

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
Field Observation Report: Stack Testing

Facility: Packaging Corporation of America - Filer City Mill		SRN / ID: B3692
Location: FILER CITY	County: MANISTEE	District: Cadillac

Permit(s):	MI-ROP-B3692-2009		
Save			
Contact (s):	Cody Campbell - PCA Contact	Staff (s):	Jeremy Howe - Cadillac
	Todd Wessel - Tester Lead		
			05/20/14
			05/21/14

<b>ACTIVITY:</b>	
<input type="checkbox"/> Pre-Test Site Visit/Monitoring	<input checked="" type="checkbox"/> Relative Accuracy Test Audit (RATA)
<input type="checkbox"/> Performance Specification Test (PST)	<input type="checkbox"/> COMS Performance Test Audit
<input type="checkbox"/> Cylinder Gas Audit (CGA)	<input type="checkbox"/> Visible Emissions Observation
<input type="checkbox"/> Photos Taken	<input type="checkbox"/> Other

This was a Relative Accuracy Test Audit at Packaging Corporation of America (PCA) in Filer City, Manistee County on May 20-21, 2014 for the following emission units and parameters:

- EUBOILER4A
  - o NOX (lb/mmBtu)
  - o O2 (%)
- EUBOILER2
  - o NOX (lb/mmBtu)
  - o O2 (%)

JH  
7-1-14

The following individuals were involved with the test:

DEQ

Jeremy Howe – Cadillac

Stack Testers – BTEC

Todd Wessel – Lead 616-885-4013 [twessel@btecinc.com](mailto:twessel@btecinc.com)

Kenny Felder – Stack

Facility

Cody Campbell – Process Engineer 231-723-8142 [ccampbell@packagingcorp.com](mailto:ccampbell@packagingcorp.com)

Dillon Walker – Retrieving CEMs data

**Observations:**

**May 20**

**I arrived onsite at 0945**

Today, BTEC was performing the RATA of EUBOILER4A. Sara Kaltunas was in the hospital for the test, so I first met up with Drew Kennon. Drew then handed me off to Cody Campbell who was the facility point of contact for the tests. Cody and I went to the trailer where we found Todd and Kenny running the test. I found out from Todd that the Environics wasn't working so they were not using Method 205 to dilute the calibration gases. I also found out from the PCA people that the CEMs time is 55 minutes slow of reality. I went with Cody up to the control room to see the process parameters for fuel flow and steam production to make sure they were greater than 50% of max potential for the RATA. We came back down to the trailer and I observed some more runs and made my own calculations for corrected ppm, lb/mmBtu and RA. The CEM went into calibration mode during Run 8. I told Todd it was ok because the CEM is only required to report a reading once every 15 minutes, so the CEM will have less than twenty-one 1-minute averages for that run.

A summary of the RATA is below:

PCA EUBOILER4A RATA May 20, 2014					
	NOX	O2	NOX LB/MMBTU		
Run	PPM	%	RM	CEM	
1*	66.9	4.7	0.090	0.088	0.002
2*	67	4.4	0.089	0.086	0.003
3*	67.1	4.4	0.089	0.086	0.003
4*	68.1	4.6	0.091	0.088	0.003
5*	65.5	3.9	0.084	0.086	-0.002
6*	67.8	4.5	0.090	0.087	0.003
7*	67.2	4.2	0.088	0.086	0.002
8**	65.9	4.47			
9**	65.74	4.12			
10**	65.97	4.65			
			0.089	0.087	0.002
* = raw data corrected by TPU					0.002
** = raw data corrected by BTEC				RA	3.8
lb/mmBtu calculated using 8740 F Factor					
Steam Load $\approx$ 110.8 kpph Natural Gas Flow $\approx$ 123 kscfh					

Limit 20

I decided to leave and eat lunch at this time. BTEC was waiting for a 10,000 ppm methane standard to come in so they could do the annual leak detection test. They needed to do it before the end of the day because PCA had to shut down part of the process for maintenance the following day. I told Cody to call me when the standard came in and if it wasn't too late that I would come back and observe that testing as well

I left the site at 1330

Note: I came back later that afternoon to observe leak testing on the Low Volume / High Concentration (LVHC) system

May 21

I arrived onsite at 1000

Today, BTEC was performing the RATA of EUBOILER2. I went with Cody up to the control room. From there Dillon took me up to the sample location which is up some stairs and behind the boiler on the outside of the building. I learned later that the bottom port would not come off, so BTEC was moving the probe every 7 minutes in one duct since they could not get a strat test done with the bottom port. I believe the issue was that the duct was taller than it was wide, so they needed to get the bottom port off to best check for stratification. As such, BTEC decided to just move the probe in the middle port at 1/6, 3/6 and 5/6 across the duct. Of note was Todd claimed the location had very high negative static pressure. He claimed he could feel the air being sucked into the opened port by just standing there. No flow was being taken, so the pressure was not measured.

After a number of runs had been completed I compared my lb/mmBtu calculations with BTEC's and also PCA's. I noticed on PCA's printout that they were using an F Factor of 8740 dscf/mmBtu for natural gas. The default value in Method 19 is 8710. I asked Todd about it and he said he hadn't noticed it. I asked Cody about it and he didn't know where it had come from either. Upon further investigation, PCA realized that they had been using the wrong F Factor and changed it to 8710 for both EUBOILER4A and EUBOILER2. I told BTEC to calculate the RATAs using 8740 though, because that is how PCA was reporting their CEM data on test day.

A summary of the RATA through 6 runs is below:

PCA EUBOILER2 RATA May 21, 2014					
Run	NOX	O2	NOX LB/MMBTU		
	PPM	%	RM	CEM	
1*	72.9	5.3	0.102	0.107	-0.005
2*	73.2	4.9	0.100	0.106	-0.006
3*	77.5	5.1	0.107	0.117	-0.010
4*	73.0	4.9	0.099	0.107	-0.008
5*	70.9	4.8	0.096	0.104	-0.008
6*	72.2	4.8	0.098	0.105	-0.007
			0.100	0.108	-0.007
* = raw data corrected by TPU					0.002
				RA	8.7
lb/mmBtu calculated using 8740 F Factor					
Steam Load $\approx$ 117 kpph Natural Gas Flow $\approx$ 100 kscfh					

Limit 20

Staff:

CC:

Date:

