Puite, Tammie (DEQ)

From: Howe, Jeremy (DEQ)
Sent: Friday, March 17, 2017 1:03 PM
To: Puite, Tammie (DEQ)
Cc: Ransom, Janis (DEQ); Asher, Joel (DEQ)
Subject: FW: 3/17/17 Response to Violation Notice Letters
Attachments: 8.3.6 Violation Notice Response 3-17-17.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Another one to post on the website.

Thanks again,

Jeremy Howe
MDEQ AQD
Cadillac District Office
120 West Chapin Street
Cadillac, MI 49601
Office 231-876-4416
Fax 231-775-4050
howej1@michigan.gov

From: Racine, William [mailto:William.Racine@Versoco.com]
Sent: Friday, March 17, 2017 12:52 PM
To: Ransom, Janis (DEQ)
Cc: Archambeau, Matthew; Maule, Jeffrey; Maule, Dan; Becker, Adam; LaFleur, Paula; Brian Rayback; fielderl@michigan.gov; Dolehanty, Mary Ann (DEQ); Ethridge, Christopher (DEQ); Hess, Tom (DEQ); Kajiya-Mills, Karen (DEQ); Asher, Joel (DEQ); Howe, Jeremy (DEQ)
Subject: 3/17/17 Response to Violation Notice Letters

Ms. Ransom,
Attached is the latest response regarding the Violation Notices. One hard copy is being sent to you via mail. Please contact me with any questions.

Bill Racine, P.E.
Environmental Manager, Office 42-120B
william.racine@versoco.com

Verso Corporation
Escanaba Mill
7100 County Rd 426
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Escanaba, MI 49829

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Escanaba, MI 49829

Bill Racine, P.E.
Environmental Engineer

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March 17, 2017

Ms. Janis Ransom
MDEQ
Air Quality Division
120 West Chapin Street
Cadillac, MI 49601-2158

RE: Follow-up to Violation Notice Letters to the Escanaba Paper Company Dated January 4, 2017 and February 1, 2017.

Dear Ms. Ransom,
This letter is being sent in response to the Violation Notice letters initially submitted to Escanaba Paper Company (EPC) dated January 4, 2017 and February 1, 2017. EPC addressed those two Violation Notices in letters dated February 7, 2017 and February 15, 2017, respectively. A conference call was held on February 22, 2017 to discuss the entire matter. On that call were Jeff Maule, Paula LaFleur, Adam Becker, and myself from Verso (EPC). Joel Asher, Jeremy Howe, and you were on the call from MDEQ. A letter addressing that call was sent to you on February 27, 2017. Joel Asher from the MDEQ contacted me via phone and email on March 7, 2017 with some follow-up requests. These requests are shown in Attachment 1 and are addressed as follows:

No. 11 Boiler Carbon Monoxide (CO)

- **Why didn't you know you failed the test?**

  EPC became aware of the Title V exceedance for CO shortly after we received the draft stack test report on 10/19/16. EPC reviewed the reports internally and with Advanced Industrial Resources (AIR) over the next few days. Paula LaFleur contacted Joel Asher via phone to discuss this and other issues on 10/24/16. Paula submitted a cover letter and a test report to Joel and to Karen Kajiya-Mills on 10/27/16. The report and cover letter show the results of the test and describe why it happened.

  EPC was not aware of the results sooner because the instrument measures CO in parts per million (ppm), not lbs/mmbtu. As stated previously, this test was run under abnormal conditions focusing on the Boiler MACT (BMACT) limit of 3500 ppm. EPC knew emissions were well under the BMACT limit. Because EPC has not had issues meeting

the Title V CO limit of 0.5 lbs/mmbtu, the conversion to lbs/MMBTU was not made; therefore, we didn't become aware of the issue until after 10/19/16.

- **How are you changing review of test data?**

EPC cannot definitively quantify the CO concentration in lbs/mmbtu during stack testing; however, stack testers can provide the CO concentration in ppm during the test. Under typical stack testing conditions a CO concentration of 500 ppm will start to approach the limit of 0.5 lbs/mmbtu. With the exception of the 8/30/16 BMACT test, a concentration of 500 ppm is very high when compared to previous stack tests, as can be seen in the ppmdv row near the bottom of Attachment 2. EPC is now cognizant of this fact and will monitor future testing accordingly. In addition, EPC will calculate the lbs/mmbtu CO concentration shortly after testing to ensure compliance. This will occur within 24 hours of the testing.

- **Are there other metrics to show compliance?**

See the answers to the questions below.

  - **Provide data that Boiler 11 has not exceeded the CO lb/mmbtu limit since testing.**

    Because CO is measured during stack testing, EPC cannot confirm continuous compliance. As stated previously; however, CO does correlate reasonably well with stack oxygen (O2) concentrations. This can be seen in Attachment 2 when you compare the % Oxygen (dry) row (stack O2) to the measured CO concentration rows (ppmvd & lb/mmbtu). Attachment 3 shows No. 11 Boiler average steaming rates, stack O2, and the O2 Setpoint from 6/1/16 through 3/13/17. Stack O2 for all of 2016 was previously submitted to the MDEQ on February 7, 2017. Please note the O2 setpoint is for the combustion zone, not the stack O2.

    As can be seen on page 6 of Attachment 3, the minimum stack O2 for this period is 4.4%. As can be seen in Attachment 2, % Oxygen (dry) was at or below 4.4% during seven stack tests. With the exception of the 8/30/16 stack test where stack O2 was 2.7%, CO was well below the Title V limit of 0.5 lbs/mmbtu. Because EPC has passed six stack tests for CO at stack O2 concentrations at or below 4.4% and because No. 11 Boiler was not run at a stack O2 of less than 4.4% there is no reason to believe EPC has exceeded the CO limit.

  - **Provide plan to prevent Boiler 11 from exceeding the CO lb/mmbtu limit going forward.**

    Until stack testing is completed in June, EPC will run the No. 11 Boiler O2 trim at a setpoint of no lower than 2.4% O2. This minimum setpoint will be adhered to at all times unless adjustments are required to ensure the safe operation of the boiler. This alarm was set on March 10, 2017 to inform operations and environmental staff if the setpoint drops below 2.4. As can be seen in Attachment 3, at a setpoint of 2.4 there is virtually no risk of stack O2 falling below 4.4%. This will ensure EPC is well below the CO limit of 0.5 lbs/mmbtu. EPC will report deviations if the O2 setpoint falls below 2.4 on No. 11 Boiler in the Title V ROP certification for any instances between March 10, 2017 and the time repeat stack testing is completed.

    Because there is a loss of efficiency and added cost to run at higher O2 levels, stack testing in June will be used to determine if a lower setpoint is acceptable while maintaining compliance with the CO limit of 0.5 lbs/mmbtu.

- **Provide re-test date. (The facility needs to RATA next quarter, will it occur during this week.)**

CO stack testing on No. 11 Boiler and Relative Accuracy Test Audits (RATAs) have been scheduled for the week of June 12, 2017 and the week of June 19, 2017, if needed. A site specific test protocol (SSTP) will be submitted accordingly.

