

## **Attachment 16**

### **River Sediment Analysis Report**



# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## CERTIFICATE OF ANALYSIS

### PROJECT NARRATIVE

Sam Whitin  
EA Engineering, Science, and Technology  
2350 Post Road  
Warwick, RI 02886

**RE: Blackstone**  
**ESS Laboratory Work Order Number: 0710550**

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. 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  
Laboratory Director

Date: November 08, 2007

#### 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. All ICP Metals were analyzed using the established linear dynamic range to determine acceptable analytical results.

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

#### Sample Receipt

The following sample(s) were received on October 31, 2007 for the analyses specified on the enclosed Chain of Custody Record.

Laboratory ID	Matrix	Client SampleID
0710550-01	Soil	Black Main Up
0710550-02	Soil	Black Slater Up
0710550-03	Soil	Black Valley Up



# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## *CERTIFICATE OF ANALYSIS*

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone

ESS Laboratory Work Order: 0710550

## PROJECT NARRATIVE

### **8270C Semi-Volatile Organic Compounds**

0710550-02 **Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present).**

BK70124-BS1 **Blank Spike recovery is below lower control limit.**

N-Nitrosodimethylamine, Pyridine

BK70124-BSD1 **Blank Spike recovery is below lower control limit.**

N-Nitrosodimethylamine, Pyridine

BQK0023-CCV1 **Continuing Calibration recovery is above upper control limit.**

Benzoic Acid

BQK0023-CCV1 **Continuing Calibration recovery is below lower control limit.**

N-Nitrosodimethylamine, Pyridine

**No other observations noted.**

**End of Project Narrative.**



# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## *CERTIFICATE OF ANALYSIS*

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Main Up  
Date Sampled: 10/31/07 09:15  
Percent Solids: 75

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-01  
Sample Matrix: Soil

TCLP Date: 10/31/07

### **1311/6000/7000 TCLP Metals**

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>TCLP Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/L	0.05	1311/6010B	5	1	SVD	11/01/07	50	50
Cadmium	0.011	mg/L	0.005	1311/6010B	1	1	SVD	11/01/07	50	50
Chromium	ND	mg/L	0.02	1311/6010B	5	1	SVD	11/01/07	50	50
Copper	0.051	mg/L	0.020	1311/6010B		1	SVD	11/01/07	50	50
Lead	0.06	mg/L	0.02	1311/6010B	5	1	SVD	11/01/07	50	50
Mercury	ND	mg/L	0.0005	1311/7470A	0.2	1	JP	11/03/07	20	40
Nickel	ND	mg/L	0.05	1311/6010B		1	SVD	11/01/07	50	50
Zinc	0.717	mg/L	0.050	1311/6010B		1	SVD	11/01/07	50	50



# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Main Up  
Date Sampled: 10/31/07 09:15  
Percent Solids: 75

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-01  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/kg dry	2.9	6010B	7	1	SVD	10/31/07	2.3	100
Cadmium	ND	mg/kg dry	0.58	6010B	39	1	SVD	10/31/07	2.3	100
Chromium	9.0	mg/kg dry	1.2	6010B	1400	1	SVD	10/31/07	2.3	100
Copper	19.5	mg/kg dry	1.2	6010B	3100	1	SVD	10/31/07	2.3	100
Lead	39.8	mg/kg dry	5.8	6010B	150	1	SVD	10/31/07	2.3	100
Mercury	0.043	mg/kg dry	0.027	7471A	23	1	JP	11/02/07	0.97	40
Nickel	5.8	mg/kg dry	2.9	6010B	1000	1	SVD	10/31/07	2.3	100
Zinc	56.7	mg/kg dry	2.9	6010B	6000	1	SVD	10/31/07	2.3	100



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Main Up  
Date Sampled: 10/31/07 09:15  
Percent Solids: 75  
Initial Volume: 20.7  
Final Volume: 10  
Extraction Method: 3541

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-01  
Sample Matrix: Soil  
Analyst: SEP  
Prepared: 11/01/07

### 8082 Polychlorinated Biphenyls (PCB)

#### RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
Aroclor 1016	ND	mg/kg dry	0.0644	10	1	11/02/07
Aroclor 1221	ND	mg/kg dry	0.0644	10	1	11/02/07
Aroclor 1232	ND	mg/kg dry	0.0644	10	1	11/02/07
Aroclor 1242	ND	mg/kg dry	0.0644	10	1	11/02/07
Aroclor 1248	ND	mg/kg dry	0.0644	10	1	11/02/07
Aroclor 1254	ND	mg/kg dry	0.0644	10	1	11/02/07
<b>Aroclor 1260</b>	<b>0.134</b>	mg/kg dry	0.0644	10	1	11/02/07
Aroclor 1262	ND	mg/kg dry	0.0644	10	1	11/02/07
Aroclor 1268	ND	mg/kg dry	0.0644	10	1	11/02/07

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	96 %		30-150
Surrogate: Decachlorobiphenyl [2C]	111 %		30-150
Surrogate: Tetrachloro-m-xylene	96 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	114 %		30-150



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Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Main Up  
Date Sampled: 10/31/07 09:15  
Percent Solids: 75  
Initial Volume: 19.5  
Final Volume: 1  
Extraction Method: 3541

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-01  
Sample Matrix: Soil  
Analyst: SEP  
Prepared: 11/01/07

### 8100M Total Petroleum Hydrocarbons

RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
Total Petroleum Hydrocarbons	ND	mg/kg dry	51.3	500	1	11/02/07

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: O-Terphenyl	75 %		40-140



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Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Main Up  
Date Sampled: 10/31/07 09:15  
Percent Solids: 75  
Initial Volume: 15.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-01  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 11/01/07

### 8270C Semi-Volatile Organic Compounds

#### RI - RES DEC

Analyte	Results	Units	MRL	Limit	DF	Analyzed
1,1-Biphenyl	ND	mg/kg dry	0.435	0.8	1	11/02/07
1,2,4-Trichlorobenzene	ND	mg/kg dry	0.435	96	1	11/02/07
1,2-Dichlorobenzene	ND	mg/kg dry	0.435	510	1	11/02/07
1,3-Dichlorobenzene	ND	mg/kg dry	0.435	430	1	11/02/07
1,4-Dichlorobenzene	ND	mg/kg dry	0.435	27	1	11/02/07
2,3,4,6-Tetrachlorophenol	ND	mg/kg dry	2.18		1	11/02/07
2,4,5-Trichlorophenol	ND	mg/kg dry	0.435	330	1	11/02/07
2,4,6-Trichlorophenol	ND	mg/kg dry	0.435	58	1	11/02/07
2,4-Dichlorophenol	ND	mg/kg dry	0.435	30	1	11/02/07
2,4-Dimethylphenol	ND	mg/kg dry	0.435	1400	1	11/02/07
2,4-Dinitrophenol	ND	mg/kg dry	2.18	160	1	11/02/07
2,4-Dinitrotoluene	ND	mg/kg dry	0.435	0.9	1	11/02/07
2,6-Dinitrotoluene	ND	mg/kg dry	0.435		1	11/02/07
2-Chloronaphthalene	ND	mg/kg dry	0.435		1	11/02/07
2-Chlorophenol	ND	mg/kg dry	0.435	50	1	11/02/07
2-Methylnaphthalene	ND	mg/kg dry	0.435	123	1	11/02/07
2-Methylphenol	ND	mg/kg dry	0.435		1	11/02/07
2-Nitroaniline	ND	mg/kg dry	0.435		1	11/02/07
2-Nitrophenol	ND	mg/kg dry	0.435		1	11/02/07
3,3'-Dichlorobenzidine	ND	mg/kg dry	0.872	1.4	1	11/02/07
3+4-Methylphenol	ND	mg/kg dry	0.872		1	11/02/07
3-Nitroaniline	ND	mg/kg dry	0.435		1	11/02/07
4,6-Dinitro-2-Methylphenol	ND	mg/kg dry	2.18		1	11/02/07
4-Bromophenyl-phenylether	ND	mg/kg dry	0.435		1	11/02/07
4-Chloro-3-Methylphenol	ND	mg/kg dry	0.435		1	11/02/07
4-Chloroaniline	ND	mg/kg dry	0.872	310	1	11/02/07
4-Chloro-phenyl-phenyl ether	ND	mg/kg dry	0.435		1	11/02/07
4-Nitroaniline	ND	mg/kg dry	0.435		1	11/02/07
4-Nitrophenol	ND	mg/kg dry	2.18		1	11/02/07
Acenaphthene	ND	mg/kg dry	0.435	43	1	11/02/07
Acenaphthylene	ND	mg/kg dry	0.435	23	1	11/02/07
Acetophenone	ND	mg/kg dry	0.872		1	11/02/07
Aniline	ND	mg/kg dry	2.18		1	11/02/07
Anthracene	ND	mg/kg dry	0.435	35	1	11/02/07
Azobenzene	ND	mg/kg dry	0.435		1	11/02/07





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Client Sample ID: Black Main Up

Date Sampled: 10/31/07 09:15

Percent Solids: 75

Initial Volume: 15.3

Final Volume: 0.5

Extraction Method: 3546

ESS Laboratory Work Order: 0710550

ESS Laboratory Sample ID: 0710550-01

Sample Matrix: Soil

Analyst: VSC

Prepared: 11/01/07

### 8270C Semi-Volatile Organic Compounds

Benzo(a)anthracene	0.538	mg/kg dry	0.435	0.9	1	11/02/07
Benzo(a)pyrene	0.516	mg/kg dry	0.218	0.4	1	11/02/07
Benzo(b)fluoranthene	0.587	mg/kg dry	0.435	0.9	1	11/02/07
Benzo(g,h,i)perylene	ND	mg/kg dry	0.435	0.8	1	11/02/07
Benzo(k)fluoranthene	ND	mg/kg dry	0.435	0.9	1	11/02/07
Benzoic Acid	ND	mg/kg dry	2.18		1	11/02/07
Benzyl Alcohol	ND	mg/kg dry	0.435		1	11/02/07
bis(2-Chloroethoxy)methane	ND	mg/kg dry	0.435		1	11/02/07
bis(2-Chloroethyl)ether	ND	mg/kg dry	0.435	0.6	1	11/02/07
bis(2-chloroisopropyl)Ether	ND	mg/kg dry	0.435	9.1	1	11/02/07
bis(2-Ethylhexyl)phthalate	ND	mg/kg dry	0.435	46	1	11/02/07
Butylbenzylphthalate	ND	mg/kg dry	0.435		1	11/02/07
Carbazole	ND	mg/kg dry	0.435		1	11/02/07
Chrysene	0.601	mg/kg dry	0.218	0.4	1	11/02/07
Dibenzo(a,h)Anthracene	ND	mg/kg dry	0.218	0.4	1	11/02/07
Dibenzofuran	ND	mg/kg dry	0.435		1	11/02/07
Diethylphthalate	ND	mg/kg dry	0.435	340	1	11/02/07
Dimethylphthalate	ND	mg/kg dry	0.435	1900	1	11/02/07
Di-n-butylphthalate	ND	mg/kg dry	0.435		1	11/02/07
Di-n-octylphthalate	ND	mg/kg dry	0.435		1	11/02/07
Fluoranthene	1.22	mg/kg dry	0.435	20	1	11/02/07
Fluorene	ND	mg/kg dry	0.435	28	1	11/02/07
Hexachlorobenzene	ND	mg/kg dry	0.218	0.4	1	11/02/07
Hexachlorobutadiene	ND	mg/kg dry	0.435	8.2	1	11/02/07
Hexachlorocyclopentadiene	ND	mg/kg dry	2.18		1	11/02/07
Hexachloroethane	ND	mg/kg dry	0.435	46	1	11/02/07
Indeno(1,2,3-cd)Pyrene	ND	mg/kg dry	0.435	0.9	1	11/02/07
Isophorone	ND	mg/kg dry	0.435		1	11/02/07
Naphthalene	ND	mg/kg dry	0.435	54	1	11/02/07
Nitrobenzene	ND	mg/kg dry	0.435		1	11/02/07
N-Nitrosodimethylamine	ND	mg/kg dry	0.435		1	11/02/07
N-Nitroso-Di-n-Propylamine	ND	mg/kg dry	0.435		1	11/02/07
N-nitrosodiphenylamine	ND	mg/kg dry	0.435		1	11/02/07
Pentachlorophenol	ND	mg/kg dry	2.18	5.3	1	11/02/07
Phenanthrene	1.04	mg/kg dry	0.435	40	1	11/02/07
Phenol	ND	mg/kg dry	0.435	6000	1	11/02/07



