Covanta Energy Corporation
350 North Falkenburg Road
Tampa, FL 33619
Phone: (813) 684-5688

COVANTA
ENERGY

April 24, 2014

Mr. Jeffery F. Koerner
Air Program Administrator
FDEP, Division of Air Resource Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

SUBJECT: Lake County Resource Recovery Facility
Title V Permit No. 0690046-010-AV, MWC Nos. 1 and 2
Removal of "sewage sludge" as an Unauthorized Fuel

Dear Mr. Koerner:

Covanta Lake II, Inc. requests that the Department revise Title V permit condition **A.5**(b) by deleting the language "sewage sludge" as an unauthorized fuel.

In support of this request, the permittee is attaching an abbreviated application form and supporting information.

If additional information is needed, please do not hesitate to contact Viet Ta at (727) 919-7671.

Sincerely,

Jason M. Gorrie, PE, BCEE
Regional Environmental Manager
Covanta Energy Corporation

CC: G. Main
File

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial, revised, or renewal Title V air operation permit.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: Covanta Lake II, Inc.	
2. Site Name: Lake County Resource Recovery Facility	
3. Facility Identification Number: 0690046	
4. Facility Location... Street Address: 3830 Rogers Industrial Park Rd. City: Okahumpka County: Lake Zip Code: 34762	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: Viet Ta
2. Application Contact Mailing Address... Organization/Firm: Covanta Lake II, Inc. Street Address: 3830 Rogers Industrial Park Rd. City: Okahumpka County: Lake Zip Code: 34762
3. Application Contact Telephone Numbers... Telephone: (352) 365 - 1611 ext. Fax: (727) 856 - 0007
4. Application Contact Email Address: vta@covanta.com

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	3. PSD Number (if applicable):
2. Project Number(s):	4. Siting Number (if applicable):

APPLICATION INFORMATION

Purpose of Application

This application for air permit is being submitted to obtain: (Check one)

Air Construction Permit

☐ Air construction permit.

☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).

☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

☐ Initial Title V air operation permit.

☐ Title V air operation permit revision.

☐ Title V air operation permit renewal.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

☒ Air construction permit and Title V permit revision, incorporating the proposed project.

☐ Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

☒ I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

Covanta Lake II, Inc. is proposing to process "sewage sludge" generated from the Publically Owned Treatment Works (POTW) in the Lake County Resource Recovery Facility municipal waste combustors. Covanta Lake II, Inc. requests that the Department revise Title V permit conditions **A.5**(b)(1)(f) by deleting the language "sewage sludge" as an unauthorized fuel. The total quantity of "sewage sludge" (also referred to as "biosolids") combusted at the facility will not exceed 5% by weight of the total waste combusted, as measured on a daily basis.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
001	Municipal Waste Combustor – Unit 1	AF2A	NA
002	Municipal Waste Combustor – Unit 2	AF2A	NA

Application Processing Fee

Check one: ☐ Attached - Amount: $_____ ☒ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name : Gary Main

2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: Covanta Lake II, Inc.
   Street Address: 3830 Rogers Industrial Park Rd.
   City: Okahumpka State: FL Zip Code: 34762

3. Owner/Authorized Representative Telephone Numbers...
   Telephone: (352) 365 - 1611 Fax:

4. Owner/Authorized Representative E-mail Address: gmain@covanta.com

5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.

   Signature 4/9/14 Date

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name: Gary Main

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):

- [x] For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.
- [ ] For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
- [ ] For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
- [ ] The designated representative at an Acid Rain source or CAIR source.

3. Application Responsible Official Mailing Address...
Organization/Firm: Covanta Lake II, Inc.
Street Address: 3830 Rogers Industrial Park Rd.
City: Okahumpka State: FL Zip Code: 34762

4. Application Responsible Official Telephone Numbers...
Telephone: (352) 365 - 1611 Fax:

5. Application Responsible Official Email Address: gmain@covanta.com

APPLICATION INFORMATION

6. Application Responsible Official Certification:

I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

Signature

4/9/14
Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: Jason M. Gorrie
   Registration Number: 55341
2. Professional Engineer Mailing Address...
   Organization/Firm: Covanta Energy
   Street Address: 350 N. Falkenberg Road
   City: Tampa State: FL Zip Code: 33619
3. Professional Engineer Telephone Numbers...
   Telephone: 813-684-5688 ext. 3015 Fax: (727) 856 - 0007
4. Professional Engineer Email Address: jgorrie@covantaenergy.com
5. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here ☒, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here ☐, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here , if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature 4/24/2014 Date

(seal)

* Attach any exception to certification statement.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 17 East (km) 413.12 North (km) 3179.21		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) 28° 44' 22" Longitude (DD/MM/SS) 81° 53' 23"	
3. Governmental Facility Code: 3	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4953
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: Viet Ta
2. Facility Contact Mailing Address... Organization/Firm: Covanta Lake II, Inc. Street Address: 3830 Rogers Industrial Park Road City: Okahumpka State: FL Zip Code: 34762
3. Facility Contact Telephone Numbers: Telephone: (727) 919 - 7671 Fax: (727) 856 - 0007
4. Facility Contact Email Address: vta@covanta.com

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: Fax:
4. Facility Primary Responsible Official E-mail Address: gmain@covanta.com

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. ☐ Small Business Stationary Source	☐ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☒ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☒ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☒ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☒ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:	

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
CO	A	N
DIOX	B	N
H027 (Cd)	B	N
H106 (HCl)	A	N
H114 (Hg)	B	N
NOX	A	N
PB	B	N
PM	A	N
SO2	A	N

1. Introduction

Covanta Lake II, Inc. is proposing to process "sewage sludge" (or, biosolids) generated from various Publically Owned Treatment Works (POTW) located in the vicinity of the Lake County Resource Recovery Facility in Okahumpka, FL. The biosolids will be trucked to the Resource Recovery Facility to be mixed with municipal solid waste (MSW) and fed to the municipal waste combustors (MWC). There will be no physical changes made to the Resource Recovery Facility to accommodate biosolids processing. Information obtained from similar MWCs processing biosolids indicates there are no observable changes to regulated air emissions. The Facility will continue to comply with all other permit requirements, including all of the applicable emissions limits and standards in 40 CFR 60 Subparts Cb, Emissions Guidelines and Standards of Performance for Large Municipal Waste Combustors.

