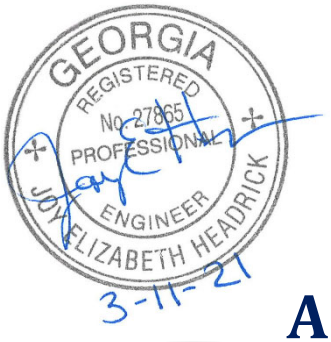
WASTE MANAGEMENT, INC.

610 BENNET ROAD | HOMER, GEORGIA 30547

R&B LANDFILL

COAL COMBUSTION RESIDUALS (CCR) MANAGEMENT PLAN ANNUAL UPDATE

PERMIT #: 006-009D (MSWL)



ANNUAL CCR MANAGEMENT PLAN AND DUST CONTROL REPORT

ATLANTIC COAST CONSULTING, INC.

March 2021

Table of Contents

This annual CCR management plan 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 R&B Landfill is composed of three distinct disposal areas identified as the East, Central, and West Disposal Units. The East Disposal Unit was closed and capped in 2006. The Central Disposal Unit is separated from the East Disposal Unit by Frank Bennett Road while the West Disposal Unit is separated from the Central Unit by Carlan Creek and is the current area of active waste placement. The current Design and Operation (D&O) plan was approved by EPD on January 23, 2017 with the current CCR Management Plan being established through a minor modification approved by Georgia's Environmental Protection Division (EPD) on May 18, 2017.

FACILITY LOCATION AND DESCRIPTION:

The R&B Landfill is located at 610 Bennett Road, Homer, Georgia. The landfill sits on a 970.59 acre tract of land located in Banks County in a rural area approximately 3.5 miles northeast of the center of Homer, Georgia. The landfill entrance is located approximately four miles southeast of Interstate 85.

CCR MANAGEMENT ACTIVITIES:

CCR and Non-CCR Waste Volumes:

R&B currently receives CCR materials for disposal in the active West Disposal Unit. It is permitted to receive CCR at an estimated rate 1,000,000 tons per year with an estimated daily maximum of 3,500 tons. These limits are defined in Section 1 of the current Operational Narrative shown on Sheet 44 of the Design and Operation (D&O) Plans. The facility's capacity for placement of CCR material in the West and Central Units was established by verifying that the facility's design is able to withstand the additional loads presented by the higher density CCR material. The basis of the design verification provided in the May 18, 2017 CCR Management Minor Modification was an overall waste mass density of 115 lb/CF (3,105 lb/CY). This density takes into account the elevated waste mass density experienced by the containment systems when subjected to the CCR waste placement.

The CCR material received at this facility between January 1, 2020 and December 31, 2020 had a recorded weight of 9,352 tons. This is below the upper limits established by the Operational Narrative. 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 591 tons. This falls below the estimated max daily weight of 3,500

tons shown in Section 1 of the Operational Narrative. 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 was sourced from Duke Energy as required by Part 14 of the CCR Disposal Procedures on Sheet 46 of the D&O Plan. It should be noted that the CCR interned at the landfill is from the same source whose material was used as the basis of design for the original CCR Management Permit. Additionally, its 'as received' physical condition (i.e. moisture and grain size) has remained generally consistent throughout the disposal process and no new CCR waste streams were accepted by the facility during this reporting period. The facility does not utilize CCR material as a solidification agent for liquid wastes.

CCR Characterization and Compatibility:

Parts 14 and 15 of the CCR Disposal Procedures on Sheet 46 of the D&O Plan requires all CCR waste streams entering the facility 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 is based are included 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. The second working face is required to be located at least 100 feet from the primary working face and is intended to support smaller vehicles and operational requirements. The combined area of the individual working faces operated during this period did not exceed 40,000 square feet. The maximum area of the working face and their management were conducted in accordance with Section 2 of the Operational Narrative on Sheet 44. Daily cover for the working faces were applied, at a minimum, at the end of each workday in accordance with Section 3 of the Odor Management Plan and CCR Disposal Procedures on Sheet 46.

CCR material was 'block' or mono filled in the West Disposal Unit. As required, in the CCR Disposal Procedures on Sheet 46 of the D&O Plan, a test pad area was established to determine placement and compaction requirements necessary to obtain a minimum compaction of 90% standard proctor. Due to the consistent physical nature of the CCR material and sourcing, the original test pad results have been used to guide placement and compaction

efforts to date. The results of the tests are contained in Appendix A and demonstrate compliance with the compaction requirements.

No leachate outbreaks were observed during this reporting period. No new cells for CCR material were constructed during this reporting period. When constructing a new cell for CCR material the leachate collection gravel will be covered with a minimum of 12-inches of protective cover soil as required by the CCR disposal procedures on Sheet 46 of the D&O Plan. Additionally, none of the previously placed CCR material was harvested for beneficial re-use.

Record Keeping:

Records of all waste transported to the site along with daily logs and operational records are retained at the facility's 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 operators at the facility spread and compacted CCR material as it was received. If the CCR material was not spread during operating hours on the day it was received, the operator would use the on-site water truck to maintain the CCR's moisture levels. This procedure was determined to be an efficient and effective method to avoid fugitive dust generation.

The interior and perimeter roads were moisture conditioned using a water truck, as required, between rain fall events to avoid fugitive dust generated from vehicular traffic.

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 facility's leachate collection, removal and storage system is in good working order with no known issues related to the disposal of CCR wastes.

Stormwater Management System:

The working face(s) were managed to ensure that surface water contacting 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.

The facility did not experience any incidents of CCR material entering the stormwater management system during this reporting period.

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 does not suggest confirmed impacts at these monitoring points as a result of handling CCR material. The facility will continue implementing the CCR monitoring program and documenting results to EPD in semi-annual monitoring reports.

Emergencies:

The facility did not experience any events or circumstances that represented an operational or environmental emergency during this reporting period.

Documentation of Notification to Local Governments:

The operation of CCR disposal activities during this reporting period have been in compliance with 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 facility's Design and Operation Plan has 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.

Appendix A

CCR Compatibility and Characterization

IN THIS APPENDIX:

- CCR Analytical Report
- Test Pad Evaluation

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

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.
¤	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

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

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 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

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

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
Ignitability	**NB**				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
pH	**6.0**	**HF**			SU			05/11/17 15:19	1

Method: D422 - Grain Size

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

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

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

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

TestAmerica Job ID: 680-138279-1

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

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

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	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

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		

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

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

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*

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	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		

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		

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		

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

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

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

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	

Lab Chronicle

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

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

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			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									

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.

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.