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Client Project ID: Blackstone

Client Sample ID: Black Main Up

Date Sampled: 10/31/07 09:15

Percent Solids: 75

Initial Volume: 15.3

Final Volume: 0.5

Extraction Method: 3546

ESS Laboratory Work Order: 0710550

ESS Laboratory Sample ID: 0710550-01

Sample Matrix: Soil

Analyst: VSC

Prepared: 11/01/07

### 8270C Semi-Volatile Organic Compounds

Pyrene	1.04	mg/kg dry	0.435	13	1	11/02/07
Pyridine	ND	mg/kg dry	2.18		1	11/02/07

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	68 %		30-130
Surrogate: 2,4,6-Tribromophenol	91 %		30-130
Surrogate: 2-Chlorophenol-d4	65 %		30-130
Surrogate: 2-Fluorobiphenyl	73 %		30-130
Surrogate: 2-Fluorophenol	60 %		30-130
Surrogate: Nitrobenzene-d5	63 %		30-130
Surrogate: Phenol-d6	66 %		30-130
Surrogate: p-Terphenyl-d14	92 %		30-130



# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

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Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Main Up  
Date Sampled: 10/31/07 09:15

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-01  
Sample Matrix: Soil

### Classical Chemistry

RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>
Grain Size	See Attached							
Hydrometer	See Attached							



Construction Testing Services  
195 Francis Avenue, Cranston, RI 02910  
Tel. (401) 467-6454 Fax: (401) 467-2398

### HYDROMETER CALCULATION

Client: ESS  
Project: ESS 0710550  
Subject: ASTM D422 152H

Date: 11/8/2007  
Project No.: ESS 0710550  
Report No.: 710550-01

Client ID #: Black Main Up

Sample #: 07100550-1

Total Wet Wt.: 462.5 g

Total Dry Wt.: 362.5 g

% Moisture: 27.6%

Starting Time: 12:55 PM

Sieve	Wt. (g)	% Retain	% Passing
1"	0.0	0.0%	100.0%
3/4"	0.0	0.0%	100.0%
3/8"	0.0	0.0%	100.0%
#4	2.0	0.6%	99.4%
#10	3.5	1.0%	99.0%
#40	32.2	8.9%	91.1%
#200	325.0	89.7%	10.3%

Weight of soil use in Hydrometer: 100 g

Specific Gravity: 2.66

Correction Factor: 1

Time	Elapsed Time (min)	Actual Hydrometer Reading	Temp (°C)	Temperature and Specific Gravity Constant	Partical Diameter (mm)	Percent Finer Total
12:57	2	6.5	20	0.01365	0.03769	6.4%
13:00	5	6.5	20	0.01365	0.02384	6.4%
13:10	15	6.0	20	0.01365	0.01379	5.9%
13:25	30	6.0	20	0.01365	0.00975	5.9%
13:55	60	5.5	20	0.01365	0.00692	5.4%
17:05	250	5.0	20	0.01365	0.00340	5.0%
12:57	1440	5.0	20	0.01365	0.00142	5.0%

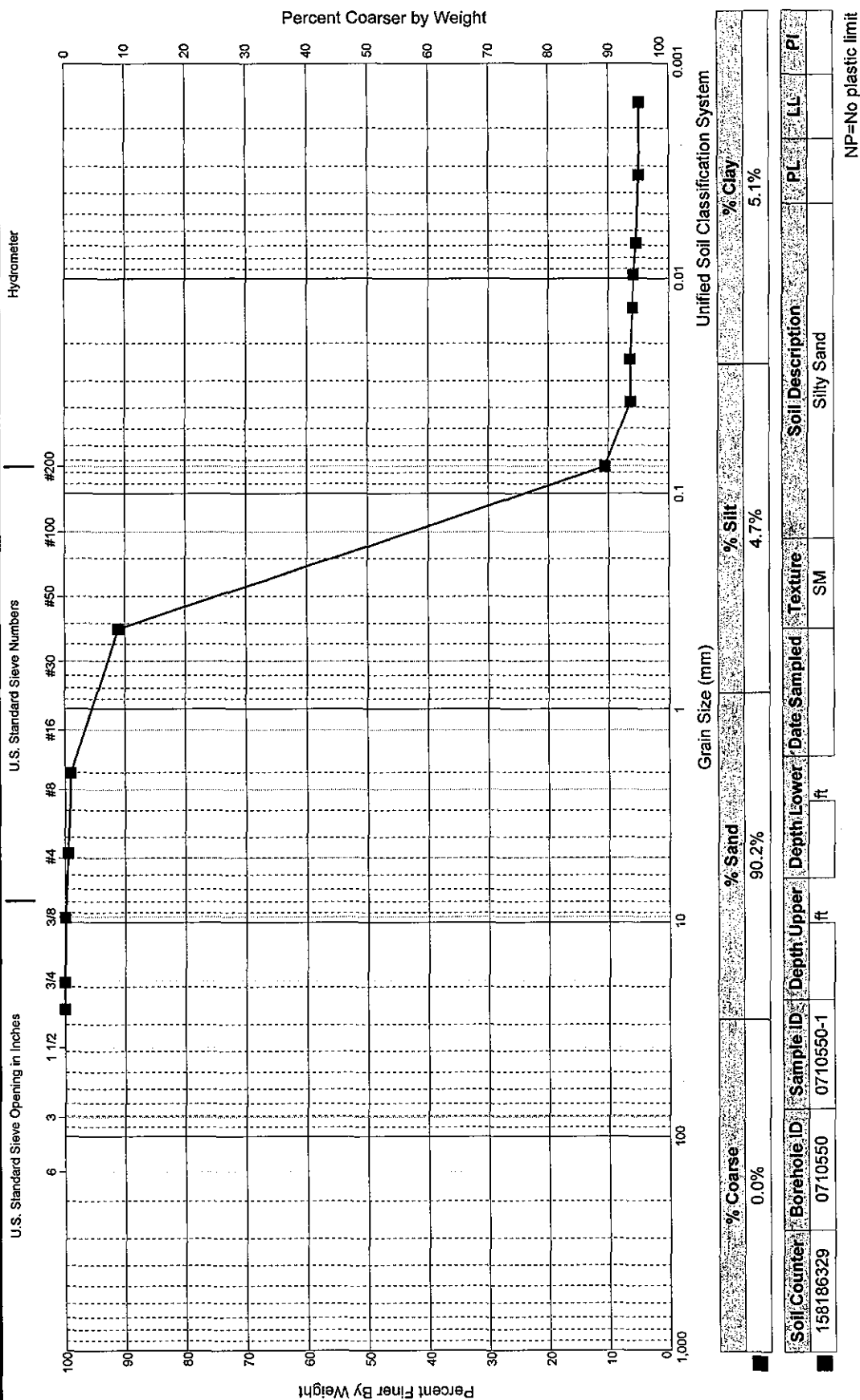
Calculation: Total % Finer = ( Hydrometer Reading x Correction Factor ) / Total weight of soil sample x 100%

USCS CLASSIFICATION: USCS: (SM) Silty Sand

Verfiy JAMES HEYWOOD  
Certification #: NICET # 87010  
Date: 11/8/2007

Reviewed by: JAMES MCMANUS, CSI  
QA/QC MANAGER  
Date: 11/8/2007

# GRAIN-SIZE DISTRIBUTION TEST REPORT



<b>Company:</b> Thielsch Engineering <b>Address:</b> 195 Frances Ave. Cranston United States <b>Telephone:</b> 401-467-6454 <b>Fax:</b> 401-467-2398	<b>USCS GRAIN-SIZE DISTRIBUTION</b>			
	<b>Tested By:</b> James Heywood <b>Test Date:</b> 08-Nov-07			
<b>Project No.:</b> 07-0002-1 <b>Project Name:</b> ESS 07 <b>Location:</b> <b>Soil Counter:</b> 158186329 <b>Depth:</b> ft		<b>Borehole:</b> 0710550 <b>Sample ID:</b> 0710550-1		



# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Slater Up  
Date Sampled: 10/31/07 10:10  
Percent Solids: 77

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-02  
Sample Matrix: Soil

TCLP Date: 10/31/07

### 1311/6000/7000 TCLP Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>TCLP Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/L	0.05	1311/6010B	5	1	SVD	11/01/07	50	50
Cadmium	0.012	mg/L	0.005	1311/6010B	1	1	SVD	11/01/07	50	50
Chromium	ND	mg/L	0.02	1311/6010B	5	1	SVD	11/01/07	50	50
Copper	ND	mg/L	0.020	1311/6010B		1	SVD	11/01/07	50	50
Lead	1.58	mg/L	0.02	1311/6010B	5	1	SVD	11/01/07	50	50
Mercury	ND	mg/L	0.0005	1311/7470A	0.2	1	JP	11/03/07	20	40
Nickel	0.26	mg/L	0.05	1311/6010B		1	SVD	11/01/07	50	50
Zinc	3.25	mg/L	0.050	1311/6010B		1	SVD	11/01/07	50	50



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Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Slater Up  
Date Sampled: 10/31/07 10:10  
Percent Solids: 77

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-02  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	11.1	mg/kg dry	2.1	6010B	7	1	SVD	10/31/07	3.09	100
Cadmium	2.76	mg/kg dry	0.42	6010B	39	1	SVD	10/31/07	3.09	100
Chromium	33.5	mg/kg dry	0.8	6010B	1400	1	SVD	10/31/07	3.09	100
Copper	73.2	mg/kg dry	0.8	6010B	3100	1	SVD	10/31/07	3.09	100
Lead	280	mg/kg dry	4.2	6010B	150	1	SVD	10/31/07	3.09	100
Mercury	0.212	mg/kg dry	0.025	7471A	23	1	JP	11/02/07	1.05	40
Nickel	32.7	mg/kg dry	2.1	6010B	1000	1	SVD	10/31/07	3.09	100
Zinc	703	mg/kg dry	10.5	6010B	6000	5	SVD	11/01/07	3.09	100



# ESS Laboratory

Division of Thielsch Engineering, Inc.

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Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Slater Up  
Date Sampled: 10/31/07 10:10  
Percent Solids: 77  
Initial Volume: 20.7  
Final Volume: 10  
Extraction Method: 3541

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-02  
Sample Matrix: Soil  
Analyst: SEP  
Prepared: 11/01/07

### 8082 Polychlorinated Biphenyls (PCB)

#### RI - RES DEC

Analyte	Results	Units	MRL	Limit	DF	Analyzed
Aroclor 1016	ND	mg/kg dry	0.0627	10	1	11/02/07
Aroclor 1221	ND	mg/kg dry	0.0627	10	1	11/02/07
Aroclor 1232	ND	mg/kg dry	0.0627	10	1	11/02/07
Aroclor 1242	ND	mg/kg dry	0.0627	10	1	11/02/07
Aroclor 1248	ND	mg/kg dry	0.0627	10	1	11/02/07
Aroclor 1254	ND	mg/kg dry	0.0627	10	1	11/02/07
Aroclor 1260	0.128	mg/kg dry	0.0627	10	1	11/02/07
Aroclor 1262	ND	mg/kg dry	0.0627	10	1	11/02/07
Aroclor 1268	ND	mg/kg dry	0.0627	10	1	11/02/07

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	102 %		30-150
Surrogate: Decachlorobiphenyl [2C]	132 %		30-150
Surrogate: Tetrachloro-m-xylene	96 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	113 %		30-150





# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Slater Up  
Date Sampled: 10/31/07 10:10  
Percent Solids: 77  
Initial Volume: 19.9  
Final Volume: 1  
Extraction Method: 3541

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-02  
Sample Matrix: Soil  
Analyst: SEP  
Prepared: 11/01/07

### 8100M Total Petroleum Hydrocarbons

RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
Total Petroleum Hydrocarbons	784	mg/kg dry	48.9	500	1	11/02/07

