



**WASTE MANAGEMENT OF METRO ATLANTA, INC.**  
1850 PARK PLACE | MARIETTA, GEORGIA 30067

**PINE BLUFF SOLID WASTE MANAGEMENT FACILITY  
COAL COMBUSTION RESIDUAL (CCR)  
MANAGEMENT PLAN ANNUAL UPDATE  
PERMIT #: 028-039D (MSWL)**



**ANNUAL CCR MANAGEMENT PLAN AND  
DUST CONTROL REPORT**



**March 2021**

# Annual CCR Management Plan and Dust Control Report

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CCR Compatibility and Characterization Data

# Annual CCR Management Plan and Dust Control Report



This annual CCR management and dust control report was prepared in accordance with OCGA Solid Waste Management Rule 391-3-4-.07(5) and the Annual Coal Combustion Residuals (CCR) Management Plan and Dust Control Report Guidance Document provided by Georgia Department of Natural Resources, Environmental Protection Division (EPD) dated May 2018.

## SUMMARY:

The Pine Bluff Municipal Solid Waste (MSW) Landfill is comprised of an active Municipal Solid Waste Landfill (LF) unit that is separated into four phases as shown on the current Design and Operation (D&O) plan approved by Georgia's Environmental Protection Division (EPD) on September 14, 2018. The facilities current CCR Management Plan was established through a minor modification approved by EPD on May 22, 2017 and subsequently incorporated into its current D&O plan. During this reporting period, Pine Bluff Landfill was engaged in a corrective action plan that was the result of a slope instability event within the waste mass along the facilities northwest facing slope. This corrective action plan was in response to a Consent Order (CO) issued by Georgia EPD dated February 14, 2020. Several improvements have been made to the facilities infrastructure to ensure stability of the lined area while efforts to actively monitor waste mass movement continue.

## FACILITY LOCATION AND DESCRIPTION:

The Pine Bluff Landfill is located at 13809 East Cherokee Drive, Ball Ground, Georgia. The landfill sits on a 955.3 acres tract of land located in Cherokee County, approximately 3.5 miles south of the Ball Ground city limits.

## CCR MANAGEMENT ACTIVITIES :

### CCR and Non-CCR Waste Volumes :

Pine Bluff currently receives CCR and non-CCR waste materials. The non-CCR waste materials may contain waste streams from municipal, industrial, commercial, and other special waste stream sources. All waste streams accepted at this facility are in accordance with OCGA Solid Waste Management Rule 391-3-4.

The facility is currently permitted to receive a maximum CCR to non-CCR waste ratio (by weight) of 1 to 10. This translates into an estimated annual weight of 90,025 tons of CCR material with an estimated daily maximum of 330 tons. These limits are defined in Section 1 of the current Operational Narrative shown on Sheet 29 of the D&O Plans. The CCR to non-CCR ratio limits were established by verifying that the facilities design can withstand the additional loads presented by the higher density CCR material. The basis of the design verification provided in the May 22, 2017 CCR Management Minor Modification was an overall waste mass density of 74.5 lb/CF (2,011.5 lb/CY). This density takes into account the elevated overall waste mass density with the introduction of the permitted upper limit of CCR into the waste stream.

# Annual CCR Management Plan and Dust Control Report



The CCR material received at this facility between January 1, 2020 and December 31, 2020 had a recorded weight of 28 tons. During this same period, the facility received 1,312,690 tons of non-CCR waste. These tonnages and corresponding ratios are below the upper limits established by the Operational Narrative and the facilities design calculations. Therefore, no adjustments are needed to the plan or design components related to stability, leachate collection or base grade settlement.

The maximum amount of CCR received in any given day between January 1, 2020 and December 31, 2020 was 28 tons. This is well below the estimated average daily weight of 330 tons shown in Section 1 of the Operational Narrative and creates no design concerns as it serves to lower the expected waste mass density utilized in evaluating CCR's impact on the facilities overall design. Therefore, no adjustments are needed to the plan or design components related to stability, leachate collection or base grade settlement.

## CCR Source:

The only CCR material received at the facility to date was sourced from Southern Company facilities as required by Section 3 of the facilities Operational Narrative on Sheet 29 of the current D&O Plan. No new CCR waste streams were accepted by the facility during this reporting period.

## CCR Characterization and Compatibility:

Section 3 of the Operational Narrative on Sheet 29 requires all CCR waste streams entering the facility to be tested for characterization and compatibility using the Toxicity Characteristic Leaching Procedure (TCLP) 8 RCRA Metals by SW-846 Method 1311 and a Paint Filter Test by SW-845 Method 9095.

As noted above, the material source and general physical characteristics have remained consistent since the CCR Management permit's initial issue date and the customer has not notified the facility of any significant process changes. Therefore, additional testing to verify characterization and compatibility have not been required. The original laboratory results upon which the CCR Management Plan is based are repeated in Appendix A for reference. Please note that this laboratory analysis, although specific for Superior Landfill, represents typical analytical data found in CCR material across all of Waste Management facilities in Georgia.

## CCR Placement, Compaction and Cover:

The facility is permitted to operate two independent working faces for a period of six months upon beginning of waste placement operations in a newly constructed cell. The individual working faces operated during this period did not exceed a combined footprint of 40,000 square feet and were limited to approximately 200 feet wide. The maximum area of the working face(s) and their management were conducted in accordance with Section 2 of the Operational Narrative on Sheet 29.

# Annual CCR Management Plan and Dust Control Report



In addition to the two independent working faces, the facility was granted approval in December 2019 to operate a third working face in Cells 2-10 during waste relocation efforts. This third working face was not implemented during the reporting period and therefore had no impact on CCR disposal activities.

No leachate outbreaks were observed in layers of waste containing co-mingled CCR/non-CCR.

## Record Keeping:

Records of all waste transported to the site along with daily logs and operational records are retained at the facilities site office building. All record keeping is in accordance with the Georgia Rules for Solid Waste Management 391-3-4-.07(3)(u).

## Fugitive Dust Control:

The facility did not receive any complaints related to dust between January 1, 2020 and December 31, 2020 and has remained compliant with requirements established by Air Quality Rule 391-3-1-.02(2)(n)1.

## Leachate Collection and Removal System:

The facilities leachate collection, removal and storage system is in good working order with no known issues related to the disposal of co-mingled CCR/non-CCR wastes.

## Stormwater Management System:

The working face(s) were managed to ensure that surface water contacting CCR and non-CCR waste was not discharged into the stormwater management system. This was accomplished by placing and compacting material away from the side slopes, using soil diversion berms near side slopes and by sloping the working face into the waste mass.

## Environmental Monitoring:

The environmental monitoring program for the facility was modified during development of the CCR Management Plan to include appropriate Appendix III/IV analytical parameters in accordance with United States Environmental Protection Agency recommendations and Georgia Environmental Protection Division Regulations. The monitoring network (consisting of groundwater wells, surface water, underdrain, and leachate monitoring points) and extended parameter list, based on data collected to date, remains suitable for detection of CCR related constituents. Current data do not indicate CCR related impacts at these monitoring points (i.e. no CCR related parameter detections). The facility will continue implementing the CCR monitoring program and documenting results to EPD in semi-annual monitoring reports.

# Annual CCR Management Plan and Dust Control Report



## Emergencies:

The facility experienced an event that represented an operational or environmental emergency during a previous reporting period that extend into this period. On September 3, 2019, WM reported to EPD an observed stress crack that was addressed near the end of 2019 and during the 2020 calendar year. As explained in the summary above, the facility has made several improvements to its infrastructure and has implemented a monitoring program to track these efforts in accordance with EPD's consent order.

## Notification to Local Governments:

The operation of CCR disposal activities during this reporting period have been following the currently approved CCR management plans and design parameters. Therefore, no plan modifications or local government notifications are required at this time.

## CONCLUSION:

The current CCR Management routines required by the facilities Design and Operation Plan have proven to be effective in governing the proper handling and placement of CCR material as required by OCGA's Solid Waste Management Rule 391-3-4-.07(5) and the Guidance Document for Coal Combustion Residuals (CCR) Management Plans dated December 22, 2016.

Annual CCR Management Plan and Dust Control Report

# Appendix A



## CCR Compatibility and Characterization

*IN THIS APPENDIX:*

- CCR Analytical Report

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Savannah

5102 LaRoche Avenue

Savannah, GA 31404

Tel: (912)354-7858

TestAmerica Job ID: 680-138279-1

Client Project/Site: Superior Landfill Waste Char.