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:

Chain of Custody Record

186584

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☒ RCRA ☐ Other:

Client Contact	Project Manager: Sarah Rafalowski	Site Contact:	Date: 5/2/17	COC No:
Company Name: WM-Superior	Tel/Fax: srafalow@wm.com	Lab Contact: Lisa Harvey	Carrier: Client	1 of 1 COCs
Address: 3001 Little Neck Rd	Analysis Turnaround Time			Sampler:
City/State/Zip: Savannah, GA 31419	☒ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 770-545-0339	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Ash Analysis	☒ 1 week			
Site: Superior Landfill	☐ 2 days			Job / SDG No.:
PO #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Reactive Cyanide	Reactive Sulfide	Ignitability	Sieve Analysis	Grain Size	Sample Specific Notes:
Ash - Kraft	5/2	2:55p	G	Ash	3			1	1	1	1	*	Need analysis of grain size. This is for WM & NOT GP.
Ash - Grumman	5/2	2:35p	G	Ash	3			1	1	1	1	*	

680-138279 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

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 & Comments:
One week TAT, if possible.

4.0/2.8

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____		Therm ID No.: _____
Relinquished by:	Company: WM	Date/Time: 5-3/8:54A	Received by: V-Jackson	Company: TA	Date/Time: 5-3-17 854
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Page 27 of 33

5/18/2017

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone (912) 354-7858 Fax (912) 352-0165

Chain of Custody Record

680-138279 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Smith, Kathryn E	COC No: 680-476579.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kathy.smith@testamericainc.com	State of Origin: Georgia	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Georgia	Job #: 680-138279-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 5/9/2017		
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email:	WO #:		
Project Name: Superior Landfill Waste Char.	Project #: 68018153		
Site:	SSOW#:		

Preservation Codes:

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

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)		D422/ (MOD) Sieve Only	D422/ (MOD) MOD Routine list with sieve #140	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Ash-Kraft (680-138279-1)	5/2/17	14:55 Eastern		Solid			X	X	1	
Ash-Grumman (680-138279-2)	5/2/17	14:35 Eastern		Solid			X	X	1	

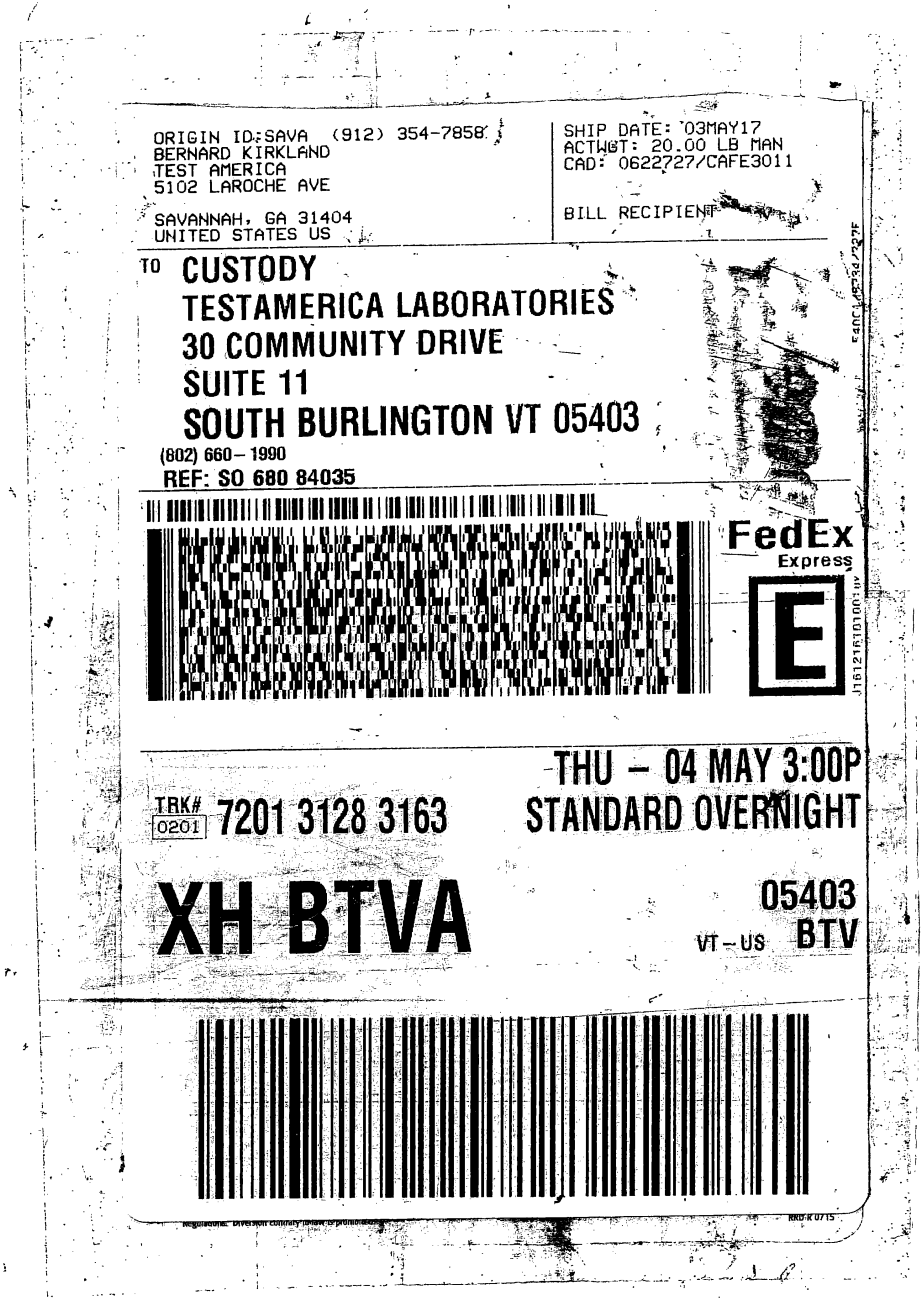
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/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 complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Jessica Edwards	Date/Time: 5/5/17 1621	Company TAS AV	Received by: [illegible]	Date/Time: 5/04/17 @ 1030	Company TAS BURL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.: 836857	Cooler Temperature(s) °C and Other Remarks: 1.3°C

5/18/2017



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

SAVANNAH, GA 31404
UNITED STATES US

SHIP DATE: 03MAY17
ACTWGT: 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

THU - 04 MAY 3:00P
STANDARD OVERNIGHT

TRK# 0201 7201 3128 3163

XH BTVA

05403
VT - US BTV

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone (912) 354-7858 Fax (912) 352-0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Smith, Kathryn E	Carrier Tracking No(s):	COC No: 680-476581.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kathy.smith@testamericainc.com	State of Origin: Georgia	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Georgia		Job #: 680-138279-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 5/9/2017			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Superior Landfill Waste Char.	Project #: 68018153			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9014_ReactiveCN/7.3.3 Cyanide, Reactive	9034_Reactive/7.3.4 Sulfide, Reactive	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Ash-Kraft (680-138279-1)	5/2/17	14:55 Eastern		Solid			X	X	1	
Ash-Grumman (680-138279-2)	5/2/17	14:35 Eastern		Solid			X	X	1	