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: O-Terphenyl	86 %		40-140



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Slater Up  
Date Sampled: 10/31/07 10:10  
Percent Solids: 77  
Initial Volume: 15.9  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-02  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 11/01/07

### 8270C Semi-Volatile Organic Compounds

#### RI - RES DEC

Analyte	Results	Units	MRL	Limit	DF	Analyzed
1,1-Biphenyl	ND	mg/kg dry	0.408	0.8	1	11/02/07
1,2,4-Trichlorobenzene	ND	mg/kg dry	0.408	96	1	11/02/07
1,2-Dichlorobenzene	ND	mg/kg dry	0.408	510	1	11/02/07
1,3-Dichlorobenzene	ND	mg/kg dry	0.408	430	1	11/02/07
1,4-Dichlorobenzene	ND	mg/kg dry	0.408	27	1	11/02/07
2,3,4,6-Tetrachlorophenol	ND	mg/kg dry	2.05		1	11/02/07
2,4,5-Trichlorophenol	ND	mg/kg dry	0.408	330	1	11/02/07
2,4,6-Trichlorophenol	ND	mg/kg dry	0.408	58	1	11/02/07
2,4-Dichlorophenol	ND	mg/kg dry	0.408	30	1	11/02/07
2,4-Dimethylphenol	ND	mg/kg dry	0.408	1400	1	11/02/07
2,4-Dinitrophenol	ND	mg/kg dry	2.05	160	1	11/02/07
2,4-Dinitrotoluene	ND	mg/kg dry	0.408	0.9	1	11/02/07
2,6-Dinitrotoluene	ND	mg/kg dry	0.408		1	11/02/07
2-Chloronaphthalene	ND	mg/kg dry	0.408		1	11/02/07
2-Chlorophenol	ND	mg/kg dry	0.408	50	1	11/02/07
2-Methylnaphthalene	ND	mg/kg dry	0.408	123	1	11/02/07
2-Methylphenol	ND	mg/kg dry	0.408		1	11/02/07
2-Nitroaniline	ND	mg/kg dry	0.408		1	11/02/07
2-Nitrophenol	ND	mg/kg dry	0.408		1	11/02/07
3,3'-Dichlorobenzidine	ND	mg/kg dry	0.817	1.4	1	11/02/07
3+4-Methylphenol	ND	mg/kg dry	0.817		1	11/02/07
3-Nitroaniline	ND	mg/kg dry	0.408		1	11/02/07
4,6-Dinitro-2-Methylphenol	ND	mg/kg dry	2.05		1	11/02/07
4-Bromophenyl-phenylether	ND	mg/kg dry	0.408		1	11/02/07
4-Chloro-3-Methylphenol	ND	mg/kg dry	0.408		1	11/02/07
4-Chloroaniline	ND	mg/kg dry	0.817	310	1	11/02/07
4-Chloro-phenyl-phenyl ether	ND	mg/kg dry	0.408		1	11/02/07
4-Nitroaniline	ND	mg/kg dry	0.408		1	11/02/07
4-Nitrophenol	ND	mg/kg dry	2.05		1	11/02/07
Acenaphthene	1.98	mg/kg dry	0.408	43	1	11/02/07
Acenaphthylene	ND	mg/kg dry	0.408	23	1	11/02/07
Acetophenone	ND	mg/kg dry	0.817		1	11/02/07
Aniline	ND	mg/kg dry	2.05		1	11/02/07
Anthracene	6.94	mg/kg dry	0.408	35	1	11/02/07
Azobenzene	ND	mg/kg dry	0.408		1	11/02/07



# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Slater Up  
Date Sampled: 10/31/07 10:10  
Percent Solids: 77  
Initial Volume: 15.9  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-02  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 11/01/07

### 8270C Semi-Volatile Organic Compounds

Benzo(a)anthracene	10.4	mg/kg dry	4.08	0.9	10	11/03/07
Benzo(a)pyrene	7.94	mg/kg dry	0.205	0.4	1	11/02/07
Benzo(b)fluoranthene	7.33	mg/kg dry	4.08	0.9	10	11/03/07
Benzo(g,h,i)perylene	1.16	mg/kg dry	0.408	0.8	1	11/02/07
Benzo(k)fluoranthene	5.35	mg/kg dry	4.08	0.9	10	11/03/07
Benzoic Acid	ND	mg/kg dry	2.05		1	11/02/07
Benzyl Alcohol	ND	mg/kg dry	0.408		1	11/02/07
bis(2-Chloroethoxy)methane	ND	mg/kg dry	0.408		1	11/02/07
bis(2-Chloroethyl)ether	ND	mg/kg dry	0.408	0.6	1	11/02/07
bis(2-chloroisopropyl)Ether	ND	mg/kg dry	0.408	9.1	1	11/02/07
bis(2-Ethylhexyl)phthalate	1.19	mg/kg dry	0.408	46	1	11/02/07
Butylbenzylphthalate	ND	mg/kg dry	0.408		1	11/02/07
Carbazole	0.497	mg/kg dry	0.408		1	11/02/07
Chrysene	9.94	mg/kg dry	2.05	0.4	10	11/03/07
Dibenzo(a,h)Anthracene	ND	mg/kg dry	0.205	0.4	1	11/02/07
Dibenzofuran	1.45	mg/kg dry	0.408		1	11/02/07
Diethylphthalate	ND	mg/kg dry	0.408	340	1	11/02/07
Dimethylphthalate	ND	mg/kg dry	0.408	1900	1	11/02/07
Di-n-butylphthalate	ND	mg/kg dry	0.408		1	11/02/07
Di-n-octylphthalate	ND	mg/kg dry	0.408		1	11/02/07
Fluoranthene	27.5	mg/kg dry	4.08	20	10	11/03/07
Fluorene	3.46	mg/kg dry	0.408	28	1	11/02/07
Hexachlorobenzene	ND	mg/kg dry	0.205	0.4	1	11/02/07
Hexachlorobutadiene	ND	mg/kg dry	0.408	8.2	1	11/02/07
Hexachlorocyclopentadiene	ND	mg/kg dry	2.05		1	11/02/07
Hexachloroethane	ND	mg/kg dry	0.408	46	1	11/02/07
Indeno(1,2,3-cd)Pyrene	1.36	mg/kg dry	0.408	0.9	1	11/02/07
Isophorone	ND	mg/kg dry	0.408		1	11/02/07
Naphthalene	ND	mg/kg dry	0.408	54	1	11/02/07
Nitrobenzene	ND	mg/kg dry	0.408		1	11/02/07
N-Nitrosodimethylamine	ND	mg/kg dry	0.408		1	11/02/07
N-Nitroso-Di-n-Propylamine	ND	mg/kg dry	0.408		1	11/02/07
N-nitrosodiphenylamine	ND	mg/kg dry	0.408		1	11/02/07
Pentachlorophenol	ND	mg/kg dry	2.05	5.3	1	11/02/07
Phenanthrene	24.6	mg/kg dry	4.08	40	10	11/03/07
Phenol	ND	mg/kg dry	0.408	6000	1	11/02/07



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Slater Up  
Date Sampled: 10/31/07 10:10  
Percent Solids: 77  
Initial Volume: 15.9  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-02  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 11/01/07

### 8270C Semi-Volatile Organic Compounds

Pyrene	20.9	mg/kg dry	4.08	13	10	11/03/07
Pyridine	ND	mg/kg dry	2.05		1	11/02/07

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	58 %		30-130
Surrogate: 2,4,6-Tribromophenol	86 %		30-130
Surrogate: 2-Chlorophenol-d4	59 %		30-130
Surrogate: 2-Fluorobiphenyl	70 %		30-130
Surrogate: 2-Fluorophenol	57 %		30-130
Surrogate: Nitrobenzene-d5	58 %		30-130
Surrogate: Phenol-d6	62 %		30-130
Surrogate: p-Terphenyl-d14	88 %		30-130



# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## *CERTIFICATE OF ANALYSIS*

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Slater Up  
Date Sampled: 10/31/07 10:10

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-02  
Sample Matrix: Soil

### Classical Chemistry

RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>
Grain Size	See Attached							
Hydrometer	See Attached							



Construction Testing Services  
195 Francis Avenue, Cranston, RI 02910  
Tel. (401) 467-6454 Fax: (401) 467-2398

### HYDROMETER CALCULATION

Client: ESS  
Project: ESS 0710550  
Subject: ASTM D422 152H

Date: 11/8/2007  
Project No.: ESS 0710550  
Report No.: 710550-02

Client ID #: Black Slater Up

Sample #: 07100550-2

Total Wet Wt.: 402.5 g

Total Dry Wt.: 320.0 g

% Moisture: 25.8%

Starting Time: 1:05 PM

Sieve	Wt. (g)	% Retain	% Passing
1"	0.0	0.0%	100.0%
3/4"	25.0	7.8%	92.2%
3/8"	56.5	17.7%	82.3%
#4	144.0	45.0%	55.0%
#10	201.0	62.8%	37.2%
#40	241.3	75.4%	24.6%
#200	298.9	93.4%	6.6%

Weight of soil use in Hydrometer: 65 g

Specific Gravity: 2.70

Correction Factor: 0.99

Time	Elapsed Time (min)	Actual Hydrometer Reading	Temp (°C)	Temperature and Specific Gravity Constant	Partical Diameter (mm)	Percent Finer Total
13:07	2	8.0	20	0.01345	0.03683	4.5%
13:10	5	7.0	20	0.01345	0.02345	4.0%
13:20	15	6.5	20	0.01345	0.01356	3.7%
13:35	30	6.0	20	0.01345	0.00961	3.4%
14:05	60	5.5	20	0.01345	0.00681	3.1%
17:15	250	4.5	20	0.01345	0.00335	2.5%
13:07	1440	4.5	20	0.01345	0.00140	2.5%

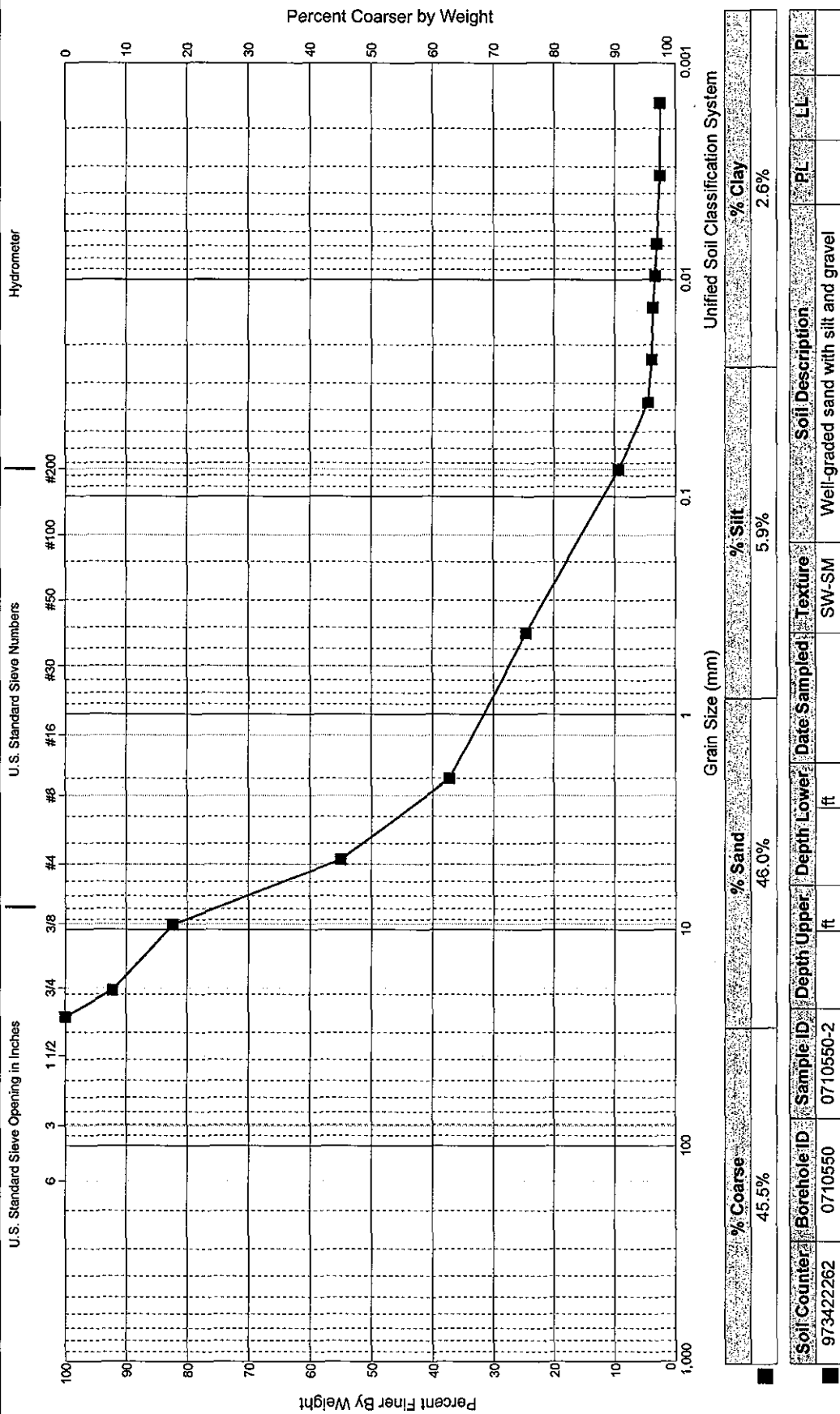
Calculation: Total % Finer = ( Hydrometer Reading x Correction Factor ) / Total weight of soil sample x 100%