No. 9 Boiler and No. 11 Boiler Quality Assurance for Mercury

- **Fuel sampling or stack testing?**
  - **What month will the fuel sampling start or what date will stack testing occur? (Same thing about the RATA next quarter if stack testing.)**

Per the recommendation from Jeremy Howe, EPC will conduct fuel testing to comply with the Boiler MACT mercury emission limit on No. 9 Boiler moving forward. EPC already collects monthly composite wood waste samples for Greenhouse Gas testing. Review of that procedure shows the samples were collected in compliance with BMACT and the hold time has not been exceeded. The lab EPC uses, ALS, keeps these samples for several months. ALS is in the process of analyzing wood waste samples from August 2016, September 2016, January 2017, and February 2017 for chloride and mercury. No wood waste was burned in No. 9 Boiler in October 2016, November 2016, December 2016, or thus far in March 2017. Results of the initial performance testing from 2015 for mercury and hydrochloric acid (HCl) are in Attachment 4. Results from the samples currently being analyzed by ALS and all future results will be submitted to the DEQ and EPA in accordance with BMACT regulations upon completion of analysis. Please note that EPC did receive approval from the EPA for an alternative fuel monitoring request dated October 9, 2015. A copy of the approval is in Attachment 5. The second paragraph of page 2 of that letter describes how EPC is to comply. In order to get the quarterly exemption, No. 9 Boiler will need to burn wood in at least six different months within a 12-month period and all the results will need to be 75% or less of the compliance level.

EPC will conduct stack testing to comply with BMACT mercury emissions on No. 11 Boiler. That stack testing is scheduled for the week of June 12, 2017 and the week of June 19, 2017, if needed. A site specific test protocol (SSTP) will be submitted for your review and approval.

- **Facility will need to start over with annual testing at this point and that will entail stack testing within 13 months of this next one or 12 consecutive months of fuel sampling.**

For No. 9 Boiler, EPC has requested mercury and chloride analyses from ALS as described above. EPC will conduct monthly fuel testing for 12 consecutive months when the No. 9 Boiler is burning wood waste in accordance with BMACT regulations. This is also spelled out in the Addendum to October 27, 2016 Notification of Compliance Status (NOCS) letter dated March 17, 2017. A hard copy of that letter was submitted to you and to the EPA. A copy is also included in Attachment 6 of this letter.

For No. 11 Boiler, EPC is scheduled to conduct BMACT stack testing for mercury as described above. EPC will conduct another BMACT test for mercury within 13 months of that test. This is also spelled out in the Addendum to October 27, 2016 NOCS letter dated March 17, 2017 referenced above.

- **Notice of Compliance report for CEDRI needs to be resubmitted and the stack test reports in CEDRI need to be amended (prior to submitting the written response).**

EPC resubmitted the amended stack test reports for No. 9 and for No. 11 Boilers in CEDRI on 3/14/17. The Addendum to the 10/27/16 NOCS report dated March 17, 2017 notes the Quality Assurance (QA) failures of the 2016 mercury performance tests and EPC's plans to repeat the compliance demonstrations as noted above. Follow-up compliance reports and NOCS notifications will be submitted after the results of the compliance demonstrations are available.

Summary

EPC is trying to make every effort to prevent this situation from being raised to a High Priority Violation (HPV). EPC reported the high CO on No. 11 Boiler and both of the mercury QA failures as deviations on the Title V ROP Certification that was submitted to Joel Asher on March 8, 2017. EPC would like to thank you for your time and consideration on this matter. We look forward to working proactively with you to resolve this and any future issues. This response is being submitted electronically and one hard copy will be mailed to you unless otherwise requested. Please contact me if any of the conditions in this letter are not acceptable or if you have any questions.

Sincerely,

William R. Racine, P.E.
Environmental Manager

Enc.
CC: Matt Archambeau, Jeff Maule, Adam Becker, Paula LaFleur, Brian Rayback (Pierce Atwood), Lynn Fielder (MDEQ), Mary Ann Dolehanty (DEQ), Chris Ethridge (DEQ), Thomas Hess (DEQ), Karen Kajiya-Mills (DEQ), Jeremy Howe (DEQ), Joel Asher (DEQ)

File 8.3.6

Attachment 1

Racine, William

From: Asher, Joel (DEQ) [ASHERJ@michigan.gov]
Sent: Tuesday, March 07, 2017 2:29 PM
To: Racine, William
Cc: Archambeau, Matthew; Maule, Jeffrey
Subject: [EXT] Follow up to our call on 3/7/17
Attachments: EPC VN Resolution Questions_3-7-17.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Bill,

Attached is the document that lists the specifics we discussed during our call today.

We would like to move forward with this issue and be able to resolve the violations without pursuing escalated enforcement. Please provide a detailed explanation to each of the bullet points in a hard copy letter to Ms. Janis Ransom by Friday March 17, 2017.

If you have any questions please feel free to contact me.

Joel E Asher
Air Quality Division
Department of Environmental Quality
Upper Peninsula District Office
1504 West Washington Street
Marquette, MI 49855
906 250-5123
asherj@michigan.gov

Discussions have been held with the Field Operations Supervisor and the Enforcement Unit

The discussions of an HPV have been discussed. This is looked at on a case-by-case basis.

Depending on the facility's response, escalated enforcement action may be addressed.

CO

- Why didn't you know you failed the test?
- How are you changing review of test data?
- Are there other metrics to show compliance?
    - Provide data that Boiler 11 has not exceeded the CO lb/mmbtu limit since testing.
    - Provide plan to prevent Boiler 11 from exceeding the CO lb/mmbtu limit going forward.
    - Provide re-test date. (The facility needs to RATA next quarter, will it occur during this week.)

Hg

- Fuel sampling or stack testing?
    - What month will the fuel sampling start or what date will stack testing occur? (Same thing about the RATA next quarter if stack testing.)
- Facility will need to start over with annual testing at this point and that will entail stack testing within 13 months of this next one or 12 consecutive months of fuel sampling.
- Notice of Compliance report for CEDRI needs to be resubmitted and the stack test reports in CEDRI need to be amended (prior to submitting the written response).

The longer the facility waits to demonstrate compliance, the more risk they potentially subject themselves to.

A written response to the above issues is required by 3/17/2017.