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/tests/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 complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Jessica Edwards	5/3/17 1621	TASAV		5/4/17 0851	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.3 IR 2

5/18/2017

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 </= 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 <6mm (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 Number: 3
Creator: Cota, Fred P

List Source: TestAmerica Burlington
List Creation: 05/04/17 01:30 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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	1.3ºC
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 <6mm (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 Number: 2
Creator: Smith, Demetrius A

List Source: TestAmerica Pensacola
List Creation: 05/04/17 11:51 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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 <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ATLANTIC COAST
CONSULTING, INC.
630 Colonial Park Drive
Suite 110
Roswell, GA 30075
o 770.594.5998
f 770.594.5967
www.atlcc.net

June 8, 2015

Mr. John Workman, P.E.
Director of Engineering
Waste Management, Inc.
1850 Parkway Place, Suite 600
Marietta, Georgia 30337

SUBJECT: Test Pad Evaluation
R&B Landfill
Banks County, Georgia

Dear Mr. Workman:

Atlantic Coast Consulting, Inc. (ACC) is pleased to transmit the attached results of the test pad evaluation in Cell 11A at the above referenced landfill facility. Waste Management is currently receiving two different types of ash which are being disposed of in Cell 11A. The Project Specifications require the ash material be compacted to a minimum of 90% of the materials maximum dry density. Waste Management constructed a test pad for each ash material to determine what compaction efforts needed to be made in order to achieve the minimum 90% compaction requirement. Per the request of Waste Management ACC was on site to perform density testing on the test pads for each ash material.

Laboratory Testing

Prior to construction of the ash material test pads, representative samples of each ash material were collected and delivered to Timely engineering Soil Tests, LLC (TEST) for laboratory testing. The samples were labeled ASH-1 and ASH-2. The laboratory testing program was comprised of a Standard Proctor moisture/density relationship ASTM D698, particle size analysis ASTM D422 and moisture content ASTM D2216. The results of the laboratory testing are provided in Appendix A.

ATLANTIC COAST CONSULTING, INC.

Test Pad Construction

Waste Management constructed a test pad for each ash material that was approximately 10' X 15'. Construction of the test pads was accomplished by using a bulldozer and a vibratory smooth drum roller. The bulldozer was used to spread a 12 inch thick lift of the ash material and the vibratory smooth drum roller was used for compaction of the ash material. Both test pads were constructed within the limits of Cell 11A.

Field Density Testing

Taylor Herbertson of ACC arrived at the site on Friday, May 22, 2015 for construction of the first test pad. This visit was for the test pad construction and evaluation of the ASH-1 material. Three nuclear density tests were performed on the test pad. The first density test was taken after the vibratory smooth drum roller made one pass, the second density test was taken after the vibratory smooth drum roller made a second pass and the third density test was taken after the vibratory smooth drum roller made a third pass. All of these tests met the Project Specifications. The daily field summary report along with the results of field density tests TP-1 through TP-3 are provided in Appendix B.

Taylor Herbertson of ACC arrived back at the site on Thursday, June 4, 2015 for construction of the second test pad. This visit was for the test pad construction and evaluation of the ASH-2 material. Three nuclear density tests were performed on the test pad. The first density test was taken after the vibratory smooth drum roller made one pass, the second density test was taken after the vibratory smooth drum roller made a second pass and the third density test was taken after the vibratory smooth drum roller made a third pass. All of these tests met the Project Specifications. The daily field summary report along with the results of field density tests TP-4 through TP-6 are provided in Appendix C.

Construction Photographs

During the test pad construction at the R&B landfill in Cell 11A photographs were taken by the site technician to document the construction activities. Attached please find the construction photographs with a brief description below each photograph.

ATLANTIC COAST CONSULTING, INC.

Test Pad Evaluation Summary

Based on ACC's test pad evaluation including laboratory testing and field density testing for the ASH-1 and ASH-2 materials, it has been concluded that no more than one pass with the vibratory smooth drum roller needs to be made in order to achieve the required 90% compaction.

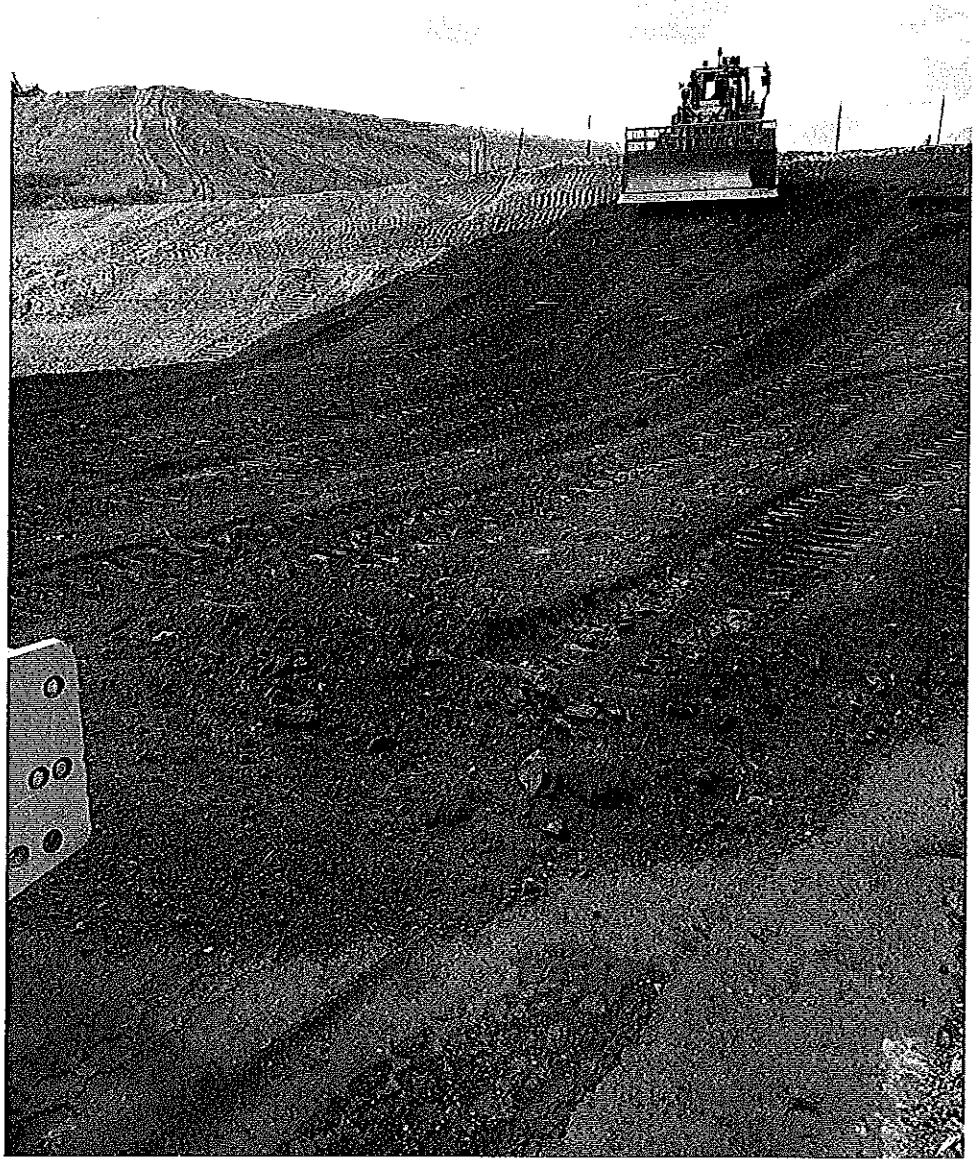
If you have any questions, please feel free to contact me at 770-594-5998.

