Hsu, Benjamin

From: Justin G. Roessler <jroessler@pascocountyfl.net>
Sent: Wednesday, May 23, 2018 1:25 PM
To: Hsu, Benjamin; John Power; Madden, Melissa
Cc: Michael A. Frestick; Gary A. Ackerman; 'Rocco,Jamie'
Subject: RE: Follow-Up Items --- FDEP Inspection 5/4/2018 (Pasco Resource Recovery)
Attachments: Follow Up Photos.pdf; Combined Ash Characterization - December 2014.pdf

Ben and Melissa,

Please see the responses below and the attached supporting information.

Thank you,

Justin Roessler

Response

1-3. The corrective actions requested above have been performed. Please see the attached photos accompanying this document.

4. Consistent with FDEP guidance a WTE ash characterization is required following a process change. The most recent process change occurred in late 2014 when the fly ash/bottom ash system was installed. Attached is the characterization report submitted following that change.

5. Reseeding is occurring now and will continue during the months of May and June. Additional problem areas will be addressed as any further spots are identified.

6. The switch had been damaged and in order to allow for operation of the pump during repairs the system had been wired directly to the floats to allow for operation based on the water level. The switch has now been replaced and wires reconnected allowing for automatic or manual operation.

7. Based on historical data we believe the nitrate/nitrite spike to be contamination during sampling or a laboratory error. The next site wide groundwater sampling event will be conducted in June. This well will be resampled during this event and the data provided during the next reporting period.

From: Hsu, Benjamin [mailto:Benjamin.Hsu@dep.state.fl.us]
Sent: Friday, May 18, 2018 1:10 PM
To: John Power; Justin G. Roessler; Michael A. Frestick
Cc: Madden, Melissa
Subject: Follow-Up Items --- FDEP Inspection 5/4/2018 (Pasco Resource Recovery)

Hello John Power & Friends,

Thank you for the facility tour two weeks ago (Friday, 5/4/2018).

I have in my notes some items to follow-up on post-inspection

Please see below.
Thanks and I hope you have a good weekend.

Photos Requested

1. Photo of repaired cover on well 2MW-24D (inspection photo attached).

2. Photo of Class III cells 1 + 2 waste pushed back to within the edge of liner / off the concrete (inspection photo attached).

3. Photo of more cover added to cell SW-2 to cover exposed waste (inspection photo attached).

Documents Requested

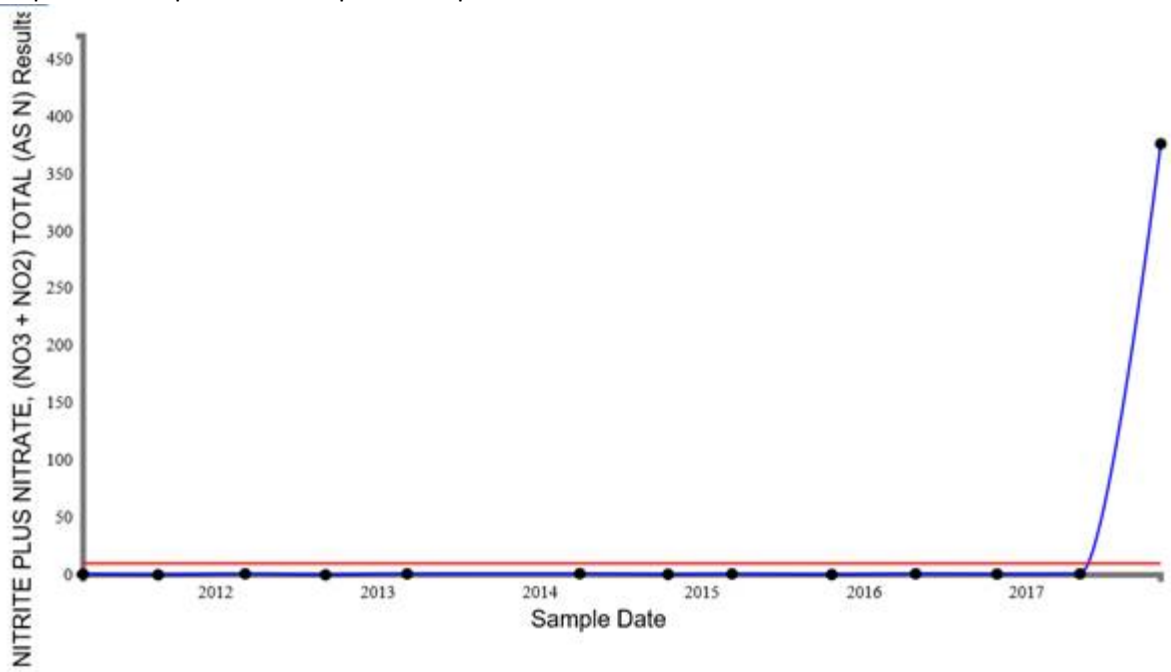
4. Copy of the analytical performed on the bottom ash and fly ash mixture. These were stated to be held by Jamie Rocco.

Questions

5. What is the schedule for reseeding uncovered areas due to hog damage?

6. During the Covanta WTE portion of the inspection, we noted a leachate sump next to the grizzly area where the sump pump's control switch was set to "Off" (other options were "On" and "Auto"). Bruce Hartimer and Barry Wright were with us for this portion; their thought was that the switch did not actually control anything and that the pump was automatic, but that they would look into it. What was the finding from this? Does the pump work and why was it set to "Off"?

7. Groundwater sampling performed on 2MW-25D on 10/30/2017 indicated a large spike in Nitrate/Nitrite. We inquired on this during the post-inspection meeting in your office and you had indicated that the well could be resampled. Is this plan to resample still expected?



Comments/Other

8. An electronic copy of a new dead animal burial guidance is attached. This guidance is in response to cases in the state of animal secondary poisoning from consuming euthanized animals. The guidance encourages deeper burial of euthanized animals, and we (inspectors) are to distribute it to the Class I landfills. Thanks.

Benjamin Hsu
Engineering Specialist 1 - Air / Solid Waste Compliance Assurance Program
Florida Department of Environmental Protection - Southwest District
13051 North Telecom Parkway, Suite 101, Temple Terrace, FL 33637-0926
benjamin.hsu@floridadep.gov
Office: 813-470-5720
Fax: 813-470-5995

"Bringing Opportunities Home"

CUSA18A7


COMMERCIAL
Master
MW-34D


2MW-24D

ASH CHARACTERIZATION REPORT

PASCO COUNTY RESOURCE RECOVERY FACILITY

14230 Hays Road
Spring Hill, FL 34610

DATE:	**January 2015**
PREPARED FOR:	**Pasco County Resource Recovery Facility**
PURPOSE:	**Characterization of Ash Residue**
PREPARED BY:	**Covanta Pasco, Inc. and Pasco County, Florida**

ASH SAMPLING REPORT
PASCO COUNTY RESOURCE RECOVERY FACILITY

TABLE OF CONTENTS

1.0 GENERAL

The Resource Conservation and Recovery Act (RCRA) requires all generators of solid wastes to determine if those wastes are a "hazardous waste" as that term is defined at 40 CFR 261. In the process of combusting municipal solid waste, the Pasco County Resource Recovery Facility (the "Facility") generates approximately 90,000 tons per year of combustion residue (or ash) that is currently managed as a solid waste. The purpose of this sampling program is to determine whether that ash exhibits the toxicity characteristic as defined at 40 CFR 261.24.

The Facility has previously demonstrated on multiple occasions that the ash does not exhibit the toxicity characteristic. However, each of these characterizations were undertaken on the entirety of combined flyash[1] and bottom ash[2] as it left the Facility's Ash Storage Building. The results of the sampling undertaken by this sampling program examine combined ash that is approximately 75% flyash and 25% bottom ash less than 3/8" diameter (by mass) as it is generated by the pugmill in the Ash Storage Building. Remaining bottom ash that was not diverted to the pugmill for mixing with the flyash is not examined in this sampling program.

2.0 FIELD SAMPLING AND COMPOSITING PROCEDURES

Grab samples of the combined ash were obtained from the discharge of the pugmill at approximate 15 minutes intervals over the course of eight hours between December 12, 2014 and December 21, 2014. The individual grab samples were mixed and composited together to create an 8-hour composite sample representing the operation of the Pasco County Resource Recovery Facility on that day. Each of the grab samples weighed approximately ½ to 1 pound. At the end of each 8-hour sampling shift, all of the grab samples were composited together, and approximately 1 pound of composite sample was delivered to the analytical laboratory for analysis.

3.0 LABORATORY INFORMATION

Shift composite samples were delivered to TestAmerica's analytical lab located in Tampa, FL. TestAmerica is certified by the National Environmental Laboratory Accreditation Conference and is also certified by the States of Florida and New Jersey.

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[1] "Flyash" is the lighter fraction of combustion residue that is entrained in the flue gas and collects on boiler surfaces and within the air pollution control system.

[2] "Bottom ash" is the heavier fraction of combustion residue that remains on the combustion grate following the combustion process.

4.0 ANALYTICAL PROCEDURES

The Toxicity Characteristic Leaching Procedure (TCLP) was performed in accordance with Method 1311 as detailed in the Environmental Protection Agency Manual SW-846 - Test Methods for Evaluating Solid Waste - Physical/Chemical Methods. Process knowledge obtained by conducting multiple TCLP analyses on combined ash dating back to 1995 indicates that lead and cadmium are the only constituents likely to exceed the toxicity levels of 40 CFR 261. Accordingly, laboratory analysis of the TCLP extract was limited to the 8 RCRA metals (which include lead and cadmium). **Table 1** presents an overview of the analytical test procedures used in analyzing the TCLP extract from each sample aliquot.

5.0 DATA ANALYSIS

5.1 Overview

The laboratory analytical data was evaluated in accordance with the procedures in SW-846, Chapter 9. The statistical procedures set forth in Section 9.1.1.2 and Table 9-1 of SW-846 are based on individual concentrations that exhibit a normal distribution and that a data transformation is required if a normal distribution does not exist. No data transformation was undertaken on the 10 sample set.

5.2 Analytical Results

Table 2 provides a summary of the analytical results obtained by the laboratory.

5.3 Conclusions

As shown in Table 2, neither lead nor cadmium exceeds the regulatory threshold as established at 40 CFR 261. The combined ash generated by the pugmill should be managed as a non-hazardous waste.

Table 1

ANALYTICAL TEST PROCEDURES

PARAMETER	EPA ANALYTICAL METHOD
1.0 TCLP [(a)]	
1.1 TCLP Metals Arsenic Barium Cadmium Chromium Lead Selenium Silver Mercury	For TCLP Metals the Methods are: SW 846 M1311 (Leaching Procedure) SW 846 M3010A (Digestion of leachate) SW 846 M6010B (Metals analysis) SW 846 M7470A (Hg analysis by CVAA) SW 846 M160.3 Solids / Moisture
2.0 Moisture	SW 846 M160.3 Solids / Moisture

[(a)]EPA Method 1311, Toxic Characterization Leaching Procedure.

TABLE 2
Laboratory and Statistical Analysis

LABORATORY RESULTS AND STATISTICAL ANALYSIS

SAMPLE DATE	As (mg/l)	Ba (mg/l)	Cd (mg/l)	Cr (mg/l)	Pb (mg/l)	Hg (mg/l)	Se (mg/l)	Ag (mg/l)
12/12/2014	< 0.12	2.8	0.052	< 0.05	< 0.04	< 0.0005	< 0.15	< 0.05
12/13/2014	< 0.12	3.2	0.02	< 0.05	< 0.04	< 0.0005	< 0.15	< 0.05
12/14/2014	< 0.12	4.4	< 0.0018	< 0.05	0.341	< 0.0005	< 0.15	< 0.05
12/15/2014	< 0.12	2.8	< 0.0018	< 0.05	< 0.04	< 0.0005	< 0.15	< 0.05
12/16/2014	< 0.12	3.2	< 0.0018	< 0.05	3.6	< 0.0005	< 0.15	< 0.05
12/17/2014	< 0.12	3.7	< 0.0018	< 0.05	4.4	< 0.0005	< 0.15	< 0.05
12/18/2014	< 0.12	2.5	< 0.0018	< 0.05	< 0.04	< 0.0005	< 0.15	< 0.05
12/19/2014	< 0.12	2.9	< 0.0018	< 0.05	< 0.04	< 0.0005	< 0.15	< 0.05
12/20/2014	< 0.12	3.2	< 0.0018	< 0.05	0.72	< 0.0005	< 0.15	< 0.05
12/21/2014	< 0.12	2.4	< 0.0018	< 0.05	< 0.04	< 0.0005	< 0.15	< 0.05

STATISTICAL RESULTS

NUMBER OF SAMPLES	10	10	10	10	10	10	10	10
DEGREES OF FREEDOM	9	9	9	9	9	9	9	9
SAMPLE MEAN (XBAR)	0.120	3.110	0.009	0.050	0.930	0.001	0.150	0.050
SAMPLE VARIANCE(S^2)	8.56E-34	3.50E-01	2.65E-04	5.35E-35	2.70E+00	1.31E-38	8.56E-34	5.35E-35
STANDARD DEVIATION (S)	0.000	0.592	0.016	0.000	1.644	0.000	0.000	0.000
STD ERROR (S XBAR)	0.000	0.187	0.005	0.000	0.520	0.000	0.000	0.000
90% CI Upper Limit (actual)	0.120	3.371	0.016	0.050	1.654	0.001	0.150	0.050
90% CI Upper Limit (exp. of lognormal)								
MAXIMUM	0.12	4.4	0.052	0.05	4.4	0.0005	0.15	0.05
MINIMUM	0.12	2.4	0.0018	0.05	0.04	0.0005	0.15	0.05

REGULATORY THRESHOLD	5	100	1	5	5	0.2	1	5
	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

< denotes that metal was analyzed for but not detected

APPENDIX 1

TestAmerica Analytical Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
Tel: (813)885-7427

TestAmerica Job ID: 660-64333-1
Client Project/Site: Covanta Ash Testing
Revision: 1

For:
Covanta Pasco, Inc.
14230 Hays Road
Spring Hill, Florida 34610

Attn: Mr. Viet Ta

Authorized for release by:
12/19/2014 4:05:18 PM

Jess Hornsby, Project Manager I
(813)885-7427
jess.hornsby@testamericainc.com

Table of Contents

Sample Summary

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64333-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
660-64333-1	PAS 20141205	Solid	12/05/14 00:00	12/09/14 15:35
660-64333-2	PAS 20141206	Solid	12/06/14 00:00	12/09/14 15:35
660-64333-3	PAS 20141207	Solid	12/07/14 00:00	12/09/14 15:35
660-64333-4	PAS 20141208	Solid	12/08/14 00:00	12/09/14 15:35
660-64376-1	PAS20141208DUP	Solid	12/08/14 00:00	12/10/14 16:55
660-64376-2	PAS20141209	Solid	12/09/14 00:00	12/10/14 16:55
660-64376-3	PAS20141210	Solid	12/10/14 00:00	12/10/14 16:55
660-64401-1	PAS20141211	Solid	12/11/14 00:00	12/11/14 16:40
660-64423-1	PAS20141212	Solid	12/12/14 00:00	12/12/14 16:00
660-64441-1	PAS20141213	Solid	12/13/14 00:00	12/15/14 16:20
660-64441-2	PAS20141214	Solid	12/14/14 00:00	12/15/14 16:20
660-64487-1	PAS20141215	Solid	12/15/14 00:00	12/17/14 16:15
660-64487-2	PAS20141216	Solid	12/16/14 00:00	12/17/14 16:15

Case Narrative

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64333-1

Job ID: 660-64333-1

Laboratory: TestAmerica Tampa

Narrative

Comments
This report was revised at the client's request on December 17, 2014 in order to merge data for multiple submissions on one report.