USCS CLASSIFICATION: USCS: (SW-SM) Well-graded sand with silt and gravel

Verfiy JAMES HEYWOOD  
Certification #: NICET # 87010  
Date: 11/8/2007

Reviewed by: JAMES MCMANUS, CSI  
QA/QC MANAGER  
Date: 11/8/2007

# GRAIN-SIZE DISTRIBUTION TEST REPORT



<b>Company:</b> Thielsch Engineering <b>Address:</b> 195 Frances Ave. Cranston RI 02910 <b>Country:</b> United States <b>Telephone:</b> 401-467-6454 <b>Fax:</b> 401-467-2398		<b>Project No.:</b> 07-0002-1 <b>Borehole:</b> 0710550 <b>Project Name:</b> ESS 07 <b>Location:</b> <b>Soil Counter:</b> 973422262 <b>Sample ID:</b> 0710550-2 <b>Depth:</b> ft		<b>USCS GRAIN-SIZE DISTRIBUTION</b> <b>Tested By:</b> James Heywood <b>Test Date:</b> 08-Nov-07	
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# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Valley Up  
Date Sampled: 10/31/07 11:15  
Percent Solids: 73

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-03  
Sample Matrix: Soil

TCLP Date: 10/31/07

### 1311/6000/7000 TCLP Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>TCLP Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/L	0.05	1311/6010B	5	1	SVD	11/01/07	50	50
Cadmium	0.015	mg/L	0.005	1311/6010B	1	1	SVD	11/01/07	50	50
Chromium	ND	mg/L	0.02	1311/6010B	5	1	SVD	11/01/07	50	50
Copper	0.078	mg/L	0.020	1311/6010B		1	SVD	11/01/07	50	50
Lead	0.09	mg/L	0.02	1311/6010B	5	1	SVD	11/01/07	50	50
Mercury	ND	mg/L	0.0005	1311/7470A	0.2	1	JP	11/03/07	20	40
Nickel	ND	mg/L	0.05	1311/6010B		1	SVD	11/01/07	50	50
Zinc	1.20	mg/L	0.050	1311/6010B		1	SVD	11/01/07	50	50





# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Valley Up  
Date Sampled: 10/31/07 11:15  
Percent Solids: 73

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-03  
Sample Matrix: Soil

### 3050B/6000/7000 Total Metals

RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Arsenic	ND	mg/kg dry	2.7	6010B	7	1	SVD	10/31/07	2.49	100
Cadmium	0.67	mg/kg dry	0.55	6010B	39	1	SVD	10/31/07	2.49	100
Chromium	17.0	mg/kg dry	1.1	6010B	1400	1	SVD	10/31/07	2.49	100
Copper	21.5	mg/kg dry	1.1	6010B	3100	1	SVD	10/31/07	2.49	100
Lead	39.5	mg/kg dry	5.5	6010B	150	1	SVD	10/31/07	2.49	100
Mercury	0.029	mg/kg dry	0.024	7471A	23	1	JP	11/02/07	1.12	40
Nickel	6.4	mg/kg dry	2.7	6010B	1000	1	SVD	10/31/07	2.49	100
Zinc	70.1	mg/kg dry	2.7	6010B	6000	1	SVD	10/31/07	2.49	100



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Valley Up  
Date Sampled: 10/31/07 11:15  
Percent Solids: 73  
Initial Volume: 20.2  
Final Volume: 10  
Extraction Method: 3541

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-03  
Sample Matrix: Soil  
Analyst: SEP  
Prepared: 11/01/07

### 8082 Polychlorinated Biphenyls (PCB)

#### RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
Aroclor 1016	ND	mg/kg dry	0.0678	10	1	11/02/07
Aroclor 1221	ND	mg/kg dry	0.0678	10	1	11/02/07
Aroclor 1232	ND	mg/kg dry	0.0678	10	1	11/02/07
Aroclor 1242	ND	mg/kg dry	0.0678	10	1	11/02/07
Aroclor 1248	ND	mg/kg dry	0.0678	10	1	11/02/07
<b>Aroclor 1254</b>	<b>0.336</b>	mg/kg dry	0.0678	10	1	11/02/07
Aroclor 1260	ND	mg/kg dry	0.0678	10	1	11/02/07
Aroclor 1262	ND	mg/kg dry	0.0678	10	1	11/02/07
Aroclor 1268	ND	mg/kg dry	0.0678	10	1	11/02/07

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	84 %		30-150
Surrogate: Decachlorobiphenyl [2C]	106 %		30-150
Surrogate: Tetrachloro-m-xylene	90 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	112 %		30-150



# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Valley Up  
Date Sampled: 10/31/07 11:15  
Percent Solids: 73  
Initial Volume: 20.2  
Final Volume: 1  
Extraction Method: 3541

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-03  
Sample Matrix: Soil  
Analyst: SEP  
Prepared: 11/01/07

### 8100M Total Petroleum Hydrocarbons

RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
Total Petroleum Hydrocarbons	529	mg/kg dry	50.9	500	1	11/02/07

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: O-Terphenyl	82 %		40-140



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology

Client Project ID: Blackstone

Client Sample ID: Black Valley Up

Date Sampled: 10/31/07 11:15

Percent Solids: 73

Initial Volume: 15.5

Final Volume: 0.5

Extraction Method: 3546

ESS Laboratory Work Order: 0710550

ESS Laboratory Sample ID: 0710550-03

Sample Matrix: Soil

Analyst: VSC

Prepared: 11/01/07

### 8270C Semi-Volatile Organic Compounds

#### RI - RES DEC

Analyte	Results	Units	MRL	Limit	DF	Analyzed
1,1-Biphenyl	ND	mg/kg dry	0.441	0.8	1	11/02/07
1,2,4-Trichlorobenzene	ND	mg/kg dry	0.441	96	1	11/02/07
1,2-Dichlorobenzene	ND	mg/kg dry	0.441	510	1	11/02/07
1,3-Dichlorobenzene	ND	mg/kg dry	0.441	430	1	11/02/07
1,4-Dichlorobenzene	ND	mg/kg dry	0.441	27	1	11/02/07
2,3,4,6-Tetrachlorophenol	ND	mg/kg dry	2.21		1	11/02/07
2,4,5-Trichlorophenol	ND	mg/kg dry	0.441	330	1	11/02/07
2,4,6-Trichlorophenol	ND	mg/kg dry	0.441	58	1	11/02/07
2,4-Dichlorophenol	ND	mg/kg dry	0.441	30	1	11/02/07
2,4-Dimethylphenol	ND	mg/kg dry	0.441	1400	1	11/02/07
2,4-Dinitrophenol	ND	mg/kg dry	2.21	160	1	11/02/07
2,4-Dinitrotoluene	ND	mg/kg dry	0.441	0.9	1	11/02/07
2,6-Dinitrotoluene	ND	mg/kg dry	0.441		1	11/02/07
2-Chloronaphthalene	ND	mg/kg dry	0.441		1	11/02/07
2-Chlorophenol	ND	mg/kg dry	0.441	50	1	11/02/07
2-Methylnaphthalene	ND	mg/kg dry	0.441	123	1	11/02/07
2-Methylphenol	ND	mg/kg dry	0.441		1	11/02/07
2-Nitroaniline	ND	mg/kg dry	0.441		1	11/02/07
2-Nitrophenol	ND	mg/kg dry	0.441		1	11/02/07
3,3'-Dichlorobenzidine	ND	mg/kg dry	0.884	1.4	1	11/02/07
3+4-Methylphenol	ND	mg/kg dry	0.884		1	11/02/07
3-Nitroaniline	ND	mg/kg dry	0.441		1	11/02/07
4,6-Dinitro-2-Methylphenol	ND	mg/kg dry	2.21		1	11/02/07
4-Bromophenyl-phenylether	ND	mg/kg dry	0.441		1	11/02/07
4-Chloro-3-Methylphenol	ND	mg/kg dry	0.441		1	11/02/07
4-Chloroaniline	ND	mg/kg dry	0.884	310	1	11/02/07
4-Chloro-phenyl-phenyl ether	ND	mg/kg dry	0.441		1	11/02/07
4-Nitroaniline	ND	mg/kg dry	0.441		1	11/02/07
4-Nitrophenol	ND	mg/kg dry	2.21		1	11/02/07
Acenaphthene	ND	mg/kg dry	0.441	43	1	11/02/07
Acenaphthylene	ND	mg/kg dry	0.441	23	1	11/02/07
Acetophenone	ND	mg/kg dry	0.884		1	11/02/07
Aniline	ND	mg/kg dry	2.21		1	11/02/07
Anthracene	ND	mg/kg dry	0.441	35	1	11/02/07
Azobenzene	ND	mg/kg dry	0.441		1	11/02/07



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology

Client Project ID: Blackstone

Client Sample ID: Black Valley Up

Date Sampled: 10/31/07 11:15

Percent Solids: 73

Initial Volume: 15.5

Final Volume: 0.5

Extraction Method: 3546

ESS Laboratory Work Order: 0710550

ESS Laboratory Sample ID: 0710550-03

Sample Matrix: Soil

Analyst: VSC

Prepared: 11/01/07

### 8270C Semi-Volatile Organic Compounds

Benzo(a)anthracene	1.04	mg/kg dry	0.441	0.9	1	11/02/07
Benzo(a)pyrene	1.00	mg/kg dry	0.221	0.4	1	11/02/07
Benzo(b)fluoranthene	1.05	mg/kg dry	0.441	0.9	1	11/02/07
Benzo(g,h,i)perylene	0.612	mg/kg dry	0.441	0.8	1	11/02/07
Benzo(k)fluoranthene	0.608	mg/kg dry	0.441	0.9	1	11/02/07
Benzoic Acid	ND	mg/kg dry	2.21		1	11/02/07
Benzyl Alcohol	1.03	mg/kg dry	0.441		1	11/02/07
bis(2-Chloroethoxy)methane	ND	mg/kg dry	0.441		1	11/02/07
bis(2-Chloroethyl)ether	ND	mg/kg dry	0.441	0.6	1	11/02/07
bis(2-chloroisopropyl)Ether	ND	mg/kg dry	0.441	9.1	1	11/02/07
bis(2-Ethylhexyl)phthalate	2.14	mg/kg dry	0.441	46	1	11/02/07
Butylbenzylphthalate	ND	mg/kg dry	0.441		1	11/02/07
Carbazole	ND	mg/kg dry	0.441		1	11/02/07
Chrysene	1.27	mg/kg dry	0.221	0.4	1	11/02/07
Dibenzo(a,h)Anthracene	ND	mg/kg dry	0.221	0.4	1	11/02/07
Dibenzofuran	ND	mg/kg dry	0.441		1	11/02/07
Diethylphthalate	ND	mg/kg dry	0.441	340	1	11/02/07
Dimethylphthalate	ND	mg/kg dry	0.441	1900	1	11/02/07
Di-n-butylphthalate	ND	mg/kg dry	0.441		1	11/02/07
Di-n-octylphthalate	ND	mg/kg dry	0.441		1	11/02/07
Fluoranthene	2.40	mg/kg dry	0.441	20	1	11/02/07
Fluorene	ND	mg/kg dry	0.441	28	1	11/02/07
Hexachlorobenzene	ND	mg/kg dry	0.221	0.4	1	11/02/07
Hexachlorobutadiene	ND	mg/kg dry	0.441	8.2	1	11/02/07
Hexachlorocyclopentadiene	ND	mg/kg dry	2.21		1	11/02/07
Hexachloroethane	ND	mg/kg dry	0.441	46	1	11/02/07
Indeno(1,2,3-cd)Pyrene	0.556	mg/kg dry	0.441	0.9	1	11/02/07
Isophorone	ND	mg/kg dry	0.441		1	11/02/07
Naphthalene	ND	mg/kg dry	0.441	54	1	11/02/07
Nitrobenzene	ND	mg/kg dry	0.441		1	11/02/07
N-Nitrosodimethylamine	ND	mg/kg dry	0.441		1	11/02/07
N-Nitroso-Di-n-Propylamine	ND	mg/kg dry	0.441		1	11/02/07
N-nitrosodiphenylamine	ND	mg/kg dry	0.441		1	11/02/07
Pentachlorophenol	ND	mg/kg dry	2.21	5.3	1	11/02/07
Phenanthrene	1.43	mg/kg dry	0.441	40	1	11/02/07
Phenol	ND	mg/kg dry	0.441	6000	1	11/02/07



# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone  
Client Sample ID: Black Valley Up  
Date Sampled: 10/31/07 11:15  
Percent Solids: 73  
Initial Volume: 15.5  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 0710550  
ESS Laboratory Sample ID: 0710550-03  
Sample Matrix: Soil  
Analyst: VSC  
Prepared: 11/01/07

### 8270C Semi-Volatile Organic Compounds

Pyrene	2.18	mg/kg dry	0.441	13	1	11/02/07
Pyridine	ND	mg/kg dry	2.21		1	11/02/07

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	60 %		30-130
Surrogate: 2,4,6-Tribromophenol	91 %		30-130
Surrogate: 2-Chlorophenol-d4	62 %		30-130
Surrogate: 2-Fluorobiphenyl	75 %		30-130
Surrogate: 2-Fluorophenol	59 %		30-130
Surrogate: Nitrobenzene-d5	66 %		30-130
Surrogate: Phenol-d6	62 %		30-130
Surrogate: p-Terphenyl-d14	90 %		30-130



# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## *CERTIFICATE OF ANALYSIS*

Client Name: EA Engineering, Science, and Technology

Client Project ID: Blackstone

Client Sample ID: Black Valley Up

Date Sampled: 10/31/07 11:15

ESS Laboratory Work Order: 0710550

ESS Laboratory Sample ID: 0710550-03

Sample Matrix: Soil

### Classical Chemistry

RI - RES DEC

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>
Grain Size	See Attached							
Hydrometer	See Attached							



Construction Testing Services  
195 Francis Avenue, Cranston, RI 02910  
Tel. (401) 467-6454 Fax: (401) 467-2398

### HYDROMETER CALCULATION

Client: ESS  
Project: ESS 0710550  
Subject: ASTM D422 152H

Date: 11/8/2007  
Project No.: ESS 0710550  
Report No.: 710550-03

Client ID #: Black Valley Up

Sample #: 07100550-3

Total Wet Wt.: 431.0 g

Total Dry Wt.: 330.0 g

% Moisture: 30.6%

Starting Time: 1:19PM

Sieve	Wt. (g)	% Retain	% Passing
1"	0.0	0.0%	100.0%
3/4"	0.0	0.0%	100.0%
3/8"	0.0	0.0%	100.0%
#4	2.0	0.6%	99.4%
#10	8.0	2.4%	97.6%
#40	48.3	14.6%	85.4%
#200	275.0	83.3%	16.7%

Weight of soil use in Hydrometer: 100 g

Specific Gravity: 2.67

Correction Factor: 0.995

Time	Elapsed Time (min)	Actual Hydrometer Reading	Temp (°C)	Temperature and Specific Gravity Constant	Partical Diameter (mm)	Percent Finer Total
1:20PM	2	6.0	20	0.01355	0.03748	5.8%
13:24	5	6.0	20	0.01355	0.02370	5.8%
1:34PM	15	5.5	20	0.01355	0.01373	5.3%
1:49PM	30	4.0	20	0.01355	0.00977	3.9%
2:19PM	60	4.0	20	0.01355	0.00691	3.9%
5:29PM	250	3.5	20	0.01355	0.00340	3.4%
1:21PM	1440	3.5	20	0.01355	0.00141	3.4%

Calculation: Total % Finer = ( Hydrometer Reading x Correction Factor ) / Total weight of soil sample x 100%

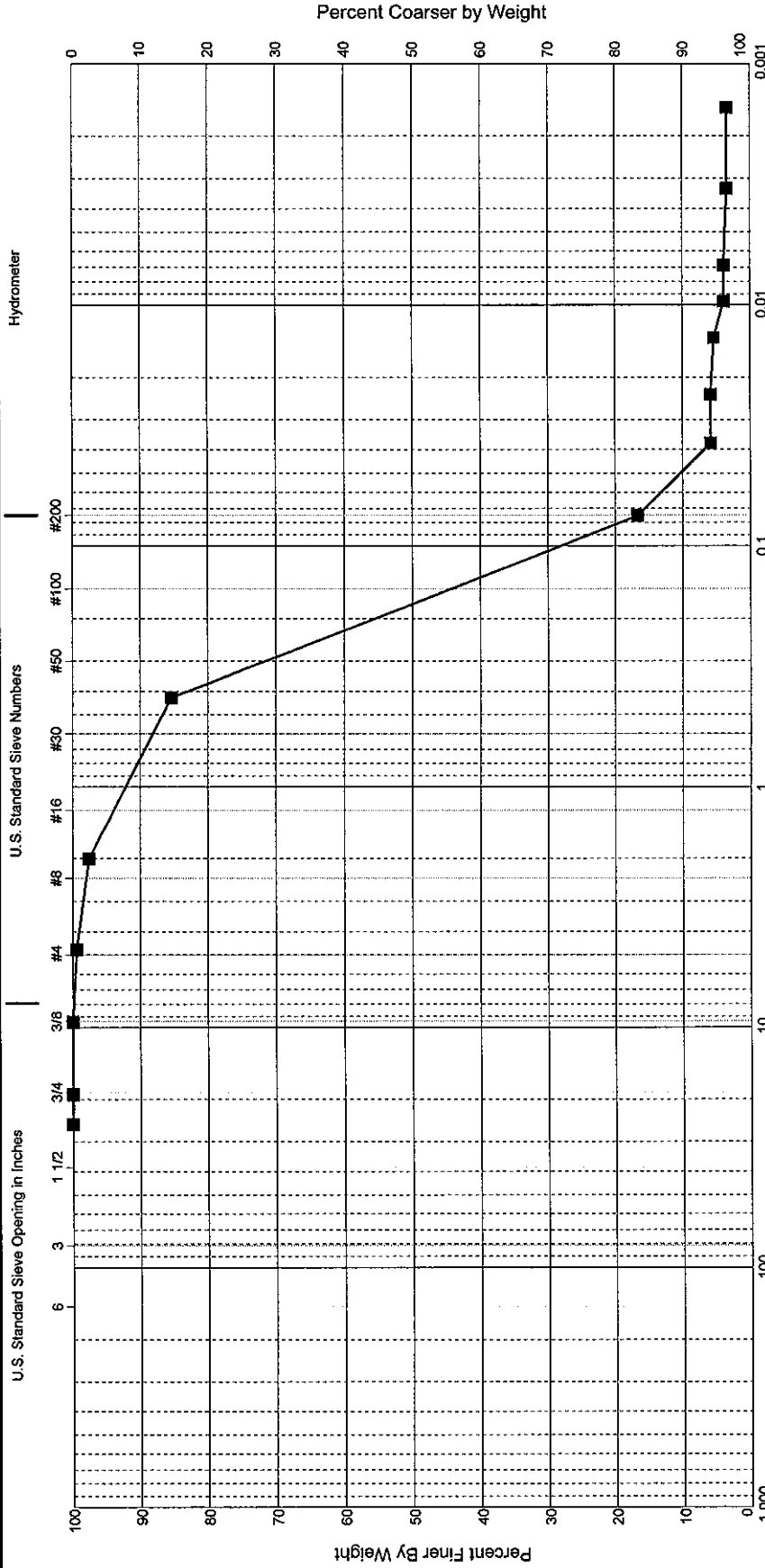
USCS CLASSIFICATION: USCS: ( SM ) Silty sand

Verfiy JAMES HEYWOOD  
Certification #: NICET # 87010  
Date: 11/8/2007

Reviewed by: JAMES MCMANUS, CSI  
QA/QC MANAGER  
Date: 11/8/2007



# GRAIN-SIZE DISTRIBUTION TEST REPORT



Grain Size (mm)				Unified Soil Classification System			
% Coarse	% Sand	% Silt	% Clay	Soil Description	PL	LL	PI
0.3%	83.8%	12.8%	3.1%	Silty sand			
Soil Counter: 777633084	Borehole ID: 0710550	Sample ID: 0710550-3	Depth Upper: 10 ft	Depth Lower: 10 ft	Texture: SM		

NP=No plastic limit

<b>Company:</b> Thielsch Engineering <b>Address:</b> 195 Frances Ave. Cranston United States <b>Telephone:</b> 401-467-6454 <b>Fax:</b> 401-467-2398		<b>Project No.:</b> 07-0002-1 <b>Project Name:</b> ESS 07 <b>Location:</b> Soil Counter: 777633084 Depth: ft		<b>Borehole:</b> 0710550 <b>Sample ID:</b> 0710550-3		<b>USCS GRAIN-SIZE DISTRIBUTION</b> <b>Tested By:</b> James Heywood <b>Test Date:</b> 08-Nov-07	
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# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone

ESS Laboratory Work Order: 0710550

### 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 BK70106 - 3005A

###### Blank

Lead	ND	0.02	mg/L
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###### Blank

Arsenic	ND	0.05	mg/L
Cadmium	ND	0.005	mg/L
Chromium	ND	0.02	mg/L
Copper	ND	0.020	mg/L
Lead	ND	0.02	mg/L
Nickel	ND	0.05	mg/L
Zinc	ND	0.050	mg/L

###### LCS

Arsenic	0.54	0.05	mg/L	0.5000	108	80-120
Cadmium	0.259	0.005	mg/L	0.2500	104	80-120
Chromium	0.51	0.02	mg/L	0.5000	102	80-120
Copper	0.584	0.020	mg/L	0.5000	117	80-120
Lead	0.53	0.02	mg/L	0.5000	106	80-120
Nickel	0.52	0.05	mg/L	0.5000	104	80-120
Zinc	0.549	0.050	mg/L	0.5000	110	80-120

###### LCS Dup

Arsenic	0.55	0.05	mg/L	0.5000	110	80-120	2	20
Cadmium	0.263	0.005	mg/L	0.2500	105	80-120	1	20
Chromium	0.51	0.02	mg/L	0.5000	102	80-120	0.7	20
Copper	0.571	0.020	mg/L	0.5000	114	80-120	2	20
Lead	0.53	0.02	mg/L	0.5000	107	80-120	0.9	20
Nickel	0.52	0.05	mg/L	0.5000	103	80-120	0.4	20
Zinc	0.546	0.050	mg/L	0.5000	109	80-120	0.6	20

##### Batch BK70212 - 245.1/7470A

###### Blank

Mercury	ND	0.0005	mg/L
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###### LCS

Mercury	0.0056	0.0005	mg/L	0.006000	93	80-120
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###### LCS Dup

Mercury	0.0055	0.0005	mg/L	0.006000	92	80-120	1	20
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###### Duplicate Source: 0710550-03

Mercury	ND	0.0005	mg/L	ND				20
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###### Matrix Spike Source: 0710550-03