Sincerely,

ATLANTIC COAST CONSULTING, INC.

Richard T. Deason, P.E.
Certifying Engineer

RTH/RTD:rsc



Test pad construction began with a bulldozer spreading a 12" lift of ash material. The test pad for each material was approximately 10' X 15'.

Compaction of the ash material was achieved using a vibratory smooth drum roller.

Nuclear density tests were performed to verify the compaction of the ash material.

I monitored operations after the test pad construction to insure lift thickness did not exceed 12".

I monitored operations after the test pad construction to insure at least one pass was made using the vibratory smooth drum roller.

ATLANTIC COAST
CONSULTING, INC.

APPENDIX A
Laboratory Testing

TIMELY ENGINEERING SOIL TESTS, LLC
1874 Forge Street Tucker, GA 30084
Phone: 770-938-8233 Fax: 770-923-8973
Cell: 678-612-6534
Web: www.test-llc.com

Summary of Soil Testing (ASH - Samples)

Project Number: 1508-07

Project Name: Banks County C&D Cell 11A

T.E.S.T. Sample Number	Client Sample Number	USCS	Carbonate Content, %	Moisture Content (%)	Grain Size Distribution			Atterberg Limits			Proctor		Hydraulic Conductivity		
					%Finer #4 Sieve	% Finer #200 Sieve	% Finer .005mm	L.L. %	P.L. %	P.I. %	Opt. M.C. %	Max.Dry Density pcf	Initial M.C. %	Init.Dry Density pcf	Hydraulic Conduct. cm/sec
1508-07-1															
19952	ASH-1		-	-	-	-	-	-	-	-	21.3	96.0	-	-	-
1508-07-2															
19996	ASH-2		-	-	-	-	-	-	-	-	31.8	78.5	-	-	-
1508-07-3															
19952A	ASH-1		-	19.5	82.8	32.2	-	-	-	-	-	-	-	-	-
19996	ASH-2		-	27.7	98.5	75.0	-	-	-	-	-	-	-	-	-

TIMELY ENGINEERING SOIL TESTS, LLC

1874 Forge Street Tucker, GA 30084
Phone: 770-938-8233
Fax: 770-923-8973
Web: www.test-llc.com

Tested By	RI
Date	05/15/15
Checked By	

Client Pr. #	I002.362	Lab. PR. #	1508-07-1
Pr. Name	Banks County C&D Cell 11A	S. Type	Bulk
Sample ID	19952/ASH-1	Depth/Elev.	-
Location	-	Add. Info	-

ASTM D 698
Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600kN-m/m^3))

DETERMINATION OF TEST PROCEDURE

	wet	dry
Mass of Soil before sieving, g	20700.0	17559.3
Mass of Mat. Retained on No. 4 sieve, g		
Mass of Mat. Retained on 3/8" sieve, g	1781.3	1781.3
Mass of Mat. Retained on 3/4" sieve, g		

Material Retained on No. 4 Sieve, %	
Material Retained on 3/8" Sieve, %	10.1
Material Retained on 3/4" Sieve, %	
Total, % (oversized)	10.1

MOISTURE CONTENT

	Coarse + Fine Fraction	Coarse Fraction
Mass of Wet Sample & Tare, g	956.8	1781.3
Mass of Dry Sample & Tare, g	835.1	1781.3
Mass of Tare, g	154.7	0.0
Moisture Content, %	17.9	0.0

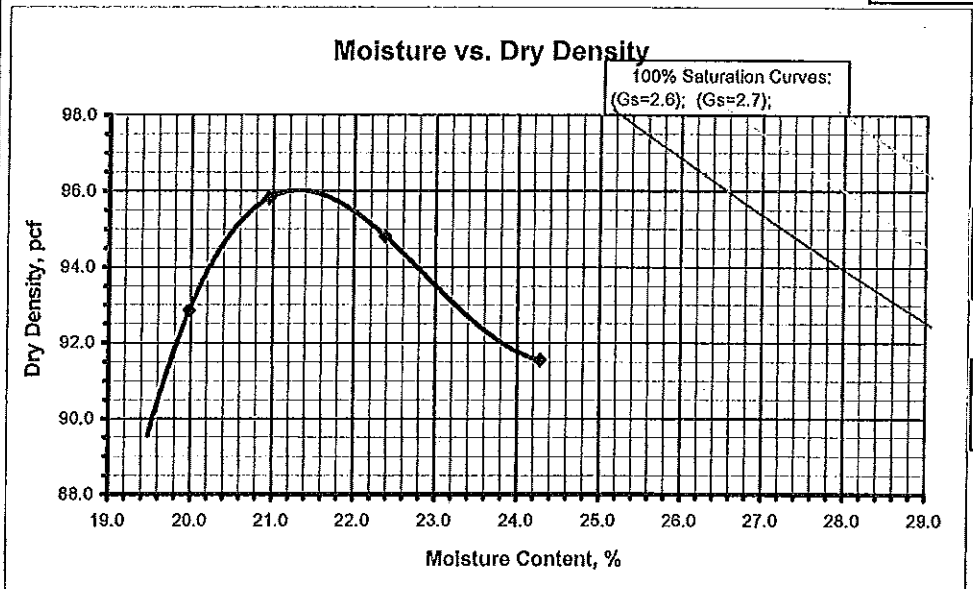
Procedure: B

TEST DATA

Points	1	2	3	4	5
Mass of Mold and Soil, g	5894.0	5962.0	5964.0	5930.0	
Mass of Wet Sample & Tare, g	561.8	613.3	574.1	584.1	
Mass of Dry Sample & Tare, g	489.2	538.8	492.0	495.5	
Mass of Tare, g	125.8	182.1	125.1	130.6	
Moisture Content, %	20.0	21.0	22.4	24.3	
Wet Density, pcf	111.4	115.9	116.0	113.8	
Dry Density, pcf	92.9	95.8	94.8	91.6	