The Lake County Resource Recovery Facility consists of two identical 288 TPD municipal solid waste combustors Unit Nos. 1 and 2. Each unit capacity is currently limited by the steam production rate of 60,200 pounds per hour based on a 4-hour block average. Each unit is equipped with an auxiliary burner for combustion control, SNCR for NOx control, activated carbon injection for mercury and dioxin control, lime slurry spray dry absorber for acid gas control, and a fabric filter baghouse for particulate matter control. Each unit is continuously monitored for CO, SO_2, NOx, O_2, opacity, steam load, baghouse inlet temperature, and carbon injection rate. The facility nominal processing capacity is 576 tons/day of MSW fuel. The facility is owned and operated by Covanta Lake II, Inc., a subsidiary of Covanta Energy Corporation.

The proposed biosolids feed rate is up to 5% of the MWCs' total daily capacity of 576 tons (i.e. up to 28 tons per day of biosolids). The term biosolids means solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Biosolids includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Biosolids does not include grit and screenings generated during preliminary treatment of domestic sewage in a treatment works. APPENDIX A contains laboratory reports of biosolids samples collected on 1/23/2014 from The City of Leesburg WWTP.

2. Regulatory Analyses

2.1 40 CFR 60 Subpart Cb, Emissions Guidelines and Standards of Performance for Large Municipal Waste Combustors That are Constructed on or Before September 20,1994: The two existing MWCs will continue to be subjected to Subpart Cb while processing biosolids at the proposed feed rate.

2.2 40 CFR 60 Subpart Eb, Emissions Guidelines and Standards of Performance for Large Municipal Waste Combustors for Which

Construction is Commenced After September 20, 1994 or for which Modification or Reconstruction is Commenced after June 19, 1996: The two existing MWCs are not subjected to Subpart Eb while processing biosolids because no modification or reconstruction is required in order for the MWC to process biosolids.

2.3 40 CFR 60, Subpart LLLL-Standards of Performance for New Sewage Biosolids Incineration (SSI) Units and 40 CFR 60, Subpart MMMM-Emission Guidelines and Compliance Times for Existing SSI Units: Subparts LLLL and MMMM were developed under the authority of Section 129 of the Clean Air Act Amendments of 1990. Because the two existing MWC units are subject to other Section 129 standards (namely, Subpart Cb), Subparts LLLL and MMMM are not applicable (see 76 FR 15376).

2.4 PSD New Source Review: The two existing MWCs are located in attainment area for all pollutants. They are considered "major stationary source" because these MWCs have charging rate above 250 TPD and belonging to the list of specifically delineated source categories ("List of 28") which emits or has the potential to emit 100 tpy or more of any PSD pollutant. Because no physical change is taking place, and because stack testing at similar facilities (Hillsborough County Resoure Recovery Facility and Lee County Resource Recovery Facility) has demonstrated that the emissions will be unchanged, PSD is not applicable.

2.5 40 CFR 61, Subpart E-National Emission Standards for mercury:

2.5.1 Per Section 61.50: the two existing MWCs are subject to Subpart E upon commencement of biosolids processing because feeding biosolids to the MWC is akin to incineration.

2.5.2 Per Section 61.52(b): emissions to the atmosphere from biosolids incineration plants shall not exceed 3.2 kg (7.1 lb) of mercury per 24-hour period.

2.5.3 Per Section 61.53(d):

(1) Unless a waiver of emission testing is obtained under § 61.13, each owner or operator of a source subject to the standard in § 61.52(b) shall test emissions from that source. Such tests shall be conducted in accordance with the procedures set forth either in paragraph (d) of this section or in § 61.54.

(2) Method 101A in appendix B to this part shall be used to test emissions as follows:

(i) The test shall be performed within 90 days of the effective date of these regulations in the case of an existing source or a new source which has an initial startup date preceding the effective date.

(ii) The test shall be performed within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(3) The Administrator shall be notified at least 30 days prior to an emission test, so that he may at his option observe the test.

(4) Samples shall be taken over such a period or periods as are necessary to determine accurately the maximum emissions which will occur in a 24-hour period. No changes shall be made in the operation which would potentially increase emissions above the level determined by the most recent stack test, until the new emission level has been estimated by calculation and the results reported to the Administrator.

(5) All samples shall be analyzed and mercury emissions shall be determined within 30 days after the stack test. Each determination shall be reported to the Administrator by a registered letter dispatched within 15 calendar days following the date such determination is completed.

(6) Records of emission test results and other data needed to determine total emissions shall be retained at the source and shall be made available, for inspection by the Administrator, for a minimum of 2 years.