Mercury	0.0057	0.0005	mg/L	0.006000	ND	95	75-125
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###### Matrix Spike Dup Source: 0710550-03

Mercury	0.0056	0.0005	mg/L	0.006000	ND	93	75-125	2	20
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#### 3050B/6000/7000 Total Metals

##### Batch BJ73114 - 3050B

###### Blank



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology

Client Project ID: Blackstone

ESS Laboratory Work Order: 0710550

### Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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#### 3050B/6000/7000 Total Metals

##### Batch BJ73114 - 3050B

Cadmium	ND	0.67	mg/kg wet
Chromium	ND	1.3	mg/kg wet
Copper	ND	1.3	mg/kg wet
Lead	ND	6.7	mg/kg wet
Nickel	ND	3.3	mg/kg wet
Zinc	ND	3.3	mg/kg wet

##### LCS

Cadmium	15.6	0.67	mg/kg wet	16.67	94	80-120
Chromium	33.3	1.3	mg/kg wet	33.33	100	80-120
Copper	33.4	1.3	mg/kg wet	33.33	100	80-120
Lead	33.8	6.7	mg/kg wet	33.33	101	80-120
Nickel	32.8	3.3	mg/kg wet	33.33	98	80-120
Zinc	32.1	3.3	mg/kg wet	33.33	96	80-120

##### LCS Dup

Cadmium	15.7	0.67	mg/kg wet	16.67	94	80-120	0.6	20
Chromium	33.0	1.3	mg/kg wet	33.33	99	80-120	0.9	20
Copper	33.3	1.3	mg/kg wet	33.33	100	80-120	0.2	20
Lead	33.9	6.7	mg/kg wet	33.33	102	80-120	0.2	20
Nickel	32.8	3.3	mg/kg wet	33.33	99	80-120	0.2	20
Zinc	32.2	3.3	mg/kg wet	33.33	97	80-120	0.3	20

##### Reference

Cadmium	53.7	1.00	mg/kg wet	63.00	85	82.06-117.94
Chromium	81.2	2.0	mg/kg wet	97.90	83	78.86-120.53
Copper	76.3	2.0	mg/kg wet	87.00	88	82.41-117.24
Lead	81.3	10.0	mg/kg wet	88.90	91	81.78-118.11
Nickel	102	5.0	mg/kg wet	116.0	88	82.59-117.24
Zinc	195	5.0	mg/kg wet	230.0	85	79.13-120.87

##### Batch BJ73115 - 7471A

##### Blank

Mercury	ND	0.033	mg/kg wet
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##### LCS

Mercury	0.189	0.033	mg/kg wet	0.2000	94	80-120
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##### LCS Dup

Mercury	0.191	0.033	mg/kg wet	0.2000	95	80-120	1	20
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##### Reference

Mercury	4.18	0.333	mg/kg wet	4.470	93	66-132.66
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#### 8082 Polychlorinated Biphenyls (PCB)

##### Batch BK70129 - 3541

##### Blank

Aroclor 1016	ND	0.0500	mg/kg wet
Aroclor 1221	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone

ESS Laboratory Work Order: 0710550

### Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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#### 8082 Polychlorinated Biphenyls (PCB)

##### Batch BK70129 - 3541

Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0222		mg/kg wet	0.02500		89	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0213		mg/kg wet	0.02500		85	30-150			
Surrogate: Tetrachloro-m-xylene	0.0227		mg/kg wet	0.02500		91	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0216		mg/kg wet	0.02500		87	30-150			

##### LCS

Aroclor 1016	0.487	0.0500	mg/kg wet	0.5000		97	40-140			
Aroclor 1260	0.456	0.0500	mg/kg wet	0.5000		91	40-140			

Surrogate: Decachlorobiphenyl	0.0226		mg/kg wet	0.02500		91	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0209		mg/kg wet	0.02500		84	30-150			
Surrogate: Tetrachloro-m-xylene	0.0220		mg/kg wet	0.02500		88	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0210		mg/kg wet	0.02500		84	30-150			

##### LCS Dup

Aroclor 1016	0.527	0.0500	mg/kg wet	0.5000		105	40-140	8	50	
Aroclor 1260	0.491	0.0500	mg/kg wet	0.5000		98	40-140	7	50	

Surrogate: Decachlorobiphenyl	0.0237		mg/kg wet	0.02500		95	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0221		mg/kg wet	0.02500		88	30-150			
Surrogate: Tetrachloro-m-xylene	0.0239		mg/kg wet	0.02500		95	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0226		mg/kg wet	0.02500		91	30-150			

##### Matrix Spike Source: 0710550-01

Aroclor 1016	0.752	0.0687	mg/kg dry	0.6873	ND	109	40-140			
Aroclor 1260	0.696	0.0687	mg/kg dry	0.6873	0.134	82	40-140			

Surrogate: Decachlorobiphenyl	0.0308		mg/kg dry	0.03436		90	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0293		mg/kg dry	0.03436		85	30-150			
Surrogate: Tetrachloro-m-xylene	0.0319		mg/kg dry	0.03436		93	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0303		mg/kg dry	0.03436		88	30-150			

##### Matrix Spike Dup Source: 0710550-01

Aroclor 1016	0.786	0.0644	mg/kg dry	0.6441	ND	122	40-140	4	50	
Aroclor 1260	0.778	0.0644	mg/kg dry	0.6441	0.134	100	40-140	11	50	

Surrogate: Decachlorobiphenyl	0.0301		mg/kg dry	0.03221		93	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0415		mg/kg dry	0.03221		129	30-150			
Surrogate: Tetrachloro-m-xylene	0.0316		mg/kg dry	0.03221		98	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0373		mg/kg dry	0.03221		116	30-150			

#### 8100M Total Petroleum Hydrocarbons

##### Batch BK70113 - 3541



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology

Client Project ID: Blackstone

ESS Laboratory Work Order: 0710550

### Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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#### 8100M Total Petroleum Hydrocarbons

##### Batch BK70113 - 3541

##### Blank

Decane (C10)	ND	0.25	mg/kg wet
Docosane (C22)	ND	0.25	mg/kg wet
Dodecane (C12)	ND	0.25	mg/kg wet
Eicosane (C20)	ND	0.25	mg/kg wet
Hexacosane (C26)	ND	0.25	mg/kg wet
Hexadecane (C16)	ND	0.25	mg/kg wet
Nonadecane (C19)	ND	0.25	mg/kg wet
Nonane (C9)	ND	0.25	mg/kg wet
Octacosane (C28)	ND	0.25	mg/kg wet
Octadecane (C18)	ND	0.25	mg/kg wet
Tetracosane (C24)	ND	0.25	mg/kg wet
Tetradecane (C14)	ND	0.25	mg/kg wet
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet
Triacontane (C30)	ND	0.25	mg/kg wet

Surrogate: O-Terphenyl 4.40 mg/kg wet 5.000 88 40-140

##### LCS

Decane (C10)	1.43	0.25	mg/kg wet	2.500	57	40-140
Docosane (C22)	1.95	0.25	mg/kg wet	2.500	78	40-140
Dodecane (C12)	1.64	0.25	mg/kg wet	2.500	66	40-140
Eicosane (C20)	1.95	0.25	mg/kg wet	2.500	78	40-140
Hexacosane (C26)	1.93	0.25	mg/kg wet	2.500	77	40-140
Hexadecane (C16)	1.88	0.25	mg/kg wet	2.500	75	40-140
Nonadecane (C19)	2.10	0.25	mg/kg wet	2.500	84	40-140
Nonane (C9)	1.02	0.25	mg/kg wet	2.500	41	30-140
Octacosane (C28)	1.91	0.25	mg/kg wet	2.500	77	40-140
Octadecane (C18)	1.98	0.25	mg/kg wet	2.500	79	40-140
Tetracosane (C24)	1.99	0.25	mg/kg wet	2.500	79	40-140
Tetradecane (C14)	1.78	0.25	mg/kg wet	2.500	71	40-140
Triacontane (C30)	1.86	0.25	mg/kg wet	2.500	75	40-140

Surrogate: O-Terphenyl 3.74 mg/kg wet 5.000 75 40-140

##### LCS Dup

Decane (C10)	1.44	0.25	mg/kg wet	2.500	57	40-140	0.3	50
Docosane (C22)	1.81	0.25	mg/kg wet	2.500	72	40-140	7	50
Dodecane (C12)	1.57	0.25	mg/kg wet	2.500	63	40-140	4	50
Eicosane (C20)	1.78	0.25	mg/kg wet	2.500	71	40-140	9	50
Hexacosane (C26)	1.78	0.25	mg/kg wet	2.500	71	40-140	8	50
Hexadecane (C16)	1.74	0.25	mg/kg wet	2.500	69	40-140	8	50
Nonadecane (C19)	1.93	0.25	mg/kg wet	2.500	77	40-140	8	50
Nonane (C9)	1.13	0.25	mg/kg wet	2.500	45	30-140	10	50
Octacosane (C28)	1.76	0.25	mg/kg wet	2.500	70	40-140	9	50
Octadecane (C18)	1.82	0.25	mg/kg wet	2.500	73	40-140	9	50
Tetracosane (C24)	1.82	0.25	mg/kg wet	2.500	73	40-140	9	50
Tetradecane (C14)	1.67	0.25	mg/kg wet	2.500	67	40-140	7	50



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology

Client Project ID: Blackstone

ESS Laboratory Work Order: 0710550

### Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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#### 8100M Total Petroleum Hydrocarbons

##### Batch BK70113 - 3541

Triacotane (C30)	1.70	0.25	mg/kg wet	2.500		68	40-140	9	50	
Surrogate: O-Terphenyl	3.46		mg/kg wet	5.000		69	40-140			

#### 8270C Semi-Volatile Organic Compounds

##### Batch BK70124 - 3546

##### Blank

1,1-Biphenyl	ND	0.250	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.250	mg/kg wet
1,2-Dichlorobenzene	ND	0.250	mg/kg wet
1,3-Dichlorobenzene	ND	0.250	mg/kg wet
1,4-Dichlorobenzene	ND	0.250	mg/kg wet
2,3,4,6-Tetrachlorophenol	ND	1.25	mg/kg wet
2,4,5-Trichlorophenol	ND	0.250	mg/kg wet
2,4,6-Trichlorophenol	ND	0.250	mg/kg wet
2,4-Dichlorophenol	ND	0.250	mg/kg wet
2,4-Dimethylphenol	ND	0.250	mg/kg wet
2,4-Dinitrophenol	ND	1.25	mg/kg wet
2,4-Dinitrotoluene	ND	0.250	mg/kg wet
2,6-Dinitrotoluene	ND	0.250	mg/kg wet
2-Chloronaphthalene	ND	0.250	mg/kg wet
2-Chlorophenol	ND	0.250	mg/kg wet
2-Methylnaphthalene	ND	0.250	mg/kg wet
2-Methylphenol	ND	0.250	mg/kg wet
2-Nitroaniline	ND	0.250	mg/kg wet
2-Nitrophenol	ND	0.250	mg/kg wet
3,3'-Dichlorobenzidine	ND	0.500	mg/kg wet
3+4-Methylphenol	ND	0.500	mg/kg wet
3-Nitroaniline	ND	0.250	mg/kg wet
4,6-Dinitro-2-Methylphenol	ND	1.25	mg/kg wet
4-Bromophenyl-phenylether	ND	0.250	mg/kg wet
4-Chloro-3-Methylphenol	ND	0.250	mg/kg wet
4-Chloroaniline	ND	0.500	mg/kg wet
4-Chloro-phenyl-phenyl ether	ND	0.250	mg/kg wet
4-Nitroaniline	ND	0.250	mg/kg wet
4-Nitrophenol	ND	1.25	mg/kg wet
Acenaphthene	ND	0.250	mg/kg wet
Acenaphthylene	ND	0.250	mg/kg wet
Acetophenone	ND	0.500	mg/kg wet
Aniline	ND	1.25	mg/kg wet
Anthracene	ND	0.250	mg/kg wet
Azobenzene	ND	0.250	mg/kg wet
Benzo(a)anthracene	ND	0.250	mg/kg wet
Benzo(a)pyrene	ND	0.125	mg/kg wet
Benzo(b)fluoranthene	ND	0.250	mg/kg wet
Benzo(g,h,i)perylene	ND	0.250	mg/kg wet