Mold ID Number	314
Mass of Mold, g	4211.3
Volume of Mold, ft^3	0.0333
Hammer ID Number	318
Number of Blows per layer	25
Number of Layers	3

Method A: Material retained on No. 4 Sieve≤ 25%
Method B: Material retained on 3/8" Sieve ≤ 25%
Method C: Material retained on 3/4" Sieve ≤ 25%



REMARKS

DESCRIPTION
NA

USCS (ASTM D2487; D2488)
NA

AASHTO M145
NA

Maximum Dry Density, pcf	96.0	Corrected Maximum Dry Density, pcf	NA
Optimum Moisture Content, %	21.3	Corrected Optimum Moisture Content, %	NA

TIMELY ENGINEERING SOIL TESTS, LLC

1874 Forge Street Tucker, GA 30084
Phone: 770-938-8233
Fax: 770-923-8973
Web: www.test-llc.com

Tested By	EB
Date	05/29/15
Checked By	

Client Pr. #	I002.362	Lab. PR. #	1508-07-3
Pr. Name	Banks County C&D Cell 11A	S. Type	Bulk
Sample ID	19952A/ASH-1	Depth/Elev.	-
Location	-	Add. Info	-

ASTM D 6913 (D 422 old version), D 1140, C 136, C 117 / AASHTO T 88, T 27, T 11, T 311; Particle Size Analysis (Split Sieve)

MOISTURE CONTENT of TOTAL SAMPLE	
Mass of Wet Sample & Tare, g	494.1
Mass of Dry Sample & Tare, g	429.0
Mass of Tare, g	95.0
Moisture Content, %	19.5

MOISTURE CONTENT of FINE MATERIAL	
Mass of Wet Sample & Tare, g	510.50
Mass of Dry Sample & Tare, g	436.60
Mass of Tare, g	93.70
Moisture Content, %	21.6

TOTAL Mass of wet sample before splitting & tare, g	7689.0
Mass of Tare, g	0.0
TOTAL Mass of dry sample, g	6434.8

Mass of Wet Fine Material & Tare, g	303.40
Mass of Tare, g	0.00
Mass of Dry Fine Material, g	249.61
% of Total Sample Passing Split Sieve	91.7

SIEVE ANALYSIS*

COARSE MATERIAL

Mass of Tare, g: 0.0

Sieve Size		Sample & Tare, g	% RETAINED	% PASSING
12"	COBBLES		0.0	100.0
3"	COARSE GRAVEL		0.0	100.0
2.5"			0.0	100.0
2"			0.0	100.0
1.5"			0.0	100.0
1"		0.0	0.0	100.0
.75"	FINE GRAVEL	102.8	1.6	98.4
.5"		367.1	5.7	94.3
.375"		531.2	8.3	91.7

FINE MATERIAL

Mass of Tare, g: 0.00

Sieve Size		Cumulative Mass retained, g	% PASSING (of Total)
#4	COARSE SAND	24.43	82.8
#10	MEDIUM SAND	51.18	72.9
#20		78.14	63.0
#40	FINE SAND	94.08	57.2
#60		111.77	50.7
#100		133.16	42.8
#200	FINES	162.13	32.2

* - ASTM Definitions of Classification
** - AASHTO Definitions of Classification

NOTE: 3/8" (9.5 mm) Sieve used for splitting sample on fine and coarse material

Oven ID #	16/496/610
Balance ID#	139/142/700
Sieve Shaker ID #	555

PARTICLE-SIZE ANALYSIS*

% COBBLES	0.0	% MEDIUM Sand	15.8
% COARSE Gravel	1.6	% FINE Sand	25.0
% FINE Gravel	15.6	% FINES	32.2
% COARSE Sand	9.8	% TOTAL SAMPLE	100.0

PARTICLE-SIZE ANALYSIS**

% COBBLES	0.0	% COARSE Sand	15.8
% COARSE Gravel (Stone)	0.0	% FINE Sand	25.0
% MEDIUM Gravel (Stone)	8.3	% FINES (Silt-Clay)	32.2
% FINE Gravel (Stone)	18.8	% TOTAL SAMPLE	100.0

REMARKS

DESCRIPTION: NA

USCS (ASTM D2487; D2488): NA

AASHTO (M 145): NA

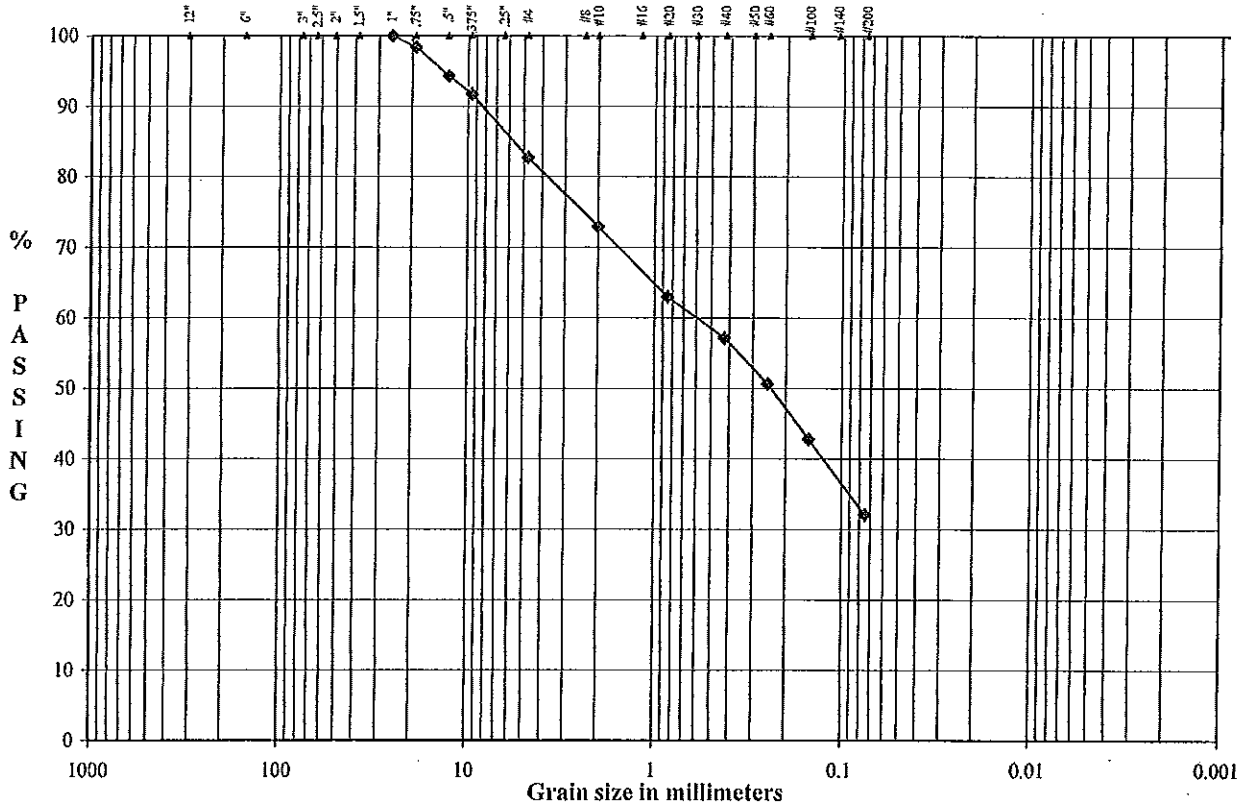
TIMELY ENGINEERING SOIL TESTS, LLC
1874 Forge Street Tucker, GA 30084
Phone: 770-938-8233
Fax: 770-923-8973
Web: www.test-llc.com