Since the applicant conducts annual stack testing for mercury in accordance with the requirement in Subpart Cb, the applicant requests approval of emission testing under 40 CFR 61, Subpart A, §**61**.13(h)(1)(**ii**), which states: *Emission tests shall be conducted as set forth in this section, the applicable subpart and appendix B unless the Administrator: (ii) Approves the use of an alternative method;*

3.0 Operation

Biosolids with solid contents of at least 12 percent will be trucked from nearby wastewater treatment plants. The biosolids will be directly offloaded into the refuse storage bunker along with municipal solid waste. The crane operators will mix the biosolids and MSW to achieve a homogenous fuel. The crane operators will pick up the mixed fuel and feed it directly into the boiler feed hoppers.

4.0 Biosolids analyses

Appendix A contains analytical data for biosolids samples taken on 12/18/2013 from The Villages WWTP. Table 1 shows analytical results of pertinent data.

Table 1. City of Leesburg POTW biosolids sample 1/23/2014

	Average Concentration, mg/kg dry
Hg	0.614
Cd	1.60
Pb	24.2

At the proposed maximum biosolids feed rate of 28 tons per day, the daily quantity of the three pollutants from the biosolids entering the facility is shown in Table 2.

Table 2. miligrams of pollutants enter facility daily from 28 tons of biosolids

Pollutant	(mg)
Hg	15,596
Cd	40,727
Pb	616,000

At the assumed air pollution control efficiency of 95%, the quantity of the three pollutants emitted from the facility is shown in Table 3.

Table 3. miligrams of pollutants emit the facility daily from 28 tons of biosolids

Pollutant	(mg)
Hg	780
Cd	2,036
Pb	30,800

The total daily stack gas flow in cubic meters calculated from the January 2014 stack air flow is shown in Table 4.

Table 4. Total daily stack gas flow, cubic meters

May-12	dscfm	dscmm	dscmd
Unit 1	33374	945	1360800
Unit 2	33610	951	1369440
	Total daily stack gas flow, cubic meters		**2730240**

The theoretical increased concentration of the three pollutants to the atmosphere due to biosolids feed rate of 28 tons per day is shown in Table 5.

Table 5. Theoretical concentration of pollutants in stack gas due to 28 tons of biosolids

Pollutant	(mg/dscm)
Hg	0.0002
Cd	0.0007
Pb	0.0100

The January 2014 average concentration of the three pollutants calculated as the average of the result of the 2 MWCs is shown in Table 6.

Table 6. January 2014 stack test results

May-12	Hg (mg/dscm)	Cd (mg/dscm)	Pb (mg/dscm)
Unit 1	0.0041	0.000177	0.0014
Unit 2	0.0042	0.000275	0.0028
Ave	**0.0042**	**0.000226**	**0.0021**

Table 7 below is a summary of the concentration the three pollutants. Column A shows the increased concentration due to biosolids. Column B shows the concentration during the January 2014 stack tests. Column C shows the combined concentration from MSW and biosolids. Column D shows the Title V Air permit limit concentrations.

Table 7. Emission summary

	A	B	C	D
Pollutant	Worst-case predicted increase (mg/dscm)	2014 results (mg/dscm)	combined mg/dscm	limit mg/dscm
Hg	0.0002	0.0042	0.0044	0.050
Cd	0.0007	0.00026	0.0010	0.035
Pb	0.0100	0.0021	0.0121	0.400

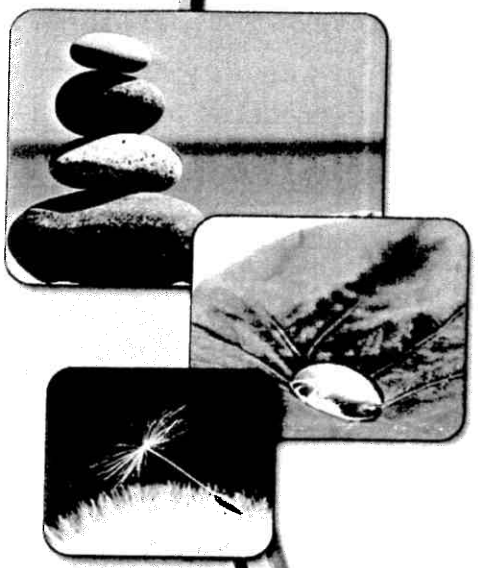
A review of the data in columns C and D shows that the predicted stack concentrations will be well below the Permit emissions limits.

Conclusion:

The conservative mass balance approach outlined above predicts that there will be no appreciable increase in emissions from the combustion of biosolids. Emissions testing undertaken by the Hillsborough County Resource Recovery Facility in 2012 (while combusting biosolids) demonstrated the negligible impact on emissions (see APPENDIX B).

APPENDIX A

Laboratory Results of Biosolids Sample from City of Leesburg WWTP



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-45166-1
Client Project/Site: Quarterly Sludge Turnpike

For:
City of Leesburg
1600 C. R. 470
Okahumpka, Florida 34762

Attn: Ms. Kathy Holley

Authorized for release by:
2/7/2014 3:42:55 PM

Shali Brown, Project Manager II
(615)301-5031
shali.brown@testamericainc.com

Table of Contents

Sample Summary

Client: City of Leesburg
Project/Site: Quarterly Sludge Turnpike

TestAmerica Job ID: 490-45166-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-45166-1	Turnpike	Solid	01/23/14 09:20	01/24/14 08:15

Case Narrative

Client: City of Leesburg
Project/Site: Quarterly Sludge Turnpike

TestAmerica Job ID: 490-45166-1

Job ID: 490-45166-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-45166-1

Comments
No additional comments.

Receipt
The sample was received on 1/24/2014 8:15 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.6° C.

Except:

Method(s) Moisture: The following samples were received outside of holding time: Turnpike (490-45166-1).