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone

ESS Laboratory Work Order: 0710550

### Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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#### 8270C Semi-Volatile Organic Compounds

##### Batch BK70124 - 3546

Benzo(k)fluoranthene	ND	0.250	mg/kg wet							
Benzoic Acid	ND	1.25	mg/kg wet							
Benzyl Alcohol	ND	0.250	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.250	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.250	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.250	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.250	mg/kg wet							
Butylbenzylphthalate	ND	0.250	mg/kg wet							
Carbazole	ND	0.250	mg/kg wet							
Chrysene	ND	0.125	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.125	mg/kg wet							
Dibenzofuran	ND	0.250	mg/kg wet							
Diethylphthalate	ND	0.250	mg/kg wet							
Dimethylphthalate	ND	0.250	mg/kg wet							
Di-n-butylphthalate	ND	0.250	mg/kg wet							
Di-n-octylphthalate	ND	0.250	mg/kg wet							
Fluoranthene	ND	0.250	mg/kg wet							
Fluorene	ND	0.250	mg/kg wet							
Hexachlorobenzene	ND	0.125	mg/kg wet							
Hexachlorobutadiene	ND	0.250	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.25	mg/kg wet							
Hexachloroethane	ND	0.250	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.250	mg/kg wet							
Isophorone	ND	0.250	mg/kg wet							
Naphthalene	ND	0.250	mg/kg wet							
Nitrobenzene	ND	0.250	mg/kg wet							
N-Nitrosodimethylamine	ND	0.250	mg/kg wet							
N-Nitroso-Di-n-Propylamine	ND	0.250	mg/kg wet							
N-nitrosodiphenylamine	ND	0.250	mg/kg wet							
Pentachlorophenol	ND	1.25	mg/kg wet							
Phenanthrene	ND	0.250	mg/kg wet							
Phenol	ND	0.250	mg/kg wet							
Pyrene	ND	0.250	mg/kg wet							
Pyridine	ND	1.25	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	1.88		mg/kg wet	2.500		75	30-130			
Surrogate: 2,4,6-Tribromophenol	3.49		mg/kg wet	3.750		93	30-130			
Surrogate: 2-Chlorophenol-d4	2.56		mg/kg wet	3.750		68	30-130			
Surrogate: 2-Fluorobiphenyl	1.95		mg/kg wet	2.500		78	30-130			
Surrogate: 2-Fluorophenol	2.62		mg/kg wet	3.750		70	30-130			
Surrogate: Nitrobenzene-d5	1.83		mg/kg wet	2.500		73	30-130			
Surrogate: Phenol-d6	2.62		mg/kg wet	3.750		70	30-130			
Surrogate: p-Terphenyl-d14	2.46		mg/kg wet	2.500		99	30-130			

##### LCS

1,1-Biphenyl	2.22	0.250	mg/kg wet	2.500	89	40-140
1,2,4-Trichlorobenzene	1.81	0.250	mg/kg wet	2.500	72	40-140
1,2-Dichlorobenzene	1.72	0.250	mg/kg wet	2.500	69	40-140



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

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Client Project ID: Blackstone

ESS Laboratory Work Order: 0710550

### Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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#### 8270C Semi-Volatile Organic Compounds

##### Batch BK70124 - 3546

1,3-Dichlorobenzene	1.69	0.250	mg/kg wet	2.500		67	40-140			
1,4-Dichlorobenzene	1.74	0.250	mg/kg wet	2.500		70	40-140			
2,3,4,6-Tetrachlorophenol	2.35	1.25	mg/kg wet	2.500		94	30-130			
2,4,5-Trichlorophenol	2.31	0.250	mg/kg wet	2.500		92	30-130			
2,4,6-Trichlorophenol	2.18	0.250	mg/kg wet	2.500		87	30-130			
2,4-Dichlorophenol	2.08	0.250	mg/kg wet	2.500		83	30-130			
2,4-Dimethylphenol	1.87	0.250	mg/kg wet	2.500		75	30-130			
2,4-Dinitrophenol	2.17	1.25	mg/kg wet	2.500		87	30-130			
2,4-Dinitrotoluene	2.38	0.250	mg/kg wet	2.500		95	40-140			
2,6-Dinitrotoluene	2.09	0.250	mg/kg wet	2.500		84	40-140			
2-Chloronaphthalene	2.26	0.250	mg/kg wet	2.500		90	40-140			
2-Chlorophenol	1.70	0.250	mg/kg wet	2.500		68	30-130			
2-Methylnaphthalene	1.84	0.250	mg/kg wet	2.500		74	40-140			
2-Methylphenol	1.94	0.250	mg/kg wet	2.500		78	30-130			
2-Nitroaniline	2.33	0.250	mg/kg wet	2.500		93	40-140			
2-Nitrophenol	1.87	0.250	mg/kg wet	2.500		75	30-130			
3,3'-Dichlorobenzidine	2.43	0.500	mg/kg wet	2.500		97	40-140			
3+4-Methylphenol	3.98	0.500	mg/kg wet	5.000		80	30-130			
3-Nitroaniline	2.17	0.250	mg/kg wet	2.500		87	40-140			
4,6-Dinitro-2-Methylphenol	2.46	1.25	mg/kg wet	2.500		99	30-130			
4-Bromophenyl-phenylether	2.33	0.250	mg/kg wet	2.500		93	40-140			
4-Chloro-3-Methylphenol	2.09	0.250	mg/kg wet	2.500		84	30-130			
4-Chloroaniline	1.46	0.500	mg/kg wet	2.500		59	40-140			
4-Chloro-phenyl-phenyl ether	2.17	0.250	mg/kg wet	2.500		87	40-140			
4-Nitroaniline	2.58	0.250	mg/kg wet	2.500		103	40-140			
4-Nitrophenol	2.35	1.25	mg/kg wet	2.500		94	30-130			
Acenaphthene	2.18	0.250	mg/kg wet	2.500		87	40-140			
Acenaphthylene	1.94	0.250	mg/kg wet	2.500		78	40-140			
Acetophenone	1.93	0.500	mg/kg wet	2.500		77	40-140			
Aniline	1.40	1.25	mg/kg wet	2.500		56	40-140			
Anthracene	2.25	0.250	mg/kg wet	2.500		90	40-140			
Azobenzene	2.04	0.250	mg/kg wet	2.500		81	40-140			
Benzo(a)anthracene	2.39	0.250	mg/kg wet	2.500		96	40-140			
Benzo(a)pyrene	2.41	0.125	mg/kg wet	2.500		96	40-140			
Benzo(b)fluoranthene	2.25	0.250	mg/kg wet	2.500		90	40-140			
Benzo(g,h,i)perylene	2.27	0.250	mg/kg wet	2.500		91	40-140			
Benzo(k)fluoranthene	2.44	0.250	mg/kg wet	2.500		98	40-140			
Benzoic Acid	2.10	1.25	mg/kg wet	2.500		84	40-140			
Benzyl Alcohol	1.96	0.250	mg/kg wet	2.500		78	40-140			
bis(2-Chloroethoxy)methane	1.55	0.250	mg/kg wet	2.500		62	40-140			
bis(2-Chloroethyl)ether	1.92	0.250	mg/kg wet	2.500		77	40-140			
bis(2-chloroisopropyl)Ether	2.17	0.250	mg/kg wet	2.500		87	40-140			
bis(2-Ethylhexyl)phthalate	2.44	0.250	mg/kg wet	2.500		98	40-140			
Butylbenzylphthalate	2.46	0.250	mg/kg wet	2.500		98	40-140			
Carbazole	2.38	0.250	mg/kg wet	2.500		95	40-140			
Chrysene	2.44	0.125	mg/kg wet	2.500		98	40-140			





# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone

ESS Laboratory Work Order: 0710550

### Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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#### 8270C Semi-Volatile Organic Compounds

##### Batch BK70124 - 3546

Dibenzo(a,h)Anthracene	2.30	0.125	mg/kg wet	2.500		92	40-140			
Dibenzofuran	2.10	0.250	mg/kg wet	2.500		84	40-140			
Diethylphthalate	2.37	0.250	mg/kg wet	2.500		95	40-140			
Dimethylphthalate	2.21	0.250	mg/kg wet	2.500		89	40-140			
Di-n-butylphthalate	2.37	0.250	mg/kg wet	2.500		95	40-140			
Di-n-octylphthalate	2.52	0.250	mg/kg wet	2.500		101	40-140			
Fluoranthene	2.46	0.250	mg/kg wet	2.500		98	40-140			
Fluorene	2.09	0.250	mg/kg wet	2.500		83	40-140			
Hexachlorobenzene	2.35	0.125	mg/kg wet	2.500		94	40-140			
Hexachlorobutadiene	1.92	0.250	mg/kg wet	2.500		77	40-140			
Hexachlorocyclopentadiene	1.67	1.25	mg/kg wet	2.500		67	40-140			
Hexachloroethane	1.61	0.250	mg/kg wet	2.500		64	40-140			
Indeno(1,2,3-cd)Pyrene	2.30	0.250	mg/kg wet	2.500		92	40-140			
Isophorone	1.81	0.250	mg/kg wet	2.500		72	40-140			
Naphthalene	1.77	0.250	mg/kg wet	2.500		71	40-140			
Nitrobenzene	1.81	0.250	mg/kg wet	2.500		72	40-140			
N-Nitrosodimethylamine	0.958	0.250	mg/kg wet	2.500		38	40-140			B-
N-Nitroso-Di-n-Propylamine	1.98	0.250	mg/kg wet	2.500		79	40-140			
N-nitrosodiphenylamine	2.22	0.250	mg/kg wet	2.500		89	40-140			
Pentachlorophenol	2.32	1.25	mg/kg wet	2.500		93	30-130			
Phenanthrene	2.39	0.250	mg/kg wet	2.500		96	40-140			
Phenol	1.79	0.250	mg/kg wet	2.500		72	30-130			
Pyrene	2.40	0.250	mg/kg wet	2.500		96	40-140			
Pyridine	0.752	1.25	mg/kg wet	2.500		30	40-140			B-
Surrogate: 1,2-Dichlorobenzene-d4	1.77		mg/kg wet	2.500		71	30-130			
Surrogate: 2,4,6-Tribromophenol	3.80		mg/kg wet	3.750		101	30-130			
Surrogate: 2-Chlorophenol-d4	2.64		mg/kg wet	3.750		70	30-130			
Surrogate: 2-Fluorobiphenyl	1.95		mg/kg wet	2.500		78	30-130			
Surrogate: 2-Fluorophenol	2.69		mg/kg wet	3.750		72	30-130			
Surrogate: Nitrobenzene-d5	1.79		mg/kg wet	2.500		72	30-130			
Surrogate: Phenol-d6	2.74		mg/kg wet	3.750		73	30-130			
Surrogate: p-Terphenyl-d14	2.44		mg/kg wet	2.500		98	30-130			

##### LCS Dup

1,1-Biphenyl	2.18	0.250	mg/kg wet	2.500		87	40-140	2	30	
1,2,4-Trichlorobenzene	1.95	0.250	mg/kg wet	2.500		78	40-140	8	30	
1,2-Dichlorobenzene	1.90	0.250	mg/kg wet	2.500		76	40-140	10	30	
1,3-Dichlorobenzene	1.81	0.250	mg/kg wet	2.500		72	40-140	7	30	
1,4-Dichlorobenzene	1.88	0.250	mg/kg wet	2.500		75	40-140	8	30	
2,3,4,6-Tetrachlorophenol	2.52	1.25	mg/kg wet	2.500		101	30-130	7	30	
2,4,5-Trichlorophenol	2.47	0.250	mg/kg wet	2.500		99	30-130	7	30	
2,4,6-Trichlorophenol	2.38	0.250	mg/kg wet	2.500		95	30-130	9	30	
2,4-Dichlorophenol	2.23	0.250	mg/kg wet	2.500		89	30-130	7	30	
2,4-Dimethylphenol	1.97	0.250	mg/kg wet	2.500		79	30-130	5	30	
2,4-Dinitrophenol	2.29	1.25	mg/kg wet	2.500		92	30-130	5	30	
2,4-Dinitrotoluene	2.44	0.250	mg/kg wet	2.500		98	40-140	3	30	
2,6-Dinitrotoluene	2.31	0.250	mg/kg wet	2.500		92	40-140	10	30	