Attachment 2

Carbon Monoxide Tests
No. 11 Boiler

Emitting Device	No. 11 Boiler													
Date	06/04/86	04/27/92	06/27/95	5/16/2005	9/22/2005	7/18/2007	7/16/2007	9/29/2010	11/16/2012	9/1/2015	9/1/2015	9/2/2015	8/30/2016	8/31/2016
Location	Exhaust	Exhaust	Exhaust	Exhaust	Exhaust	Exhaust	Exhaust	Exhaust	Exhaust	Exhaust	Exhaust	Exhaust	Exhaust	Exhaust
acfm	355233	464141	467923	342057	381059	417826	388151	394674	396870	434944	438788	451552	354268	303713
scfm	226734	311285	284159											
dscfm	190400	287403	240683	150311	198916	217153	214246	207431	216741	222609	222816	242312	176092	156189
Temperature (F)	356	316	387	363	377			358	374.3				413	381
Ts (F)	68	70	68											
Ps (in Hg)	29.92	29.92	29.9					29.66	30.22	30.07	30.07	30.09	29.85	29395
% Moisture	16.0	7.5	15.3	31.8	15.4			17.9	16	15.4	15.9	14.7	17.7	18.2
% Oxygen (dry)	3.8	7.5	4.1	4.1	4.4	5.0	5.1	4.1	4.1	5.9	5.7	5.9	2.7	5.3
Bark (ton/hr)	76.6	18.8	48.4	31.90	32.00	22.03	18.10	44.00	48.13	45.70	43.50	46.10	45.58	49.70
Coal (klb/hr)	27.6	53.6	35.5	47.40	46.80	52.73	45.20	20.40	26.70	21.00	22.00	24.00	10.67	14.00
Sludge (ton/hr)	0.0	0.0	0.0	11	11.3	11.8	9.5	8.1	0.00	0.00	0.00	0.00	0.00	0.00
TDF (ton/hr)	NA	NA	NA			NA	3.1	1.6	3.67	0.00	0.00	0.00	0.00	0.00
Gas (kscfh)	0.0	0.0	0.0	0	0	0	0	0	0.00	222.00	0.00	0.00	0.00	0.00
Coal/Bark, Heat Fractions	33/67	80/20	50/50			0.56	0.55		33/56/11	27/51/0/0	36/64/0/0	37/63/0/0	15/47/38	28/72
MMBTU/hr	957	821	980	886	980	914	923	1033	961	998	763	817	871	622
MMBTU/hr, F Factor														
Steam (klb/hr)	748	664	731	717	731	755	759	725	704	684	546	539	661	433
ppmdv	133	30.5	10.0	23	19	47.4	60.3	84.8	47.6	16.2	62.4	46.5	1251	26.3
lb/hr	111	38.0	10.5	15.1	16.4	44.9	56.4	76.0	44.6	15.8	60.6	49.3	958.0	17.9
lb/MMBTU	0.116	0.046	0.011	0.017	0.017	0.049	0.061	0.073	0.046	0.016	0.060	0.047	0.968	0.030
Emis Factor for EI											**4.15E-02**	lb/mmbtu		

Attachment 3

No. 11 Boiler Data

Date	Steam Flow KPPH	Stack O2 (O2 measured in stack) %	O2 Setpoint (set point for combution zone) %
6/1/2016	429	5.4	2.8
6/2/2016	423	5.6	2.5
6/3/2016	269	11.6	2.8
6/4/2016	158	14.8	2.8
6/5/2016	558	4.5	2.9
6/6/2016	513	5.3	2.9
6/7/2016	492	5.1	2.9
6/8/2016	491	4.9	2.7
6/9/2016	498	4.8	2.6
6/10/2016	532	4.8	2.6
6/11/2016	545	6.2	2.6
6/12/2016	559	4.4	2.7
6/13/2016	499	4.9	2.6
6/14/2016	451	5.5	2.5
6/15/2016	469	5.0	2.5
6/16/2016	503	5.0	2.5
6/17/2016	543	4.7	2.6
6/18/2016	475	5.0	2.6
6/19/2016	454	5.4	2.6
6/20/2016	514	4.5	2.6
6/21/2016	508	4.6	2.6
6/22/2016	506	5.1	2.6
6/23/2016	503	4.6	2.6
6/24/2016	469	5.7	2.6
6/25/2016	486	5.4	2.6
6/26/2016	505	4.4	2.6
6/27/2016	542	5.0	2.6
6/28/2016	490	5.6	3.0
6/29/2016	496	5.7	3.0
6/30/2016	492	5.1	2.8
7/1/2016	486	5.4	2.6
7/2/2016	473	5.8	2.7
7/3/2016	491	5.2	2.8
7/4/2016	489	5.4	3.0
7/5/2016	503	5.3	3.0
7/6/2016	517	5.3	3.0
7/7/2016	180	6.6	3.0
7/8/2016	500	5.7	3.0
7/9/2016	496	5.4	3.0
7/10/2016	522	5.2	3.0
7/11/2016	519	5.1	3.0
7/12/2016	511	5.2	2.6
7/13/2016	516	4.6	2.5
7/14/2016	501	4.6	2.4
7/15/2016	490	4.9	2.3
7/16/2016	481	5.6	2.3
7/17/2016	491	6.6	2.3
7/18/2016	477	5.2	2.5

Date	Steam Flow KPPH	Stack O2 (O2 measured in stack) %	O2 Setpoint (set point for combution zone) %
7/19/2016	458	5.8	2.5
7/20/2016	421	6.2	2.2
7/21/2016	444	5.9	2.2
7/22/2016	419	6.3	2.2
7/23/2016	437	5.7	2.2
7/24/2016	431	5.8	2.3
7/25/2016	434	6.1	2.4
7/26/2016	456	5.9	2.3
7/27/2016	451	5.4	2.4
7/28/2016	446	5.7	2.5
7/29/2016	462	5.8	2.7
7/30/2016	456	5.9	3.1
7/31/2016	450	5.8	3.0
8/1/2016	124	15.4	3.0
8/2/2016	0	21.3	3.0
8/3/2016	0	20.8	3.0
8/4/2016	376	7.6	3.0
8/5/2016	401	7.0	3.3
8/6/2016	441	6.1	3.7
8/7/2016	450	6.3	3.4
8/8/2016	473	5.6	3.2
8/9/2016	441	6.1	3.2
8/10/2016	461	5.8	3.2
8/11/2016	449	6.1	3.3
8/12/2016	421	7.0	3.4
8/13/2016	454	6.3	2.9
8/14/2016	490	5.1	3.0
8/15/2016	454	5.8	2.8
8/16/2016	454	6.0	3.0
8/17/2016	473	5.5	3.5
8/18/2016	481	5.3	3.6
8/19/2016	462	5.7	3.6
8/20/2016	450	6.1	3.6
8/21/2016	459	6.2	3.6
8/22/2016	467	5.9	3.6
8/23/2016	450	5.9	3.2
8/24/2016	472	5.3	3.5
8/25/2016	458	5.7	3.5
8/26/2016	470	5.5	3.5
8/27/2016	464	5.9	3.4
8/28/2016	469	5.7	3.8
8/29/2016	475	5.6	3.8
8/30/2016	528	5.1	2.6
8/31/2016	446	6.6	2.5
9/1/2016	458	6.7	2.5
9/2/2016	490	6.5	2.5
9/3/2016	467	5.9	2.5
9/4/2016	505	5.3	2.5
9/5/2016	545	4.9	2.5
9/6/2016	532	5.0	2.5