Receipt
The samples were received on 12/9/2014 3:35 PM, 12/10/2014 4:55 PM, 12/11/2014 4:40 PM, 12/12/2014 4:00 PM, 12/15/2014 4:20 PM and 12/17/2014 4:15 PM; the samples arrived in good condition.

Metals
Method 1311: EPA Method 1311 requires the room temperature to be maintained at 23 +/- 2 degrees Celsius for the duration of the leaching process. For batch 153885 the temperature was outside of this range. As a result, the test was not fully compliant with the requirements of 40CFR Part 261.

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

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

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Detection Summary

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64333-1

Client Sample ID: PAS 20141205 — Lab Sample ID: 660-64333-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	2.8		0.50	0.030	mg/L	1		6010B	TCLP
Cadmium	0.19	I	0.50	0.018	mg/L	1		6010B	TCLP
pH	9.26		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS 20141206 — Lab Sample ID: 660-64333-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	2.6		0.50	0.030	mg/L	1		6010B	TCLP
Cadmium	0.073	I	0.50	0.018	mg/L	1		6010B	TCLP
pH	9.71		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS 20141207 — Lab Sample ID: 660-64333-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	2.4		0.50	0.030	mg/L	1		6010B	TCLP
Cadmium	0.094	I	0.50	0.018	mg/L	1		6010B	TCLP
pH	9.59		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS 20141208 — Lab Sample ID: 660-64333-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.49		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS20141208DUP — Lab Sample ID: 660-64376-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.02		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS20141209 — Lab Sample ID: 660-64376-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.63		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS20141210 — Lab Sample ID: 660-64376-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	8.24		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS20141211 — Lab Sample ID: 660-64401-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.62		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS20141212 — Lab Sample ID: 660-64423-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	2.8		0.50	0.030	mg/L	1		6010B	TCLP
Cadmium	0.052	I	0.50	0.018	mg/L	1		6010B	TCLP
pH	10.0		1.00	1.00	SU	1		9040B	TCLP

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64333-1

Client Sample ID: PAS20141213 — Lab Sample ID: 660-64441-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	3.2		0.50	0.030	mg/L	1		6010B	TCLP
Cadmium	0.020	I	0.50	0.018	mg/L	1		6010B	TCLP
pH	10.4		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS20141214 — Lab Sample ID: 660-64441-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	4.4		0.50	0.030	mg/L	1		6010B	TCLP
Lead	0.34	I	1.0	0.040	mg/L	1		6010B	TCLP
pH	10.9		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS20141215 — Lab Sample ID: 660-64487-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	2.8		0.50	0.030	mg/L	1		6010B	TCLP
Cadmium	0.032	I	0.50	0.018	mg/L	1		6010B	TCLP
pH	11.3		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS20141216 — Lab Sample ID: 660-64487-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	3.2		0.50	0.030	mg/L	1		6010B	TCLP
Lead	3.6		1.0	0.040	mg/L	1		6010B	TCLP
pH	11.3		1.00	1.00	SU	1		9040B	TCLP

This Detection Summary does not include radiochemical test results.

Client Sample ID: PAS 20141205

Lab Sample ID: 660-64333-1

Date Collected: 12/05/14 00:00

Matrix: Solid

Date Received: 12/09/14 15:35

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/12/14 10:38	12/12/14 17:09	1
Barium	**2.8**		0.50	0.030	mg/L		12/12/14 10:38	12/12/14 17:09	1
Cadmium	**0.19**	**I**	0.50	0.018	mg/L		12/12/14 10:38	12/12/14 17:09	1
Chromium	0.050	U	1.0	0.050	mg/L		12/12/14 10:38	12/12/14 17:09	1
Lead	0.040	U	1.0	0.040	mg/L		12/12/14 10:38	12/12/14 17:09	1
Selenium	0.15	U	0.50	0.15	mg/L		12/12/14 10:38	12/12/14 17:09	1
Silver	0.050	U	0.50	0.050	mg/L		12/12/14 10:38	12/12/14 17:09	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	J3 U	0.00070	0.00050	mg/L		12/12/14 11:40	12/12/14 14:43	1

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**9.26**		1.00	1.00	SU			12/10/14 16:30	1

Client Sample ID: PAS 20141206

Lab Sample ID: 660-64333-2

Date Collected: 12/06/14 00:00

Matrix: Solid

Date Received: 12/09/14 15:35

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/12/14 10:38	12/12/14 17:29	1
Barium	**2.6**		0.50	0.030	mg/L		12/12/14 10:38	12/12/14 17:29	1
Cadmium	**0.073**	**I**	0.50	0.018	mg/L		12/12/14 10:38	12/12/14 17:29	1
Chromium	0.050	U	1.0	0.050	mg/L		12/12/14 10:38	12/12/14 17:29	1
Lead	0.040	U	1.0	0.040	mg/L		12/12/14 10:38	12/12/14 17:29	1
Selenium	0.15	U	0.50	0.15	mg/L		12/12/14 10:38	12/12/14 17:29	1
Silver	0.050	U	0.50	0.050	mg/L		12/12/14 10:38	12/12/14 17:29	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	U	0.00070	0.00050	mg/L		12/12/14 11:40	12/12/14 14:48	1

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**9.71**		1.00	1.00	SU			12/10/14 16:30	1

Client Sample ID: PAS 20141207

Lab Sample ID: 660-64333-3

Date Collected: 12/07/14 00:00

Matrix: Solid

Date Received: 12/09/14 15:35

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/12/14 10:38	12/12/14 17:32	1
Barium	**2.4**		0.50	0.030	mg/L		12/12/14 10:38	12/12/14 17:32	1
Cadmium	**0.094**	**I**	0.50	0.018	mg/L		12/12/14 10:38	12/12/14 17:32	1
Chromium	0.050	U	1.0	0.050	mg/L		12/12/14 10:38	12/12/14 17:32	1
Lead	0.040	U	1.0	0.040	mg/L		12/12/14 10:38	12/12/14 17:32	1
Selenium	0.15	U	0.50	0.15	mg/L		12/12/14 10:38	12/12/14 17:32	1
Silver	0.050	U	0.50	0.050	mg/L		12/12/14 10:38	12/12/14 17:32	1

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64333-1

Client Sample ID: PAS 20141207

Lab Sample ID: 660-64333-3

Date Collected: 12/07/14 00:00

Matrix: Solid

Date Received: 12/09/14 15:35

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	U	0.00070	0.00050	mg/L		12/12/14 11:40	12/12/14 14:49	1

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	9.59		1.00	1.00	SU			12/10/14 16:30	1

Client Sample ID: PAS 20141208

Lab Sample ID: 660-64333-4

Date Collected: 12/08/14 00:00

Matrix: Solid

Date Received: 12/09/14 15:35

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.49		1.00	1.00	SU			12/10/14 16:30	1

Client Sample ID: PAS20141208DUP

Lab Sample ID: 660-64376-1

Date Collected: 12/08/14 00:00

Matrix: Solid

Date Received: 12/10/14 16:55

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.02		1.00	1.00	SU			12/11/14 13:15	1

Client Sample ID: PAS20141209

Lab Sample ID: 660-64376-2

Date Collected: 12/09/14 00:00

Matrix: Solid

Date Received: 12/10/14 16:55

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.63		1.00	1.00	SU			12/11/14 13:15	1

Client Sample ID: PAS20141210

Lab Sample ID: 660-64376-3

Date Collected: 12/10/14 00:00

Matrix: Solid

Date Received: 12/10/14 16:55

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.24		1.00	1.00	SU			12/11/14 13:15	1

Client Sample ID: PAS20141211

Lab Sample ID: 660-64401-1

Date Collected: 12/11/14 00:00

Matrix: Solid

Date Received: 12/11/14 16:40

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.62		1.00	1.00	SU			12/12/14 13:00	1

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64333-1

Client Sample ID: PAS20141212

Lab Sample ID: 660-64423-1

Date Collected: 12/12/14 00:00

Matrix: Solid

Date Received: 12/12/14 16:00

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/18/14 13:56	12/19/14 09:29	1
Barium	**2.8**		0.50	0.030	mg/L		12/18/14 13:56	12/19/14 09:29	1
Cadmium	**0.052**	**I**	0.50	0.018	mg/L		12/18/14 13:56	12/19/14 09:29	1
Chromium	0.050	U	1.0	0.050	mg/L		12/18/14 13:56	12/19/14 09:29	1
Lead	0.040	U	1.0	0.040	mg/L		12/18/14 13:56	12/19/14 09:29	1
Selenium	0.15	U	0.50	0.15	mg/L		12/18/14 13:56	12/19/14 09:29	1
Silver	0.050	U	0.50	0.050	mg/L		12/18/14 13:56	12/19/14 09:29	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	U	0.00070	0.00050	mg/L		12/17/14 15:59	12/17/14 16:59	1

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**10.0**		1.00	1.00	SU			12/16/14 15:50	1

Client Sample ID: PAS20141213

Lab Sample ID: 660-64441-1

Date Collected: 12/13/14 00:00

Matrix: Solid

Date Received: 12/15/14 16:20

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/18/14 13:56	12/19/14 09:16	1
Barium	**3.2**		0.50	0.030	mg/L		12/18/14 13:56	12/19/14 09:16	1
Cadmium	**0.020**	**I**	0.50	0.018	mg/L		12/18/14 13:56	12/19/14 09:16	1
Chromium	0.050	U	1.0	0.050	mg/L		12/18/14 13:56	12/19/14 09:16	1
Lead	0.040	U	1.0	0.040	mg/L		12/18/14 13:56	12/19/14 09:16	1
Selenium	0.15	U	0.50	0.15	mg/L		12/18/14 13:56	12/19/14 09:16	1
Silver	0.050	U	0.50	0.050	mg/L		12/18/14 13:56	12/19/14 09:16	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	J3 U	0.00070	0.00050	mg/L		12/17/14 15:59	12/17/14 16:52	1

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**10.4**		1.00	1.00	SU			12/16/14 15:50	1

Client Sample ID: PAS20141214

Lab Sample ID: 660-64441-2

Date Collected: 12/14/14 00:00

Matrix: Solid

Date Received: 12/15/14 16:20

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/18/14 13:56	12/19/14 09:19	1
Barium	**4.4**		0.50	0.030	mg/L		12/18/14 13:56	12/19/14 09:19	1
Cadmium	0.018	U	0.50	0.018	mg/L		12/18/14 13:56	12/19/14 09:19	1
Chromium	0.050	U	1.0	0.050	mg/L		12/18/14 13:56	12/19/14 09:19	1
Lead	**0.34**	**I**	1.0	0.040	mg/L		12/18/14 13:56	12/19/14 09:19	1
Selenium	0.15	U	0.50	0.15	mg/L		12/18/14 13:56	12/19/14 09:19	1
Silver	0.050	U	0.50	0.050	mg/L		12/18/14 13:56	12/19/14 09:19	1

Client Sample ID: PAS20141214

Date Collected: 12/14/14 00:00
Date Received: 12/15/14 16:20

Lab Sample ID: 660-64441-2
Matrix: Solid

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	U	0.00070	0.00050	mg/L		12/17/14 15:59	12/17/14 16:57	1

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**10.9**		1.00	1.00	SU			12/16/14 15:50	1

Client Sample ID: PAS20141215

Date Collected: 12/15/14 00:00
Date Received: 12/17/14 16:15

Lab Sample ID: 660-64487-1
Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/18/14 13:56	12/19/14 08:51	1
Barium	**2.8**		0.50	0.030	mg/L		12/18/14 13:56	12/19/14 08:51	1
Cadmium	**0.032**	**I**	0.50	0.018	mg/L		12/18/14 13:56	12/19/14 08:51	1
Chromium	0.050	U	1.0	0.050	mg/L		12/18/14 13:56	12/19/14 08:51	1
Lead	0.040	U	1.0	0.040	mg/L		12/18/14 13:56	12/19/14 08:51	1
Selenium	0.15	U	0.50	0.15	mg/L		12/18/14 13:56	12/19/14 08:51	1
Silver	0.050	U	0.50	0.050	mg/L		12/18/14 13:56	12/19/14 08:51	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00036	U	0.00050	0.00036	mg/L		12/18/14 17:24	12/18/14 20:13	1

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**11.3**		1.00	1.00	SU			12/18/14 13:30	1

Client Sample ID: PAS20141216

Date Collected: 12/16/14 00:00
Date Received: 12/17/14 16:15

Lab Sample ID: 660-64487-2
Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/18/14 13:56	12/19/14 08:55	1
Barium	**3.2**		0.50	0.030	mg/L		12/18/14 13:56	12/19/14 08:55	1
Cadmium	0.018	U	0.50	0.018	mg/L		12/18/14 13:56	12/19/14 08:55	1
Chromium	0.050	U	1.0	0.050	mg/L		12/18/14 13:56	12/19/14 08:55	1
Lead	**3.6**		1.0	0.040	mg/L		12/18/14 13:56	12/19/14 08:55	1
Selenium	0.15	U	0.50	0.15	mg/L		12/18/14 13:56	12/19/14 08:55	1
Silver	0.050	U	0.50	0.050	mg/L		12/18/14 13:56	12/19/14 08:55	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00036	U	0.00050	0.00036	mg/L		12/18/14 17:24	12/18/14 20:15	1

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**11.3**		1.00	1.00	SU			12/18/14 13:30	1

Analyst: G.H. Date: 12/09/14 TALS Batch #: 10209748 Glass Fiber Filter (0.6 – 0.8µm) Vendor: Lot #:

Extrn Fluid # 1 TALS ID: N/A Extrn Fluid #1 pH: N/A (4.93 ±0.05) (Particle Size <1cm pass thru 9.5 mm sieve)

Extrn Fluid # 2 TALS ID: METCLP2 42 Extrn Fluid #2 pH: 2.93 (2.88 ± 0.05) Rotation time is 18± 2hours

Rotator ID #: 1 RPM 31.58 (30 ±2 rpm) Time (sec.) per 10 rotations 19 (Required 18.75 – 21.43 sec)

ROTATION START Date: 12/09/14 Time: 18:30 Room Temp: 22.4 °C (23 ±2°C) pH Meter ID#: WATERCHEM 4 pH Slope: 98.0

ROTATION END Date: 12/10/14 Time: 12:30 Room Temp: 23.0 °C (23 ±2°C) Balance ID#: MET-1

Min/Max Therm ID#: 102097488 Min/Max Temp during Rotation: 20.4/24.8 °C (23 ±2°C)

HNO_3 TALS ID#: MEHNO3 210 (to preserve Metals Extracts) 1*N* HCLTALS ID#: MEINHCl - 18 * for Aqueous samples, verify % solids

Waterbath ID#: HOMER Thermometer ID#: ME-29 Ramp-Up Time for Waterbath: 15 (min.) Waterbath Temperature: 50 (°C)

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TALS Log #	Sample Desc. Aqueous* / Solid	Multiple Phases Yes / No	% Solids	Particle Size <1 cm Yes / No	Initial pH (If <5.0 use Extrn Fluid 1)	pH after addn of 1N HCL & heating 10 mins @ 50°C	Weight of Solid Leached (g)	Extrn Fluid Used (1 or 2)	Amount of Extrn Fluid Added (mL)	Final pH after Tumble
Leachate Blank (LB)	AQ	N/A	N/A	N/A	N/A	N/A	N/A	2	2000	2.92
1 64333 A-1	S	N	100	Y	12.45	11.57	99.89	2	2000	9.29
2 64333 A-2	S	N	100	Y	12.38	11.58	100.05	2	2000	9.75
3 64333 A-3	S	N	100	Y	12.30	11.47	100.00	2	2000	9.60
4 ~~64333 A-4~~										
5 G.H. 12-09-14										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

12/10/14

Comments:

Form #: FME026:05.03.12:15
Logbook ID#: NME006:08.20.14:25

Analyst Sign Off:

TCLP Extraction Logbook EPA 1311

Analyst: G.H Date: 12/09/14 TALS Batch #: 153877 & 153885 Glass Fiber Filter (0.6 – 0.8µm) Vendor Lot #: 400081

Extrn Fluid # 1 TALS ID: N/A Extrn Fluid #1 pH: N/A (4.93 ±0.05) (Particle Size <1cm pass thru 9.5 mm sieve)

Extrn Fluid # 2 TALS ID: METCLP2 43 Extrn Fluid #2 pH: 2.93 (2.88 ± 0.05) Rotation time is 18± 2hours

Rotator ID #: 1 RPM 31.58 (30 ±2 rpm) Time (sec.) per 10 rotations 19 (Required 18.75 – 21.43 sec)

ROTATION START Date: 12/09/14 Time: 18:30 Room Temp: 22.4 °C (23 ±2°C) pH Meter ID#: WETCHEM 4 pH Slope: 98.0

ROTATION END Date: 12/10/14 Time: 12:30 Room Temp: 23.0 °C (23 ±2°C) Balance ID#: MET-1

Min/Max Therm ID#: 102097488 Min/Max Temp during Rotation: 20.7/24.0°C (23 ±2°C)

HNO_3 TALS ID#: MEHNO3 210 (to preserve Metals Extracts) 1*N* HCLTALS ID#: MEINHCL-18 * for Aqueous samples, verify % solids

Waterbath ID#: HOMER Thermometer ID#: ME-29 Ramp-Up Time for Waterbath: 15 (min.) Waterbath Temperature: 50 (°C)

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	TALS Log #	Sample Desc. Aqueous* / Solid	Multiple Phases Yes / No	% Solids	Particle Size <1 cm Yes / No	Initial pH (If <5.0 use Extrn Fluid 1)	pH after addn of 1N HCL & heating 10 mins @ 50°C	Weight of Solid Leached (g)	Extrn Fluid Used (1 or 2)	Amount of Extrn Fluid Added (mL)	Final pH after Tumble
	Leachate Blank (LB)	AQ	N/A	N/A	N/A	N/A	N/A	N/A	2	2000	2.89
1	64333 A-4	S	N	100	Y	12.34	11.54	100.00	2	2000	7.46
2											
3											
4											
5											
6											
7											
8											
9											
10											
11							12/10/14				
12											
13											
14											
15											

Comments:

Form #: FME026:05.03.12:15
Logbook ID#: NME006:08.20.14:25

Analyst Sign Off:

Analyst: GA Date: 12/10/14 TALS Batch #:

Extrn Fluid # 1 TALS ID: Extrn Fluid #1 pH: (4.93 ±0.05) (Particle Size <1cm pass thru 9.5 mm sieve)

Extrn Fluid # 2 TALS ID: METCLPZ 42 Extrn Fluid #2 pH: 2.86 (2.88 ± 0.05) Rotation time is 18± 2hours

Rotator ID #: 1 RPM 31.58 (30 ±2 rpm) Time (sec.) per 10 rotations 19 (Required 18.75 – 21.43 sec)

ROTATION START Date: 12/10/14 Time: 18:30 Room Temp: 23.3 °C (23 ±2°C) pH Meter ID#: WETCHEM 4 pH Slope: 97.4

ROTATION END Date: 12/11/14 Time: 12:45 Room Temp: 24.0 °C (23 ±2°C) Balance ID#: MET-1

Min/Max Therm ID#: 102097488 Min/Max Temp during Rotation: 19.8/24.0 °C (23 ±2°C)

HNO_3 TALS ID#: MEHNO3 210 (to preserve Metals Extracts) 1N HCLTALS ID#: MEINHCl 18 * for Aqueous samples, verify % solids

Waterbath ID#: Homer Thermometer ID#: ME-29 Ramp-Up Time for Waterbath: 15 (min.) Waterbath Temperature: 50 (°C)

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	TALS Log #	Sample Desc. Aqueous* / Solid	Multiple Phases Yes / No	% Solids	Particle Size <1 cm Yes / No	Initial pH (If <5.0 use Extrn Fluid 1)	pH after addn of 1N HCL & heating 10 mins @ 50°C	Weight of Solid Leached (g)	Extrn Fluid Used (1 or 2)	Amount of Extrn Fluid Added (mL)	Final pH after Tumble
	Leachate Blank (LB)	AQ	NA	NA	NA	NA	NA	NA	2	2000	2.89
1	64376 A-1	S	N	100	Y	12.44	11.86	100.03	2	2000	7.02
2	64376 A-2	S	N	100	Y	12.46	11.90	100.00	2	2000	7.63
3	64376 A-3	S	N	100	Y	12.47	11.93	99.99	2	2000	8.04
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

12/11/14

Comments:

Form #: FME026:05.03.12:15
Logbook ID#: NME006:08.20.14:25

Analyst Sign Off:

Extrn Fluid # 1 TALS ID: _____ Extrn Fluid #1 pH: _____ (4.93 ±0.05) (Particle Size <1cm pass thru 9.5 mm sieve)

Extrn Fluid # 2 TALS ID: METC LP2242 Extrn Fluid #2 pH: 2.93 (2.88 ± 0.05) Rotation time is 18± 2hours

Rotator ID #: 1 RPM 31.58 (30 ±2 rpm) Time (sec.) per 10 rotations 19 (Required 18.75 – 21.43 sec)

ROTATION START Date: 12/11/14 Time: 18:00 Room Temp: 23.3 °C (23 ±2°C) pH Meter ID#: WETCHEM 4 pH Slope: 98.2

ROTATION END Date: 12/12/14 Time: 1030 Room Temp: 21.6 °C (23 ±2°C) Balance ID#: MET-1

Min/Max Therm ID#: 102097488 Min/Max Temp during Rotation: 21.2 – 23.1 °C (23 ±2°C)

HNO_3 TALS ID#: MEHNO3 210 (to preserve Metals Extracts) 1N HCLTALS ID#: MEINHCl 18 * for Aqueous samples, verify % solids

Waterbath ID#: HOMER Thermometer ID#: ME-24 Ramp-Up Time for Waterbath: 15 (min.) Waterbath Temperature: 50 (°C)

TALS Log #	Sample Desc. Aqueous* / Solid	Multiple Phases Yes / No	% Solids	Particle Size <1 cm Yes / No	Initial pH (If <5.0 use Extrn Fluid 1)	pH after addn of 1N HCL & heating 10 mins @ 50°C	Weight of Solid Leached (g)	Extrn Fluid Used (1 or 2)	Amount of Extrn Fluid Added (mL)	Final pH after Tumble
Leachate Blank (LB)	AQ	NA	NA	NA	NA	NA	NA	2	2000	
1 64401 A1	S	N	100	Y	12.48	11.66	100.00	2	2000	
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Comments: _____

Form #: FME026:05.03.12:15
Logbook ID#: NME006:08.20.14:25

Analyst Sign Off: _____

TCLP Extraction Logbook EPA 1311

Analyst: GH Date: 12/15/14 TALS Batch #: _____ Glass Fiber Filter (0.6 – 0.8µm) Vendor Lot #: 400081

Extrn Fluid # 1 TALS ID: _____ Extrn Fluid #1 pH: _____ (4.93 ±0.05) (Particle Size <1cm pass thru 9.5 mm sieve)

Extrn Fluid # 2 TALS ID: TCLP2 44 Extrn Fluid #2 pH: 2.89 (2.88 ± 0.05) Rotation time is 18± 2hours

Rotator ID #: 1 RPM 31.58 (30 ±2 rpm) Time (sec.) per 10 rotations 19 (Required 18.75 – 21.43 sec)

ROTATION START Date: 12/15/14 Time: 20:00 Room Temp: 23.2 °C (23 ±2°C) pH Meter ID#: WETCHEM 4 pH Slope: 97.4

ROTATION END Date: 12/16/14 Time: 14:00 Room Temp: 24.1 °C (23 ±2°C) Balance ID#: MET-1

Min/Max Therm ID#: 102097488 Min/Max Temp during Rotation: 22.8/24.8 °C (23 ±2°C)

HNO_3 TALS ID#: MEHNO3 227 (to preserve Metals Extracts) 1N HCLTALS ID#: ME/N HCl 18 * for Aqueous samples, verify % solids

Waterbath ID#: HOMER Thermometer ID#: ME-29 Ramp-Up Time for Waterbath: 15 (min.) Waterbath Temperature: 50 (°C)

TALS Log #	Sample Desc. Aqueous* / Solid	Multiple Phases Yes / No	% Solids	Particle Size <1 cm Yes / No	Initial pH (If <5.0 use Extrn Fluid 1)	pH after addn of 1N HCL & heating 10 mins @ 50°C	Weight of Solid Leached (g)	Extrn Fluid Used (1 or 2)	Amount of Extrn Fluid Added (mL)	Final pH after Tumble
Leachate Blank (LB)	AQ	N/A	N/A	N/A	N/A	N/A	N/A	2	2000	2.85
1 64441 A-1	S	N	100	Y	12.44	12.05	100.00	2	2000	10.41
2 64441 A-2	S	N	100	Y	12.44	12.24	100.03	2	2000	10.88
3 64423 A-1	S	N	100	Y	12.48	12.15	100.02	2	2000	10.00
4 64421 A-1	S	N	100	Y	12.61	12.18	100.04	2	2000	7.65
5 64421 A-2	S	N	100	Y	12.51	11.30	100.02	2	2000	7.39
6 64310 A-1	S	N	100	Y	12.63	12.03	100.02	2	2000	7.89
7 64344 A-1	S	N	100	Y	12.50	11.44	100.05	2	2000	6.78
8 64435 A-6	S	N	100	Y	12.51	11.76	99.99	2	2000	6.57
9 64435 A-2	S	N	100	Y	12.56	11.98	100.00	2	2000	7.34
10										
11										
12										
13							12/16/14			
14										
15										

Comments: _____

Form #: FME026:05.03.12:15
Logbook ID#: NME006:08.20.14:25

Analyst Sign Off: _____

TCLP Extraction Logbook EPA 1311

Analyst: GH Date: 12/17/14 TALS Batch #: _____ Glass Fiber Filter (0.6 – 0.8µm) Vendor Lot #: 4100081

Extrn Fluid # 1 TALS ID: _____ Extrn Fluid #1 pH: _____ (4.93 ±0.05) (Particle Size <1cm pass thru 9.5 mm sieve)