Metals
Method(s) 6010C: The low level check standard recovery associated with batch 400-206672 is outside the acceptance criteria for the following analyte(s): selenium. Turnpike (490-45166-1)

Method(s) 7470A: The matrix spike duplicate (MSD) recovery for prep batch 206569 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 7470A: The following sample was diluted due to the nature of the sample matrix: Turnpike (490-45166-1). The sample foamed requiring a dilution. Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

General Chemistry
Method(s) SM 2540G: The following samples were received outside of holding time: Turnpike (490-45166-1).

Method(s) 351.2: The matrix spike(MS) recoveries for batch 206604 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 365.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 206725 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No other analytical or quality issues were noted.

Lab Admin
No analytical or quality issues were noted.

Qualifiers

Metals

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
Q	Sample held beyond the accepted holding time.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
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.

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
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)

Client Sample Results

Client: City of Leesburg
Project/Site: Quarterly Sludge Turnpike

TestAmerica Job ID: 490-45166-1

Client Sample ID: Turnpike
Date Collected: 01/23/14 09:20
Date Received: 01/24/14 08:15

Lab Sample ID: 490-45166-1
Matrix: Solid
Percent Solids: 1.6

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.77		1.56	1.25	mg/Kg	☼	02/02/14 08:10	02/03/14 16:04	1
Cadmium	1.60		1.56	0.313	mg/Kg	☼	02/02/14 08:10	02/03/14 16:04	1
Chromium	18.3		3.13	0.625	mg/Kg	☼	02/02/14 08:10	02/03/14 16:04	1
Copper	1240		3.13	0.625	mg/Kg	☼	02/02/14 08:10	02/05/14 13:55	1
Lead	24.2		1.56	0.625	mg/Kg	☼	02/02/14 08:10	02/03/14 16:04	1
Molybdenum	83.1		3.13	0.625	mg/Kg	☼	02/02/14 08:10	02/03/14 16:04	1
Nickel	14.2		1.56	0.938	mg/Kg	☼	02/02/14 08:10	02/03/14 16:04	1
Potassium	0.604		0.0313	0.00313	% by dwt	☼	02/02/14 08:10	02/03/14 16:04	1
Selenium	14.0		3.13	1.25	mg/Kg	☼	02/02/14 08:10	02/06/14 17:51	1
Zinc	939		6.25	2.50	mg/Kg	☼	02/02/14 08:10	02/03/14 16:04	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.614		0.0250	0.00875	mg/Kg	☼	02/05/14 08:40	02/06/14 12:42	2

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.58	Q			SU			01/31/14 11:18	1
Temperature	19.3	Q			Degrees C			01/31/14 11:18	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	1.60	Q	0.100	0.100	%			02/03/14 14:48	1
Phosphorus, Total	4.29	J3	0.301	0.0903	% by dwt	☼	02/04/14 16:30	02/06/14 11:32	5
Nitrogen, Kjeldahl	5.69		0.0156	0.00813	% by dwt	☼		02/04/14 18:59	1
Nitrate Nitrite as N	0.0303		0.000313	0.000100	% by dwt	☼		02/04/14 18:59	1
Nitrogen, Total	5.72		0.0156	0.00813	% by dwt	☼		02/04/14 18:59	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 400-206262/1-A
Matrix: Solid
Analysis Batch: 206437

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206262

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00400	U	0.00500	0.00400	mg/Kg		02/02/14 08:10	02/03/14 14:33	1
Cadmium	0.00100	U	0.00500	0.00100	mg/Kg		02/02/14 08:10	02/03/14 14:33	1
Chromium	0.00200	U	0.0100	0.00200	mg/Kg		02/02/14 08:10	02/03/14 14:33	1
Copper	0.00200	U	0.0100	0.00200	mg/Kg		02/02/14 08:10	02/03/14 14:33	1
Lead	0.00200	U	0.00500	0.00200	mg/Kg		02/02/14 08:10	02/03/14 14:33	1
Molybdenum	0.00200	U	0.0100	0.00200	mg/Kg		02/02/14 08:10	02/03/14 14:33	1
Nickel	0.00300	U	0.00500	0.00300	mg/Kg		02/02/14 08:10	02/03/14 14:33	1
Potassium	0.0000100	U	0.000100	0.0000100	% by dwt		02/02/14 08:10	02/03/14 14:33	1
Selenium	0.00400	U	0.0100	0.00400	mg/Kg		02/02/14 08:10	02/03/14 14:33	1
Zinc	0.00800	U	0.0200	0.00800	mg/Kg		02/02/14 08:10	02/03/14 14:33	1

Method: 7470A - Mercury

Lab Sample ID: MB 400-206569/14-A
Matrix: Solid
Analysis Batch: 206750

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206569

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0000700	U	0.000200	0.0000700	mg/Kg		02/05/14 08:40	02/06/14 12:39	1

Lab Sample ID: LCS 400-206569/15-A
Matrix: Solid
Analysis Batch: 206750

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206569

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00100	0.0008680		mg/Kg		87	80 - 120

Lab Sample ID: 400-85514-A-1-F MS
Matrix: Solid
Analysis Batch: 206750

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 206569

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0000700	U J3	0.00100	0.0009800		mg/Kg		98	85 - 115

Lab Sample ID: 400-85514-A-1-G MSD
Matrix: Solid
Analysis Batch: 206750

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 206569

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0000700	U J3	0.00100	0.0008140	J3	mg/Kg		81	85 - 115	19	20

Method: 2540G - Total Solids

Lab Sample ID: MB 400-206391/1
Matrix: Solid
Analysis Batch: 206391

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	0.100	U	0.100	0.100	%			02/03/14 14:48	1