For:

Waste Management

1809 West Highway 80

Garden City, Georgia 31408

Attn: Ms. Sarah Rafalowski

*Kathryn Smith*

Authorized for release by:

5/18/2017 12:54:49 PM

Kathryn Smith, Manager of Project Management

(912)354-7858

[kathy.smith@testamericainc.com](mailto:kathy.smith@testamericainc.com)

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

#### Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

#### General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
$\alpha$	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

## Sample Summary

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-138279-1	Ash-Kraft	Solid	05/02/17 14:55	05/03/17 08:54
680-138279-2	Ash-Grumman	Solid	05/02/17 14:35	05/03/17 08:54

# Case Narrative

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

**Job ID: 680-138279-1**

**Laboratory: TestAmerica Savannah**

## Narrative

### **CASE NARRATIVE** **Client: Waste Management** **Project: Superior Landfill Waste Char.**

**Report Number: 680-138279-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

#### **RECEIPT**

The samples were received on 05/03/2017; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.8 C.

#### **TCLP VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples Ash-Kraft (680-138279-1) and Ash-Grumman (680-138279-2) were analyzed for TCLP volatile organic compounds (GC-MS) in accordance with EPA SW-846 Methods 1311/8260B. The samples were leached on 05/11/2017 and analyzed on 05/14/2017.

4-Bromofluorobenzene (Surr) recovered low for LCSD 680-479788/4.

Samples Ash-Kraft (680-138279-1)[20X] and Ash-Grumman (680-138279-2)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TCLP SEMIVOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples Ash-Kraft (680-138279-1) and Ash-Grumman (680-138279-2) were analyzed for TCLP semivolatile organic compounds (GC-MS) in accordance with EPA SW846 Methods 1311 / 8270D. The samples were leached on 05/11/2017, prepared on 05/15/2017 and analyzed on 05/17/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **METALS (ICP) - TCLP**

Samples Ash-Kraft (680-138279-1) and Ash-Grumman (680-138279-2) were analyzed for Metals (ICP) - TCLP in accordance with EPA SW-846 Methods 1311/6010C. The samples were leached on 05/11/2017, and prepared and analyzed on 05/12/2017.

Barium recovered high for the MS of sample Ash-Kraft (680-138279-1) in batch 680-479888.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **MERCURY - TCLP**

Samples Ash-Kraft (680-138279-1) and Ash-Grumman (680-138279-2) were analyzed for mercury - TCLP in accordance with EPA SW-846 Methods 1311/7470A. The samples were leached on 05/11/2017, prepared on 05/12/2017 and analyzed on 05/15/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **IGNITABILITY FOR SOLIDS**

Samples Ash-Kraft (680-138279-1) and Ash-Grumman (680-138279-2) were analyzed for ignitability for solids in accordance with EPA SW-846 Method 1030. The samples were analyzed on 05/10/2017.

The following sample did not ignite: Ash-Kraft (680-138279-1) and Ash-Grumman (680-138279-2); therefore, an ignitability value could not

## Case Narrative

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

### Job ID: 680-138279-1 (Continued)

#### Laboratory: TestAmerica Savannah (Continued)

be obtained. The result has been reported as "No Burn" (NB).

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### REACTIVE CYANIDE

Samples Ash-Kraft (680-138279-1) and Ash-Grumman (680-138279-2) were analyzed for reactive cyanide in accordance with EPA SW-846 Method 9014. The samples were prepared on 05/08/2017 and analyzed on 05/09/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### REACTIVE SULFIDE

Samples Ash-Kraft (680-138279-1) and Ash-Grumman (680-138279-2) were analyzed for reactive sulfide in accordance with EPA SW-846 Method 9034. The samples were prepared on 05/08/2017 and analyzed on 05/09/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### CORROSIVITY (PH)

Samples Ash-Kraft (680-138279-1) and Ash-Grumman (680-138279-2) were analyzed for corrosivity (pH) in accordance with EPA SW-846 Method 9045D. The samples were analyzed on 05/11/2017.

This analysis is considered a field test and is to be performed within 15 minutes of collection. This analysis was performed in the laboratory outside the 15 minute timeframe.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GRAIN SIZE

Samples Ash-Kraft (680-138279-1) and Ash-Grumman (680-138279-2) were analyzed for grain size in accordance with ASTM D422. The samples were analyzed on 05/04/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Client Sample Results

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

**Client Sample ID: Ash-Kraft**

**Lab Sample ID: 680-138279-1**

**Date Collected: 05/02/17 14:55**

**Matrix: Solid**

**Date Received: 05/03/17 08:54**

## Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.020		0.020	mg/L			05/14/17 20:15	20
2-Butanone (MEK)	<0.20		0.20	mg/L			05/14/17 20:15	20
Carbon tetrachloride	<0.020		0.020	mg/L			05/14/17 20:15	20
Chlorobenzene	<0.020		0.020	mg/L			05/14/17 20:15	20
Chloroform	<0.020		0.020	mg/L			05/14/17 20:15	20
1,2-Dichloroethane	<0.020		0.020	mg/L			05/14/17 20:15	20
1,1-Dichloroethene	<0.020		0.020	mg/L			05/14/17 20:15	20
Tetrachloroethene	<0.020		0.020	mg/L			05/14/17 20:15	20
Trichloroethene	<0.020		0.020	mg/L			05/14/17 20:15	20
Vinyl chloride	<0.020		0.020	mg/L			05/14/17 20:15	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		80 - 120		05/14/17 20:15	20
Dibromofluoromethane (Surr)	96		80 - 122		05/14/17 20:15	20
1,2-Dichloroethane-d4 (Surr)	86		73 - 131		05/14/17 20:15	20
Toluene-d8 (Surr)	102		80 - 120		05/14/17 20:15	20

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 19:27	1
2,4-Dinitrotoluene	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 19:27	1
Hexachlorobenzene	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 19:27	1
Hexachlorobutadiene	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 19:27	1
Hexachloroethane	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 19:27	1
2-Methylphenol	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 19:27	1
3 & 4 Methylphenol	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 19:27	1
Nitrobenzene	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 19:27	1
Pentachlorophenol	<0.25		0.25	mg/L		05/15/17 16:52	05/17/17 19:27	1
Pyridine	<0.25		0.25	mg/L		05/15/17 16:52	05/17/17 19:27	1
2,4,5-Trichlorophenol	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 19:27	1
2,4,6-Trichlorophenol	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 19:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	77		38 - 130	05/15/17 16:52	05/17/17 19:27	1
2-Fluorophenol (Surr)	66		25 - 130	05/15/17 16:52	05/17/17 19:27	1
Nitrobenzene-d5 (Surr)	85		39 - 130	05/15/17 16:52	05/17/17 19:27	1
Phenol-d5 (Surr)	70		25 - 130	05/15/17 16:52	05/17/17 19:27	1
Terphenyl-d14 (Surr)	83		10 - 143	05/15/17 16:52	05/17/17 19:27	1
2,4,6-Tribromophenol (Surr)	101		31 - 141	05/15/17 16:52	05/17/17 19:27	1

## Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.20		0.20	mg/L		05/12/17 12:11	05/12/17 19:13	1
Barium	<1.0	F1	1.0	mg/L		05/12/17 12:11	05/12/17 19:13	1
Cadmium	<0.10		0.10	mg/L		05/12/17 12:11	05/12/17 19:13	1
Chromium	<0.20		0.20	mg/L		05/12/17 12:11	05/12/17 19:13	1
Lead	<0.20		0.20	mg/L		05/12/17 12:11	05/12/17 19:13	1
Selenium	<0.50		0.50	mg/L		05/12/17 12:11	05/12/17 19:13	1
Silver	<0.10		0.10	mg/L		05/12/17 12:11	05/12/17 19:13	1

TestAmerica Savannah

# Client Sample Results

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

**Client Sample ID: Ash-Kraft**

**Lab Sample ID: 680-138279-1**

**Date Collected: 05/02/17 14:55**

**Matrix: Solid**

**Date Received: 05/03/17 08:54**

## Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.020		0.020	mg/L		05/12/17 14:02	05/15/17 11:18	1

## General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Ignitability</b>	<b>NB</b>			mm/sec			05/10/17 08:38	1
Cyanide, Reactive	<0.25		0.25	mg/Kg		05/08/17 14:03	05/09/17 14:45	1
Sulfide, Reactive	<150		150	mg/Kg		05/08/17 14:03	05/09/17 12:02	1
<b>pH</b>	<b>6.0</b>	<b>HF</b>		SU			05/11/17 15:19	1

## Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Gravel</b>	<b>2.7</b>			%			05/04/17 18:54	1
<b>Sieve Size 3 inch - Percent Finer</b>	<b>100.0</b>			% Passing			05/04/17 18:54	1
<b>Sand</b>	<b>57.2</b>			%			05/04/17 18:54	1
<b>Sieve Size 2 inch - Percent Finer</b>	<b>100.0</b>			% Passing			05/04/17 18:54	1
<b>Coarse Sand</b>	<b>4.1</b>			%			05/04/17 18:54	1
<b>Sieve Size 1.5 inch - Percent Finer</b>	<b>100.0</b>			% Passing			05/04/17 18:54	1
<b>Medium Sand</b>	<b>17.0</b>			%			05/04/17 18:54	1
<b>Sieve Size 1 inch - Percent Finer</b>	<b>100.0</b>			% Passing			05/04/17 18:54	1
<b>Fine Sand</b>	<b>36.1</b>			%			05/04/17 18:54	1
<b>Sieve Size 0.75 inch - Percent Finer</b>	<b>100.0</b>			% Passing			05/04/17 18:54	1
<b>Fines</b>	<b>40.1</b>			%			05/04/17 18:54	1
<b>Sieve Size 0.375 inch - Percent Finer</b>	<b>100.0</b>			% Passing			05/04/17 18:54	1
<b>Sieve Size #4 - Percent Finer</b>	<b>97.3</b>			% Passing			05/04/17 18:54	1
<b>Sieve Size #10 - Percent Finer</b>	<b>93.2</b>			% Passing			05/04/17 18:54	1
<b>Sieve Size #20 - Percent Finer</b>	<b>86.0</b>			% Passing			05/04/17 18:54	1
<b>Sieve Size #40 - Percent Finer</b>	<b>76.2</b>			% Passing			05/04/17 18:54	1
<b>Sieve Size #60 - Percent Finer</b>	<b>66.3</b>			% Passing			05/04/17 18:54	1
<b>Sieve Size #80 - Percent Finer</b>	<b>60.1</b>			% Passing			05/04/17 18:54	1
<b>Sieve Size #100 - Percent Finer</b>	<b>55.4</b>			% Passing			05/04/17 18:54	1
<b>Sieve Size #200 - Percent Finer</b>	<b>40.1</b>			% Passing			05/04/17 18:54	1

**Client Sample ID: Ash-Grumman**

**Lab Sample ID: 680-138279-2**

**Date Collected: 05/02/17 14:35**

**Matrix: Solid**

**Date Received: 05/03/17 08:54**

## Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.020		0.020	mg/L			05/14/17 20:40	20
2-Butanone (MEK)	<0.20		0.20	mg/L			05/14/17 20:40	20
Carbon tetrachloride	<0.020		0.020	mg/L			05/14/17 20:40	20
Chlorobenzene	<0.020		0.020	mg/L			05/14/17 20:40	20
Chloroform	<0.020		0.020	mg/L			05/14/17 20:40	20
1,2-Dichloroethane	<0.020		0.020	mg/L			05/14/17 20:40	20
1,1-Dichloroethene	<0.020		0.020	mg/L			05/14/17 20:40	20
Tetrachloroethene	<0.020		0.020	mg/L			05/14/17 20:40	20
Trichloroethene	<0.020		0.020	mg/L			05/14/17 20:40	20
Vinyl chloride	<0.020		0.020	mg/L			05/14/17 20:40	20

TestAmerica Savannah

# Client Sample Results

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

**Client Sample ID: Ash-Grumman**

**Lab Sample ID: 680-138279-2**

**Date Collected: 05/02/17 14:35**

**Matrix: Solid**

**Date Received: 05/03/17 08:54**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		80 - 120		05/14/17 20:40	20
Dibromofluoromethane (Surr)	96		80 - 122		05/14/17 20:40	20
1,2-Dichloroethane-d4 (Surr)	87		73 - 131		05/14/17 20:40	20
Toluene-d8 (Surr)	99		80 - 120		05/14/17 20:40	20

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	<0.049		0.049	mg/L		05/15/17 16:52	05/17/17 19:51	1
2,4-Dinitrotoluene	<0.049		0.049	mg/L		05/15/17 16:52	05/17/17 19:51	1
Hexachlorobenzene	<0.049		0.049	mg/L		05/15/17 16:52	05/17/17 19:51	1
Hexachlorobutadiene	<0.049		0.049	mg/L		05/15/17 16:52	05/17/17 19:51	1
Hexachloroethane	<0.049		0.049	mg/L		05/15/17 16:52	05/17/17 19:51	1
2-Methylphenol	<0.049		0.049	mg/L		05/15/17 16:52	05/17/17 19:51	1
3 & 4 Methylphenol	<0.049		0.049	mg/L		05/15/17 16:52	05/17/17 19:51	1
Nitrobenzene	<0.049		0.049	mg/L		05/15/17 16:52	05/17/17 19:51	1
Pentachlorophenol	<0.25		0.25	mg/L		05/15/17 16:52	05/17/17 19:51	1
Pyridine	<0.25		0.25	mg/L		05/15/17 16:52	05/17/17 19:51	1
2,4,5-Trichlorophenol	<0.049		0.049	mg/L		05/15/17 16:52	05/17/17 19:51	1
2,4,6-Trichlorophenol	<0.049		0.049	mg/L		05/15/17 16:52	05/17/17 19:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	68		38 - 130	05/15/17 16:52	05/17/17 19:51	1
2-Fluorophenol (Surr)	57		25 - 130	05/15/17 16:52	05/17/17 19:51	1
Nitrobenzene-d5 (Surr)	73		39 - 130	05/15/17 16:52	05/17/17 19:51	1
Phenol-d5 (Surr)	59		25 - 130	05/15/17 16:52	05/17/17 19:51	1
Terphenyl-d14 (Surr)	69		10 - 143	05/15/17 16:52	05/17/17 19:51	1
2,4,6-Tribromophenol (Surr)	86		31 - 141	05/15/17 16:52	05/17/17 19:51	1

## Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.20		0.20	mg/L		05/12/17 12:11	05/12/17 19:37	1
Barium	5.7		1.0	mg/L		05/12/17 12:11	05/12/17 19:37	1
Cadmium	<0.10		0.10	mg/L		05/12/17 12:11	05/12/17 19:37	1
Chromium	<0.20		0.20	mg/L		05/12/17 12:11	05/12/17 19:37	1
Lead	0.37		0.20	mg/L		05/12/17 12:11	05/12/17 19:37	1
Selenium	<0.50		0.50	mg/L		05/12/17 12:11	05/12/17 19:37	1
Silver	<0.10		0.10	mg/L		05/12/17 12:11	05/12/17 19:37	1

## Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.020		0.020	mg/L		05/12/17 14:02	05/15/17 11:28	1

## General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ignitability	NB			mm/sec			05/10/17 08:38	1
Cyanide, Reactive	<0.25		0.25	mg/Kg		05/08/17 15:20	05/09/17 14:45	1
Sulfide, Reactive	<150		150	mg/Kg		05/08/17 15:20	05/09/17 12:02	1
pH	8.0	HF		SU			05/11/17 15:19	1

TestAmerica Savannah

# Client Sample Results

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

**Client Sample ID: Ash-Grumman**

**Lab Sample ID: 680-138279-2**

Date Collected: 05/02/17 14:35

Matrix: Solid

Date Received: 05/03/17 08:54

## Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.7			%			05/04/17 18:57	1
Sieve Size 3 inch - Percent Finer	100.0			% Passing			05/04/17 18:57	1
Sand	57.8			%			05/04/17 18:57	1
Sieve Size 2 inch - Percent Finer	100.0			% Passing			05/04/17 18:57	1
Coarse Sand	1.8			%			05/04/17 18:57	1
Sieve Size 1.5 inch - Percent Finer	100.0			% Passing			05/04/17 18:57	1
Medium Sand	15.3			%			05/04/17 18:57	1
Sieve Size 1 inch - Percent Finer	100.0			% Passing			05/04/17 18:57	1
Fine Sand	40.7			%			05/04/17 18:57	1
Sieve Size 0.75 inch - Percent Finer	100.0			% Passing			05/04/17 18:57	1
Fines	41.5			%			05/04/17 18:57	1
Sieve Size 0.375 inch - Percent Finer	100.0			% Passing			05/04/17 18:57	1
Sieve Size #4 - Percent Finer	99.3			% Passing			05/04/17 18:57	1
Sieve Size #10 - Percent Finer	97.5			% Passing			05/04/17 18:57	1
Sieve Size #20 - Percent Finer	94.1			% Passing			05/04/17 18:57	1
Sieve Size #40 - Percent Finer	82.2			% Passing			05/04/17 18:57	1
Sieve Size #60 - Percent Finer	70.4			% Passing			05/04/17 18:57	1
Sieve Size #80 - Percent Finer	63.4			% Passing			05/04/17 18:57	1
Sieve Size #100 - Percent Finer	57.4			% Passing			05/04/17 18:57	1
Sieve Size #200 - Percent Finer	41.5			% Passing			05/04/17 18:57	1