Extrn Fluid # 2 TALS ID: TCLP 4650 Ar4 Extrn Fluid #2 pH: 2.93 (2.88 ± 0.05) Rotation time is 18± 2hours

Rotator ID #: _____ RPM 31.58 (30 ±2 rpm) Time (sec.) per 10 rotations 19 (Required 18.75 – 21.43 sec)

ROTATION START Date: 12/17/14 Time: 19.00 Room Temp: 23.4 °C (23 ±2°C) pH Meter ID#: METCHEM 4 pH Slope: 97.2

ROTATION END Date: __/__/__ Time: _____ Room Temp: _____ °C (23 ±2°C) Balance ID#: MET-1

Min/Max Therm ID#: 102097488 Min/Max Temp during Rotation: _____ °C (23 ±2°C)

HNO_3 TALS ID#: MEHNO3 227 (to preserve Metals Extracts) 1*N* HCLTALS ID#: MEIN HCl 19 * for Aqueous samples, verify % solids

Waterbath ID#: HOMER Thermometer ID#: ME29 Ramp-Up Time for Waterbath: 15 (min.) Waterbath Temperature: 50 (°C)

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TALS Log #	Sample Desc. Aqueous* / Solid	Multiple Phases Yes / No	% Solids	Particle Size <1 cm Yes / No	Initial pH (If <5.0 use Extrn Fluid 1)	pH after addn of 1N HCL & heating 10 mins @ 50°C	Weight of Solid Leached (g)	Extrn Fluid Used (1 or 2)	Amount of Extrn Fluid Added (mL)	Final pH after Tumble
Leachate Blank (LB)	AQ	N/A	N/A	N/A	N/A	N/A	N/A	2	2000	
1 64487 A-1	S	N	100	Y	12.47	12.07	100.00	2		
2 64487 A-2					12.47	12.26	100.01	2		
3 ~~64397 A-3~~					~~12.59~~	~~12.26~~	~~100.05~~	~~2~~		
4 64467 A-1					12.22	10.48	100.05	2		
5 A-2					12.23	11.01	100.02	2		
6 A-3					11.56	10.15	100.05	2		
7 A-4					11.57	8.82	100.03	2		
8 64466 A-3	S	N	100	Y	12.59	12.26	100.05	2	2000	
9										
10										
11										
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13										
14										
15										

12/18/14

Comments: _____

Form #: FME026:05.03.12:15
Logbook ID#: NME006:08.20.14:25

Analyst Sign Off: _____

Method: 6010B - Metals (ICP)

Lab Sample ID: LCS 660-153937/2-A
Matrix: Solid
Analysis Batch: 153938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 153937

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	5.00	5.09		mg/L		102	75 - 125
Barium	5.00	5.12		mg/L		102	75 - 125
Cadmium	5.00	4.95		mg/L		99	75 - 125
Chromium	5.00	5.19		mg/L		104	75 - 125
Lead	5.00	5.23		mg/L		105	75 - 125
Selenium	5.00	5.17		mg/L		103	75 - 125
Silver	5.00	5.02		mg/L		100	75 - 125

Lab Sample ID: LCS 660-154127/2-A
Matrix: Solid
Analysis Batch: 154151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 154127

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.986		mg/L		99	75 - 125
Barium	1.00	1.04		mg/L		104	75 - 125
Cadmium	1.00	0.958		mg/L		96	75 - 125
Chromium	1.00	1.02		mg/L		102	75 - 125
Lead	1.00	1.02		mg/L		102	75 - 125
Selenium	1.00	0.989		mg/L		99	75 - 125
Silver	1.00	1.02		mg/L		102	75 - 125

Lab Sample ID: LB 660-153877/5-C
Matrix: Solid
Analysis Batch: 153938

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 153937

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/12/14 10:38	12/12/14 17:00	1
Barium	0.030	U	0.50	0.030	mg/L		12/12/14 10:38	12/12/14 17:00	1
Cadmium	0.018	U	0.50	0.018	mg/L		12/12/14 10:38	12/12/14 17:00	1
Chromium	0.050	U	1.0	0.050	mg/L		12/12/14 10:38	12/12/14 17:00	1
Lead	0.040	U	1.0	0.040	mg/L		12/12/14 10:38	12/12/14 17:00	1
Selenium	0.15	U	0.50	0.15	mg/L		12/12/14 10:38	12/12/14 17:00	1
Silver	0.050	U	0.50	0.050	mg/L		12/12/14 10:38	12/12/14 17:00	1

Lab Sample ID: 660-64333-1 MS
Matrix: Solid
Analysis Batch: 153938

Client Sample ID: PAS 20141205
Prep Type: TCLP
Prep Batch: 153937

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.12	U	5.00	5.59		mg/L		112	75 - 125
Barium	2.8		5.00	8.16		mg/L		107	75 - 125
Cadmium	0.19	I	5.00	5.48		mg/L		106	75 - 125
Chromium	0.050	U	5.00	4.88		mg/L		98	75 - 125
Lead	0.040	U	5.00	4.74		mg/L		95	75 - 125
Selenium	0.15	U	5.00	5.67		mg/L		113	75 - 125
Silver	0.050	U	5.00	5.67		mg/L		113	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 660-64333-1 MSD
Matrix: Solid
Analysis Batch: 153938

Client Sample ID: PAS 20141205
Prep Type: TCLP
Prep Batch: 153937

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.12	U	5.00	5.54		mg/L		111	75 - 125	1	20
Barium	2.8		5.00	7.80		mg/L		100	75 - 125	5	20
Cadmium	0.19	I	5.00	5.47		mg/L		105	75 - 125	0	20
Chromium	0.050	U	5.00	4.92		mg/L		98	75 - 125	1	20
Lead	0.040	U	5.00	4.77		mg/L		95	75 - 125	1	20
Selenium	0.15	U	5.00	5.62		mg/L		112	75 - 125	1	20
Silver	0.050	U	5.00	5.61		mg/L		112	75 - 125	1	20

Lab Sample ID: LB 660-154102/1-B
Matrix: Solid
Analysis Batch: 154151

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 154127

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/18/14 13:56	12/19/14 09:12	1
Barium	0.030	U	0.50	0.030	mg/L		12/18/14 13:56	12/19/14 09:12	1
Cadmium	0.018	U	0.50	0.018	mg/L		12/18/14 13:56	12/19/14 09:12	1
Chromium	0.050	U	1.0	0.050	mg/L		12/18/14 13:56	12/19/14 09:12	1
Lead	0.040	U	1.0	0.040	mg/L		12/18/14 13:56	12/19/14 09:12	1
Selenium	0.15	U	0.50	0.15	mg/L		12/18/14 13:56	12/19/14 09:12	1
Silver	0.050	U	0.50	0.050	mg/L		12/18/14 13:56	12/19/14 09:12	1

Lab Sample ID: LB 660-154121/1-B
Matrix: Solid
Analysis Batch: 154151

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 154127

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.024	U	0.20	0.024	mg/L		12/18/14 13:56	12/19/14 08:08	1
Barium	0.0060	U	0.10	0.0060	mg/L		12/18/14 13:56	12/19/14 08:08	1
Cadmium	0.0036	U	0.10	0.0036	mg/L		12/18/14 13:56	12/19/14 08:08	1
Chromium	0.010	U	0.20	0.010	mg/L		12/18/14 13:56	12/19/14 08:08	1
Lead	0.0080	U	0.20	0.0080	mg/L		12/18/14 13:56	12/19/14 08:08	1
Selenium	0.030	U	0.10	0.030	mg/L		12/18/14 13:56	12/19/14 08:08	1
Silver	0.010	U	0.10	0.010	mg/L		12/18/14 13:56	12/19/14 08:08	1

Lab Sample ID: LB 660-154123/1-B
Matrix: Solid
Analysis Batch: 154151

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 154127

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/18/14 13:56	12/19/14 08:38	1
Barium	0.030	U	0.50	0.030	mg/L		12/18/14 13:56	12/19/14 08:38	1
Cadmium	0.018	U	0.50	0.018	mg/L		12/18/14 13:56	12/19/14 08:38	1
Chromium	0.050	U	1.0	0.050	mg/L		12/18/14 13:56	12/19/14 08:38	1
Lead	0.040	U	1.0	0.040	mg/L		12/18/14 13:56	12/19/14 08:38	1
Selenium	0.15	U	0.50	0.15	mg/L		12/18/14 13:56	12/19/14 08:38	1
Silver	0.050	U	0.50	0.050	mg/L		12/18/14 13:56	12/19/14 08:38	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 660-64466-A-1-C MS
Matrix: Solid
Analysis Batch: 154151

Client Sample ID: Matrix Spike
Prep Type: TCLP
Prep Batch: 154127

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.12	U	5.00	5.42		mg/L		108	75 - 125
Barium	0.57		5.00	5.90		mg/L		107	75 - 125
Cadmium	0.018	U	5.00	5.15		mg/L		103	75 - 125
Chromium	0.061	I	5.00	5.14		mg/L		102	75 - 125
Lead	0.040	U	5.00	4.92		mg/L		98	75 - 125
Selenium	0.15	U	5.00	5.41		mg/L		108	75 - 125
Silver	0.050	U	5.00	5.51		mg/L		110	75 - 125

Lab Sample ID: 660-64466-A-1-D MSD
Matrix: Solid
Analysis Batch: 154151

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP
Prep Batch: 154127

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.12	U	5.00	5.47		mg/L		109	75 - 125	1	20
Barium	0.57		5.00	5.90		mg/L		107	75 - 125	0	20
Cadmium	0.018	U	5.00	5.16		mg/L		103	75 - 125	0	20
Chromium	0.061	I	5.00	5.14		mg/L		102	75 - 125	0	20
Lead	0.040	U	5.00	4.92		mg/L		98	75 - 125	0	20
Selenium	0.15	U	5.00	5.44		mg/L		109	75 - 125	1	20
Silver	0.050	U	5.00	5.52		mg/L		110	75 - 125	0	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: LCS 660-153946/14-A
Matrix: Solid
Analysis Batch: 153957

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 153946

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00140	0.00144		mg/L		103	80 - 120

Lab Sample ID: LCS 660-154089/14-A
Matrix: Solid
Analysis Batch: 154093

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 154089

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00140	0.00137		mg/L		98	80 - 120

Lab Sample ID: LCS 660-154135/2-A
Matrix: Solid
Analysis Batch: 154136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 154135

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00140	0.00140		mg/L		100	80 - 120

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

Lab Sample ID: LB 660-153877/5-E
Matrix: Solid
Analysis Batch: 153957

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 153946

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	U	0.00070	0.00050	mg/L		12/12/14 11:40	12/12/14 14:37	1

Lab Sample ID: 660-64333-1 MS
Matrix: Solid
Analysis Batch: 153957

Client Sample ID: PAS 20141205
Prep Type: TCLP
Prep Batch: 153946

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00050	U J3	0.00140	0.000895	J3	mg/L		64	80 - 120

Lab Sample ID: 660-64333-1 MSD
Matrix: Solid
Analysis Batch: 153957

Client Sample ID: PAS 20141205
Prep Type: TCLP
Prep Batch: 153946

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00050	U J3	0.00140	0.000918	J3	mg/L		66	80 - 120	3	20

Lab Sample ID: LB 660-154095/1-B
Matrix: Solid
Analysis Batch: 154093

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 154089

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	U	0.00070	0.00050	mg/L		12/17/14 15:59	12/17/14 16:47	1

Lab Sample ID: 660-64441-1 MS
Matrix: Solid
Analysis Batch: 154093

Client Sample ID: PAS20141213
Prep Type: TCLP
Prep Batch: 154089

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00050	U J3	0.00140	0.000631	I J3	mg/L		45	80 - 120

Lab Sample ID: 660-64441-1 MSD
Matrix: Solid
Analysis Batch: 154093

Client Sample ID: PAS20141213
Prep Type: TCLP
Prep Batch: 154089

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00050	U J3	0.00140	0.000651	I J3	mg/L		47	80 - 120	3	20

Lab Sample ID: LB 660-154123/1-C
Matrix: Solid
Analysis Batch: 154136

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 154135

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	U	0.00070	0.00050	mg/L		12/18/14 17:24	12/18/14 19:53	1

Lab Sample ID: 660-64466-A-3-E MS
Matrix: Solid
Analysis Batch: 154136

Client Sample ID: Matrix Spike
Prep Type: TCLP
Prep Batch: 154135

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00050	U	0.00140	0.00127		mg/L		91	80 - 120

Lab Sample ID: 660-64466-A-3-F MSD
Matrix: Solid
Analysis Batch: 154136

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP
Prep Batch: 154135

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00050	U	0.00140	0.00126		mg/L		90	80 - 120	1	20

Method: 9040B - pH

Lab Sample ID: LCS 660-153883/1
Matrix: Solid
Analysis Batch: 153883

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	6.00	6.010		SU		100	98 - 102

Lab Sample ID: LCS 660-153912/1
Matrix: Solid
Analysis Batch: 153912

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	6.00	6.010		SU		100	98 - 102

Lab Sample ID: LCS 660-154053/1
Matrix: Solid
Analysis Batch: 154053

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	6.00	5.980		SU		100	98 - 102

Lab Sample ID: LCS 660-154126/1
Matrix: Solid
Analysis Batch: 154126

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	6.00	6.000		SU		100	98 - 102

Lab Sample ID: 660-64401-1 DU
Matrix: Solid
Analysis Batch: 153954

Client Sample ID: PAS20141211
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.62		7.630		SU		0.1	20

Lab Sample ID: 660-64441-1 DU
Matrix: Solid
Analysis Batch: 154053

Client Sample ID: PAS20141213
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	10.4		10.42		SU		0.1	20

Method: 9040B - pH (Continued)

Lab Sample ID: 660-64487-1 DU
Matrix: Solid
Analysis Batch: 154126

Client Sample ID: PAS20141215
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	11.3			11.36		SU				0.3	20