Lab Sample ID: 490-45166-1 DU
Matrix: Solid
Analysis Batch: 206391

Client Sample ID: Turnpike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Solids	1.60	Q	1.600		%		0	4

Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 400-206530/1-A
Matrix: Solid
Analysis Batch: 206725

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206530

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus, Total	0.0000150	U	0.0000500	0.0000150	% by dwt		02/04/14 16:30	02/06/14 11:29	1

Lab Sample ID: LCS 400-206530/2-A
Matrix: Solid
Analysis Batch: 206725

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206530

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus, Total	0.000260	0.0002516		% by dwt		97	75 - 125

Lab Sample ID: 490-45166-1 MS
Matrix: Solid
Analysis Batch: 206725

Client Sample ID: Turnpike
Prep Type: Total/NA
Prep Batch: 206530

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus, Total	4.29	J3	0.120	4.461	J3	% by dwt	☼	138	75 - 125

Lab Sample ID: 490-45166-1 MSD
Matrix: Solid
Analysis Batch: 206725

Client Sample ID: Turnpike
Prep Type: Total/NA
Prep Batch: 206530

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phosphorus, Total	4.29	J3	0.111	4.613	J3	% by dwt	☼	288	75 - 125	3	20

Lab Sample ID: 490-45168-B-1-D DU
Matrix: Solid
Analysis Batch: 206725

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 206530

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Phosphorus, Total	4.74		2.498	J3	% by dwt	☼	62	20

Lab Sample ID: MRL 400-206725/13
Matrix: Solid
Analysis Batch: 206725

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus, Total	0.100	0.1369	I	mg/Kg		137	

Method: 9040C - pH

Lab Sample ID: 490-45166-1 DU
Matrix: Solid
Analysis Batch: 206135

Client Sample ID: Turnpike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	6.58	Q		6.600		SU				0.3	30
Temperature	19.3	Q		19.40		Degrees C				0.5	30

QC Association Summary

Client: City of Leesburg
Project/Site: Quarterly Sludge Turnpike

TestAmerica Job ID: 490-45166-1

Metals

Pre Prep Batch: 206181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-45166-1	Turnpike	Total/NA	Solid	Wt_Wt	

Prep Batch: 206262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-85936-A-1-B MS	Matrix Spike	Total/NA	Solid	3010A	
400-85936-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3010A	
490-45166-1	Turnpike	Total/NA	Solid	3010A	206181
LCS 400-206262/2-A	Lab Control Sample	Total/NA	Solid	3010A	
MB 400-206262/1-A	Method Blank	Total/NA	Solid	3010A	

Analysis Batch: 206437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-85936-A-1-B MS	Matrix Spike	Total/NA	Solid	6010C	206262
400-85936-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	6010C	206262
490-45166-1	Turnpike	Total/NA	Solid	6010C	206262
LCS 400-206262/2-A	Lab Control Sample	Total/NA	Solid	6010C	206262
MB 400-206262/1-A	Method Blank	Total/NA	Solid	6010C	206262

Prep Batch: 206569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-85514-A-1-F MS	Matrix Spike	Dissolved	Solid	7470A	
400-85514-A-1-G MSD	Matrix Spike Duplicate	Dissolved	Solid	7470A	
490-45166-1	Turnpike	Total/NA	Solid	7470A	206181
LCS 400-206569/15-A	Lab Control Sample	Total/NA	Solid	7470A	
MB 400-206569/14-A	Method Blank	Total/NA	Solid	7470A	

Analysis Batch: 206672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-45166-1	Turnpike	Total/NA	Solid	6010C	206262

Analysis Batch: 206750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-85514-A-1-F MS	Matrix Spike	Dissolved	Solid	7470A	206569
400-85514-A-1-G MSD	Matrix Spike Duplicate	Dissolved	Solid	7470A	206569
490-45166-1	Turnpike	Total/NA	Solid	7470A	206569
LCS 400-206569/15-A	Lab Control Sample	Total/NA	Solid	7470A	206569
MB 400-206569/14-A	Method Blank	Total/NA	Solid	7470A	206569

Analysis Batch: 206839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-45166-1	Turnpike	Total/NA	Solid	6010C	206262

General Chemistry

Analysis Batch: 206135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-45166-1	Turnpike	Total/NA	Solid	9040C	
490-45166-1 DU	Turnpike	Total/NA	Solid	9040C	
LCS 400-206135/1	Lab Control Sample	Total/NA	Solid	9040C	
LCS 400-206135/6	Lab Control Sample	Total/NA	Solid	9040C	

General Chemistry (Continued)

Analysis Batch: 206391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-45166-1	Turnpike	Total/NA	Solid	2540G	
490-45166-1 DU	Turnpike	Total/NA	Solid	2540G	
LCS 400-206391/2	Lab Control Sample	Total/NA	Solid	2540G	
MB 400-206391/1	Method Blank	Total/NA	Solid	2540G	

Prep Batch: 206530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-45166-1	Turnpike	Total/NA	Solid	365.2/365.3/365	
490-45166-1 MS	Turnpike	Total/NA	Solid	365.2/365.3/365	
490-45166-1 MSD	Turnpike	Total/NA	Solid	365.2/365.3/365	
490-45168-B-1-D DU	Duplicate	Total/NA	Solid	365.2/365.3/365	
LCS 400-206530/2-A	Lab Control Sample	Total/NA	Solid	365.2/365.3/365	
MB 400-206530/1-A	Method Blank	Total/NA	Solid	365.2/365.3/365	

Analysis Batch: 206591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-45166-1	Turnpike	Total/NA	Solid	Total Nitrogen	