# QC Sample Results

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-479788/8

Matrix: Solid

Analysis Batch: 479788

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0010		0.0010	mg/L			05/14/17 14:42	1
2-Butanone (MEK)	<0.010		0.010	mg/L			05/14/17 14:42	1
Carbon tetrachloride	<0.0010		0.0010	mg/L			05/14/17 14:42	1
Chlorobenzene	<0.0010		0.0010	mg/L			05/14/17 14:42	1
Chloroform	<0.0010		0.0010	mg/L			05/14/17 14:42	1
1,2-Dichloroethane	<0.0010		0.0010	mg/L			05/14/17 14:42	1
1,1-Dichloroethene	<0.0010		0.0010	mg/L			05/14/17 14:42	1
Tetrachloroethene	<0.0010		0.0010	mg/L			05/14/17 14:42	1
Trichloroethene	<0.0010		0.0010	mg/L			05/14/17 14:42	1
Vinyl chloride	<0.0010		0.0010	mg/L			05/14/17 14:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		80 - 120		05/14/17 14:42	1
Dibromofluoromethane (Surr)	96		80 - 122		05/14/17 14:42	1
1,2-Dichloroethane-d4 (Surr)	85		73 - 131		05/14/17 14:42	1
Toluene-d8 (Surr)	101		80 - 120		05/14/17 14:42	1

Lab Sample ID: LCS 680-479788/3

Matrix: Solid

Analysis Batch: 479788

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0486		mg/L		97	80 - 120
2-Butanone (MEK)	0.250	0.212		mg/L		85	79 - 125
Carbon tetrachloride	0.0500	0.0475		mg/L		95	67 - 125
Chlorobenzene	0.0500	0.0492		mg/L		98	80 - 120
Chloroform	0.0500	0.0454		mg/L		91	80 - 120
1,2-Dichloroethane	0.0500	0.0445		mg/L		89	72 - 128
1,1-Dichloroethene	0.0500	0.0459		mg/L		92	80 - 120
Tetrachloroethene	0.0500	0.0490		mg/L		98	71 - 123
Trichloroethene	0.0500	0.0485		mg/L		97	80 - 120
Vinyl chloride	0.0500	0.0498		mg/L		100	80 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	82		80 - 120
Dibromofluoromethane (Surr)	96		80 - 122
1,2-Dichloroethane-d4 (Surr)	85		73 - 131
Toluene-d8 (Surr)	96		80 - 120

Lab Sample ID: LCSD 680-479788/4

Matrix: Solid

Analysis Batch: 479788

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.0500	0.0479		mg/L		96	80 - 120	1	20
2-Butanone (MEK)	0.250	0.210		mg/L		84	79 - 125	1	20
Carbon tetrachloride	0.0500	0.0480		mg/L		96	67 - 125	1	20

TestAmerica Savannah

# QC Sample Results

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-479788/4

Matrix: Solid

Analysis Batch: 479788

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorobenzene	0.0500	0.0498		mg/L		100	80 - 120	1	20
Chloroform	0.0500	0.0446		mg/L		89	80 - 120	2	20
1,2-Dichloroethane	0.0500	0.0436		mg/L		87	72 - 128	2	50
1,1-Dichloroethene	0.0500	0.0441		mg/L		88	80 - 120	4	20
Tetrachloroethene	0.0500	0.0495		mg/L		99	71 - 123	1	20
Trichloroethene	0.0500	0.0479		mg/L		96	80 - 120	1	20
Vinyl chloride	0.0500	0.0488		mg/L		98	80 - 129	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	79	X	80 - 120
Dibromofluoromethane (Surr)	94		80 - 122
1,2-Dichloroethane-d4 (Surr)	83		73 - 131
Toluene-d8 (Surr)	100		80 - 120

Lab Sample ID: LB 680-479494/1-A

Matrix: Solid

Analysis Batch: 479788

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.020		0.020	mg/L			05/14/17 16:24	20
2-Butanone (MEK)	<0.20		0.20	mg/L			05/14/17 16:24	20
Carbon tetrachloride	<0.020		0.020	mg/L			05/14/17 16:24	20
Chlorobenzene	<0.020		0.020	mg/L			05/14/17 16:24	20
Chloroform	<0.020		0.020	mg/L			05/14/17 16:24	20
1,2-Dichloroethane	<0.020		0.020	mg/L			05/14/17 16:24	20
1,1-Dichloroethene	<0.020		0.020	mg/L			05/14/17 16:24	20
Tetrachloroethene	<0.020		0.020	mg/L			05/14/17 16:24	20
Trichloroethene	<0.020		0.020	mg/L			05/14/17 16:24	20
Vinyl chloride	<0.020		0.020	mg/L			05/14/17 16:24	20

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		80 - 120		05/14/17 16:24	20
Dibromofluoromethane (Surr)	99		80 - 122		05/14/17 16:24	20
1,2-Dichloroethane-d4 (Surr)	87		73 - 131		05/14/17 16:24	20
Toluene-d8 (Surr)	100		80 - 120		05/14/17 16:24	20

Lab Sample ID: 680-138279-2 MS

Matrix: Solid

Analysis Batch: 479788

Client Sample ID: Ash-Grumman

Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.020		1.00	1.00		mg/L		100	80 - 120
2-Butanone (MEK)	<0.20		5.00	4.32		mg/L		86	79 - 125
Carbon tetrachloride	<0.020		1.00	1.03		mg/L		103	67 - 125
Chlorobenzene	<0.020		1.00	1.03		mg/L		103	80 - 120
Chloroform	<0.020		1.00	0.952		mg/L		95	80 - 120
1,2-Dichloroethane	<0.020		1.00	0.921		mg/L		92	72 - 128
1,1-Dichloroethene	<0.020		1.00	0.997		mg/L		100	80 - 120

TestAmerica Savannah

# QC Sample Results

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 680-138279-2 MS

Matrix: Solid

Analysis Batch: 479788

Client Sample ID: Ash-Grumman

Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	<0.020		1.00	1.07		mg/L		107	71 - 123
Trichloroethene	<0.020		1.00	1.02		mg/L		102	80 - 120
Vinyl chloride	<0.020		1.00	1.08		mg/L		108	80 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	81		80 - 120
Dibromofluoromethane (Surr)	97		80 - 122
1,2-Dichloroethane-d4 (Surr)	87		73 - 131
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: 680-138279-2 MSD

Matrix: Solid

Analysis Batch: 479788

Client Sample ID: Ash-Grumman

Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.020		1.00	0.986		mg/L		99	80 - 120	2	20
2-Butanone (MEK)	<0.20		5.00	4.36		mg/L		87	79 - 125	1	20
Carbon tetrachloride	<0.020		1.00	1.01		mg/L		101	67 - 125	1	20
Chlorobenzene	<0.020		1.00	1.01		mg/L		101	80 - 120	2	20
Chloroform	<0.020		1.00	0.926		mg/L		93	80 - 120	3	20
1,2-Dichloroethane	<0.020		1.00	0.905		mg/L		90	72 - 128	2	50
1,1-Dichloroethene	<0.020		1.00	0.944		mg/L		94	80 - 120	5	20
Tetrachloroethene	<0.020		1.00	1.01		mg/L		101	71 - 123	5	20
Trichloroethene	<0.020		1.00	0.997		mg/L		100	80 - 120	2	20
Vinyl chloride	<0.020		1.00	1.07		mg/L		107	80 - 129	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		80 - 120
Dibromofluoromethane (Surr)	97		80 - 122
1,2-Dichloroethane-d4 (Surr)	86		73 - 131
Toluene-d8 (Surr)	97		80 - 120

