed. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard/Kelly DeSousa
Laboratory Director/QA Manager

Date: May 04, 2006

Sample Receipt

1 Solid sample was received on April 24, 2006 for the analyses specified on the enclosed Chain of Custody Record.

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration may be used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC, except where noted within this project narrative.

Metals Analysis

ESS Laboratory utilized the established linear dynamic range to determine acceptable analytical results.
The batch Matrix Spike was outside of the recommended range for TCLP Lead. This analyte was below the lower control limit.

No other observations noted.

End of Project Narrative.

hjl

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CERTIFICATE OF ANALYSIS

Client Name: MACTEC Engineering & Consulting, Inc.
Client Project ID: Gorham
Client Sample ID: SS-1001A
Date Sampled: 04/24/06 13:00
Percent Solids: N/A

ESS Laboratory Work Order: 0604387
ESS Laboratory Sample ID: 0604387-01
Sample Matrix: Solid

TCLP Date: 4/25/06

1311/6000/7000 TCLP Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>Method</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Antimony	ND	mg/L	0.05	1	1311/6010B	1	JP	04/26/06	50	50
Arsenic	ND	mg/L	0.05	5	1311/6010B	1	JP	04/26/06	50	50
Barium	0.21	mg/L	0.05	100	1311/6010B	1	JP	04/26/06	50	50
Beryllium	ND	mg/L	0.001	0.007	1311/6010B	1	JP	04/26/06	50	50
Cadmium	ND	mg/L	0.010	1	1311/6010B	1	JP	04/26/06	50	50
Chromium	ND	mg/L	0.02	5	1311/6010B	1	JP	04/26/06	50	50
Copper	11.9	mg/L	0.020		1311/6010B	1	JP	04/26/06	50	50
Lead	37.2	mg/L	0.25	5	1311/6010B	5	SVD	04/28/06	50	50
Mercury	ND	mg/L	0.0005	0.2	1311/7470A	1	EEM	04/26/06	20	40
Nickel	0.16	mg/L	0.05	7	1311/6010B	1	JP	04/26/06	50	50
Selenium	ND	mg/L	0.10	1	1311/6010B	1	JP	04/26/06	50	50
Silver	ND	mg/L	0.010	5	1311/6010B	1	JP	04/26/06	50	50
Thallium	ND	mg/L	0.10	7	1311/6010B	1	JP	04/26/06	50	50
Zinc	1.41	mg/L	0.050		1311/6010B	1	JP	04/26/06	50	50

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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1311/6000/7000 TCLP Metals

Batch BD62603 - 3005A

Blank

Antimony	ND	0.05	mg/L							
Arsenic	ND	0.05	mg/L							
Barium	ND	0.05	mg/L							
Beryllium	ND	0.001	mg/L							
Cadmium	ND	0.010	mg/L							
Chromium	ND	0.02	mg/L							
Copper	ND	0.020	mg/L							
Lead	ND	0.05	mg/L							
Nickel	ND	0.05	mg/L							
Selenium	ND	0.10	mg/L							
Silver	ND	0.010	mg/L							
Thallium	ND	0.10	mg/L							
Zinc	ND	0.050	mg/L							

Blank

Lead	ND	0.05	mg/L							
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LCS

Antimony	0.51	0.05	mg/L	0.500	102	80-120				
Arsenic	0.55	0.05	mg/L	0.500	110	80-120				
Barium	0.50	0.05	mg/L	0.500	100	80-120				
Beryllium	0.05	0.001	mg/L	0.0500	100	80-120				
Cadmium	0.261	0.010	mg/L	0.250	104	80-120				
Chromium	0.52	0.02	mg/L	0.500	104	80-120				
Copper	0.560	0.020	mg/L	0.500	112	80-120				
Lead	0.52	0.05	mg/L	0.500	104	80-120				
Nickel	0.51	0.05	mg/L	0.500	102	80-120				
Selenium	1.17	0.10	mg/L	1.00	117	80-120				
Silver	0.277	0.010	mg/L	0.250	111	80-120				
Thallium	0.55	0.10	mg/L	0.500	110	80-120				
Zinc	0.549	0.050	mg/L	0.500	110	80-120				