Analysis Batch: 206725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-45166-1	Turnpike	Total/NA	Solid	365.4	206530
490-45166-1 MS	Turnpike	Total/NA	Solid	365.4	206530
490-45166-1 MSD	Turnpike	Total/NA	Solid	365.4	206530
490-45168-B-1-D DU	Duplicate	Total/NA	Solid	365.4	206530
LCS 400-206530/2-A	Lab Control Sample	Total/NA	Solid	365.4	206530
MB 400-206530/1-A	Method Blank	Total/NA	Solid	365.4	206530
MRL 400-206725/13	Lab Control Sample	Total/NA	Solid	365.4	

Lab Chronicle

Client: City of Leesburg
Project/Site: Quarterly Sludge Turnpike

TestAmerica Job ID: 490-45166-1

Client Sample ID: Turnpike
Date Collected: 01/23/14 09:20
Date Received: 01/24/14 08:15

Lab Sample ID: 490-45166-1
Matrix: Solid
Percent Solids: 1.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6010C		1	10 mL	50 mL	206437	02/03/14 16:04	SLM	TAL PEN
Total/NA	Analysis	6010C		1	10 mL	50 mL	206672	02/05/14 13:55	SLM	TAL PEN
Total/NA	Pre Prep	Wt_Wt			1 g	1 mL	206181	01/31/14 14:48	KWN	TAL PEN
Total/NA	Prep	7470A			40 mL	40 mL	206569	02/05/14 08:40	JAP	TAL PEN
Total/NA	Analysis	7470A		2	40 mL	40 mL	206750	02/06/14 12:42	JAP	TAL PEN
Total/NA	Pre Prep	Wt_Wt			1 g	1 mL	206181	01/31/14 14:48	KWN	TAL PEN
Total/NA	Prep	3010A			10 mL	50 mL	206262	02/02/14 08:10	DN1	TAL PEN
Total/NA	Analysis	6010C		1	10 mL	50 mL	206839	02/06/14 17:51	SLM	TAL PEN
Total/NA	Analysis	9040C		1			206135	01/31/14 11:18	LSS	TAL PEN
Total/NA	Analysis	2540G		1			206391	02/03/14 14:48	SLT	TAL PEN
Total/NA	Analysis	Total Nitrogen		1			206591	02/04/14 18:59	JMH	TAL PEN
Total/NA	Prep	365.2/365.3/365			1.0387 g	20 mL	206530	02/04/14 16:30	JAT	TAL PEN
Total/NA	Analysis	365.4		5	1.0387 g	20 mL	206725	02/06/14 11:32	JAT	TAL PEN

Laboratory References:

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

Method Summary

Client: City of Leesburg
Project/Site: Quarterly Sludge Turnpike

TestAmerica Job ID: 490-45166-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL PEN
7470A	Mercury	SW846	TAL PEN
2540G	Total Solids	SM20	TAL PEN
365.4	Phosphorus, Total	EPA	TAL PEN
9040C	pH	SW846	TAL PEN
Total Nitrogen	Nitrogen, Total	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SM20 = "Standard Methods For The Examination Of Water And Wastewater", 20th Edition."

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

Laboratory References:

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

Certification Summary

Client: City of Leesburg
Project/Site: Quarterly Sludge Turnpike

TestAmerica Job ID: 490-45166-1

Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Florida	NELAP	4	E87358	06-30-14

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	06-30-14
Arkansas DEQ	State Program	6	88-0689	09-01-14
Florida	NELAP	4	E81010	06-30-14
Georgia	State Program	4	N/A	06-30-14
Illinois	NELAP	5	200041	10-09-14
Iowa	State Program	7	367	08-01-14
Kansas	NELAP	7	E-10253	10-31-14
Kentucky (UST)	State Program	4	53	06-30-14
Louisiana	NELAP	6	30976	06-30-14
Maryland	State Program	3	233	09-30-14
Massachusetts	State Program	1	M-FL094	06-30-14
Michigan	State Program	5	9912	05-04-14
New Jersey	NELAP	2	FL006	06-30-14
North Carolina DENR	State Program	4	314	12-31-14
Oklahoma	State Program	6	9810	08-31-14
Pennsylvania	NELAP	3	68-00467	01-31-15
Rhode Island	State Program	1	LAO00307	12-30-14
South Carolina	State Program	4	96026	06-30-13 *
Tennessee	State Program	4	TN02907	06-30-14
Texas	NELAP	6	T104704286-12-5	09-30-14
USDA	Federal		P330-13-00193	07-01-16
Virginia	NELAP	3	460166	06-14-14
West Virginia DEP	State Program	3	136	06-30-14

* Expired certification is currently pending renewal and is considered valid.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

Orlando

490-45166 Chain of Custody

Cooler Received/Opened On 1/24/2014 @ 0815

1. Tracking # 3511 (last 4 digits, FedEx)

Courier: Fedex IR Gun ID 17960358

2. Temperature of rep. sample or temp blank when opened: 1.6 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO (NA)

4. Were custody seals on outside of cooler? YES (NO) NA

If yes, how many and where:

5. Were the seals intact, signed, and dated correctly? YES...NO. (NA)

6. Were custody papers inside cooler? (YES)..NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) RLA

7. Were custody seals on containers: YES (NO) and Intact YES...NO..(NA)

Were these signed and dated correctly? YES...NO. (NA)

8. Packing mat'l used? (Bubblewrap) Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack (Ice (direct contact)) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)..NO...NA

12. Did all container labels and tags agree with custody papers? (YES)...NO...NA

13a. Were VOA vials received? YES. (NO) NA

b. Was there any observable headspace present in any VOA vial? YES...NO...(NA)