Metals

Leach Batch: 153877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64333-1	PAS 20141205	TCLP	Solid	1311	
660-64333-1 MS	PAS 20141205	TCLP	Solid	1311	
660-64333-1 MSD	PAS 20141205	TCLP	Solid	1311	
660-64333-2	PAS 20141206	TCLP	Solid	1311	
660-64333-3	PAS 20141207	TCLP	Solid	1311	
LB 660-153877/5-C	Method Blank	TCLP	Solid	1311	
LB 660-153877/5-E	Method Blank	TCLP	Solid	1311	

Leach Batch: 153885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64333-1	PAS 20141205	TCLP	Solid	1311	
660-64333-1 MS	PAS 20141205	TCLP	Solid	1311	
660-64333-1 MSD	PAS 20141205	TCLP	Solid	1311	
660-64333-2	PAS 20141206	TCLP	Solid	1311	
660-64333-3	PAS 20141207	TCLP	Solid	1311	

Prep Batch: 153937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64333-1	PAS 20141205	TCLP	Solid	3010A	153877
660-64333-1 MS	PAS 20141205	TCLP	Solid	3010A	153877
660-64333-1 MSD	PAS 20141205	TCLP	Solid	3010A	153877
660-64333-2	PAS 20141206	TCLP	Solid	3010A	153877
660-64333-3	PAS 20141207	TCLP	Solid	3010A	153877
LB 660-153877/5-C	Method Blank	TCLP	Solid	3010A	153877
LCS 660-153937/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Analysis Batch: 153938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64333-1	PAS 20141205	TCLP	Solid	6010B	153937
660-64333-1 MS	PAS 20141205	TCLP	Solid	6010B	153937
660-64333-1 MSD	PAS 20141205	TCLP	Solid	6010B	153937
660-64333-2	PAS 20141206	TCLP	Solid	6010B	153937
660-64333-3	PAS 20141207	TCLP	Solid	6010B	153937
LB 660-153877/5-C	Method Blank	TCLP	Solid	6010B	153937
LCS 660-153937/2-A	Lab Control Sample	Total/NA	Solid	6010B	153937

Prep Batch: 153946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64333-1	PAS 20141205	TCLP	Solid	7470A	153885
660-64333-1 MS	PAS 20141205	TCLP	Solid	7470A	153885
660-64333-1 MSD	PAS 20141205	TCLP	Solid	7470A	153885
660-64333-2	PAS 20141206	TCLP	Solid	7470A	153885
660-64333-3	PAS 20141207	TCLP	Solid	7470A	153885
LB 660-153877/5-E	Method Blank	TCLP	Solid	7470A	153877
LCS 660-153946/14-A	Lab Control Sample	Total/NA	Solid	7470A	

Analysis Batch: 153957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64333-1	PAS 20141205	TCLP	Solid	7470A	153946
660-64333-1 MS	PAS 20141205	TCLP	Solid	7470A	153946
660-64333-1 MSD	PAS 20141205	TCLP	Solid	7470A	153946

Metals (Continued)

Analysis Batch: 153957 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64333-2	PAS 20141206	TCLP	Solid	7470A	153946
660-64333-3	PAS 20141207	TCLP	Solid	7470A	153946
LB 660-153877/5-E	Method Blank	TCLP	Solid	7470A	153946
LCS 660-153946/14-A	Lab Control Sample	Total/NA	Solid	7470A	153946

Prep Batch: 154089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64423-1	PAS20141212	TCLP	Solid	7470A	154095
660-64441-1	PAS20141213	TCLP	Solid	7470A	154095
660-64441-1 MS	PAS20141213	TCLP	Solid	7470A	154095
660-64441-1 MSD	PAS20141213	TCLP	Solid	7470A	154095
660-64441-2	PAS20141214	TCLP	Solid	7470A	154095
LB 660-154095/1-B	Method Blank	TCLP	Solid	7470A	154095
LCS 660-154089/14-A	Lab Control Sample	Total/NA	Solid	7470A	

Analysis Batch: 154093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64423-1	PAS20141212	TCLP	Solid	7470A	154089
660-64441-1	PAS20141213	TCLP	Solid	7470A	154089
660-64441-1 MS	PAS20141213	TCLP	Solid	7470A	154089
660-64441-1 MSD	PAS20141213	TCLP	Solid	7470A	154089
660-64441-2	PAS20141214	TCLP	Solid	7470A	154089
LB 660-154095/1-B	Method Blank	TCLP	Solid	7470A	154089
LCS 660-154089/14-A	Lab Control Sample	Total/NA	Solid	7470A	154089

Leach Batch: 154095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64423-1	PAS20141212	TCLP	Solid	1311	
660-64441-1	PAS20141213	TCLP	Solid	1311	
660-64441-1 MS	PAS20141213	TCLP	Solid	1311	
660-64441-1 MSD	PAS20141213	TCLP	Solid	1311	
660-64441-2	PAS20141214	TCLP	Solid	1311	
LB 660-154095/1-B	Method Blank	TCLP	Solid	1311	

Leach Batch: 154102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64423-1	PAS20141212	TCLP	Solid	1311	
660-64441-1	PAS20141213	TCLP	Solid	1311	
660-64441-2	PAS20141214	TCLP	Solid	1311	
LB 660-154102/1-B	Method Blank	TCLP	Solid	1311	

Leach Batch: 154121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64466-A-1-C MS	Matrix Spike	TCLP	Solid	1311	
660-64466-A-1-D MSD	Matrix Spike Duplicate	TCLP	Solid	1311	
LB 660-154121/1-B	Method Blank	TCLP	Solid	1311	

Leach Batch: 154123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64466-A-3-E MS	Matrix Spike	TCLP	Solid	1311	
660-64466-A-3-F MSD	Matrix Spike Duplicate	TCLP	Solid	1311	

Metals (Continued)

Leach Batch: 154123 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64487-1	PAS20141215	TCLP	Solid	1311	
660-64487-2	PAS20141216	TCLP	Solid	1311	
LB 660-154123/1-B	Method Blank	TCLP	Solid	1311	
LB 660-154123/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 154127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64423-1	PAS20141212	TCLP	Solid	3010A	154102
660-64441-1	PAS20141213	TCLP	Solid	3010A	154102
660-64441-2	PAS20141214	TCLP	Solid	3010A	154102
660-64466-A-1-C MS	Matrix Spike	TCLP	Solid	3010A	154121
660-64466-A-1-D MSD	Matrix Spike Duplicate	TCLP	Solid	3010A	154121
660-64487-1	PAS20141215	TCLP	Solid	3010A	154123
660-64487-2	PAS20141216	TCLP	Solid	3010A	154123
LB 660-154102/1-B	Method Blank	TCLP	Solid	3010A	154102
LB 660-154121/1-B	Method Blank	TCLP	Solid	3010A	154121
LB 660-154123/1-B	Method Blank	TCLP	Solid	3010A	154123
LCS 660-154127/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Prep Batch: 154135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64466-A-3-E MS	Matrix Spike	TCLP	Solid	7470A	154123
660-64466-A-3-F MSD	Matrix Spike Duplicate	TCLP	Solid	7470A	154123
660-64487-1	PAS20141215	TCLP	Solid	7470A	154123
660-64487-2	PAS20141216	TCLP	Solid	7470A	154123
LB 660-154123/1-C	Method Blank	TCLP	Solid	7470A	154123
LCS 660-154135/2-A	Lab Control Sample	Total/NA	Solid	7470A	

Analysis Batch: 154136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64466-A-3-E MS	Matrix Spike	TCLP	Solid	7470A	154135
660-64466-A-3-F MSD	Matrix Spike Duplicate	TCLP	Solid	7470A	154135
660-64487-1	PAS20141215	TCLP	Solid	7470A	154135
660-64487-2	PAS20141216	TCLP	Solid	7470A	154135
LB 660-154123/1-C	Method Blank	TCLP	Solid	7470A	154135
LCS 660-154135/2-A	Lab Control Sample	Total/NA	Solid	7470A	154135

Analysis Batch: 154151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64423-1	PAS20141212	TCLP	Solid	6010B	154127
660-64441-1	PAS20141213	TCLP	Solid	6010B	154127
660-64441-2	PAS20141214	TCLP	Solid	6010B	154127
660-64466-A-1-C MS	Matrix Spike	TCLP	Solid	6010B	154127
660-64466-A-1-D MSD	Matrix Spike Duplicate	TCLP	Solid	6010B	154127
660-64487-1	PAS20141215	TCLP	Solid	6010B	154127
660-64487-2	PAS20141216	TCLP	Solid	6010B	154127
LB 660-154102/1-B	Method Blank	TCLP	Solid	6010B	154127
LB 660-154121/1-B	Method Blank	TCLP	Solid	6010B	154127
LB 660-154123/1-B	Method Blank	TCLP	Solid	6010B	154127
LCS 660-154127/2-A	Lab Control Sample	Total/NA	Solid	6010B	154127

General Chemistry

Leach Batch: 153877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64333-1	PAS 20141205	TCLP	Solid	1311	
660-64333-2	PAS 20141206	TCLP	Solid	1311	
660-64333-3	PAS 20141207	TCLP	Solid	1311	
660-64333-4	PAS 20141208	TCLP	Solid	1311	

Analysis Batch: 153883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64333-1	PAS 20141205	TCLP	Solid	9040B	153877
660-64333-2	PAS 20141206	TCLP	Solid	9040B	153877
660-64333-3	PAS 20141207	TCLP	Solid	9040B	153877
660-64333-4	PAS 20141208	TCLP	Solid	9040B	153877
LCS 660-153883/1	Lab Control Sample	Total/NA	Solid	9040B	

Leach Batch: 153910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64376-1	PAS20141208DUP	TCLP	Solid	1311	
660-64376-2	PAS20141209	TCLP	Solid	1311	
660-64376-3	PAS20141210	TCLP	Solid	1311	

Analysis Batch: 153912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64376-1	PAS20141208DUP	TCLP	Solid	9040B	153910
660-64376-2	PAS20141209	TCLP	Solid	9040B	153910
660-64376-3	PAS20141210	TCLP	Solid	9040B	153910
LCS 660-153912/1	Lab Control Sample	Total/NA	Solid	9040B	

Leach Batch: 153944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64401-1	PAS20141211	TCLP	Solid	1311	
660-64401-1 DU	PAS20141211	TCLP	Solid	1311	

Analysis Batch: 153954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64401-1	PAS20141211	TCLP	Solid	9040B	153944
660-64401-1 DU	PAS20141211	TCLP	Solid	9040B	153944
LCS 660-153954/1	Lab Control Sample	Total/NA	Solid	9040B	

Leach Batch: 154045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64423-1	PAS20141212	TCLP	Solid	1311	
660-64441-1	PAS20141213	TCLP	Solid	1311	
660-64441-1 DU	PAS20141213	TCLP	Solid	1311	
660-64441-2	PAS20141214	TCLP	Solid	1311	

Analysis Batch: 154053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64423-1	PAS20141212	TCLP	Solid	9040B	154045
660-64441-1	PAS20141213	TCLP	Solid	9040B	154045
660-64441-1 DU	PAS20141213	TCLP	Solid	9040B	154045
660-64441-2	PAS20141214	TCLP	Solid	9040B	154045
LCS 660-154053/1	Lab Control Sample	Total/NA	Solid	9040B	

General Chemistry (Continued)

Leach Batch: 154123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64487-1	PAS20141215	TCLP	Solid	1311	
660-64487-1 DU	PAS20141215	TCLP	Solid	1311	
660-64487-2	PAS20141216	TCLP	Solid	1311	

Analysis Batch: 154126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64487-1	PAS20141215	TCLP	Solid	9040B	154123
660-64487-1 DU	PAS20141215	TCLP	Solid	9040B	154123
660-64487-2	PAS20141216	TCLP	Solid	9040B	154123
LCS 660-154126/1	Lab Control Sample	Total/NA	Solid	9040B	

Lab Chronicle

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64333-1

Client Sample ID: PAS 20141205

Lab Sample ID: 660-64333-1

Date Collected: 12/05/14 00:00

Matrix: Solid

Date Received: 12/09/14 15:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			153877	12/09/14 18:30	ALQ	TAL TAM
TCLP	Prep	3010A			153937	12/12/14 10:38	GAF	TAL TAM
TCLP	Analysis	6010B		1	153938	12/12/14 17:09	GAF	TAL TAM
TCLP	Leach	1311			153885	12/09/14 18:30	GH1	TAL TAM
TCLP	Prep	7470A			153946	12/12/14 11:40	GH1	TAL TAM
TCLP	Analysis	7470A		1	153957	12/12/14 14:43	GH1	TAL TAM
TCLP	Leach	1311			153877	12/09/14 18:30	ALQ	TAL TAM
TCLP	Analysis	9040B		1	153883	12/10/14 16:30	ELE	TAL TAM

Client Sample ID: PAS 20141206

Lab Sample ID: 660-64333-2

Date Collected: 12/06/14 00:00

Matrix: Solid

Date Received: 12/09/14 15:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			153877	12/09/14 18:30	ALQ	TAL TAM
TCLP	Prep	3010A			153937	12/12/14 10:38	GAF	TAL TAM
TCLP	Analysis	6010B		1	153938	12/12/14 17:29	GAF	TAL TAM
TCLP	Leach	1311			153885	12/09/14 18:30	GH1	TAL TAM
TCLP	Prep	7470A			153946	12/12/14 11:40	GH1	TAL TAM
TCLP	Analysis	7470A		1	153957	12/12/14 14:48	GH1	TAL TAM
TCLP	Leach	1311			153877	12/09/14 18:30	ALQ	TAL TAM
TCLP	Analysis	9040B		1	153883	12/10/14 16:30	ELE	TAL TAM

Client Sample ID: PAS 20141207

Lab Sample ID: 660-64333-3

Date Collected: 12/07/14 00:00

Matrix: Solid

Date Received: 12/09/14 15:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			153877	12/09/14 18:30	ALQ	TAL TAM
TCLP	Prep	3010A			153937	12/12/14 10:38	GAF	TAL TAM
TCLP	Analysis	6010B		1	153938	12/12/14 17:32	GAF	TAL TAM
TCLP	Leach	1311			153885	12/09/14 18:30	GH1	TAL TAM
TCLP	Prep	7470A			153946	12/12/14 11:40	GH1	TAL TAM
TCLP	Analysis	7470A		1	153957	12/12/14 14:49	GH1	TAL TAM
TCLP	Leach	1311			153877	12/09/14 18:30	ALQ	TAL TAM
TCLP	Analysis	9040B		1	153883	12/10/14 16:30	ELE	TAL TAM