Tested By	EB
Date	05/29/15
Checked By	LB

Client Pr. #	1002.362	Lab. PR. #	1508-07-3
Pr. Name	Banks County C&D Cell 11A	S. Type	Bulk
Sample ID	19952A/ASH-1	Depth/Elev.	-
Location	-	Add. Info	-

ASTM D 6913 (D 422 old version), D 1140, C 136, C 117 / AASHTO T 88, T 27, T 11, T 311
Standard Test Method for Particle-Size Analysis of Soils and Aggregates (Split Sieve)

Particle-Size Analysis



Boulders	Cobbles	Gravel: Coarse	Gravel: Fine	Sand: Coarse	Sand: Medium	Sand: Fine	Fines: Silt or Clay

D_{10}	NA	mm
D_{30}	NA	mm
D_{60}	NA	mm
Cu	NA	
Cc	NA	

TIMELY ENGINEERING SOIL TESTS, LLC
1874 Forge Street Tucker, GA 30084
Phone: 770-938-8233
Fax: 770-923-8973
Web: www.test-llc.com

Tested By	RI
Date	05/26/15
Checked By	

Client Pr. #	I002.362	Lab. PR. #	1508-07-2
Pr. Name	Banks County C&D Cell 11A	S. Type	Bulk
Sample ID	19996/ASH-2	Depth/Elev.	-
Location	-	Add. Info	-

ASTM D 698
Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600kN-m/m^3))

DETERMINATION OF TEST PROCEDURE

	wet	dry
Mass of Soil before sieving, g	13550.0	10611.2
Mass of Mat. Retained on No. 4 sieve, g		
Mass of Mat. Retained on 3/8" sieve, g	155.6	155.6
Mass of Mat. Retained on 3/4" sieve, g		

Material Retained on No. 4 Sieve, %	
Material Retained on 3/8" Sieve, %	1.5
Material Retained on 3/4" Sieve, %	
Total, % (oversized)	1.5

MOISTURE CONTENT

	Coarse + Fine Fraction	Coarse Fraction
Mass of Wet Sample & Tare, g	402.9	155.6
Mass of Dry Sample & Tare, g	336.1	155.6
Mass of Tare, g	94.9	0.0
Moisture Content, %	27.7	0.0

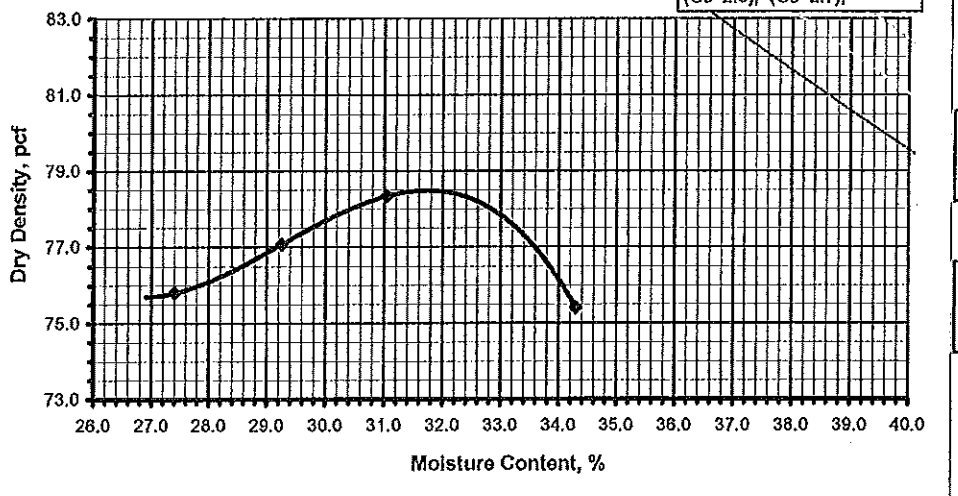
Procedure: B

TEST DATA

Points	1	2	3	4	5
Mass of Mold and Soil, g	5670.0	5716.0	5762.0	5741.0	
Mass of Wet Sample & Tare, g	551.0	557.9	556.3	602.8	
Mass of Dry Sample & Tare, g	470.3	470.7	466.3	494.4	
Mass of Tare, g	175.8	172.6	176.4	178.3	
Moisture Content, %	27.4	29.3	31.0	34.3	
Wet Density, pcf	96.6	99.6	102.7	101.3	
Dry Density, pcf	75.8	77.1	78.3	75.4	

Mold ID Number	314
Mass of Mold, g	4211.3
Volume of Mold, ft^3	0.0333
Hammer ID Number	318
Number of Blows per layer	25
Number of Layers	3

Method A: Material retained on No. 4 Sieve≤ 25%
Method B: Material retained on 3/8" Sieve ≤ 25%
Method C: Material retained on 3/4" Sieve ≤ 25%



REMARKS

DESCRIPTION
NA

USCS (ASTM D2487; D2488)
NA

AASHTO M145
NA

Maximum Dry Density, pcf	78.5	Corrected Maximum Dry Density, pcf	NA
Optimum Moisture Content, %	31.8	Corrected Optimum Moisture Content, %	NA

TIMELY ENGINEERING SOIL TESTS, LLC	1874 Forge Street Tucker, GA 30084 Phone: 770-938-8233 Fax: 770-923-8973 Web: www.test-llc.com	Tested By	EB
		Date	05/29/15
		Checked By	

Client Pr. #	I002.362	Lab. PR. #	1508-07-3
Pr. Name	Banks County C&D Cell 11A	S. Type	Bulk
Sample ID	19996/ASH-2	Depth/Elev.	-
Location	-	Add. Info	-

ASTM D 6913 (D 422 old version), D 1140, C 136, C 117 / AASHTO T 88, T 27, T 11, T 311; Particle Size Analysis (Split Sieve)

MOISTURE CONTENT of TOTAL SAMPLE

Mass of Wet Sample & Tare, g	402.9
Mass of Dry Sample & Tare, g	336.1
Mass of Tare, g	94.9
Moisture Content, %	27.7