14. Was there a Trip Blank in this cooler? YES...(NO)...NA If multiple coolers, sequence # NA

I certify that I unloaded the cooler and answered questions 7-14 (intial) H

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? (YES) NO..NA

b. Did the bottle labels indicate that the correct preservatives were used (YES) .NO...NA

16. Was residual chlorine present? YES. (NO) NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) H

17. Were custody papers properly filled out (ink, signed, etc)? (YES) .NO...NA

18. Did you sign the custody papers in the appropriate place? (YES) .NO...NA

19. Were correct containers used for the analysis requested? (YES)..NO...NA

20. Was sufficient amount of sample sent in each container? (YES)..NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) H

I certify that I attached a label with the unique LIMS number to each container (intial) H

21. Were there Non-Conformance issues at login? YES..(NO) Was a NCM generated? YES..(NO) .#

BIS = Broken in shipment
Cooler Receipt Form.doc

Revised 12/8/2014

TestAmerica Orlando
8010 Sunport Drive Suite 116
Orlando, FL 32809
Phone (800) 851-2560 Fax (407) 856-0886

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

2/7/2014

Client Information
Client Contact: Ms. Kathy Holley
Company: City of Leesburg
Address: 1600 C. R. 470
City: Okahumpka
State, Zip: FL, 34762
Phone:
Email: kathy.holley@leesburgflorida.gov
Project Name: Quarterly Sludge (503 or 62-640)
Site: Turnpike

Sampler:
Phone:
Due Date Requested:
TAT Requested (days):
PO #: Pay by Credit Card
WO #:
Project #: 49001721
SSOW#:

Lab PM: Brown, Shali
E-Mail: shali.brown@testamericainc.com
Carrier Tracking No(s):

COC No: 490-1402-410.1
Page: Page 1 of 1
Job #:

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B - As,Cd,Cr,Cu,Pb,Mo,Ni,K,Se,Zn	Nitrogen,Total (TN, TKN, NOX)	2540G - Total Solids	365.4 - Phosphorus, Total	9040C - 9040C pH	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	S	N	S	N		
Turnpike	1/20/14 1/23/14	920	C	Sludge			x	x	x	x	x		report in dry weight

Loc: 490
45166

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological
Deliverable Requested: I, II, III, IV, Other (specify)

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:

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

	Date/Time	Company		Date/Time	Company
Relinquished by:	1/23/14 930		Received by:	1/23/14 1237	TAOrl
Relinquished by:	1/23/14	TAOrl	Received by:	1-24-14 08:15	TAN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 1.6

Login Sample Receipt Checklist

Client: City of Leesburg

Job Number: 490-45166-1

Login Number: 45166
List Number: 1
Creator: Ford, Easton

List Source: TestAmerica Nashville

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.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	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.	True	

Login Sample Receipt Checklist

Client: City of Leesburg

Job Number: 490-45166-1

Login Number: 45166
List Number: 1
Creator: Crawford, Lauren E

List Source: TestAmerica Pensacola
List Creation: 01/31/14 11:09 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.7°C IR6
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	

APPENDIX B

Hillsborough County Resource Recovery Facility Report on Emissions While Firing Biosolids

COVANTA™
ENERGY
for a cleaner world

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August 23, 2013

Ms. Erin DiBacco
Florida Department of Environmental Protection
Division of Compliance and Enforcement
13051 North Telecom Parkway
Temple Terrace, FL 33637

Re: Hillsborough County Resource Recovery Facility
Special Report on Biosolids Combustion

Dear Ms. DiBacco,

In accordance with Specific Condition 9 of the Air Construction Permit No. 0570261-016-AC (MWC Units #1, #2, #3, and #4), please find the Special Report on Biosolids Combustion for the Hillsborough County Resource Recovery Facility.

Based upon information and observations formed after reasonable inquiry, the statements and information in the attached document are believed to be true, accurate, and complete.

If you have any questions regarding this matter, please feel free to contact me. I can be reached during the day at (813) 684-5688 ext. 3013.

Sincerely,

Glenn M. Hoag
Facility Manager

cc: C. Defoe (FDEP)
S. Pelz (FDEP)
J. Waters (HC-EPC)
P. Berry (HC-SWMG)
G. Cassady (HC-PUD)
N. Johnson (HC-SWMG)
D. DeArmond (HC-SWMG)
D. Strobridge (CDM Smith)
P. Hauck (CDM Smith)
File (Covanta Hillsborough)

Introduction

The Hillsborough County Resource Recovery Facility (RRF) consists of: four municipal waste combustors (MWC's) (Units 1, 2, 3 and 4) with auxiliary burners; lime storage and processing facilities; ash storage and processing facilities; cooling towers; a wastewater treatment plant and, ancillary support equipment. The facility is owned by Hillsborough County and is currently operated by Covanta Hillsborough, Inc., a subsidiary of Covanta Energy Corporation.

The total capacity of the Hillsborough County RRF is approximately 1,800 tons/day of municipal solid waste (MSW). The gross nominal electric generating capacity of the facility is 47 megawatts (MW). Steam production from Units 1, 2 and 3 is limited to 102,000 pounds of per hour per unit (lb/hour/unit) and 200,000 lb/hour from Unit 4.

Through the issuance of air construction permit 0570261-016-AC, the Department has eliminated the prohibition on the combustion of "sewage sludge," which is also referred to as "biosolids". The limitations set forth by the permit include a 5% limit on biosolids combusted with respect to the overall MSW processed and biosolids must be at least 12% solids by weight.