Date	Steam Flow KPPH	Stack O2 (O2 measured in stack) %	O2 Setpoint (set point for combution zone) %
9/7/2016	442	6.8	2.5
9/8/2016	479	5.7	2.5
9/9/2016	491	5.7	2.5
9/10/2016	469	5.9	2.5
9/11/2016	492	5.8	2.5
9/12/2016	473	5.9	2.5
9/13/2016	487	5.8	2.5
9/14/2016	115	18.4	2.5
9/15/2016	86	17.3	2.5
9/16/2016	338	8.9	2.5
9/17/2016	426	5.8	2.5
9/18/2016	457	5.3	2.5
9/19/2016	471	5.2	2.7
9/20/2016	451	5.7	2.8
9/21/2016	457	5.5	2.8
9/22/2016	511	4.8	2.8
9/23/2016	497	5.1	2.8
9/24/2016	470	5.5	2.8
9/25/2016	479	5.9	2.8
9/26/2016	471	5.3	2.8
9/27/2016	464	5.5	2.8
9/28/2016	425	6.0	2.8
9/29/2016	508	5.7	2.8
9/30/2016	466	5.5	2.8
10/1/2016	464	5.5	2.8
10/2/2016	484	5.1	2.8
10/3/2016	473	5.5	2.8
10/4/2016	487	5.2	2.8
10/5/2016	551	4.5	2.8
10/6/2016	545	4.5	2.8
10/7/2016	477	5.7	2.8
10/8/2016	477	5.3	2.8
10/9/2016	482	5.4	2.8
10/10/2016	448	5.9	2.8
10/11/2016	464	5.8	2.8
10/12/2016	517	5.6	2.8
10/13/2016	482	5.8	2.8
10/14/2016	470	5.8	2.8
10/15/2016	479	5.6	2.8
10/16/2016	461	5.8	2.8
10/17/2016	505	5.2	2.8
10/18/2016	499	5.5	2.8
10/19/2016	435	7.0	2.8
10/20/2016	467	6.3	2.8
10/21/2016	459	6.2	2.9
10/22/2016	458	6.4	3.0
10/23/2016	467	6.1	3.0
10/24/2016	465	7.1	3.0
10/25/2016	448	6.8	3.0
10/26/2016	413	7.8	3.0

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10/28/2016	460	6.3	3.0
10/29/2016	438	6.9	3.0
10/30/2016	463	6.4	3.0
10/31/2016	456	6.2	3.0
11/1/2016	517	5.4	3.0
11/2/2016	581	5.0	3.0
11/3/2016	612	4.7	3.0
11/4/2016	587	5.0	3.0
11/5/2016	595	4.9	3.0
11/6/2016	589	5.2	3.1
11/7/2016	538	6.4	2.3
11/8/2016	478	6.6	2.0
11/9/2016	479	6.7	2.0
11/10/2016	533	5.9	2.0
11/11/2016	541	5.5	2.0
11/12/2016	485	6.6	2.0
11/13/2016	474	6.5	2.0
11/14/2016	495	6.2	2.0
11/15/2016	558	5.5	2.0
11/16/2016	556	5.6	2.0
11/17/2016	574	5.3	2.0
11/18/2016	551	5.9	2.3
11/19/2016	527	6.9	2.9
11/20/2016	577	6.5	3.0
11/21/2016	596	6.2	2.8
11/22/2016	589	5.7	2.7
11/23/2016	571	5.9	2.6
11/24/2016	522	6.4	2.8
11/25/2016	541	6.1	2.8
11/26/2016	542	6.1	2.8
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11/28/2016	524	6.2	2.6
11/29/2016	558	5.9	2.7
11/30/2016	555	5.8	2.5
12/1/2016	547	5.9	2.5
12/2/2016	547	5.9	2.5
12/3/2016	548	6.0	2.5
12/4/2016	547	6.2	2.5
12/5/2016	542	6.5	2.4
12/6/2016	518	6.1	2.4
12/7/2016	510	6.3	2.3
12/8/2016	570	5.9	2.3
12/9/2016	596	5.9	2.2
12/10/2016	576	5.9	2.1
12/11/2016	566	6.5	2.1
12/12/2016	569	5.8	2.1
12/13/2016	581	6.0	2.1
12/14/2016	584	5.8	2.1
12/15/2016	590	5.9	2.1

Date	Steam Flow KPPH	Stack O2 (O2 measured in stack) %	O2 Setpoint (set point for combution zone) %
12/16/2016	604	6.2	2.1
12/17/2016	595	5.7	2.1
12/18/2016	615	5.8	2.1
12/19/2016	613	6.4	2.2
12/20/2016	585	5.8	2.7
12/21/2016	587	6.2	3.9
12/22/2016	600	5.4	3.5
12/23/2016	612	5.3	3.5
12/24/2016	571	5.8	3.7
12/25/2016	580	5.4	3.7
12/26/2016	566	5.9	3.8
12/27/2016	528	6.6	3.5
12/28/2016	475	7.3	2.8
12/29/2016	524	5.6	2.2
12/30/2016	529	5.6	2.3
12/31/2016	522	6.4	2.3
1/1/2017	488	5.9	2.3
1/2/2017	489	5.5	2.3
1/3/2017	481	5.8	2.3
1/4/2017	482	5.8	2.3
1/5/2017	538	5.1	2.3
1/6/2017	518	5.4	2.3
1/7/2017	433	6.6	2.3
1/8/2017	384	7.5	2.3
1/9/2017	452	6.1	2.3
1/10/2017	419	6.1	2.3
1/11/2017	443	5.7	2.3
1/12/2017	449	5.8	2.3
1/13/2017	444	6.8	2.3
1/14/2017	448	5.9	2.3
1/15/2017	431	6.1	2.3
1/16/2017	435	5.9	2.3
1/17/2017	441	5.8	2.3
1/18/2017	418	6.2	2.3
1/19/2017	439	5.9	2.3
1/20/2017	450	5.7	2.3
1/21/2017	452	5.5	2.3
1/22/2017	435	5.9	2.3
1/23/2017	466	5.5	2.3
1/24/2017	455	5.6	2.3
1/25/2017	450	5.7	2.3
1/26/2017	459	5.6	2.3
1/27/2017	472	5.5	2.3
1/28/2017	473	5.5	2.3
1/29/2017	481	5.4	2.3
1/30/2017	495	5.2	2.3
1/31/2017	468	6.0	2.3
2/1/2017	502	5.3	2.3
2/2/2017	535	5.3	2.3
2/3/2017	520	5.5	2.2

Date	Steam Flow KPPH	Stack O2 (O2 measured in stack) %	O2 Setpoint (set point for combution zone) %
2/4/2017	477	5.5	2.2
2/5/2017	468	5.5	2.2
2/6/2017	460	5.7	2.2
2/7/2017	462	5.7	2.2
2/8/2017	480	5.3	2.2
2/9/2017	471	5.5	2.3
2/10/2017	443	6.6	2.4
2/11/2017	409	8.3	2.4
2/12/2017	415	8.0	2.4
2/13/2017	416	8.0	2.4
2/14/2017	415	8.5	2.4
2/15/2017	415	8.4	2.4
2/16/2017	416	8.5	2.4
2/17/2017	409	9.3	2.4
2/18/2017	416	8.3	2.4
2/19/2017	417	8.3	2.4
2/20/2017	434	8.1	2.4
2/21/2017	486	5.7	2.6
2/22/2017	140	16.6	2.7
2/23/2017	0	21.5	2.7
2/24/2017	0	21.4	2.7
2/25/2017	270	11.9	2.7
2/26/2017	479	6.5	2.7
2/27/2017	498	6.4	2.7
2/28/2017	517	6.1	2.9
3/1/2017	548	5.8	2.8
3/2/2017	578	5.6	2.8
3/3/2017	583	5.5	2.8
3/4/2017	602	5.5	2.8
3/5/2017	577	5.5	2.8
3/6/2017	579	5.1	2.7
3/7/2017	567	5.4	2.7
3/8/2017	541	6.0	2.7
3/9/2017	578	5.7	2.7
3/10/2017	574	5.8	2.9
3/11/2017	569	6.0	3.0
3/12/2017	585	5.5	3.0
3/13/2017	560	5.6	3.0
Average	**479**	**6.3**	**2.7**
Minimum	**0**	**4.4**	**2.0**
Maximum	**615**	**21.5**	**3.9**

Attachment 4

Verso Corporation - Escanaba Paper Company
#9 Boiler Wood Fuel Composite Sample Analysis - 9/3/15 Composite Samples

Wood Fuel BTU & Moisture

Composite	BTU/lb	# Moisture
1	8485	43.13
2	8495	41.05
3	8512	40.26
ave	**8497.333**	

Wood samples were collected during the initial performance testing according to §63.7521 and tested in accordance with 40 CFR 63 Subpart DDDDD Table 6. ALS Laboratory Report "Analytical Report for Service Request No: K1509841", October 14 2015, contains complete documentation of analytical testing .