MOISTURE CONTENT of FINE MATERIAL

Mass of Wet Sample & Tare, g	360.20
Mass of Dry Sample & Tare, g	303.70
Mass of Tare, g	83.60
Moisture Content, %	25.7

TOTAL Mass of wet sample before splitting & tare, g	13550.0
Mass of Tare, g	0.0
TOTAL Mass of dry sample, g	10611.2

Mass of Wet Fine Material & Tare, g	300.90
Mass of Tare, g	0.00
Mass of Dry Fine Material, g	239.44
% of Total Sample Passing Split Sieve	98.5

SIEVE ANALYSIS*

COARSE MATERIAL

Mass of Tare, g: 0.0

Sieve Size		Sample & Tare, g	% RETAINED	% PASSING
12"	COBBLES		0.0	100.0
3"			0.0	100.0
2.5"	COARSE		0.0	100.0
2"	GRAVEL		0.0	100.0
1.5"			0.0	100.0
1"			0.0	100.0
.75"			0.0	100.0
.5"	FINE GRAVEL	0.0	0.0	100.0
.375"		155.6	1.5	98.5

FINE MATERIAL

Mass of Tare, g: 0.00

Sieve Size		Cumulative Mass retained, g	% PASSING (of Total)
#4	COARSE SAND	0.00	98.5
#10	MEDIUM	0.00	98.5
#20	SAND	6.20	96.0
#40		15.54	92.1
#60	FINE SAND	26.37	87.7
#100		38.72	82.6
#200	FINES	57.14	75.0

* - ASTM Definitions of Classification
** - AASHTO Definitions of Classification

NOTE: 3/8" (9.5 mm) Sieve used for splitting sample on fine and coarse material

Oven ID #	16/496/610
Balance ID#	139/142/700
Sieve Shaker ID #	555

PARTICLE-SIZE ANALYSIS*

% COBBLES	0.0	% MEDIUM Sand	6.4
% COARSE Gravel	0.0	% FINE Sand	17.1
% FINE Gravel	1.5	% FINES	75.0
% COARSE Sand	0.0	% TOTAL SAMPLE	100.0

REMARKS

PARTICLE-SIZE ANALYSIS**

% COBBLES	0.0	% COARSE Sand	6.4
% COARSE Gravel (Stone)	0.0	% FINE Sand	17.1
% MEDIUM Gravel (Stone)	1.5	% FINES (Slt-Clay)	75.0
% FINE Gravel (Stone)	0.0	% TOTAL SAMPLE	100.0

DESCRIPTION: NA

USCS (ASTM D2487; D2488): NA AASHTO (M 145): NA

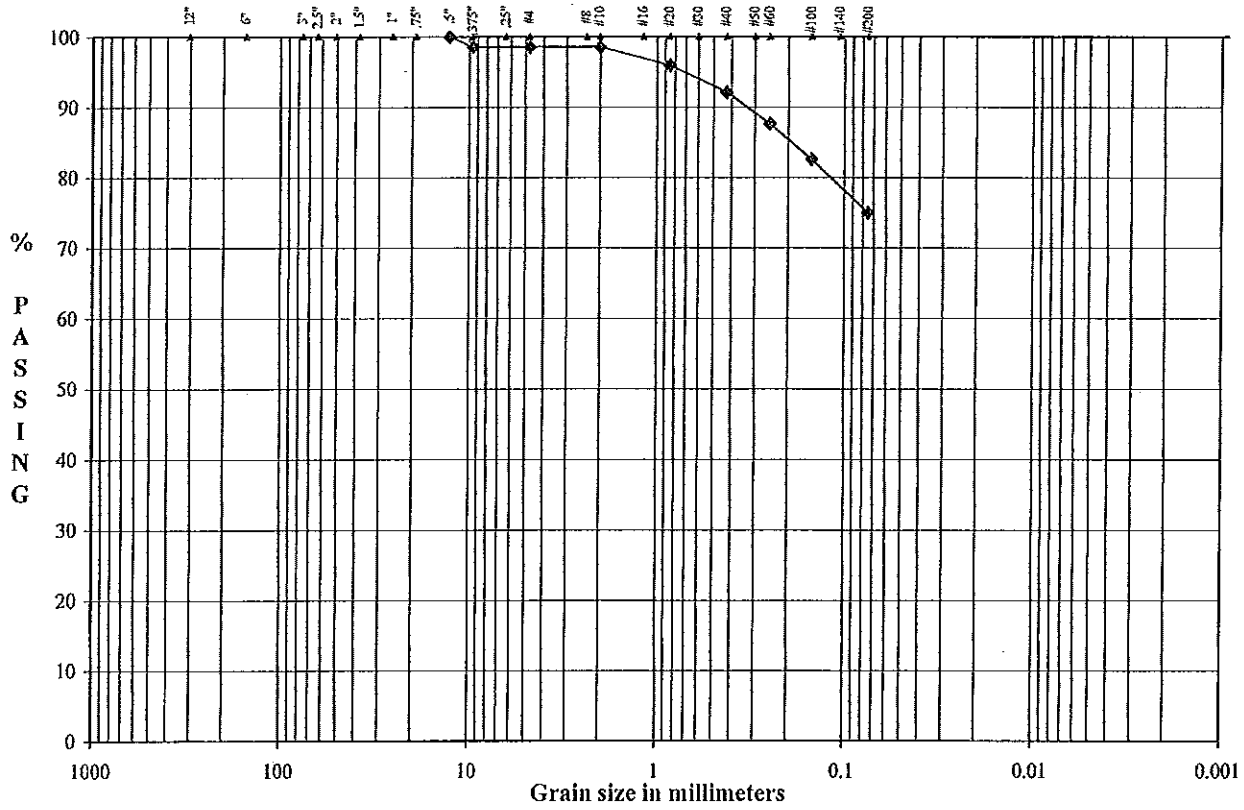
TIMELY ENGINEERING SOIL TESTS, LLC
1874 Forge Street Tucker, GA 30084
Phone: 770-938-8233
Fax: 770-923-8973
Web: www.test-llc.com

Tested By	EB
Date	05/29/15
Checked By	

Client Pr. #	I002.362	Lab. PR. #	1508-07-3
Pr. Name	Banks County C&D Cell 11A	S. Type	Bulk
Sample ID	19996/ASH-2	Depth/Elev.	-
Location	-	Add. Info	-

ASTM D 6913 (D 422 old version), D 1140, C 136, C 117 / AASHTO T 88, T 27, T 11, T 311
Standard Test Method for Particle-Size Analysis of Soils and Aggregates (Split Sieve)

Particle-Size Analysis



Boulders	Cobbles	Gravel: Coarse	Gravel: Fine	Sand: Coarse	Sand: Medium	Sand: Fine	Fines: Silt or Clay

D_{10}	NA	mm
D_{30}	NA	mm
D_{60}	NA	mm
Cu	NA	
Cc	NA	

ATLANTIC COAST
CONSULTING, INC.