The purpose of this report is to determine the effects of biosolid combustion on criteria pollutants monitored by the Facility's MWC Unit # 1-4 Continuous Emission Monitoring Systems. The list of pollutants monitored by the MWC Unit #1-3 CEMS include CO, SO_2, and NOx; and MWC Unit #4 monitors CO, SO_2, NOx, and Hg.

Biosolids Combustion Procedure

The combustion of the biosolids takes place as a mixture along with other municipal solid waste (MSW) to prevent combustion upsets caused by overfeeding of biosolids. The HCRRF is authorized to combust biosolids in the amount of up to 5% of the municipal solid waste combusted in Unit Nos. 1, 2, 3 and 4 with loading rates on an as received (i.e., wet) basis not to exceed 90 TPD facility-wide, averaged daily.

Each truckload of biosolids weighs in at the facility scale house. The scale house establishes and records the net weight and the source of the biosolids. Generally, all biosolids are delivered to the RRF by the Public Utilities Department's contractor's trucks. During the 30 day observation period (5/7/2013-6/5/2013), the facility received between 2-4 truckloads per week containing approximately 20 tons of biosolids each.

Each truck proceeds to the RRF tipping floor and positions itself near an unloading bay, but at a safe distance from the storage pit, as directed by the tipping floor loader operator. The driver prepares the truck for unloading, that is, retracts cover tarp as necessary, release manual safety latches, etc. The driver then backs the truck up to the storage pit curb so that all the biosolids will be dumped directly into the storage pit.

The tipping floor loader operator inspects the area where the biosolids truck was unloaded. If there is any residual biosolid material on the tipping floor, the loader operator pushes the residuals to the waste storage pit using the loader bucket with other MSW which has been stored on the tipping floor. This action ensures that any biosolids residuals are removed from the tipping floor and placed into the pit.

After the biosolids have been deposited into the waste storage pit, the crane operator covers the biosolids with a layer of yard waste or other MSW previously placed in the waste storage pit. The crane operator uses the crane grapple to mix the top layer of MSW with the biosolids. The crane operator then spreads the biosolids-MSW mixture over the top of other MSW stored in the back-stack area of the waste storage bunker. Other MSW may be spread over the top of this mixture. All mixing takes place in the waste storage bunker. The mixing process is the primary measure to ensure that a homogenous mixture is fed into the hopper and minimizes environmental concerns related to co-combustion of biosolids.

Results

In order to analyze the effect of biosolid combustion, the average of each pollutant for the first 30 days post biosolid introduction (beginning May 7, 2013) was compared to the 12 month average for each pollutant prior to biosolid combustion on each MWC unit (Tables 1-4).

Table 1

Unit 1

Parameter	Annual Stack Concentrations Measured by the CEMS[1]	May-June 2013 CEMS Data w/ Biosolids[2]
CO	16 ppm @ 7% O2	17 ppm @ 7% O2
SO_2	3 ppm @ 7% O2	1 ppm @ 7% O2
NOx	176 ppm @ 7% O2	176 ppm @ 7% O2

(1) Data collected by averaging all 1-hr periods from 5/7/2012 to 5/6/2013.

(2) Data collected from averaging all 1-hr periods for 30 days beginning on 5/7/2013 and ending on 6/5/2013.

Table 2

Unit 2

Parameter	Annual Stack Concentrations Measured by the CEMS[1]	May-June 2013 CEMS Data w/ Biosolids[2]
CO	13 ppm @ 7% O2	13 ppm @ 7% O2
SO_2	2 ppm @ 7% O2	0 ppm @ 7% O2
NOx	172 ppm @ 7% O2	168 ppm @ 7% O2

(1) Data collected by averaging all 1-hr periods from 5/7/2012 to 5/6/2013.

(2) Data collected from averaging all 1-hr periods for 30 days beginning on 5/7/2013 and ending on 6/5/2013.

Table 3

Unit 3

Parameter	Annual Stack Concentrations Measured by the CEMS[1]	May-June 2013 CEMS Data w/ Biosolids[2]
CO	18 ppm @ 7% O2	13 ppm @ 7% O2
SO_2	3 ppm @ 7% O2	5 ppm @ 7% O2
NOx	179 ppm @ 7% O2	176 ppm @ 7% O2

(1) Data collected by averaging all 1-hr periods from 5/7/2012 to 5/6/2013.

(2) Data collected from averaging all 1-hr periods for 30 days beginning on 5/7/2013 and ending on 6/5/2013.

Table 4

Unit 4

Parameter	Annual Stack Concentrations Measured by the CEMS[1]	May-June 2013 CEMS Data w/ Biosolids[2]
CO	32 ppm @ 7% O2	31 ppm @ 7% O2
SO_2	2 ppm @ 7% O2	9 ppm @ 7% O2
NOx	85 ppm @ 7% O2	86 ppm @ 7% O2
Hg	1.37 µg/dscm[3]	0.37 µg/dscm

(1) Data collected by averaging all 1-hr periods from 5/7/2012 to 5/6/2013.

(2) Data collected from averaging all 1-hr periods for 30 days beginning on 5/7/2013 and ending on 6/5/2013.

(3) Due to limited amount of data available this number reflects the average of all data points taken from 7/1/2012 – 5/6/2013.

Conclusion

Based on the data observed, there was no significant impact to the RRF emissions due to the co-combustion of biosolids during the course of this analysis. The CEMS data recorded no identifiable emissions increase across all 4 combustion units, and all four units continued to operate within normal operating parameters while the biosolids were being combusted. We will continue to closely monitor the CEMS system during the limited times that biosolids are being combusted and will notify the Department if the practice jeopardizes compliance with RRF's emissions limits.