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-479935/20-A

Matrix: Solid

Analysis Batch: 480308

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 479935

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	<0.010		0.010	mg/L		05/15/17 16:52	05/17/17 16:21	1
2,4-Dinitrotoluene	<0.010		0.010	mg/L		05/15/17 16:52	05/17/17 16:21	1
Hexachlorobenzene	<0.010		0.010	mg/L		05/15/17 16:52	05/17/17 16:21	1
Hexachlorobutadiene	<0.010		0.010	mg/L		05/15/17 16:52	05/17/17 16:21	1
Hexachloroethane	<0.010		0.010	mg/L		05/15/17 16:52	05/17/17 16:21	1
2-Methylphenol	<0.010		0.010	mg/L		05/15/17 16:52	05/17/17 16:21	1
3 & 4 Methylphenol	<0.010		0.010	mg/L		05/15/17 16:52	05/17/17 16:21	1
Nitrobenzene	<0.010		0.010	mg/L		05/15/17 16:52	05/17/17 16:21	1

TestAmerica Savannah

# QC Sample Results

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-479935/20-A

Matrix: Solid

Analysis Batch: 480308

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 479935

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 16:21	1
Pyridine	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 16:21	1
2,4,5-Trichlorophenol	<0.010		0.010	mg/L		05/15/17 16:52	05/17/17 16:21	1
2,4,6-Trichlorophenol	<0.010		0.010	mg/L		05/15/17 16:52	05/17/17 16:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	72		38 - 130	05/15/17 16:52	05/17/17 16:21	1
2-Fluorophenol (Surr)	61		25 - 130	05/15/17 16:52	05/17/17 16:21	1
Nitrobenzene-d5 (Surr)	73		39 - 130	05/15/17 16:52	05/17/17 16:21	1
Phenol-d5 (Surr)	70		25 - 130	05/15/17 16:52	05/17/17 16:21	1
Terphenyl-d14 (Surr)	95		10 - 143	05/15/17 16:52	05/17/17 16:21	1
2,4,6-Tribromophenol (Surr)	99		31 - 141	05/15/17 16:52	05/17/17 16:21	1

Lab Sample ID: LCS 680-479935/21-A

Matrix: Solid

Analysis Batch: 480308

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 479935

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	0.100	0.0669		mg/L		67	31 - 130
2,4-Dinitrotoluene	0.100	0.0903		mg/L		90	52 - 130
Hexachlorobenzene	0.100	0.0909		mg/L		91	43 - 130
Hexachlorobutadiene	0.100	0.0732		mg/L		73	27 - 130
Hexachloroethane	0.100	0.0678		mg/L		68	29 - 130
2-Methylphenol	0.100	0.0807		mg/L		81	40 - 130
3 & 4 Methylphenol	0.100	0.0776		mg/L		78	42 - 130
Nitrobenzene	0.100	0.0796		mg/L		80	43 - 130
Pentachlorophenol	0.200	0.173		mg/L		86	33 - 130
Pyridine	0.100	0.0538		mg/L		54	10 - 130
2,4,5-Trichlorophenol	0.100	0.0928		mg/L		93	48 - 130
2,4,6-Trichlorophenol	0.100	0.0846		mg/L		85	47 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	73		38 - 130
2-Fluorophenol (Surr)	62		25 - 130
Nitrobenzene-d5 (Surr)	75		39 - 130
Phenol-d5 (Surr)	70		25 - 130
Terphenyl-d14 (Surr)	95		10 - 143
2,4,6-Tribromophenol (Surr)	95		31 - 141

Lab Sample ID: LB 680-479476/1-D

Matrix: Solid

Analysis Batch: 480308

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 479935

Analyte	LB Result	LB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 16:44	1
2,4-Dinitrotoluene	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 16:44	1
Hexachlorobenzene	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 16:44	1
Hexachlorobutadiene	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 16:44	1

TestAmerica Savannah

# QC Sample Results

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 680-479476/1-D

Matrix: Solid

Analysis Batch: 480308

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 479935

Analyte	LB Result	LB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 16:44	1
2-Methylphenol	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 16:44	1
3 & 4 Methylphenol	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 16:44	1
Nitrobenzene	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 16:44	1
Pentachlorophenol	<0.25		0.25	mg/L		05/15/17 16:52	05/17/17 16:44	1
Pyridine	<0.25		0.25	mg/L		05/15/17 16:52	05/17/17 16:44	1
2,4,5-Trichlorophenol	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 16:44	1
2,4,6-Trichlorophenol	<0.050		0.050	mg/L		05/15/17 16:52	05/17/17 16:44	1

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	74		38 - 130	05/15/17 16:52	05/17/17 16:44	1
2-Fluorophenol (Surr)	66		25 - 130	05/15/17 16:52	05/17/17 16:44	1
Nitrobenzene-d5 (Surr)	80		39 - 130	05/15/17 16:52	05/17/17 16:44	1
Phenol-d5 (Surr)	68		25 - 130	05/15/17 16:52	05/17/17 16:44	1
Terphenyl-d14 (Surr)	93		10 - 143	05/15/17 16:52	05/17/17 16:44	1
2,4,6-Tribromophenol (Surr)	93		31 - 141	05/15/17 16:52	05/17/17 16:44	1

Lab Sample ID: 680-138279-2 MS

Matrix: Solid

Analysis Batch: 480308

Client Sample ID: Ash-Grumman

Prep Type: TCLP

Prep Batch: 479935

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	<0.049		0.498	0.284		mg/L		57	31 - 130
2,4-Dinitrotoluene	<0.049		0.498	0.354		mg/L		71	52 - 130
Hexachlorobenzene	<0.049		0.498	0.369		mg/L		74	43 - 130
Hexachlorobutadiene	<0.049		0.498	0.314		mg/L		63	27 - 130
Hexachloroethane	<0.049		0.498	0.279		mg/L		56	29 - 130
2-Methylphenol	<0.049		0.498	0.326		mg/L		65	40 - 130
3 & 4 Methylphenol	<0.049		0.498	0.286		mg/L		57	42 - 130
Nitrobenzene	<0.049		0.498	0.346		mg/L		70	43 - 130
Pentachlorophenol	<0.25		0.997	0.660		mg/L		66	33 - 130
Pyridine	<0.25		0.498	<0.25		mg/L		43	10 - 130
2,4,5-Trichlorophenol	<0.049		0.498	0.345		mg/L		69	48 - 130
2,4,6-Trichlorophenol	<0.049		0.498	0.333		mg/L		67	47 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl (Surr)	58		38 - 130
2-Fluorophenol (Surr)	52		25 - 130
Nitrobenzene-d5 (Surr)	63		39 - 130
Phenol-d5 (Surr)	57		25 - 130
Terphenyl-d14 (Surr)	75		10 - 143
2,4,6-Tribromophenol (Surr)	77		31 - 141

TestAmerica Savannah

# QC Sample Results

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 680-138279-2 MSD

Matrix: Solid

Analysis Batch: 480308

Client Sample ID: Ash-Grumman

Prep Type: TCLP

Prep Batch: 479935

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,4-Dichlorobenzene	<0.049		0.498	0.327		mg/L		66	31 - 130	14	50
2,4-Dinitrotoluene	<0.049		0.498	0.477		mg/L		96	52 - 130	30	50
Hexachlorobenzene	<0.049		0.498	0.460		mg/L		92	43 - 130	22	50
Hexachlorobutadiene	<0.049		0.498	0.343		mg/L		69	27 - 130	9	50
Hexachloroethane	<0.049		0.498	0.303		mg/L		61	29 - 130	8	50
2-Methylphenol	<0.049		0.498	0.379		mg/L		76	40 - 130	15	50
3 & 4 Methylphenol	<0.049		0.498	0.369		mg/L		74	42 - 130	25	50
Nitrobenzene	<0.049		0.498	0.401		mg/L		80	43 - 130	15	50
Pentachlorophenol	<0.25		0.997	0.825		mg/L		83	33 - 130	22	50
Pyridine	<0.25		0.498	0.291		mg/L		58	10 - 130	29	50
2,4,5-Trichlorophenol	<0.049		0.498	0.453		mg/L		91	48 - 130	27	50
2,4,6-Trichlorophenol	<0.049		0.498	0.428		mg/L		86	47 - 130	25	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	74		38 - 130
2-Fluorophenol (Surr)	62		25 - 130
Nitrobenzene-d5 (Surr)	73		39 - 130
Phenol-d5 (Surr)	68		25 - 130
Terphenyl-d14 (Surr)	89		10 - 143
2,4,6-Tribromophenol (Surr)	92		31 - 141

## Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-479683/1-A

Matrix: Solid

Analysis Batch: 479888

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 479683

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.020		0.020	mg/L		05/12/17 12:11	05/12/17 18:59	1
Barium	<0.10		0.10	mg/L		05/12/17 12:11	05/12/17 18:59	1
Cadmium	<0.010		0.010	mg/L		05/12/17 12:11	05/12/17 18:59	1
Chromium	<0.020		0.020	mg/L		05/12/17 12:11	05/12/17 18:59	1
Lead	<0.020		0.020	mg/L		05/12/17 12:11	05/12/17 18:59	1
Selenium	<0.050		0.050	mg/L		05/12/17 12:11	05/12/17 18:59	1
Silver	<0.010		0.010	mg/L		05/12/17 12:11	05/12/17 18:59	1

Lab Sample ID: LCS 680-479683/2-A

Matrix: Solid

Analysis Batch: 479888

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 479683

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.00	1.87		mg/L		94	80 - 120
Barium	2.00	1.86		mg/L		93	80 - 120
Cadmium	1.00	0.927		mg/L		93	80 - 120
Chromium	2.00	1.90		mg/L		95	80 - 120
Lead	10.0	8.95		mg/L		90	80 - 120
Selenium	2.00	1.71		mg/L		85	80 - 120
Silver	1.00	0.875		mg/L		88	80 - 120

TestAmerica Savannah

# QC Sample Results

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

Lab Sample ID: LB 680-479476/1-B

Matrix: Solid

Analysis Batch: 479888

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 479683

Analyte	LB Result	LB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.20		0.20	mg/L		05/12/17 12:11	05/12/17 19:08	1
Barium	<1.0		1.0	mg/L		05/12/17 12:11	05/12/17 19:08	1
Cadmium	<0.10		0.10	mg/L		05/12/17 12:11	05/12/17 19:08	1
Chromium	<0.20		0.20	mg/L		05/12/17 12:11	05/12/17 19:08	1
Lead	<0.20		0.20	mg/L		05/12/17 12:11	05/12/17 19:08	1
Selenium	<0.50		0.50	mg/L		05/12/17 12:11	05/12/17 19:08	1
Silver	<0.10		0.10	mg/L		05/12/17 12:11	05/12/17 19:08	1

Lab Sample ID: 680-138279-1 MS

Matrix: Solid

Analysis Batch: 479888

Client Sample ID: Ash-Kraft

Prep Type: TCLP

Prep Batch: 479683

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.20		1.60	1.42		mg/L		89	75 - 125
Barium	<1.0	F1	1.60	2.04	F1	mg/L		127	75 - 125
Cadmium	<0.10		1.60	1.43		mg/L		89	75 - 125
Chromium	<0.20		1.60	1.47		mg/L		92	75 - 125
Lead	<0.20		1.60	1.38		mg/L		86	75 - 125
Selenium	<0.50		1.60	1.27		mg/L		79	75 - 125
Silver	<0.10		1.60	1.47		mg/L		92	75 - 125

Lab Sample ID: 680-138279-1 MSD

Matrix: Solid

Analysis Batch: 479888

Client Sample ID: Ash-Kraft

Prep Type: TCLP

Prep Batch: 479683

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	<0.20		1.60	1.38		mg/L		86	75 - 125	3	20
Barium	<1.0	F1	1.60	1.99		mg/L		124	75 - 125	3	20
Cadmium	<0.10		1.60	1.39		mg/L		87	75 - 125	3	20
Chromium	<0.20		1.60	1.43		mg/L		89	75 - 125	3	20
Lead	<0.20		1.60	1.33		mg/L		83	75 - 125	3	20
Selenium	<0.50		1.60	1.25		mg/L		78	75 - 125	1	20
Silver	<0.10		1.60	1.42		mg/L		89	75 - 125	3	20

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 680-479700/1-A

Matrix: Solid

Analysis Batch: 479930

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 479700

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	mg/L		05/12/17 14:02	05/15/17 10:45	1

Lab Sample ID: LCS 680-479700/2-A

Matrix: Solid

Analysis Batch: 479930

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 479700

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.250	0.252		mg/L		101	80 - 120

TestAmerica Savannah

# QC Sample Results

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

## Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LB 680-479476/1-C  
Matrix: Solid  
Analysis Batch: 479930

Client Sample ID: Method Blank  
Prep Type: TCLP  
Prep Batch: 479700

Analyte	LB Result	LB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.020		0.020	mg/L		05/12/17 14:02	05/15/17 11:08	1

Lab Sample ID: 680-138279-1 MS  
Matrix: Solid  
Analysis Batch: 479930

Client Sample ID: Ash-Kraft  
Prep Type: TCLP  
Prep Batch: 479700

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.020		0.0830	0.0742		mg/L		89	80 - 120

Lab Sample ID: 680-138279-1 MSD  
Matrix: Solid  
Analysis Batch: 479930

Client Sample ID: Ash-Kraft  
Prep Type: TCLP  
Prep Batch: 479700

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.020		0.0830	0.0753		mg/L		91	80 - 120	1	20

## Method: 1030 - Ignitability, Solids

Lab Sample ID: MB 680-479260/2  
Matrix: Solid  
Analysis Batch: 479260

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ignitability	NB			mm/sec			05/10/17 08:38	1

## Method: 9014 - Cyanide, Reactive

Lab Sample ID: MB 400-352497/1-A  
Matrix: Solid  
Analysis Batch: 352951

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 352497

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Reactive	<0.25		0.25	mg/Kg		05/08/17 14:03	05/09/17 14:45	1

Lab Sample ID: LCS 400-352497/2-A  
Matrix: Solid  
Analysis Batch: 352951

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 352497

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Reactive	1.00	<0.25		mg/Kg		16	0 - 50

TestAmerica Savannah

# QC Sample Results

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

## Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 400-352498/1-A  
Matrix: Solid  
Analysis Batch: 352921

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 352498

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	<150		150	mg/Kg		05/08/17 14:03	05/09/17 12:02	1

Lab Sample ID: LCS 400-352498/2-A  
Matrix: Solid  
Analysis Batch: 352921

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 352498

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Reactive	1000	155		mg/Kg		15	0 - 80

## Method: 9045D - pH

Lab Sample ID: LCS 680-479207/1  
Matrix: Solid  
Analysis Batch: 479207

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		S.U.		101	79 - 126

Lab Sample ID: 680-138279-1 DU  
Matrix: Solid  
Analysis Batch: 479207

Client Sample ID: Ash-Kraft  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.0	HF	6.1		SU		1	40

# QC Association Summary

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

## GC/MS VOA

### Leach Batch: 479494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	TCLP	Solid	1311	
680-138279-2	Ash-Grumman	TCLP	Solid	1311	
LB 680-479494/1-A	Method Blank	TCLP	Solid	1311	
680-138279-2 MS	Ash-Grumman	TCLP	Solid	1311	
680-138279-2 MSD	Ash-Grumman	TCLP	Solid	1311	

### Analysis Batch: 479788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	TCLP	Solid	8260B	479494
680-138279-2	Ash-Grumman	TCLP	Solid	8260B	479494
LB 680-479494/1-A	Method Blank	TCLP	Solid	8260B	479494
MB 680-479788/8	Method Blank	Total/NA	Solid	8260B	
LCS 680-479788/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 680-479788/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
680-138279-2 MS	Ash-Grumman	TCLP	Solid	8260B	479494
680-138279-2 MSD	Ash-Grumman	TCLP	Solid	8260B	479494

## GC/MS Semi VOA

### Leach Batch: 479476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	TCLP	Solid	1311	
680-138279-2	Ash-Grumman	TCLP	Solid	1311	
LB 680-479476/1-D	Method Blank	TCLP	Solid	1311	
680-138279-2 MS	Ash-Grumman	TCLP	Solid	1311	
680-138279-2 MSD	Ash-Grumman	TCLP	Solid	1311	

### Prep Batch: 479935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	TCLP	Solid	3520C	479476
680-138279-2	Ash-Grumman	TCLP	Solid	3520C	479476
LB 680-479476/1-D	Method Blank	TCLP	Solid	3520C	479476
MB 680-479935/20-A	Method Blank	Total/NA	Solid	3520C	
LCS 680-479935/21-A	Lab Control Sample	Total/NA	Solid	3520C	
680-138279-2 MS	Ash-Grumman	TCLP	Solid	3520C	479476
680-138279-2 MSD	Ash-Grumman	TCLP	Solid	3520C	479476