Client Sample ID: PAS 20141208

Lab Sample ID: 660-64333-4

Date Collected: 12/08/14 00:00

Matrix: Solid

Date Received: 12/09/14 15:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			153877	12/09/14 18:30	ALQ	TAL TAM
TCLP	Analysis	9040B		1	153883	12/10/14 16:30	ELE	TAL TAM

Lab Chronicle

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64333-1

Client Sample ID: PAS20141208DUP — Lab Sample ID: 660-64376-1

Date Collected: 12/08/14 00:00 — **Matrix: Solid**
Date Received: 12/10/14 16:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			153910	12/10/14 18:30	ALQ	TAL TAM
TCLP	Analysis	9040B		1	153912	12/11/14 13:15	AJG	TAL TAM

Client Sample ID: PAS20141209 — Lab Sample ID: 660-64376-2

Date Collected: 12/09/14 00:00 — **Matrix: Solid**
Date Received: 12/10/14 16:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			153910	12/10/14 18:30	ALQ	TAL TAM
TCLP	Analysis	9040B		1	153912	12/11/14 13:15	AJG	TAL TAM

Client Sample ID: PAS20141210 — Lab Sample ID: 660-64376-3

Date Collected: 12/10/14 00:00 — **Matrix: Solid**
Date Received: 12/10/14 16:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			153910	12/10/14 18:30	ALQ	TAL TAM
TCLP	Analysis	9040B		1	153912	12/11/14 13:15	AJG	TAL TAM

Client Sample ID: PAS20141211 — Lab Sample ID: 660-64401-1

Date Collected: 12/11/14 00:00 — **Matrix: Solid**
Date Received: 12/11/14 16:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			153944	12/12/14 12:01	GH1	TAL TAM
TCLP	Analysis	9040B		1	153954	12/12/14 13:00	AJG	TAL TAM

Client Sample ID: PAS20141212 — Lab Sample ID: 660-64423-1

Date Collected: 12/12/14 00:00 — **Matrix: Solid**
Date Received: 12/12/14 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			154102	12/15/14 20:00	ALQ	TAL TAM
TCLP	Prep	3010A			154127	12/18/14 13:56	ALQ	TAL TAM
TCLP	Analysis	6010B		1	154151	12/19/14 09:29	GAF	TAL TAM
TCLP	Leach	1311			154095	12/15/14 20:00	GH1	TAL TAM
TCLP	Prep	7470A			154089	12/17/14 15:59	GH1	TAL TAM
TCLP	Analysis	7470A		1	154093	12/17/14 16:59	GH1	TAL TAM
TCLP	Leach	1311			154045	12/15/14 20:00	ALQ	TAL TAM
TCLP	Analysis	9040B		1	154053	12/16/14 15:50	ELE	TAL TAM

Lab Chronicle

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64333-1

Client Sample ID: PAS20141213

Lab Sample ID: 660-64441-1

Date Collected: 12/13/14 00:00
Matrix: Solid
Date Received: 12/15/14 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			154102	12/15/14 20:00	ALQ	TAL TAM
TCLP	Prep	3010A			154127	12/18/14 13:56	ALQ	TAL TAM
TCLP	Analysis	6010B		1	154151	12/19/14 09:16	GAF	TAL TAM
TCLP	Leach	1311			154095	12/15/14 20:00	GH1	TAL TAM
TCLP	Prep	7470A			154089	12/17/14 15:59	GH1	TAL TAM
TCLP	Analysis	7470A		1	154093	12/17/14 16:52	GH1	TAL TAM
TCLP	Leach	1311			154045	12/15/14 20:00	ALQ	TAL TAM
TCLP	Analysis	9040B		1	154053	12/16/14 15:50	ELE	TAL TAM

Client Sample ID: PAS20141214

Lab Sample ID: 660-64441-2

Date Collected: 12/14/14 00:00
Matrix: Solid
Date Received: 12/15/14 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			154102	12/15/14 20:00	ALQ	TAL TAM
TCLP	Prep	3010A			154127	12/18/14 13:56	ALQ	TAL TAM
TCLP	Analysis	6010B		1	154151	12/19/14 09:19	GAF	TAL TAM
TCLP	Leach	1311			154095	12/15/14 20:00	GH1	TAL TAM
TCLP	Prep	7470A			154089	12/17/14 15:59	GH1	TAL TAM
TCLP	Analysis	7470A		1	154093	12/17/14 16:57	GH1	TAL TAM
TCLP	Leach	1311			154045	12/15/14 20:00	ALQ	TAL TAM
TCLP	Analysis	9040B		1	154053	12/16/14 15:50	ELE	TAL TAM

Client Sample ID: PAS20141215

Lab Sample ID: 660-64487-1

Date Collected: 12/15/14 00:00
Matrix: Solid
Date Received: 12/17/14 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Prep	3010A			154127	12/18/14 13:56	ALQ	TAL TAM
TCLP	Leach	1311			154123	12/18/14 15:01	ALQ	TAL TAM
TCLP	Analysis	6010B		1	154151	12/19/14 08:51	GAF	TAL TAM
TCLP	Leach	1311			154123	12/18/14 15:01	ALQ	TAL TAM
TCLP	Prep	7470A			154135	12/18/14 17:24	GH1	TAL TAM
TCLP	Analysis	7470A		1	154136	12/18/14 20:13	GH1	TAL TAM
TCLP	Leach	1311			154123	12/17/14 18:00	ALQ	TAL TAM
TCLP	Analysis	9040B		1	154126	12/18/14 13:30	AJG	TAL TAM

Client Sample ID: PAS20141216

Lab Sample ID: 660-64487-2

Date Collected: 12/16/14 00:00
Matrix: Solid
Date Received: 12/17/14 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Prep	3010A			154127	12/18/14 13:56	ALQ	TAL TAM
TCLP	Leach	1311			154123	12/18/14 15:01	ALQ	TAL TAM

Lab Chronicle

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64333-1

Client Sample ID: PAS20141216
Date Collected: 12/16/14 00:00
Date Received: 12/17/14 16:15

Lab Sample ID: 660-64487-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Analysis	6010B		1	154151	12/19/14 08:55	GAF	TAL TAM
TCLP	Leach	1311			154123	12/18/14 15:01	ALQ	TAL TAM
TCLP	Prep	7470A			154135	12/18/14 17:24	GH1	TAL TAM
TCLP	Analysis	7470A		1	154136	12/18/14 20:15	GH1	TAL TAM
TCLP	Leach	1311			154123	12/17/14 18:00	ALQ	TAL TAM
TCLP	Analysis	9040B		1	154126	12/18/14 13:30	AJG	TAL TAM

Laboratory References:

TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

Method Summary

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64333-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL TAM
7470A	Mercury (CVAA)	SW846	TAL TAM
9040B	pH	SW846	TAL TAM

Protocol References:

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

Laboratory References:

TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

Certification Summary

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64333-1

Laboratory: TestAmerica Tampa

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Florida	NELAP	4	E84282	06-30-15

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
9040B		Solid	pH

TestAmerica Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
phone 813.885.7427 fax 813.885.7049

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

12/19/2014

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

Client Contact	Project Manager: Jess Hornsby	Site Contact:	Date:	COC No:
PCRRF	Tel/Fax:	Lab Contact:	Carrier:	____ of ____ COCs
14230 Hays Road	**Analysis Turnaround Time**			**For Lab Use Only:**
Spring Hill, FL 34610	Calendar (C) or Work Days (W) ____			Walk-in Client:
727-919-7671 Phone	TAT if different from Below ____			Lab Sampling.
Vta@covanta.com, kpliska@covanta.com	☐ 2 weeks			
Project Name: Ash Testing	☑ 1 week			Job / SDG No.:
Site:	☐ 2 days			
P O #	☒ 1 day			Sampler:

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample (Y / N)	Composite = C / Grab = G	TCLP pH	Sample Specific Notes:
PAS 20141205	12/5/2014		comp	solid					
PAS 20141206	12/6/2014		comp	solid					
PAS 20141207	12/7/2014		comp	solid					
PAS 20141208	12/8/2014		comp	solid					

660-64333 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 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:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4, dated 10/25/2012

22.6/22.5 CO-09

TestAmerica Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
phone 813.885.7427 fax 813.885.7049

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

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

Client Contact	Project Manager: Jess Hornsby	Site Contact:	Date:	COC No.
PCRRF	Tel/Fax:	Lab Contact:	Carrier:	_____ of _____ COCs
14230 Hays Road	**Analysis Turnaround Time**			**For Lab Use Only:**
Spring Hill, FL 34610	Calendar (C) or Work Days (W) _____			Walk-in Client:
727-919-7671 Phone	TAT if different from Below _____			Lab Sampling:
Vta@covanta.com, kpliska@covanta.com	☐ 2 weeks			
Project Name: Ash Testing	☑ 1 week			Job / SDG No.:
Site:	☐ 2 days			
P O #	☐ 1 day			Sampler:

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample (Y / N)	Composite = C / Grab = G	TCLP pH	TCLP Metals	Sample Specific Notes:
PAS20141208DUP	12/8/2014		comp	solid				X	X	
PAS20141209	12/9/2014		comp	solid				X	X	
PAS20141210	12/10/2014		comp	solid				X	X	

660-64376 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:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4, dated 10/25/2012

TestAmerica Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
phone 813.885.7427 fax 813.885.7049

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

12/19/2014

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

Client Contact	Project Manager: Jess Hornsby	Site Contact:	Date:	COC No:
PCRRF	Tel/Fax:	Lab Contact:	Carrier:	_____ of _____ COCs
14230 Hays Road	**Analysis Turnaround Time**			For Lab Use Only:
Spring Hill, FL 34610	Calendar (C) or Work Days (W) _____			Walk-in Client:
727-919-7671 Phone	TAT if different from Below _____			Lab Sampling:
Vta@covanta.com, kpliska@covanta.com	☐ 2 weeks			
Project Name: Ash Testing	☑ 1 week			Job / SDG No.:
Site:	☐ 2 days			
P O #	☐ 1 day			Sampler:

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample (Y / N)	Composite = C / Grab = G	TCLP pH	TCLP Metals	Sample Specific Notes:
PAS20141211	12/11/2014		comp	solid				X	X	

660-64401 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:

21.6°/21.5°C NO ICE

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4, dated 10/25/2012

TestAmerica Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
Phone: 813.885.7427 Fax:

Chain of Custody Record

024437

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

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

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Company Name: Covanta Pasco	Tel/Fax:	Lab Contact:	Carrier:	____ of ____ COCs
Address:	Analysis Turnaround Time			Sampler:
City/State/Zip:	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone:	TAT if different from Below ____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name:	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O #	☐ 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)	TCLP pH	Sample Specific Notes:
PAS20141212	12/12/14			SO	1			X	Hold for TCLP Metals

660-64423 Chain of Custody

Loc: 660
64423

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:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Covanta Pasco	12-12-14 1600	[signature]	TA TPA	12/12/14 1600
Relinquished by.	Company.	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

12/19/2014

TestAmerica Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
Phone: 813.885.7427 Fax:

Chain of Custody Record

024442

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

12/19/2014

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

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Company Name: Covanta Pasco	Tel/Fax:	Lab Contact:	Carrier:	____ of ____ COCs
Address:	Analysis Turnaround Time			Sampler:
City/State/Zip:	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone:	TAT if different from Below ____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name:	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O #	☒ 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)	TCLP pH	TCLP Metals	Sample Specific Notes.
PAS20141213	12/13/14							X	X	Hold Metals ?
PAS20141214	12/14/14							X	X	

660-64441 Chain of Custody

Loc: 660
64441

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:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd. ____ Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Vut Ia	Covanta Pasco	12-15-14 1620		TA TPA	12/15/14 1620
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
phone 813.885.7427 fax 813.885.7049

Chain of Custody Record

TestAmerica

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

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Jess Hornsby	Site Contact:	Date:	COC No:
PCRRF	Tel/Fax:	Lab Contact:	Carrier:	_____ of _____ COCs
14230 Hays Road	Analysis Turnaround Time			For Lab Use Only:
Spring Hill, FL 34610	Calendar (C) or Work Days (W) _____			Walk-in Client:
727-919-7671 Phone	TAT if different from Below _____			Lab Sampling:
Vta@covanta.com, kpliska@covanta.com	☐ 2 weeks			
Project Name: Ash Testing	☑ 1 week			Job / SDG No.:
Site:	☐ 2 days			
P O #	☐ 1 day			Sampler:

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample (Y / N)	Composite = C / Grab = G	TCLP pH	TCLP Metals	Sample Specific Notes:
PAS20141215	12/15/2014		C	S	1			X	X	Provide pH data to Viet and Kevin
PAS20141216	12/16/2014		C	S	1			X	X	TCLP metals ONLY if requested by Viet or Kevin

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

Loc: 660
64487

660-64487 Chain of Custody

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 (samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Viet Ta	Covanta Pasco	12-17-14 1615	[signature]	TA TPA	12/17/14 1615
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: Covanta Pasco, Inc.

Job Number: 660-64333-1

Login Number: 64333

List Source: TestAmerica Tampa

List Number: 1

Creator: Redding, Charles S

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.	False	Thermal preservation not required.
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?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Covanta Pasco, Inc.

Job Number: 660-64333-1

Login Number: 64376

List Source: TestAmerica Tampa

List Number: 1

Creator: Hornsby, Jess

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
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.	False	No ice per client request.
Cooler Temperature is acceptable.	N/A	
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?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Covanta Pasco, Inc.

Job Number: 660-64333-1

Login Number: 64401

List Source: TestAmerica Tampa

List Number: 1

Creator: Hornsby, Terry

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
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.	N/A	
Samples were received on ice.	False	No ice per client request.
Cooler Temperature is acceptable.	N/A	
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?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Covanta Pasco, Inc.