Per Equations 15 and 16 of §63.7530:

Wood Fuel HCl

DDDDD limit:		**2.20E-02**	**lb/mmBTU**
Composite	mg/Kg chloride	**HCl lb/mmBTU**	**% of limit**
1	62	**7.51E-03**	**34%**
2	75	**9.08E-03**	**41%**
3	53	**6.40E-03**	**29%**
ave		**7.66E-03**	

HCl P90 Calculations:

	(lb/mmBTU)	**SD**	**t**	**(lb/mmBTU)**	**of Limit**
100% wood fuel	7.66E-03	7.76E-04	1.886	9.13E-03	41.49%

Note: SD is calculated as the standard deviation divided by the square root of the number of samples as specified in Equation 15.

Wood Fuel Mercury

DDDDD limit:		**5.70E-06**	**lb/mmBTU**
Composite	mg/Kg Hg	**Hg lb/mmBTU**	**% of limit**
1	0.008	**9.43E-07**	**17%**
2	0.0085	**1.00E-06**	**18%**
3	0.0084	**9.87E-07**	**17%**
ave		**9.77E-07**	

Mercury P90 Calculations:

	Mean Mercury (lb/mmBTU)	**SD**	**t**	**P90 (lb/mmBTU)**	**Fuel Analysis % of Limit**
100% wood fuel	9.77E-07	1.74E-08	1.886	1.01E-06	17.71%

Note: SD is calculated as the standard deviation divided by the square root of the number of samples as specified in Equation 15.

Attachment 5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

OCT - 9 2015

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Paula LaFleur
Environmental Manager
Verso Corporation
Escanaba Paper Company
7100 County 426
PO Box 757
Escanaba, Michigan 49829-0757

RE: Response to Alternative Monitoring Request for No. 9 Boiler
Industrial Boiler MACT, 40 C.F.R. 63 Subpart DDDDD

Dear Ms. LaFleur:

The U.S. Environmental Protection Agency has received and reviewed Escanaba Paper Company's (EPC) July 16, 2015 alternative monitoring requests for EPC's No. 9 Boiler in accordance with 40 C.F.R. 63.8(f) and 40 C.F.R. 63.7500(a)(2).

Based on your submittal we understand that the No. 9 Boiler is an approximately 360 million Btu per hour heat input, hybrid suspension grate (HSG) boiler that combusts both wood residue and natural gas. In the submittal, EPC requests that the applicable emission, monitoring, and operating limits for the HSG subcategory be waived for periods when the No. 9 Boiler is combusting only natural gas. Although we understand that the combustion of natural gas is inherently less emissive, 40 C.F.R. Part 63, does not provide a mechanism which allows EPA to completely exempt the No. 9 Boiler just for periods of natural gas combustion and therefore EPA is unable to approve this request.

Secondly, in its submittal, EPC requests that EPA allow compliance with the 30-day rolling averages for scrubber flow, pressure drop, and operating load to be calculated as the arithmetic mean of the previous 720 hours of valid operating data during periods when any wood fuel is combusted in the boiler. Based on your submittal, it is our understanding that the scrubbers are not operated during periods when only natural gas is combusted in the boiler. For this reason, EPA agrees with EPC and approves its request. EPA also agrees with EPC that an alternative oxygen trim set point should be utilized during periods when only natural gas is being combusted based on boiler tuning evaluations.

EPC is also requesting flexibility in the annual (or every 3 years, if applicable) stack testing requirement contained in 40 C.F.R. 63.7515 to allow the boiler to be tested while burning the fuel (or fuel mixtures) with the highest potential emissions. EPA understands that the schedule for combusting wood and/or natural gas is variable and based on operational and economic considerations however the rule allows tests to be conducted up to 13 months apart and already has built in flexibility. To accommodate EPC concerns however, EPA is willing to grant the flexibility to allow EPC to conduct stack tests on an annual calendar basis (or every 3rd year calendar basis), if such flexibility is helpful.

Lastly, EPC in an October 5, 2015, email correspondence to EPA, requested that in the event that EPC should choose to demonstrate No. 9 Boiler compliance with the HCl, mercury, and/or TSM limits through fuel sampling and analysis, that monthly fuel sampling only be required during months when wood fuel is combusted in the No. 9 Boiler. EPA understand and grants this alternative monitoring/sampling request. We further grant EPC request that the provisions at 63.7515(e) allowing for reduced, quarterly sampling would apply when all the analysis results during a 12-month time period are 75% or less of the compliance levels, but only if adequate sampling (at least half of the sampling) is conducted during that 12-month period. Further, we agree that quarterly sampling would only be required during the quarters when wood fuel is combusted at any time during the quarter in the No. 9 boiler.

If you have any further questions please contact Ethan Chatfield of my staff at (312) 886-5112.

Sincerely,

Sara Breneman

Sara Breneman
Chief
Air Enforcement and Compliance Assurance Branch

cc: Chris Hare, District Supervisor
MDEQ/AQD
Saginaw Bay District Office
401 Ketchum Street, Suite B
Bay City, Michigan 48708

CERTIFICATE OF MAILING

I, Loretta Shaffer, certify that I sent a NSPS determination by Certified Mail, Return Receipt Requested, to:

Paula LaFleur
Environmental Manager
Verso Corporation
Escanaba Paper Company
7100 County 426
PO Box 757
Escanaba, Michigan 49829-0757

I also certify that I sent a copy of the Request to Provide Information Pursuant to the Clean Air Act by First Class Mail to:

Chris Hare, District Supervisor
MDEQ/AQD
Saginaw Bay District Office
401 Ketchum Street, Suite B
Bay City, Michigan 48708

On the 13 day of October, 2015

LSM (for)

Loretta Shaffer,
Administrative Program Assistant
Planning and Administration Section

Certified Mail Receipt Number: 7014 2870 0001 9581 3284

Attachment 6

Verso Corporation
Escanaba Paper Company
7100 County Road 426
PO Box 757
Escanaba, MI 49829

Bill Racine, P.E.
Environmental Manager

T 906 233 2772
F 906 233 2266
E William.racine@versoco.com
W versoco.com

March 17, 2017

Ms. Janis Ransom
District Supervisor, Air Quality Division
Michigan Department of Environmental Quality
120 West Chapin Street
Cadillac, MI 49601-2158

Mr. Edward Nam
Director, Air and Radiation Division
EPA Region V
77 West Jackson Blvd.
Chicago, IL 60604-3507

Subject: Addendum to October 27, 2016 Notification of Compliance Status, Boiler MACT, 40 CFR 63 Subpart DDDDD, Verso Corporation – Escanaba Paper Company, A0884, Repeat Performance Testing for Mercury

Due to the lack of adequate Mercury Method 30B quality assurance (QA) results for the August and September 2016 Boiler MACT repeat performance tests conducted on Escanaba Paper Company's (EPC's) No. 9 and No. 11 Boilers, the Michigan Department of Environmental Quality (MDEQ) has determined that the mercury test results submitted to the MDEQ and EPA via CEDRI and in the original Notice of Compliance Status (NOCS) submitted on 10/27/16 are invalid. Because of this, EPC is submitting this addendum to the 10/27/16 NOCS. EPC has revised the ERT/CEDRI performance test submittals to clearly indicate the invalid mercury results.