### Analysis Batch: 480308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	TCLP	Solid	8270D	479935
680-138279-2	Ash-Grumman	TCLP	Solid	8270D	479935
LB 680-479476/1-D	Method Blank	TCLP	Solid	8270D	479935
MB 680-479935/20-A	Method Blank	Total/NA	Solid	8270D	479935
LCS 680-479935/21-A	Lab Control Sample	Total/NA	Solid	8270D	479935
680-138279-2 MS	Ash-Grumman	TCLP	Solid	8270D	479935
680-138279-2 MSD	Ash-Grumman	TCLP	Solid	8270D	479935

TestAmerica Savannah

# QC Association Summary

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

## Metals

### Leach Batch: 479476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	TCLP	Solid	1311	
680-138279-2	Ash-Grumman	TCLP	Solid	1311	
LB 680-479476/1-B	Method Blank	TCLP	Solid	1311	
LB 680-479476/1-C	Method Blank	TCLP	Solid	1311	
680-138279-1 MS	Ash-Kraft	TCLP	Solid	1311	
680-138279-1 MSD	Ash-Kraft	TCLP	Solid	1311	

### Prep Batch: 479683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	TCLP	Solid	3010A	479476
680-138279-2	Ash-Grumman	TCLP	Solid	3010A	479476
LB 680-479476/1-B	Method Blank	TCLP	Solid	3010A	479476
MB 680-479683/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 680-479683/2-A	Lab Control Sample	Total/NA	Solid	3010A	
680-138279-1 MS	Ash-Kraft	TCLP	Solid	3010A	479476
680-138279-1 MSD	Ash-Kraft	TCLP	Solid	3010A	479476

### Prep Batch: 479700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	TCLP	Solid	7470A	479476
680-138279-2	Ash-Grumman	TCLP	Solid	7470A	479476
LB 680-479476/1-C	Method Blank	TCLP	Solid	7470A	479476
MB 680-479700/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 680-479700/2-A	Lab Control Sample	Total/NA	Solid	7470A	
680-138279-1 MS	Ash-Kraft	TCLP	Solid	7470A	479476
680-138279-1 MSD	Ash-Kraft	TCLP	Solid	7470A	479476

### Analysis Batch: 479888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	TCLP	Solid	6010C	479683
680-138279-2	Ash-Grumman	TCLP	Solid	6010C	479683
LB 680-479476/1-B	Method Blank	TCLP	Solid	6010C	479683
MB 680-479683/1-A	Method Blank	Total/NA	Solid	6010C	479683
LCS 680-479683/2-A	Lab Control Sample	Total/NA	Solid	6010C	479683
680-138279-1 MS	Ash-Kraft	TCLP	Solid	6010C	479683
680-138279-1 MSD	Ash-Kraft	TCLP	Solid	6010C	479683

### Analysis Batch: 479930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	TCLP	Solid	7470A	479700
680-138279-2	Ash-Grumman	TCLP	Solid	7470A	479700
LB 680-479476/1-C	Method Blank	TCLP	Solid	7470A	479700
MB 680-479700/1-A	Method Blank	Total/NA	Solid	7470A	479700
LCS 680-479700/2-A	Lab Control Sample	Total/NA	Solid	7470A	479700
680-138279-1 MS	Ash-Kraft	TCLP	Solid	7470A	479700
680-138279-1 MSD	Ash-Kraft	TCLP	Solid	7470A	479700

TestAmerica Savannah

# QC Association Summary

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

## General Chemistry

### Prep Batch: 352497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	Total/NA	Solid	7.3.3	
680-138279-2	Ash-Grumman	Total/NA	Solid	7.3.3	
MB 400-352497/1-A	Method Blank	Total/NA	Solid	7.3.3	
LCS 400-352497/2-A	Lab Control Sample	Total/NA	Solid	7.3.3	

### Prep Batch: 352498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	Total/NA	Solid	7.3.4	
680-138279-2	Ash-Grumman	Total/NA	Solid	7.3.4	
MB 400-352498/1-A	Method Blank	Total/NA	Solid	7.3.4	
LCS 400-352498/2-A	Lab Control Sample	Total/NA	Solid	7.3.4	

### Analysis Batch: 352921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	Total/NA	Solid	9034	352498
680-138279-2	Ash-Grumman	Total/NA	Solid	9034	352498
MB 400-352498/1-A	Method Blank	Total/NA	Solid	9034	352498
LCS 400-352498/2-A	Lab Control Sample	Total/NA	Solid	9034	352498

### Analysis Batch: 352951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	Total/NA	Solid	9014	352497
680-138279-2	Ash-Grumman	Total/NA	Solid	9014	352497
MB 400-352497/1-A	Method Blank	Total/NA	Solid	9014	352497
LCS 400-352497/2-A	Lab Control Sample	Total/NA	Solid	9014	352497

### Analysis Batch: 479207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	Total/NA	Solid	9045D	
680-138279-2	Ash-Grumman	Total/NA	Solid	9045D	
LCS 680-479207/1	Lab Control Sample	Total/NA	Solid	9045D	
680-138279-1 DU	Ash-Kraft	Total/NA	Solid	9045D	

### Analysis Batch: 479260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	Total/NA	Solid	1030	
680-138279-2	Ash-Grumman	Total/NA	Solid	1030	
MB 680-479260/2	Method Blank	Total/NA	Solid	1030	

## Geotechnical

### Analysis Batch: 116526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-138279-1	Ash-Kraft	Total/NA	Solid	D422	
680-138279-2	Ash-Grumman	Total/NA	Solid	D422	

TestAmerica Savannah

# Lab Chronicle

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

**Client Sample ID: Ash-Kraft**

**Date Collected: 05/02/17 14:55**

**Date Received: 05/03/17 08:54**

**Lab Sample ID: 680-138279-1**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			20.06 g	400 mL	479494	05/11/17 15:56	EDE	TAL SAV
TCLP	Analysis	8260B		20	5 mL	5 mL	479788	05/14/17 20:15	CEJ	TAL SAV
		Instrument ID: CMSB								
TCLP	Leach	1311			100.05 g	2000 mL	479476	05/11/17 15:57	EDE	TAL SAV
TCLP	Prep	3520C			201.4 mL	1 mL	479935	05/15/17 16:52	CEW	TAL SAV
TCLP	Analysis	8270D		1			480308	05/17/17 19:27	OK	TAL SAV
		Instrument ID: CMSE								
TCLP	Leach	1311			100.05 g	2000 mL	479476	05/11/17 15:57	EDE	TAL SAV
TCLP	Prep	3010A			5 mL	50 mL	479683	05/12/17 12:11	AJR	TAL SAV
TCLP	Analysis	6010C		1			479888	05/12/17 19:13	BCB	TAL SAV
		Instrument ID: ICPE								
TCLP	Leach	1311			100.05 g	2000 mL	479476	05/11/17 15:57	EDE	TAL SAV
TCLP	Prep	7470A			0.5 mL	50 mL	479700	05/12/17 14:02	JKL	TAL SAV
TCLP	Analysis	7470A		1			479930	05/15/17 11:18	JKL	TAL SAV
		Instrument ID: LEEMAN2								
Total/NA	Analysis	1030		1			479260	05/10/17 08:38	LWB	TAL SAV
		Instrument ID: NOEQUIP								
Total/NA	Prep	7.3.3			10 g	100 mL	352497	05/08/17 14:03	CLM	TAL PEN
Total/NA	Analysis	9014		1	10 mL	10 mL	352951	05/09/17 14:45	CLM	TAL PEN
		Instrument ID: KONELAB								
Total/NA	Prep	7.3.4			10 g	100 mL	352498	05/08/17 14:03	CLM	TAL PEN
Total/NA	Analysis	9034		1	100 mL	100 mL	352921	05/09/17 12:02	CLM	TAL PEN
		Instrument ID: NOEQUIP								
Total/NA	Analysis	9045D		1	20.12 g	20 mL	479207	05/11/17 15:19	LWB	TAL SAV
		Instrument ID: NOEQUIP								
Total/NA	Analysis	D422		1			116526	05/04/17 18:54	VTP	TAL BUR
		Instrument ID: D422_import								