Job Number: 660-64333-1

Login Number: 64423

List Source: TestAmerica Tampa

List Number: 1

Creator: Southers, Kristin B

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.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
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.	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	

Login Sample Receipt Checklist

Client: Covanta Pasco, Inc.

Job Number: 660-64333-1

Login Number: 64441

List Source: TestAmerica Tampa

List Number: 1

Creator: Southers, Kristin B

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.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
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.	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	

Login Sample Receipt Checklist

Client: Covanta Pasco, Inc.

Job Number: 660-64333-1

Login Number: 64487

List Source: TestAmerica Tampa

List Number: 1

Creator: Southers, Kristin B

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
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.	False	No ice per client request.
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
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.	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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
Tel: (813)885-7427

TestAmerica Job ID: 660-64553-1
Client Project/Site: Covanta Ash Testing

For:
Covanta Pasco, Inc.
14230 Hays Road
Spring Hill, Florida 34610

Attn: Mr. Viet Ta

Jess Hornsby

Authorized for release by:
12/30/2014 3:03:16 PM

Jess Hornsby, Project Manager I
(813)885-7427
jess.hornsby@testamericainc.com

Table of Contents

Sample Summary

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64553-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
660-64553-1	PAS20141217	Solid	12/17/14 00:00	12/19/14 17:00
660-64553-2	PAS20141218	Solid	12/18/14 00:00	12/19/14 17:00
660-64576-1	PAS20141219	Solid	12/19/14 00:00	12/22/14 15:50
660-64576-2	PAS20141220	Solid	12/20/14 00:00	12/22/14 15:50
660-64576-3	PAS20141221	Solid	12/21/14 00:00	12/22/14 15:50

Job ID: 660-64553-1

Laboratory: TestAmerica Tampa

Narrative

Receipt
The samples were received on 12/19/2014 5:00 PM and 12/22/2014 3:50 PM; the samples arrived in good condition.

Metals
Method 7470A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for batch 154385 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

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

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

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64553-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Detection Summary

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64553-1

Client Sample ID: PAS20141217 — Lab Sample ID: 660-64553-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	3.7		0.50	0.030	mg/L	1		6010B	TCLP
Lead	4.4		1.0	0.040	mg/L	1		6010B	TCLP
pH	11.4		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS20141218 — Lab Sample ID: 660-64553-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	2.5		0.50	0.030	mg/L	1		6010B	TCLP
pH	9.75		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS20141219 — Lab Sample ID: 660-64576-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	2.9		0.50	0.030	mg/L	1		6010B	TCLP
pH	10.6		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS20141220 — Lab Sample ID: 660-64576-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	3.2		0.50	0.030	mg/L	1		6010B	TCLP
Lead	0.72	I	1.0	0.040	mg/L	1		6010B	TCLP
pH	11.2		1.00	1.00	SU	1		9040B	TCLP

Client Sample ID: PAS20141221 — Lab Sample ID: 660-64576-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	2.4		0.50	0.030	mg/L	1		6010B	TCLP
pH	10.1		1.00	1.00	SU	1		9040B	TCLP

This Detection Summary does not include radiochemical test results.

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64553-1

Client Sample ID: PAS20141217

Lab Sample ID: 660-64553-1

Date Collected: 12/17/14 00:00

Matrix: Solid

Date Received: 12/19/14 17:00

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/29/14 13:14	12/30/14 07:15	1
Barium	**3.7**		0.50	0.030	mg/L		12/29/14 13:14	12/30/14 07:15	1
Cadmium	0.018	U	0.50	0.018	mg/L		12/29/14 13:14	12/30/14 07:15	1
Chromium	0.050	U	1.0	0.050	mg/L		12/29/14 13:14	12/30/14 07:15	1
Lead	**4.4**		1.0	0.040	mg/L		12/29/14 13:14	12/30/14 07:15	1
Selenium	0.15	U	0.50	0.15	mg/L		12/29/14 13:14	12/30/14 07:15	1
Silver	0.050	U	0.50	0.050	mg/L		12/29/14 13:14	12/30/14 07:15	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	U	0.00070	0.00050	mg/L		12/29/14 17:00	12/29/14 19:48	1

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**11.4**		1.00	1.00	SU			12/23/14 11:35	1

Client Sample ID: PAS20141218

Lab Sample ID: 660-64553-2

Date Collected: 12/18/14 00:00

Matrix: Solid

Date Received: 12/19/14 17:00

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/29/14 13:14	12/30/14 07:28	1
Barium	**2.5**		0.50	0.030	mg/L		12/29/14 13:14	12/30/14 07:28	1
Cadmium	0.018	U	0.50	0.018	mg/L		12/29/14 13:14	12/30/14 07:28	1
Chromium	0.050	U	1.0	0.050	mg/L		12/29/14 13:14	12/30/14 07:28	1
Lead	0.040	U	1.0	0.040	mg/L		12/29/14 13:14	12/30/14 07:28	1
Selenium	0.15	U	0.50	0.15	mg/L		12/29/14 13:14	12/30/14 07:28	1
Silver	0.050	U	0.50	0.050	mg/L		12/29/14 13:14	12/30/14 07:28	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	J3 U	0.00070	0.00050	mg/L		12/29/14 17:00	12/29/14 19:43	1

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**9.75**		1.00	1.00	SU			12/23/14 11:35	1

Client Sample ID: PAS20141219

Lab Sample ID: 660-64576-1

Date Collected: 12/19/14 00:00

Matrix: Solid

Date Received: 12/22/14 15:50

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/29/14 13:14	12/30/14 07:35	1
Barium	**2.9**		0.50	0.030	mg/L		12/29/14 13:14	12/30/14 07:35	1
Cadmium	0.018	U	0.50	0.018	mg/L		12/29/14 13:14	12/30/14 07:35	1
Chromium	0.050	U	1.0	0.050	mg/L		12/29/14 13:14	12/30/14 07:35	1
Lead	0.040	U	1.0	0.040	mg/L		12/29/14 13:14	12/30/14 07:35	1
Selenium	0.15	U	0.50	0.15	mg/L		12/29/14 13:14	12/30/14 07:35	1
Silver	0.050	U	0.50	0.050	mg/L		12/29/14 13:14	12/30/14 07:35	1

Client Sample ID: PAS20141219

Lab Sample ID: 660-64576-1

Date Collected: 12/19/14 00:00

Matrix: Solid

Date Received: 12/22/14 15:50

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	U	0.00070	0.00050	mg/L		12/29/14 17:00	12/29/14 19:52	1

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**10.6**		1.00	1.00	SU			12/24/14 10:15	1

Client Sample ID: PAS20141220

Lab Sample ID: 660-64576-2

Date Collected: 12/20/14 00:00

Matrix: Solid

Date Received: 12/22/14 15:50

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/29/14 13:14	12/30/14 07:46	1
Barium	**3.2**		0.50	0.030	mg/L		12/29/14 13:14	12/30/14 07:46	1
Cadmium	0.018	U	0.50	0.018	mg/L		12/29/14 13:14	12/30/14 07:46	1
Chromium	0.050	U	1.0	0.050	mg/L		12/29/14 13:14	12/30/14 07:46	1
Lead	**0.72**	**I**	1.0	0.040	mg/L		12/29/14 13:14	12/30/14 07:46	1
Selenium	0.15	U	0.50	0.15	mg/L		12/29/14 13:14	12/30/14 07:46	1
Silver	0.050	U	0.50	0.050	mg/L		12/29/14 13:14	12/30/14 07:46	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	U	0.00070	0.00050	mg/L		12/29/14 17:00	12/29/14 19:54	1

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**11.2**		1.00	1.00	SU			12/24/14 10:15	1

Client Sample ID: PAS20141221

Lab Sample ID: 660-64576-3

Date Collected: 12/21/14 00:00

Matrix: Solid

Date Received: 12/22/14 15:50

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/29/14 13:14	12/30/14 07:49	1
Barium	**2.4**		0.50	0.030	mg/L		12/29/14 13:14	12/30/14 07:49	1
Cadmium	0.018	U	0.50	0.018	mg/L		12/29/14 13:14	12/30/14 07:49	1
Chromium	0.050	U	1.0	0.050	mg/L		12/29/14 13:14	12/30/14 07:49	1
Lead	0.040	U	1.0	0.040	mg/L		12/29/14 13:14	12/30/14 07:49	1
Selenium	0.15	U	0.50	0.15	mg/L		12/29/14 13:14	12/30/14 07:49	1
Silver	0.050	U	0.50	0.050	mg/L		12/29/14 13:14	12/30/14 07:49	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	U	0.00070	0.00050	mg/L		12/29/14 17:00	12/29/14 19:55	1

General Chemistry - TCLP

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**10.1**		1.00	1.00	SU			12/24/14 10:15	1

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64553-1

Method: 6010B - Metals (ICP)

Lab Sample ID: LCS 660-154382/2-A
Matrix: Solid
Analysis Batch: 154393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 154382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	5.00	4.72		mg/L		94	75 - 125
Barium	5.00	4.89		mg/L		98	75 - 125
Cadmium	5.00	4.70		mg/L		94	75 - 125
Chromium	5.00	4.85		mg/L		97	75 - 125
Lead	5.00	4.91		mg/L		98	75 - 125
Selenium	5.00	4.76		mg/L		95	75 - 125
Silver	5.00	4.68		mg/L		94	75 - 125

Lab Sample ID: LB 660-154245/4-C
Matrix: Solid
Analysis Batch: 154393

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 154382

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/29/14 13:14	12/30/14 07:05	1
Barium	0.030	U	0.50	0.030	mg/L		12/29/14 13:14	12/30/14 07:05	1
Cadmium	0.018	U	0.50	0.018	mg/L		12/29/14 13:14	12/30/14 07:05	1
Chromium	0.050	U	1.0	0.050	mg/L		12/29/14 13:14	12/30/14 07:05	1
Lead	0.040	U	1.0	0.040	mg/L		12/29/14 13:14	12/30/14 07:05	1
Selenium	0.15	U	0.50	0.15	mg/L		12/29/14 13:14	12/30/14 07:05	1
Silver	0.050	U	0.50	0.050	mg/L		12/29/14 13:14	12/30/14 07:05	1

Lab Sample ID: LB 660-154305/1-B
Matrix: Solid
Analysis Batch: 154393

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 154382

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.12	U	1.0	0.12	mg/L		12/29/14 13:14	12/30/14 07:32	1
Barium	0.030	U	0.50	0.030	mg/L		12/29/14 13:14	12/30/14 07:32	1
Cadmium	0.018	U	0.50	0.018	mg/L		12/29/14 13:14	12/30/14 07:32	1
Chromium	0.050	U	1.0	0.050	mg/L		12/29/14 13:14	12/30/14 07:32	1
Lead	0.040	U	1.0	0.040	mg/L		12/29/14 13:14	12/30/14 07:32	1
Selenium	0.15	U	0.50	0.15	mg/L		12/29/14 13:14	12/30/14 07:32	1
Silver	0.050	U	0.50	0.050	mg/L		12/29/14 13:14	12/30/14 07:32	1

Lab Sample ID: 660-64553-1 MS
Matrix: Solid
Analysis Batch: 154393

Client Sample ID: PAS20141217
Prep Type: TCLP
Prep Batch: 154382

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.12	U	5.00	5.28		mg/L		106	75 - 125
Barium	3.7		5.00	9.30		mg/L		111	75 - 125
Cadmium	0.018	U	5.00	5.30		mg/L		106	75 - 125
Chromium	0.050	U	5.00	4.65		mg/L		93	75 - 125
Lead	4.4		5.00	9.20		mg/L		96	75 - 125
Selenium	0.15	U	5.00	5.33		mg/L		107	75 - 125
Silver	0.050	U	5.00	5.51		mg/L		110	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 660-64553-1 MSD
Matrix: Solid
Analysis Batch: 154393

Client Sample ID: PAS20141217
Prep Type: TCLP
Prep Batch: 154382

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.12	U	5.00	5.35		mg/L		107	75 - 125	1	20
Barium	3.7		5.00	8.73		mg/L		100	75 - 125	6	20
Cadmium	0.018	U	5.00	5.38		mg/L		108	75 - 125	1	20
Chromium	0.050	U	5.00	4.77		mg/L		95	75 - 125	2	20
Lead	4.4		5.00	8.69		mg/L		86	75 - 125	6	20
Selenium	0.15	U	5.00	5.41		mg/L		108	75 - 125	2	20
Silver	0.050	U	5.00	5.61		mg/L		112	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: LCS 660-154385/14-A
Matrix: Solid
Analysis Batch: 154419

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 154385

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00140	0.00147		mg/L		105	80 - 120		

Lab Sample ID: LB 660-154245/4-D
Matrix: Solid
Analysis Batch: 154419

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 154385

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	U	0.00070	0.00050	mg/L		12/29/14 17:00	12/29/14 19:38	1

Lab Sample ID: LB 660-154305/1-C
Matrix: Solid
Analysis Batch: 154419

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 154385

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00050	U	0.00070	0.00050	mg/L		12/29/14 17:00	12/29/14 19:50	1

Lab Sample ID: 660-64553-2 MS
Matrix: Solid
Analysis Batch: 154419

Client Sample ID: PAS20141218
Prep Type: TCLP
Prep Batch: 154385

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.00050	U J3	0.00140	0.000783	J3	mg/L		56	80 - 120		

Lab Sample ID: 660-64553-2 MSD
Matrix: Solid
Analysis Batch: 154419

Client Sample ID: PAS20141218
Prep Type: TCLP
Prep Batch: 154385

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00050	U J3	0.00140	0.000762	J3	mg/L		54	80 - 120	3	20

Method: 9040B - pH

Lab Sample ID: LCS 660-154308/1
Matrix: Solid
Analysis Batch: 154308

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			6.00	5.990		SU		100	98 - 102		

Lab Sample ID: LCS 660-154313/1
Matrix: Solid
Analysis Batch: 154313

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			6.00	6.010		SU		100	98 - 102		