LCS Dup

Antimony	0.52	0.05	mg/L	0.500	104	80-120	2	20		
Arsenic	0.57	0.05	mg/L	0.500	114	80-120	4	20		
Barium	0.51	0.05	mg/L	0.500	102	80-120	2	20		
Beryllium	0.05	0.001	mg/L	0.0500	100	80-120	0	20		
Cadmium	0.267	0.010	mg/L	0.250	107	80-120	3	20		
Chromium	0.52	0.02	mg/L	0.500	104	80-120	0	20		
Copper	0.562	0.020	mg/L	0.500	112	80-120	0	20		
Lead	0.53	0.05	mg/L	0.500	106	80-120	2	20		
Nickel	0.52	0.05	mg/L	0.500	104	80-120	2	20		
Selenium	1.21	0.10	mg/L	1.00	121	80-120	3	20		
Silver	0.279	0.010	mg/L	0.250	112	80-120	0.7	20		
Thallium	0.57	0.10	mg/L	0.500	114	80-120	4	20		
Zinc	0.551	0.050	mg/L	0.500	110	80-120	0	20		

Duplicate Source: 0604387-01

Antimony	ND	0.05	mg/L	ND				20		
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Client Project ID: Gorham

ESS Laboratory Work Order: 0604387

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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1311/6000/7000 TCLP Metals

Batch BD62603 - 3005A

Arsenic	ND	0.05	mg/L		ND				20	
Barium	0.21	0.05	mg/L		0.21			0	20	
Beryllium	0.0001	0.001	mg/L		0.0001			0	20	
Cadmium	0.004	0.010	mg/L		0.004			0	20	
Chromium	ND	0.02	mg/L		ND				20	
Copper	12.0	0.020	mg/L		11.9			0.8	20	
Lead	37.0	0.25	mg/L		37.2			0.5	20	
Nickel	0.16	0.05	mg/L		0.16			0	20	
Selenium	ND	0.10	mg/L		0.02				20	
Silver	ND	0.010	mg/L		ND				20	
Thallium	0.03	0.10	mg/L		0.03			0	20	
Zinc	1.43	0.050	mg/L		1.41			1	20	

Matrix Spike Source: 0604387-01

Antimony	0.51	0.05	mg/L	0.500	ND	102	75-125			
Arsenic	0.55	0.05	mg/L	0.500	ND	110	75-125			
Barium	0.70	0.05	mg/L	0.500	0.21	98	75-125			
Beryllium	0.05	0.001	mg/L	0.0500	0.0001	100	75-125			
Cadmium	0.260	0.010	mg/L	0.250	0.004	102	75-125			
Chromium	0.51	0.02	mg/L	0.500	ND	102	75-125			
Copper	12.5	0.020	mg/L	0.500	11.9	120	75-125			
Lead	37.2	0.25	mg/L	0.500	37.2	0	75-125			+
Nickel	0.67	0.05	mg/L	0.500	0.16	102	75-125			
Selenium	1.17	0.10	mg/L	1.00	0.02	115	75-125			
Silver	0.275	0.010	mg/L	0.250	ND	110	75-125			
Thallium	0.53	0.10	mg/L	0.500	0.03	100	75-125			
Zinc	1.97	0.050	mg/L	0.500	1.41	112	75-125			

Batch BD62604 - 245.1/7470A

Blank										
Mercury	ND	0.0005	mg/L							
LCS										
Mercury	0.0055	0.0005	mg/L	0.00600		92	80-120			
LCS Dup										
Mercury	0.0055	0.0005	mg/L	0.00600		92	80-120	0	20	
Duplicate Source: 0604387-01										
Mercury	ND	0.0005	mg/L		ND				20	
Matrix Spike Source: 0604387-01										
Mercury	0.0057	0.0005	mg/L	0.00600	ND	95	75-125			
Matrix Spike Dup Source: 0604387-01										
Mercury	0.0057	0.0005	mg/L	0.00600	ND	95	75-125	0	20	