Attached to this document is a signed Responsible Official Certification (Attachment A); a signed Renewable Operating Permit Report Certification for the MDEQ (Attachment B); and the revised Deviation and Malfunction Report (Attachment C). The Deviation and Malfunction Report summarizes the failure to complete a valid repeat performance test for mercury within 13 months of the initial performance test. When results of repeat compliance demonstrations (discussed below) are complete, EPC will submit the reports and revise the CEDRI Boiler MACT compliance reports as appropriate.

Please note that all compliance demonstrations other than the mercury performance testing described in this letter that were submitted in the original October 27, 2016 NOCS submittal remain valid.

Discussion

Performance stack testing for Boiler MACT repeat compliance demonstrations on EPC's No. 9 and No. 11 Boilers was conducted from August 30th to September 2nd of 2016. Testing was conducted for carbon monoxide (CO), particulate matter (PM), mercury, and hydrochloric acid (HCl). As noted in the original 10/27/2016 NOCS submittal, all performance tests indicated emissions were well within the applicable Boiler MACT limits.

No. 9 Boiler Mercury QA Issues

Following the No. 9 Boiler mercury performance tests and data evaluation it was determined that only two of four Method 30B test runs passed the QA criteria for the field sample recovery. Because of this, the MDEQ has determined that the No. 9 Boiler 30B tests do not meet the Boiler MACT requirements for a valid repeat performance test.

For No. 9 Boiler, which combusts only wood fuel and natural gas, fuel analysis per the requirements of §63.7521 and §63.7530 will be used to demonstrate initial and ongoing compliance with the Boiler MACT limits for mercury. EPC is currently in compliance with the HCL requirements of Boiler MACT based on stack testing for the next three years. EPC may choose to demonstrate compliance with fuel sampling for HCL moving forward. Results of the initial compliance demonstration P90 calculations per §63.7530 show that the No. 9 Boiler wood fuel is well below the Boiler MACT mercury and HCl emission limits. The P90 calculations for No. 9 Boiler fuel analyses are in Attachment D. Monthly composite fuel samples will be analyzed to demonstrate ongoing mercury compliance for each month in which the boiler burns wood fuel. Monthly composite wood fuel samples collected during previous months when the boiler was combusting wood fuel (August 2016, September 2016, January 2017, and February 2017) are currently being analyzed to demonstrate ongoing mercury compliance. The initial Boiler MACT compliance report submitted on 1/30/17 will be revised and resubmitted after the results of monthly fuel analyses are completed. An amended 2016 ERT/CEDRI stack test report was submitted on 3/14/17 indicating the 2016 mercury performance test was invalid. See Attachment E for the ERT revisions. The complete laboratory fuel analysis report for initial Boiler MACT compliance is in Attachment F.

No. 11 Boiler Mercury QA Issues

Following the No. 11 Boiler mercury performance tests and data evaluation it was determined that the Method 30B tests did not meet the specified QA criteria. The sorbent trap tubes used for testing were manufactured incorrectly, with the sample collection arrows in the reverse direction. Because sampling occurred with the tubes in backwards, the spiked sample recoveries could not be calculated according to the requirements of Method 30B. The MDEQ has determined that the No. 11 Boiler 30B tests do not meet the Boiler MACT requirements for a valid repeat performance test due to this. All other Method 30B QA passed on No. 11 Boiler.

In order to demonstrate ongoing compliance with the applicable mercury limits of 40 CFR 63 Subpart DDDDD, EPC will repeat mercury performance stack testing on the No. 11 Boiler. The repeat performance testing has been scheduled for the week of June 12, 2017. An amended 2016 ERT/CEDRI stack test report was submitted on 3/14/17 indicating the 2016 mercury performance test was invalid. See Attachment E for the ERT revisions. A NOCS will be submitted within 60 days of completing the repeat performance stack test. The Boiler MACT initial compliance report submitted on 1/30/17 will then be revised and resubmitted as appropriate.

Summary

As discussed above, EPC's 2016 Boiler MACT No. 9 and No. 11 Boiler mercury performance tests were invalid due to QA issues. EPC will be repeating compliance demonstrations as described above. EPC has revised the previous ERT performance test submittals and has submitted this addendum to the 10/27/16 NOCS. EPC will submit all repeat compliance demonstration reports and notifications as appropriate when the compliance demonstrations are complete.

The following documents are attached to this NOCS submittal:

- Attachment A - A signed Responsible Official Certification
- Attachment B - A signed Renewable Operating Permit Report Certification for the MDEQ
- Attachment C - The revised Deviation and Malfunction report
- Attachment D - Results of the No. 9 Boiler initial fuel analysis compliance demonstration and P90 calculations
- Attachment E - ERT Performance Test Report Submittal Revisions for No. 9 Boiler and No. 11 Boiler
- Attachment F - The Analytical Report for the initial Boiler MACT fuel testing.

EPC and Verso take environmental compliance very seriously. Although the failed mercury QA results were beyond EPC's control, we would like to apologize for any inconvenience this has caused. EPC will work diligently to correct this issue to demonstrate compliance with this regulation as we do with all applicable regulations. If you have any questions regarding this report, please contact me at (906) 233-2772.

Sincerely,

William R. Racine, P.E.
Environmental Manager

Enc.
CC w/enc: Joel Asher (MDEQ), Jeremy Howe (MDEQ), Matt Archambeau (Verso), Jeff Maule (Verso), Paula LaFleur (Verso), Adam Becker (Verso)

Attachment A

Responsible Official Certification

Based on information and belief formed after reasonable inquiry, I certify in accordance with 40 C.F.R. §63.9 (h) that the statements and information in this document are true and accurate, and the source has complied with the relevant standard as discussed in this report.

Signature	*Date* 3/16/17
Matt Archambeau, Mill Manager *Name/Title*	(906) 233-2600 *Phone Number*

Attachment B

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

RENEWABLE OPERATING PERMIT
REPORT CERTIFICATION

Authorized by 1994 P.A. 451, as amended. Failure to provide this information may result in civil and/or criminal penalties.

Reports submitted pursuant to R 336.1213 (Rule 213), subrules (3)(c) and/or (4)(c), of Michigan's Renewable Operating Permit (ROP) program must be certified by a responsible official. Additional information regarding the reports and documentation listed below must be kept on file for at least 5 years, as specified in Rule 213(3)(b)(ii), and be made available to the Department of Environmental Quality, Air Quality Division upon request.

Source Name: Verso Corportaion - Escanaba Paper Company County: Delta

Source Address: 7100 County Rd 426, PO Box 757 City: Escanaba

AQD Source ID (SRN): A0884 ROP No.: MI-ROP-A0884-2016 ROP Section No.: 1

Please check the appropriate box(es):

☐ **Annual Compliance Certification (Pursuant to Rule 213(4)(c))**

Reporting period (provide inclusive dates): From _____ To _____

☐ 1. During the entire reporting period, this source was in compliance with **ALL** terms and conditions contained in the ROP, each term and condition of which is identified and included by this reference. The method(s) used to determine compliance is/are the method(s) specified in the ROP.