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology

Client Project ID: Blackstone

ESS Laboratory Work Order: 0710550

## Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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### 8270C Semi-Volatile Organic Compounds

#### Batch BK70124 - 3546

2-Chloronaphthalene	2.45	0.250	mg/kg wet	2.500		98	40-140	8	30	
2-Chlorophenol	1.78	0.250	mg/kg wet	2.500		71	30-130	5	30	
2-Methylnaphthalene	2.09	0.250	mg/kg wet	2.500		83	40-140	12	30	
2-Methylphenol	1.98	0.250	mg/kg wet	2.500		79	30-130	2	30	
2-Nitroaniline	2.53	0.250	mg/kg wet	2.500		101	40-140	8	30	
2-Nitrophenol	2.14	0.250	mg/kg wet	2.500		86	30-130	14	30	
3,3'-Dichlorobenzidine	2.40	0.500	mg/kg wet	2.500		96	40-140	1	30	
3+4-Methylphenol	4.02	0.500	mg/kg wet	5.000		80	30-130	0.9	30	
3-Nitroaniline	2.34	0.250	mg/kg wet	2.500		94	40-140	8	30	
4,6-Dinitro-2-Methylphenol	2.61	1.25	mg/kg wet	2.500		104	30-130	6	30	
4-Bromophenyl-phenylether	2.50	0.250	mg/kg wet	2.500		100	40-140	7	30	
4-Chloro-3-Methylphenol	2.22	0.250	mg/kg wet	2.500		89	30-130	6	30	
4-Chloroaniline	1.58	0.500	mg/kg wet	2.500		63	40-140	8	30	
4-Chloro-phenyl-phenyl ether	2.36	0.250	mg/kg wet	2.500		94	40-140	8	30	
4-Nitroaniline	2.75	0.250	mg/kg wet	2.500		110	40-140	6	30	
4-Nitrophenol	2.47	1.25	mg/kg wet	2.500		99	30-130	5	30	
Acenaphthene	2.22	0.250	mg/kg wet	2.500		89	40-140	2	30	
Acenaphthylene	2.05	0.250	mg/kg wet	2.500		82	40-140	5	30	
Acetophenone	2.01	0.500	mg/kg wet	2.500		80	40-140	4	30	
Aniline	1.42	1.25	mg/kg wet	2.500		57	40-140	1	30	
Anthracene	2.37	0.250	mg/kg wet	2.500		95	40-140	5	30	
Azobenzene	2.07	0.250	mg/kg wet	2.500		83	40-140	2	30	
Benzo(a)anthracene	2.52	0.250	mg/kg wet	2.500		101	40-140	6	30	
Benzo(a)pyrene	2.52	0.125	mg/kg wet	2.500		101	40-140	5	30	
Benzo(b)fluoranthene	2.41	0.250	mg/kg wet	2.500		96	40-140	7	30	
Benzo(g,h,i)perylene	2.44	0.250	mg/kg wet	2.500		98	40-140	7	30	
Benzo(k)fluoranthene	2.11	0.250	mg/kg wet	2.500		84	40-140	15	30	
Benzoic Acid	2.17	1.25	mg/kg wet	2.500		87	40-140	3	30	
Benzyl Alcohol	2.00	0.250	mg/kg wet	2.500		80	40-140	2	30	
bis(2-Chloroethoxy)methane	1.72	0.250	mg/kg wet	2.500		69	40-140	10	30	
bis(2-Chloroethyl)ether	1.58	0.250	mg/kg wet	2.500		63	40-140	20	30	
bis(2-chloroisopropyl)Ether	2.18	0.250	mg/kg wet	2.500		87	40-140	0.2	30	
bis(2-Ethylhexyl)phthalate	2.51	0.250	mg/kg wet	2.500		100	40-140	3	30	
Butylbenzylphthalate	2.52	0.250	mg/kg wet	2.500		101	40-140	3	30	
Carbazole	2.55	0.250	mg/kg wet	2.500		102	40-140	7	30	
Chrysene	2.46	0.125	mg/kg wet	2.500		98	40-140	0.7	30	
Dibenzo(a,h)Anthracene	2.37	0.125	mg/kg wet	2.500		95	40-140	3	30	
Dibenzofuran	2.21	0.250	mg/kg wet	2.500		88	40-140	5	30	
Diethylphthalate	2.50	0.250	mg/kg wet	2.500		100	40-140	5	30	
Dimethylphthalate	2.39	0.250	mg/kg wet	2.500		96	40-140	8	30	
Di-n-butylphthalate	2.47	0.250	mg/kg wet	2.500		99	40-140	4	30	
Di-n-octylphthalate	2.64	0.250	mg/kg wet	2.500		106	40-140	5	30	
Fluoranthene	2.50	0.250	mg/kg wet	2.500		100	40-140	2	30	
Fluorene	2.26	0.250	mg/kg wet	2.500		90	40-140	8	30	
Hexachlorobenzene	2.46	0.125	mg/kg wet	2.500		98	40-140	4	30	
Hexachlorobutadiene	1.95	0.250	mg/kg wet	2.500		78	40-140	1	30	



# ESS Laboratory

Division of Thielsch Engineering, Inc.

## CERTIFICATE OF ANALYSIS

Client Name: EA Engineering, Science, and Technology

Client Project ID: Blackstone

ESS Laboratory Work Order: 0710550

### Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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#### 8270C Semi-Volatile Organic Compounds

##### Batch BK70124 - 3546

Hexachlorocyclopentadiene	1.84	1.25	mg/kg wet	2.500		73	40-140	10	30	
Hexachloroethane	1.71	0.250	mg/kg wet	2.500		69	40-140	6	30	
Indeno(1,2,3-cd)Pyrene	2.38	0.250	mg/kg wet	2.500		95	40-140	3	30	
Isophorone	2.01	0.250	mg/kg wet	2.500		80	40-140	11	30	
Naphthalene	1.98	0.250	mg/kg wet	2.500		79	40-140	11	30	
Nitrobenzene	2.07	0.250	mg/kg wet	2.500		83	40-140	14	30	
N-Nitrosodimethylamine	0.958	0.250	mg/kg wet	2.500		38	40-140	0	30	B-
N-Nitroso-Di-n-Propylamine	1.92	0.250	mg/kg wet	2.500		77	40-140	3	30	
N-nitrosodiphenylamine	2.43	0.250	mg/kg wet	2.500		97	40-140	9	30	
Pentachlorophenol	2.46	1.25	mg/kg wet	2.500		98	30-130	6	30	
Phenanthrene	2.50	0.250	mg/kg wet	2.500		100	40-140	4	30	
Phenol	1.80	0.250	mg/kg wet	2.500		72	30-130	0.5	30	
Pyrene	2.52	0.250	mg/kg wet	2.500		101	40-140	5	30	
Pyridine	0.840	1.25	mg/kg wet	2.500		34	40-140	11	30	B-
Surrogate: 1,2-Dichlorobenzene-d4	1.81		mg/kg wet	2.500		72	30-130			
Surrogate: 2,4,6-Tribromophenol	3.82		mg/kg wet	3.750		102	30-130			
Surrogate: 2-Chlorophenol-d4	2.65		mg/kg wet	3.750		71	30-130			
Surrogate: 2-Fluorobiphenyl	2.15		mg/kg wet	2.500		86	30-130			
Surrogate: 2-Fluorophenol	2.68		mg/kg wet	3.750		71	30-130			
Surrogate: Nitrobenzene-d5	1.96		mg/kg wet	2.500		78	30-130			
Surrogate: Phenol-d6	2.86		mg/kg wet	3.750		76	30-130			
Surrogate: p-Terphenyl-d14	2.54		mg/kg wet	2.500		102	30-130			



# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## *CERTIFICATE OF ANALYSIS*

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone

ESS Laboratory Work Order: 0710550

### **Notes and Definitions**

Z-08	See Attached
U	Analyte included in the analysis, but not detected
IM	Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit.
C-	Continuing Calibration recovery is below lower control limit.
B-	Blank Spike recovery is below lower control limit.
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
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
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.



# ESS Laboratory

*Division of Thielsch Engineering, Inc.*

## *CERTIFICATE OF ANALYSIS*

Client Name: EA Engineering, Science, and Technology  
Client Project ID: Blackstone

ESS Laboratory Work Order: 0710550

### **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 accredited): 242405  
Potable Water  
Non Potable Water

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

United States Department of Agriculture  
Soil Permit: S-54210

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

Maryland: 301  
Potable Water

# CHAIN OF CUSTODY

Page \_\_\_\_\_ of \_\_\_\_\_

Turn Time	Standard	Other	ESS LAB PROJECT ID
If faster than 5 days, prior approval by laboratory is required #			
State where samples were collected from:			
MA	RI	CT	NH
			NY
			ME
Other			
Is this project for any of the following:			
MA-MCP			
Navv			
USACE			
Other			
Reporting Limits			ESS LAB PROJECT ID
Electronic Deliverable			Yes No
Format: Excel Access PDF			Other

[illegible]

Container Type: P-Poly <u>G-Glass</u> S-Sterile <u>V-VOA</u> Matrix: <u>G-Soil</u> SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters										
Cooler Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Internal Use Only										
Seals Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No NA: <input type="checkbox"/> Pickup										
Cooler Temp: _____										
Preservation Code: <u>1-NP</u> ; 2-HCl, 3-H <sub>2</sub> SO <sub>4</sub> , 4-HNO <sub>3</sub> , 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____ Sampled by: _____ Comments: <u>No Hydrometer</u> <u>2-2007</u>										
Relinquished by: (Signature) <u>J. Davis</u> Date/Time <u>10/30/16 20</u>	Received by: (Signature) _____ Date/Time _____	Relinquished by: (Signature) _____ Date/Time _____	Received by: (Signature) _____ Date/Time _____							
Relinquished by: (Signature) _____ Date/Time _____	Received by: (Signature) _____ Date/Time _____	Relinquished 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.

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

10/26/04 B

# 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    of   

Turn Time If faster than 5 days, prior approval by laboratory is required # <u>          </u>	Reporting Limits	ESS LAB PROJECT ID <u>0710550</u>
State where samples were collected from: MA RI CT NH NJ NY ME Other <u>          </u>	Electronic Deliverable Format: Excel Access PDF <input checked="" type="checkbox"/> Other <u>          </u>	
Is this project for any of the following: MA-MCP Navy USACE Other <u>          </u>		

Co. Name <u>RA Engineering</u>	Project # <u>62130.08</u>	Project Name (20 Char. or less) <u>Blackstone</u>	Type of Containers		Number of Containers		Circle and/or Write Required Analysis	
Contact Person <u>Samm Whitin</u>	Address <u>2350 Post Rd.</u>	PO # <u>02884</u>	Email Address <u>swhitin@esslab.com</u>					
City <u>Warwick</u>	State <u>RI</u>	Zip <u>02884</u>						
Telephone # <u>736-3440</u>	Fax # <u>736-3473</u>							
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	
<u>1</u>	<u>10/31/07</u>	<u>0915</u>	<u>X</u>		<u>S</u>	<u>Black - Main - UP</u>	<u>1</u>	
<u>2</u>	<u>10/31/07</u>	<u>1010</u>	<u>X</u>		<u>S</u>	<u>Black - Slater - UP</u>	<u>1</u>	
<u>3</u>	<u>10/31/07</u>	<u>1115</u>	<u>X</u>		<u>S</u>	<u>Black - Valley - UP</u>	<u>1</u>	
						<u>STU</u>		
						<u>10-31-07</u>		

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 <u>Yes</u> No <u>  </u>	Internal Use Only
Seals Intact <u>Yes</u> No <u>  </u>	
Cooler Temp: <u>5.2</u>	
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- ZnAc <sub>2</sub> , 9- <u>          </u>	
Sampled by: <u>S. Whitin &amp; M. Richardson</u>	
Comments: <u>          </u>	
Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature) <u>[Signature]</u>
Date/Time <u>10/31/07 11525</u>	Date/Time <u>10-31-07 1525</u>
Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature) <u>[Signature]</u>
Date/Time <u>          </u>	Date/Time <u>          </u>