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Notes and Definitions

- + Outside QC Limits.
- ND Analyte NOT DETECTED above the detection limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- mg/kg Results reported as wet weight
- TCLP Toxicity Characteristic Leachate Procedure
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- TIC A forward library search of the NBS Mass Spectral Library was performed on this sample using the McLafferty Probability Base Matching (PBM) Algorithm. An estimated concentration of non-TCL compounds tentatively identified is quantified by the internal standard method. The nearest internal standard free of interferences was used to quantify. A response factor of one was assumed. This search was inclusive of the ten largest peaks greater than ten percent of the nearest internal standard.
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- ¶ The state of RI does not grant certification for this method for non-potables.

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ESS LABORATORY CERTIFICATIONS

U.S. Army Corps of Engineers
Soil and Water

Navy Installation Restoration QA Program
Soil and Water

Rhode Island: A-179

Connecticut: PH-0750

Maine: RI002

Massachusetts: M-RI002

New Hampshire (NELAP): 242405
Potable Water
Non Potable Water

New York (NELAP): 11313
Potable Water
Non Potable Water
Solid and Hazardous Waste

United States Department of Agriculture
Soil Permit: S-54210

New Jersey (NELAP): RI002
Potable Water
Non Potable Water
Soil and Hazardous Waste

Maryland: 301
Potable Water

Pennsylvania: 68-934, 68-1752

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: USACE Other: _____
 MA-MCP Navy

Reporting Limits: _____
 ESS LAB PROJECT ID: 0604387
 Electronic Deliverable: Yes No
 Format: Excel Access PDF Other: _____

Co. Name: Mactec Eng + Consulting
 Contact Person: David Heislein
 Address: 107 Audubon Rd
 City: Wakefield, MA State: MA Zip: 01880
 Project # 3650050041
 Project Name (20 Char. or less): Gorham
 Email Address: d.heislein@comcast.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containment	Write Required Analysis
A-24-06	13:00		X			SS-1001A	-	1	Bag	TCLP, PCB, DPA Borium Please include 4/25/06 DPA

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

Cooler Present: Yes No No NA: Pickup:
 Cooler Temp: N/A Technicians:

Preservation Code: 1- NP, 2- HCl, 3- H2SO4, 4- HNO3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAc2, 9- _____

Sampled by: David Heislein
 Comments: Disposal Characterization

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
<i>(Signature)</i>	4/24/06 13:50	<i>(Signature)</i>	
<i>(Signature)</i>	4/24/06 13:50	<i>(Signature)</i>	

Received by: (Signature) _____ Date/Time _____
 Relinquished by: (Signature) _____ Date/Time _____

CHAIN OF CUSTODY

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

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: USACE Other _____
 MA-MCP Navy

Reporting Limits _____
 Electronic Deliverable Yes No
 Format: Excel Access PDF Other _____
 ESS LAB PROJECT ID
 06004387

Co. Name	Project #	Project Name (20 Char. or less)	Number of Containers	Type of Containers	Write Required Analysis		
Mactec Eng + Consulting	3650050041	Gorham	1	DEB TCLP PIS			
Contact Person	Address	City	State	Zip	PO#		
David Heislein	107 Audubon Rd	Wakefield, MA	01880				
Telephone #	Fax #	Email Address					
781-245-6606	246-5060	deheislein@mactec.com					
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code
	4-24-06	13:00	X		SD	SS-1001A	-
					del		
					J24.06		

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid Internal Use Only
 Cooler Present Yes No No NA: [] Pickup [] Technicians _____
 Seals Intact Yes _____ No NA: [] Pickup [] Technicians _____
 Cooler Temp: N/A
 Preservation Code: 1- NP, 2- HCl, 3- H₂SO₄, 4- HNO₃, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____
 Sampled by: David Heislein
 Comments: Disposal Characterization

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
<i>David Heislein</i>	4/24/06 13:50	<i>Jim Laob</i>	4/24/06 13:50
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time