APPENDIX B

Field Density Testing – ASH-1 Material

May 22, 2015

Daily Monitoring Summary

Date: May 22, 2015 S M T W T (F) S

Project Number: I002.362
Project Title: R&B – Cell 11A
Location: Banks County, Georgia
Weather: Temperature: Low: 64° @ AM High: 82° @ PM
Cloud Cover: Sunny Precipitation: None Wind: 0-5

ACC Personnel On-Site: Taylor Herbertson

Summary of Construction Progress: WM is currently placing ash in Cell 11A. There is a compaction requirment of 90% on 12" compacted lifts. Per John Workman's request WM is constructing a test pad to ensure the 90% compaction requirment is being met.

ACC Activities and Test Results: I observed the activities noted above and density tested the test pad. A sample of the ash labled ASH-1 was previously tested for Std. Proctor in the laboratory. My 3 density test were compared to this proctor and were found to have sufficient compaction.

The test pad was constructed using the below number of passes for each test.

TP-1 - One pass using a smooth drum roller.
TP-2 - Two passes using a smooth drum roller.
TP-3 - Three passes using a smooth drum roller.
* The vibrator was used on all passes

Daily Monitoring Summary

Date: 5/22/2015 S M T W T (F) S

Summary of Surveyor's Activities: None

Summary of Problems and Resolutions: None

Summary of Meetings and Discussions Held: I met with John Workman from Waste Management and he provided guidance on how he wanted the test pad constructed including equipment used and number of passes.

After completion of the test pad it was noted that no more than one pass needs to be made to achieve the required compaction.

Summary of Health and Safety Issues: None

Submitted by: [signature]
ACC Site Resident Manager

SUMMARY SHEET
IN - SITU DENSITY TEST RESULTS

PROJECT NUMBER: I002.362

PROJECT TITLE: R&B - Cell 11A

PROJECT LOCATION: Banks County, Georgia

COMPLETED BY: RIH

REVIEWED BY: GKH

DATE REVIEWED: 5/23/15

TEST NUMBER	TEST DATE		APPROX. LOCATION	LIFT OR ELEVATION	TEST METHOD	IN-SITU DRY DENSITY (pcf)	IN-SITU MOISTURE CONTENT (%)	REFERENCE CURVE NUMBER	REFERENCE MAX. DRY DENSITY (pcf)	REFERENCE OPTIMUM MOISTURE (%)	PERCENT COMPACTION	DIFFERENCE FROM OPT. MOISTURE (%)	PASS/ FAIL	REMARKS
TP-1	5/22	N	TEST	L-1	N	91.8	20.9	ASH-1	96.0	21.3	95.6	-0.4	P	One Pass w/
		E	PAD											Smooth Drum
TP-2		N				91.1	21.6				94.8	+0.3	P	Two Passes w/
		E												Smooth Drum
TP-3	↓	N	↓	↓	↓	93.1	21.0	↓	↓	↓	96.9	-0.3	P	Three Passes w/
		E												Smooth Drum
		N												
		E												
		N												
		E												
		N												
		E												
		N												
		E												
		N												
		E												
		N												
		E												
		N												
		E												
		N												
		E												
		N												
		E												

N = NUCLEAR DENSITY GAUGE   DC = DRIVE CYLINDER   S = SAND CONE

ATLANTIC COAST CONSULTING, INC

ATLANTIC COAST
CONSULTING, INC.

APPENDIX C

Field Density Testing – ASH-2 Material

June 4, 2015

Daily Monitoring Summary

Date: June 4, 2015 S M T W (T) F S

Project Number: I002.362
Project Title: R&B – Cell 11A
Location: Banks County, Georgia
Weather: Temperature: Low: 62 @ AM High: 77 @ PM
Cloud Cover: Partly Cloudy Precipitation: None Wind: 0-5MPH

ACC Personnel On-Site: Taylor Herbertson

Summary of Construction Progress: WM is receiving a diffrent type of ash from another site. Due to the 90% compaction requirment John Workman requested that we perform another test pad.

ACC Activities and Test Results: I monitored and density tested the test pad construction. A sample of the material labled ASH-2 was previously tested for std. proctor in the laboratory. The 3 density test I performed were compared to this proctor and were found to have sufficent compaction

The test pad was constructed using the below number of passes for each lift.

TP-4 - One pass with a vibratory smooth drum roller.
TP-5 - Two passes with a vibratory smooth drum roller.
TP-6 - Three passes with a vibratory smooth drum roller.

Daily Monitoring Summary

Date: 6/4/2015 S M T W (T) F S

Summary of Surveyor's Activities: None

Summary of Problems and Resolutions: None

Summary of Meetings and Discussions Held: I met with John Workman from Waste Management and he provided guidance on how he wanted the test pad constructed including equipment used and number of passes

After completion of the test pad it was noted that no more than one pass needs to be made to achieve the required compaction using both ASH-1 and ASH-2 materials.

Summary of Health and Safety Issues: None

Submitted by:

ACC Site Resident Manager

SUMMARY SHEET
IN - SITU DENSITY TEST RESULTS

PROJECT NUMBER: I002.362

PROJECT TITLE: R&B - Cell 11A

PROJECT LOCATION: Banks County, Georgia

COMPLETED BY: RJH

REVIEWED BY: [illegible]

DATE REVIEWED: 6/4/2015

TEST NUMBER	TEST DATE		APPROX. LOCATION	LIFT OR ELEVATION	TEST METHOD	IN-SITU DRY DENSITY (pcf)	IN-SITU MOISTURE CONTENT (%)	REFERENCE CURVE NUMBER	REFERENCE MAX. DRY DENSITY (pcf)	REFERENCE OPTIMUM MOISTURE (%)	PERCENT COMPACTION	DIFFERENCE FROM OPT. MOISTURE (%)	PASS/ FAIL	REMARKS
TP-4	6/4	N	TEST	1	N	76.7	21.1	ASH-2	78.5	31.8	97.7	-10.7	P	One pass w/
		E	PAD											Smooth drum
TP-5		N		1		77.9	20.0				99.2	-11.8	P	Two passes w/
		E												Smooth drum
TP-6	↓	N	↓	1	↓	78.3	20.5	↓	↓	↓	99.7	-11.3	P	Three passes w/
		E												Smooth drum
		N												
		E												
		N												
		E												
		N												
		E												
		N												
		E												
		N												
		E												
		N												
		E												
		N												
		E												
		N												
		E												
		N												
		E												

N = NUCLEAR DENSITY GAUGE   DC = DRIVE CYLINDER   S = SAND CONE

ATLANTIC COAST CONSULTING, INC