**Client Sample ID: Ash-Grumman**

**Date Collected: 05/02/17 14:35**

**Date Received: 05/03/17 08:54**

**Lab Sample ID: 680-138279-2**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			20.05 g	400 mL	479494	05/11/17 15:56	EDE	TAL SAV
TCLP	Analysis	8260B		20	5 mL	5 mL	479788	05/14/17 20:40	CEJ	TAL SAV
		Instrument ID: CMSB								
TCLP	Leach	1311			100.10 g	2000 mL	479476	05/11/17 15:57	EDE	TAL SAV
TCLP	Prep	3520C			203.1 mL	1 mL	479935	05/15/17 16:52	CEW	TAL SAV
TCLP	Analysis	8270D		1			480308	05/17/17 19:51	OK	TAL SAV
		Instrument ID: CMSE								
TCLP	Leach	1311			100.10 g	2000 mL	479476	05/11/17 15:57	EDE	TAL SAV
TCLP	Prep	3010A			5 mL	50 mL	479683	05/12/17 12:11	AJR	TAL SAV
TCLP	Analysis	6010C		1			479888	05/12/17 19:37	BCB	TAL SAV
		Instrument ID: ICPE								

TestAmerica Savannah

# Lab Chronicle

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

**Client Sample ID: Ash-Grumman**

**Lab Sample ID: 680-138279-2**

**Date Collected: 05/02/17 14:35**

**Matrix: Solid**

**Date Received: 05/03/17 08:54**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			100.10 g	2000 mL	479476	05/11/17 15:57	EDE	TAL SAV
TCLP	Prep	7470A			0.5 mL	50 mL	479700	05/12/17 14:02	JKL	TAL SAV
TCLP	Analysis	7470A		1			479930	05/15/17 11:28	JKL	TAL SAV
		Instrument ID: LEEMAN2								
Total/NA	Analysis	1030		1			479260	05/10/17 08:38	LWB	TAL SAV
		Instrument ID: NOEQUIP								
Total/NA	Prep	7.3.3			10 g	100 mL	352497	05/08/17 15:20	CLM	TAL PEN
Total/NA	Analysis	9014		1	10 mL	10 mL	352951	05/09/17 14:45	CLM	TAL PEN
		Instrument ID: KONELAB								
Total/NA	Prep	7.3.4			10 g	100 mL	352498	05/08/17 15:20	CLM	TAL PEN
Total/NA	Analysis	9034		1	100 mL	100 mL	352921	05/09/17 12:02	CLM	TAL PEN
		Instrument ID: NOEQUIP								
Total/NA	Analysis	9045D		1	19.70 g	20 mL	479207	05/11/17 15:19	LWB	TAL SAV
		Instrument ID: NOEQUIP								
Total/NA	Analysis	D422		1			116526	05/04/17 18:57	VTP	TAL BUR
		Instrument ID: D422_import								

## Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

## Accreditation/Certification Summary

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

### Laboratory: TestAmerica Savannah

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Georgia	State Program	4	N/A	06-30-17 *

### Laboratory: TestAmerica Burlington

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-17
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-02-18
Florida	NELAP	4	E87467	06-30-17 *
L-A-B	DoD ELAP		L2336	02-25-20
Maine	State Program	1	VT00008	04-17-19
Minnesota	NELAP	5	050-999-436	12-31-17
New Hampshire	NELAP	1	2006	12-18-17
New Jersey	NELAP	2	VT972	06-30-17 *
New York	NELAP	2	10391	04-01-18
Pennsylvania	NELAP	3	68-00489	04-30-18
Rhode Island	State Program	1	LAO00298	12-30-17
US Fish & Wildlife	Federal		LE-058448-0	10-31-17
USDA	Federal		P330-11-00093	12-05-19
Vermont	State Program	1	VT-4000	12-31-17
Virginia	NELAP	3	460209	12-14-17

### Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP Secondary AB	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	06-30-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Savannah

## Accreditation/Certification Summary

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

### Laboratory: TestAmerica Pensacola (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17 *
West Virginia DEP	State Program	3	136	06-30-17

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Savannah

## Method Summary

Client: Waste Management  
Project/Site: Superior Landfill Waste Char.

TestAmerica Job ID: 680-138279-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
7470A	Mercury (CVAA)	SW846	TAL SAV
1030	Ignitability, Solids	SW846	TAL SAV
9014	Cyanide, Reactive	SW846	TAL PEN
9034	Sulfide, Reactive	SW846	TAL PEN
9045D	pH	SW846	TAL SAV
D422	Grain Size	ASTM	TAL BUR

### Protocol References:

ASTM = ASTM International

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858



# TestAmerica Savannah

5102 LaRoche Avenue

Savannah, GA 31404

Phone (912) 354-7858 Fax (912) 352-0165

## Chain of Custody Record

### Client Information (Sub Contract Lab)

Client Contact:

Shipping/Receiving

Company:

TestAmerica Laboratories, Inc.

Address:

30 Community Drive, Suite 11,

City:

South Burlington

State, Zip:

VT, 05403

Phone:

802-660-1990(Tel) 802-660-1919(Fax)

Email:

Project #:

Superior Landfill Waste Char.

Site:

Project #:

68018153

SSOW#:

Sampler:

Lab PVI:

Smith, Kathryn E

Phone:

E-Mail:

kathryn.smith@testamericainc.com

State of Origin:

Georgia

COC No:

680-476579.1

Page:

Page 1 of 1

Job #:

680-138279-1

Preservation Codes:

A - HCL  
B - NaOH  
C - Zn Acetate  
D - Nitric Acid  
E - NaHSO4  
F - MeOH  
G - Anchlor  
H - Ascorbic Acid  
I - Ice  
J - DI Water  
K - EDTA  
L - EDA  
M - Hexane  
N - None  
O - AsNaO2  
P - Na2O4S  
Q - Na2SO3  
R - Na2S2O3  
S - H2SO4  
T - TSP Dodecahydrate  
U - Acetone  
V - MCAA  
W - pH 4-5  
Z - other (specify)

Other:

680-138279 Chain of Custody

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica

Special Instructions/Note:

Analysis Requested

Accreditations Required (See note):

State Program - Georgia

Field Filled Sample (Yes or No)

D422 (MOD) Sieve Only

D422 (MOD) MOD Routine list with sieve #140

Total Number of Containers

Special Instructions/Note:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client

Disposal By Lab

Archive For

Months

Special Instructions/QC Requirements:

Method of Shipment:

Date/Time:

Company:

Received by:

Date/Time:

Company:

Received by:

Date/Time:

Company:

Cooler Temperature(s) °C and Other Remarks:

1.3°C

Custody Seal No.:

836857

Custody Seals Intact:

Yes No

Empty Kit Relinquished by:

Date:

Time:

Primary Deliverable Rank: 2

Deliverable Requested: I, II, III, IV, Other (specify)

Unconfirmed

Possible Hazard Identification

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

ORIGIN ID: SAVA (912) 354-7858  
BERNARD KIRKLAND  
TEST AMERICA  
5102 LAROCHE AVE

SAVANNAH, GA 31404  
UNITED STATES US

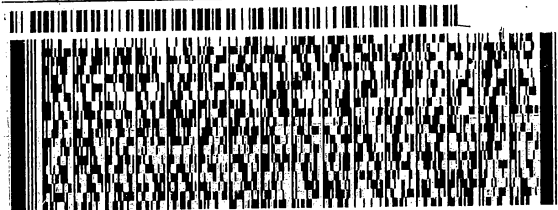
SHIP DATE: 03MAY17  
ACTWT: 20.00 LB MAN  
CAD: 0622727/CAFE3011

BILL RECIPIENT

TO **CUSTODY**  
**TESTAMERICA LABORATORIES**  
**30 COMMUNITY DRIVE**  
**SUITE 11**  
**SOUTH BURLINGTON VT 05403**

(802) 660-1990

REF: SO 680 84035



**FedEx**  
Express



TRK# 7201 3128 3163  
0201

**THU - 04 MAY 3:00P**  
**STANDARD OVERNIGHT**

**XH BTVA**

**05403**  
**VT-US BTV**





## Login Sample Receipt Checklist

Client: Waste Management

Job Number: 680-138279-1

Login Number: 138279

List Source: TestAmerica Savannah

List Number: 1

Creator: Jackson, Victor L

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: Waste Management

Job Number: 680-138279-1

**Login Number: 138279**

**List Source: TestAmerica Burlington**

**List Number: 3**

**List Creation: 05/04/17 01:30 PM**

**Creator: Cota, Fred P**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	856857
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.3°C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

## Login Sample Receipt Checklist

Client: Waste Management

Job Number: 680-138279-1

**Login Number: 138279**

**List Source: TestAmerica Pensacola**

**List Number: 2**

**List Creation: 05/04/17 11:51 AM**

**Creator: Smith, Demetrius A**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3°C IR-2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	