☐ 2. During the entire reporting period this source was in compliance with all terms and conditions contained in the ROP, each term and condition of which is identified and included by this reference, **EXCEPT** for the deviations identified on the enclosed deviation report(s). The method used to determine compliance for each term and condition is the method specified in the ROP, unless otherwise indicated and described on the enclosed deviation report(s).

☐ **Semi-Annual (or More Frequent) Report Certification (Pursuant to Rule 213(3)(c))**

Reporting period (provide inclusive dates): From _____ To _____

☐ 1. During the entire reporting period, **ALL** monitoring and associated recordkeeping requirements in the ROP were met and no deviations from these requirements or any other terms or conditions occurred.

☐ 2. During the entire reporting period, all monitoring and associated recordkeeping requirements in the ROP were met and no deviations from these requirements or any other terms or conditions occurred, **EXCEPT** for the deviations identified on the enclosed deviation report(s).

☒ **Other Report Certification**

Reporting period (provide inclusive dates): From 1/1/2016 To 12/31/2016

Additional monitoring reports or other applicable documents required by the ROP are attached as described:

Addendum to 40 CFR 63 Subpart DDDDD 10/27/16 Notification of Compliance Status

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this report and the supporting enclosures are true, accurate and complete

Matt Archambeau	Mill Manager	906-233-1660
Name of Responsible Official (print or type)	Title	Phone Number
[signature]		3/16/17
Signature of Responsible Official		Date

* Photocopy this form as needed.

EQP 5736 (Rev 11-04)

Attachment C

VERSO

Deviation and Malfunction Report

Verso Escanaba, LLC

Report Run Date 3/13/2017

Reporting Period: 1/31/2016 **to** 12/31/2016

Relevant standard that is the basis for this report: Industrial, Commercial, and Institutional Boilers and Process Heaters NESHAP - Subpart DDDDD, §63.7550(d) & (e), §63.7550(c)(5)(xi) & (xii)

Emission Point	Begin Date	Begin Time	End Date	End Time	Deviation Time	Duration Time Units	Deviation Reason	Deviation Description	Cause of Deviation (other known cause)	Corrective Action Taken	Deviation Estimate Basis
Boiler 11 (EU11B68)	10/1/2016	NA	Present	NA	> 164	Days	Failed mercury 30B QA	> 13 consecutive months without a passing performance testing for Mercury	Method 30B Performance testing on 8/30-31/2016 did not pass QA/QC standards resulting in an unsuccessful test.	Retesting will be conducted to demonstrate compliance.	Review of test QA data
Boiler 9 (EU9B03)	10/2/2016	NA	Present	NA	> 163	Days	Failed mercury 30B QA	> 13 consecutive months without a passing performance testing for Mercury	Method 30B Performance testing on 8/30-31/2016 did not pass QA/QC standards resulting in an unsuccessful test.	Fuel sampling will be completed to demonstrate compliance with the Mercury limits.	Review of test QA data

There were no deviations from the emission limits or operating limits during the reporting period. § 63.7550(c)(5)(xi)

There were no deviations and no periods during which the CMS were out of control during the reporting period. § 63.7550(c)(5)(xii)

There were no malfunctions which caused or may have caused an applicable emission limit to be exceeded during the reporting period. § 63.7550(c)(5)(xiii)

Attachment D

Verso Corporation - Escanaba Paper Company
#9 Boiler Wood Fuel Composite Sample Analysis - 9/3/15 Composite Samples

Wood Fuel BTU & Moisture

Composite	BTU/lb	# Moisture
1	8485	43.13
2	8495	41.05
3	8512	40.26
ave	**8497.333**	

Wood samples were collected during the initial performance testing according to §63.7521 and tested in accordance with 40 CFR 63 Subpart DDDDD Table 6. ALS Laboratory Report "Analytical Report for Service Request No: K1509841", October 14 2015, contains complete documentation of analytical testing .

Per Equations 15 and 16 of §63.7530:

Wood Fuel HCl

DDDDD limit:		**2.20E-02**	**lb/mmBTU**
Composite	mg/Kg chloride	**HCl lb/mmBTU**	**% of limit**
1	62	**7.51E-03**	**34%**
2	75	**9.08E-03**	**41%**
3	53	**6.40E-03**	**29%**
ave		**7.66E-03**	

HCl P90 Calculations:

	(lb/mmBTU)	SD	t	(lb/mmBTU)	of Limit
100% wood fuel	7.66E-03	7.76E-04	1.886	9.13E-03	41.49%

Note: SD is calculated as the standard deviation divided by the square root of the number of samples as specified in Equation 15.

Wood Fuel Mercury

DDDDD limit:		**5.70E-06**	**lb/mmBTU**
Composite	mg/Kg Hg	**Hg lb/mmBTU**	**% of limit**
1	0.008	**9.43E-07**	**17%**
2	0.0085	**1.00E-06**	**18%**
3	0.0084	**9.87E-07**	**17%**
ave		**9.77E-07**	

Mercury P90 Calculations:

	Mean Mercury (lb/mmBTU)	**SD**	**t**	**P90 (lb/mmBTU)**	**Fuel Analysis % of Limit**
100% wood fuel	9.77E-07	1.74E-08	1.886	1.01E-06	17.71%

Note: SD is calculated as the standard deviation divided by the square root of the number of samples as specified in Equation 15.

Attachment E

No. 9 Boiler ERT Performance Test Report Revisions

Test Plan Title: Verso Escanaba No. 9 Boiler - Boiler MACT Performance T **Test Plan Date:*** 6/28/2016 Open E

Facility/Tester | Permit/SCC | Locations/Methods | Regulations | Process/APCD | Methods cont. | Audit/Calibrations | Schedule | Reviewers | Attach.

Facility Name:*

Verso Corporation - Escanaba Paper Company

Address: *	7100 County Road 426	**AFS Numbe**		
	PO Box 757	**Industry NAICS:**	322121	Search on the Web
City: *	Escanaba			
State/Zip:*	MI 49829-	**FRS:** *	110041007040	Search on the Web
County:*	Delta Co	**State ID:**	A0884	
Contact: *	Paula LaFleur	**Latitude:**	45.804716	
Phone:*	(906) 233-2603	**Longitude:**	-87.089932	
Fax:				
email: *	paula.lafleur@versoco.com			

Comments:

Test Data Quality Assessment by Tester

All data quality objectives met with the exception of the Items of Note contained in Section 3.2 of Final Test Report - See Field Notes attachment and below.

1) North Run 7 Train A M30B trap (24613) was broken upon recovering sample from stack train; therefore, only one (1) sorbent section was able to be analyzed resulting in Relative Deviation (%RD) and Spike Recovery (% R) criteria to not be met. See lab report.

2) North Runs 4 and 7 did not meet the QA requirements for %RD or %R.

3) Method 30B 'Average' results based on Runs 5 & 6 since Runs 4 & 7 did not meet the method required QA acceptance criteria.