Lab Sample ID: 660-64576-1 DU
Matrix: Solid
Analysis Batch: 154313

Client Sample ID: PAS20141219
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	10.6			10.62		SU				0.09	20

Metals

Leach Batch: 154245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64553-1	PAS20141217	TCLP	Solid	1311	
660-64553-1 MS	PAS20141217	TCLP	Solid	1311	
660-64553-1 MSD	PAS20141217	TCLP	Solid	1311	
660-64553-2	PAS20141218	TCLP	Solid	1311	
660-64553-2 MS	PAS20141218	TCLP	Solid	1311	
660-64553-2 MSD	PAS20141218	TCLP	Solid	1311	
LB 660-154245/4-C	Method Blank	TCLP	Solid	1311	
LB 660-154245/4-D	Method Blank	TCLP	Solid	1311	

Leach Batch: 154305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64576-1	PAS20141219	TCLP	Solid	1311	
660-64576-2	PAS20141220	TCLP	Solid	1311	
660-64576-3	PAS20141221	TCLP	Solid	1311	
LB 660-154305/1-B	Method Blank	TCLP	Solid	1311	
LB 660-154305/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 154382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64553-1	PAS20141217	TCLP	Solid	3010A	154245
660-64553-1 MS	PAS20141217	TCLP	Solid	3010A	154245
660-64553-1 MSD	PAS20141217	TCLP	Solid	3010A	154245
660-64553-2	PAS20141218	TCLP	Solid	3010A	154245
660-64576-1	PAS20141219	TCLP	Solid	3010A	154305
660-64576-2	PAS20141220	TCLP	Solid	3010A	154305
660-64576-3	PAS20141221	TCLP	Solid	3010A	154305
LB 660-154245/4-C	Method Blank	TCLP	Solid	3010A	154245
LB 660-154305/1-B	Method Blank	TCLP	Solid	3010A	154305
LCS 660-154382/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Prep Batch: 154385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64553-1	PAS20141217	TCLP	Solid	7470A	154245
660-64553-2	PAS20141218	TCLP	Solid	7470A	154245
660-64553-2 MS	PAS20141218	TCLP	Solid	7470A	154245
660-64553-2 MSD	PAS20141218	TCLP	Solid	7470A	154245
660-64576-1	PAS20141219	TCLP	Solid	7470A	154305
660-64576-2	PAS20141220	TCLP	Solid	7470A	154305
660-64576-3	PAS20141221	TCLP	Solid	7470A	154305
LB 660-154245/4-D	Method Blank	TCLP	Solid	7470A	154245
LB 660-154305/1-C	Method Blank	TCLP	Solid	7470A	154305
LCS 660-154385/14-A	Lab Control Sample	Total/NA	Solid	7470A	

Analysis Batch: 154393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64553-1	PAS20141217	TCLP	Solid	6010B	154382
660-64553-1 MS	PAS20141217	TCLP	Solid	6010B	154382
660-64553-1 MSD	PAS20141217	TCLP	Solid	6010B	154382
660-64553-2	PAS20141218	TCLP	Solid	6010B	154382
660-64576-1	PAS20141219	TCLP	Solid	6010B	154382
660-64576-2	PAS20141220	TCLP	Solid	6010B	154382

Metals (Continued)

Analysis Batch: 154393 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64576-3	PAS20141221	TCLP	Solid	6010B	154382
LB 660-154245/4-C	Method Blank	TCLP	Solid	6010B	154382
LB 660-154305/1-B	Method Blank	TCLP	Solid	6010B	154382
LCS 660-154382/2-A	Lab Control Sample	Total/NA	Solid	6010B	154382

Analysis Batch: 154419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64553-1	PAS20141217	TCLP	Solid	7470A	154385
660-64553-2	PAS20141218	TCLP	Solid	7470A	154385
660-64553-2 MS	PAS20141218	TCLP	Solid	7470A	154385
660-64553-2 MSD	PAS20141218	TCLP	Solid	7470A	154385
660-64576-1	PAS20141219	TCLP	Solid	7470A	154385
660-64576-2	PAS20141220	TCLP	Solid	7470A	154385
660-64576-3	PAS20141221	TCLP	Solid	7470A	154385
LB 660-154245/4-D	Method Blank	TCLP	Solid	7470A	154385
LB 660-154305/1-C	Method Blank	TCLP	Solid	7470A	154385
LCS 660-154385/14-A	Lab Control Sample	Total/NA	Solid	7470A	154385

General Chemistry

Leach Batch: 154245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64553-1	PAS20141217	TCLP	Solid	1311	
660-64553-2	PAS20141218	TCLP	Solid	1311	

Leach Batch: 154305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64576-1	PAS20141219	TCLP	Solid	1311	
660-64576-1 DU	PAS20141219	TCLP	Solid	1311	
660-64576-2	PAS20141220	TCLP	Solid	1311	
660-64576-3	PAS20141221	TCLP	Solid	1311	

Analysis Batch: 154308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64553-1	PAS20141217	TCLP	Solid	9040B	154245
660-64553-2	PAS20141218	TCLP	Solid	9040B	154245
LCS 660-154308/1	Lab Control Sample	Total/NA	Solid	9040B	

Analysis Batch: 154313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-64576-1	PAS20141219	TCLP	Solid	9040B	154305
660-64576-1 DU	PAS20141219	TCLP	Solid	9040B	154305
660-64576-2	PAS20141220	TCLP	Solid	9040B	154305
660-64576-3	PAS20141221	TCLP	Solid	9040B	154305
LCS 660-154313/1	Lab Control Sample	Total/NA	Solid	9040B	

Lab Chronicle

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64553-1

Client Sample ID: PAS20141217

Lab Sample ID: 660-64553-1

Date Collected: 12/17/14 00:00

Matrix: Solid

Date Received: 12/19/14 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			154245	12/29/14 13:10	ALQ	TAL TAM
TCLP	Prep	3010A			154382	12/29/14 13:14	ALQ	TAL TAM
TCLP	Analysis	6010B		1	154393	12/30/14 07:15	GAF	TAL TAM
TCLP	Leach	1311			154245	12/29/14 13:10	ALQ	TAL TAM
TCLP	Prep	7470A			154385	12/29/14 17:00	GH1	TAL TAM
TCLP	Analysis	7470A		1	154419	12/29/14 19:48	GH1	TAL TAM
TCLP	Leach	1311			154245	12/22/14 15:00	ALQ	TAL TAM
TCLP	Analysis	9040B		1	154308	12/23/14 11:35	ELE	TAL TAM

Client Sample ID: PAS20141218

Lab Sample ID: 660-64553-2

Date Collected: 12/18/14 00:00

Matrix: Solid

Date Received: 12/19/14 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			154245	12/29/14 13:10	ALQ	TAL TAM
TCLP	Prep	3010A			154382	12/29/14 13:14	ALQ	TAL TAM
TCLP	Analysis	6010B		1	154393	12/30/14 07:28	GAF	TAL TAM
TCLP	Leach	1311			154245	12/29/14 13:10	ALQ	TAL TAM
TCLP	Prep	7470A			154385	12/29/14 17:00	GH1	TAL TAM
TCLP	Analysis	7470A		1	154419	12/29/14 19:43	GH1	TAL TAM
TCLP	Leach	1311			154245	12/22/14 15:00	ALQ	TAL TAM
TCLP	Analysis	9040B		1	154308	12/23/14 11:35	ELE	TAL TAM

Client Sample ID: PAS20141219

Lab Sample ID: 660-64576-1

Date Collected: 12/19/14 00:00

Matrix: Solid

Date Received: 12/22/14 15:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			154305	12/29/14 13:12	ALQ	TAL TAM
TCLP	Prep	3010A			154382	12/29/14 13:14	ALQ	TAL TAM
TCLP	Analysis	6010B		1	154393	12/30/14 07:35	GAF	TAL TAM
TCLP	Leach	1311			154305	12/29/14 13:12	ALQ	TAL TAM
TCLP	Prep	7470A			154385	12/29/14 17:00	GH1	TAL TAM
TCLP	Analysis	7470A		1	154419	12/29/14 19:52	GH1	TAL TAM
TCLP	Leach	1311			154305	12/23/14 15:15	ALQ	TAL TAM
TCLP	Analysis	9040B		1	154313	12/24/14 10:15	AJG	TAL TAM

Client Sample ID: PAS20141220

Lab Sample ID: 660-64576-2

Date Collected: 12/20/14 00:00

Matrix: Solid

Date Received: 12/22/14 15:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			154305	12/29/14 13:12	ALQ	TAL TAM
TCLP	Prep	3010A			154382	12/29/14 13:14	ALQ	TAL TAM

Lab Chronicle

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64553-1

Client Sample ID: PAS20141220

Lab Sample ID: 660-64576-2

Date Collected: 12/20/14 00:00

Matrix: Solid

Date Received: 12/22/14 15:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Analysis	6010B		1	154393	12/30/14 07:46	GAF	TAL TAM
TCLP	Leach	1311			154305	12/29/14 13:12	ALQ	TAL TAM
TCLP	Prep	7470A			154385	12/29/14 17:00	GH1	TAL TAM
TCLP	Analysis	7470A		1	154419	12/29/14 19:54	GH1	TAL TAM
TCLP	Leach	1311			154305	12/23/14 15:15	ALQ	TAL TAM
TCLP	Analysis	9040B		1	154313	12/24/14 10:15	AJG	TAL TAM

Client Sample ID: PAS20141221

Lab Sample ID: 660-64576-3

Date Collected: 12/21/14 00:00

Matrix: Solid

Date Received: 12/22/14 15:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			154305	12/29/14 13:12	ALQ	TAL TAM
TCLP	Prep	3010A			154382	12/29/14 13:14	ALQ	TAL TAM
TCLP	Analysis	6010B		1	154393	12/30/14 07:49	GAF	TAL TAM
TCLP	Leach	1311			154305	12/29/14 13:12	ALQ	TAL TAM
TCLP	Prep	7470A			154385	12/29/14 17:00	GH1	TAL TAM
TCLP	Analysis	7470A		1	154419	12/29/14 19:55	GH1	TAL TAM
TCLP	Leach	1311			154305	12/23/14 15:15	ALQ	TAL TAM
TCLP	Analysis	9040B		1	154313	12/24/14 10:15	AJG	TAL TAM

Laboratory References:

TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

Method Summary

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64553-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL TAM
7470A	Mercury (CVAA)	SW846	TAL TAM
9040B	pH	SW846	TAL TAM

Protocol References:

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

Laboratory References:

TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

Certification Summary

Client: Covanta Pasco, Inc.
Project/Site: Covanta Ash Testing

TestAmerica Job ID: 660-64553-1

Laboratory: TestAmerica Tampa

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Florida	NELAP	4	E84282	06-30-15

TestAmerica Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
phone 813.885.7427 fax 813.885.7049

Chain of Custody Record

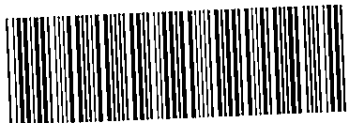
TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

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

Client Contact	Project Manager: Jess Hornsby	Site Contact:	Date:	COC No:
PCRRF	Tel/Fax:	Lab Contact:	Carrier:	_____ of _____ COCs
14230 Hays Road	**Analysis Turnaround Time**			**For Lab Use Only:**
Spring Hill, FL 34610	Calendar (C) or Work Days (W) _____			Walk-in Client:
727-919-7671 Phone	TAT if different from Below _____			Lab Sampling:
Vta@covanta.com, kpliska@covanta.com	☐ 2 weeks			
Project Name. Ash Testing	☐ 1 week			Job / SDG No.:
Site:	☑ 2 days			
P O #	☐ 1 day			Sampler:

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample (Y / N)	Composite = C / Grab = G	TCLP pH	TCLP Metals	Sample Specific Notes:
PAS20141217	12/17/2014		c	s	1			X	X	Provide pH data to Viet and Kevin
PAS20141218	12/18/2014		c	s	1			X	X	TCLP metals ONLY if
										requested by Viet or Kevin



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:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Viet Le	Covanta Pasco	12-19-14 1700	Kevin Smith	TA TPA	12/19/14 1700
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
phone 813.885.7427 fax 813.885.7049

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

12/30/2014

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

Client Contact	Project Manager: Jess Hornsby	Site Contact:	Date:	COC No:
PCRRF	Tel/Fax:	Lab Contact:	Carrier:	_____ of _____ COCs
14230 Hays Road	Analysis Turnaround Time			For Lab Use Only:
Spring Hill, FL 34610	Calendar (C) or Work Days (W) _____			Walk-in Client:
727-919-7671 Phone	TAT if different from Below _____			Lab Sampling:
Vta@covanta.com, kpliska@covanta.com	☐ 2 weeks			
Project Name: Ash Testing	☑ 1 week			Job / SDG No.:
Site:	☐ 2 days			
P O #	☐ 1 day			Sampler:

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample (Y / N)	Composite = C / Grab = G	TCLP pH	TCLP Metals	Sample Specific Notes:
PAS20141219	12/19/2014		C	S	1			X	X	Provide pH data to Viet and Kevin
PAS20141220	12/20/2014		C	S	1			X	X	TCLP metals ONLY if requested by
PAS20141221	12/21/2014		C	S	1			X	X	Viet or Kevin

Loc: 660
64576

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:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	COVANTA	12/22 1500			
Relinquished by: [signature]	Company: Covanta	Date/Time: 12/22/14 1550	Received by: [signature]	Company: TA TBA	Date/Time: 12/22/14 1550
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: Covanta Pasco, Inc.

Job Number: 660-64553-1

Login Number: 64553

List Source: TestAmerica Tampa

List Number: 1

Creator: Southers, Kristin B

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
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.	False	No ice per client request.
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
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.	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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Covanta Pasco, Inc.

Job Number: 660-64553-1

Login Number: 64576

List Source: TestAmerica Tampa

List Number: 1

Creator: Southers, Kristin B

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
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.	False	No ice per client request.
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
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.	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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	