3/10/17 UPDATE NOTE: Due to only two Method 30B runs meeting the required QA, the MDEQ has determined the Method 30B performance test is not valid. Therefore, the 30B results cannot be used to meet the requirements for repeat performance testing under 40 CFR 63 Subpart DDDDD. Because the No. 9 Boiler only combusts wood fuel and natural gas, compliance with the 40 CFR 63 Subpart DDDDD emission limit for mercury will be demonstrated through fuel analysis. The fuel analysis compliance demonstration will be sumitted to the EPA through CEDRI. Hardcopy resluts of the fuel analysis compliance demonstration will be provided to the MDEQ.

No. 11 Boiler ERT Performance Test Report Revisions

Test Plan Title:* Verso Escanaba No. 11 Boiler - Boiler MACT Performance Te **Test Plan Date:*** 6/28/2016 Open

Facility/Tester | Permit/SCC | Locations/Methods | Regulations | Process/APCD | Methods cont. | Audit/Calibrations | Schedule | Reviewers | Attach

Facility Name: *
Verso Corporation - Escanaba Paper Company

Address: * 7100 County Road 426
PO Box 757
City: * Escanaba
State/Zip: * MI 49829-
County: * Delta Co

Contact: * Paula LaFleur
Phone: * (906) 233-2603
Fax:
email: * paula.lafleur@versoco.com

AFS Number:
Industry NAICS: 322121 Search on the Web
FRS: * 110041007040 Search on the Web
State ID: A0884
Latitude: 45.803467
Longitude: -87.050515

Test Data Quality Assessment by Tester

10/27/16 NOTES:
All data quality objectives were met. Items of note include the folllowing:

1) ERT generated QA report for Method 30B Run 1 indicates that the sample is invalidated due to excessiive breakthrough from the 1st to 2nd section of Method 30B trap; however, Method 30B Table 9-1 states the sample is valid if the breakthrough is less than or equal to 50% if the stack Hg concentration is less than or equal to 30% of the Hg concentration that is equivalent to the applicable emission limit. The breakthorugh for this sample is ~23% and the resulting emissions were determined to be 12% of the emission standard. Therefore, Method 30B Run 1 should be considered a valid test run.

2) The Method 30B spiked traps were manufactured incorrectly where the sample collection direction indicator was inscribed in the 'wrong' direction; therefore, field sampling was unknowingly conducted in the 'opposite' directiion resulting in the Hg spiked masses effectively being in the '2nd section' of the tube; therefore, Hg Spike Recoveries were assessed by adding the spiked masses (40 ng) to the traps' 1st section and conducting the Spike Recovery calculations accordingly. Due to this, 'breakthrough' determinations were not determined by the analytical laboratory. However, 'breakthroughs' on the unspiked traps were all determined to be within the necessary specifications. Additionally, if the spike mass is added to the unspiked 1st section and the breakthrough calculations are carried out accordingly, all breakthrough specifications are met. This is demonstrated in the Sample Data section of the Method 30B Run Data in ERT.

3/13/17 UPDATE NOTE: Due to the non-standard method of spike recovery calculations, as described above, the MDEQ has determined the Method 30B performace tests are not valid. Therefore, the 30B results cannot be used to meet the requirements for repeat performance testing under 40 CFR 63 Subpart DDDDD. All spiked sorbent trap data in the ERT run data was revised with this CEDRI resubmittal so that the Hg masses for sorbent tube sections 1 and 2 match the laboratory test reports for the sorbent traps. This resulted in all samples being invalid due to the high calculated breakthrough values. Testing for mercury will be repeated on the No. 11 Boiler in June of 2017 with results submitted via the ERT through CEDRI. Hardcopy results of repeat testing will be provided to the MDEQ.

Attachment F

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
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F : +1 360 636 1068
www.alsglobal.com

October 14, 2015

Analytical Report for Service Request No: K1509841
Revised Service Request No: K1509841.01

Paula LaFleur
Verso Corporation
7100 County Road 426
P.O. Box 757
Escanaba, MI 49829

RE: Boiler MACT 2015

Dear Paula,

Enclosed are the results of the sample(s) submitted to our laboratory September 08, 2015
For your reference, these analyses have been assigned our service request number **K1509841.**

Please find the revised fuel values.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

We apologize for any inconvenience this may have created.

Please contact me if you have any questions. My extension is 3375. You may also contact me via email at Janet.Malloch@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janet Malloch
Project Manager

ALS Environmental
ALS Group USA, Corp
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Kelso, WA 98626
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www.alsglobal.com

Table of Contents

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjlabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Chain of Custody

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ALS Environmental

1317 South 13th, Kelso, WA 98626 (360) 577-7222 FAX (360) 636-1068

K1509841

Project Name: Boiler MACT 2015 **Project Number:** _____

Project Manager: Paula LaFleur **Company:** Escanaba Paper Company

Company/Address: 7100 County Rd 426, PO Box 757 **Phone:** 906-233-2603

City, State, Zip: Escanaba, MI 49829 **FAX:** 906-233-2266

Sampler's Signature: _____

Sample I.D.	Date	Time	LAB ID	Matrix	Number of Containers	Heating Value ASTM E711 or D5865	Moisture Content ASTM E871-82	Total Chlorine SW-846 5050/9056	Total Hg by EPA 1631			REMARKS
#11 Boiler Wood Residue	8/31/2015	7:20am	1-3		3	X	X	X	X			
#9 Boiler Wood Residue	9/3/2015	12:30pm	4-6		3	X	X	X	X			
#9 Boiler Wood Residue	9/3/2015	12:30pm	7,8		2		X					moisure samples
#11 Boiler Pulverized Coal	9/1/2015	8:30am	9-11		3	X	X	X	X			coal chloride analysis using modified bomb prep (Tucson Lab)
#11 Boiler TDF	8/31/2015	6:50am	12-14		3	X	X	X	X			
#11 Boiler WWTP Residuals	8/31/2015	7:05am	15-17		3	X	X	X	X			

URNAROUND REQUIREMENTS

____ 24 hr ____ 48 hr ____ 5 day

__X__ Standard (21 days)

____ Provide FAX Preliminary Results

Requested Report Date: _____

Invoice Information

P.O. # _4551087897__

Bill to: Sean Reese, Site Auditor
Escanaba Paper Company

REPORT REQUIREMENTS

_____ I. Routine Report: Results, Method Blank, Surrogate, as required

_____ II. Report Dup., MS, MSD as required

_____ III. Data Validation Report (includes raw data)

_____ IV. CLP Deliverable Report

_____ V. EDD

Comments/Special Instructions:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Brenda M. Balsiger	Signature: Kelly Reed	Signature:	Signature:
Printed Name: Brenda M. Balsiger	Printed Name: Kelly Reed	Printed Name:	Printed Name:
Firm: Escanaba Paper Co	Firm: ALS	Firm:	Firm:
Date/Time: 9/4/2015 2pm	Date/Time: 9/8/15 09:30	Date/Time:	Date/Time:

PC Jouet

Cooler Receipt and Preservation Form

Client / Project: Escanaba Paper Co Service Request *K15* 09841

Received: 9/8/15 Opened: 9/8/15 By: KR Unloaded: 9/8/15 By: KR

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* (*Box*) *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? (NA) Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
NM	—	—	—	—	—		590333725255	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* Packing Paper
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y (N)
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions:

Page ____ of ____

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

ALS Contact: Janet Malloch

Project Name: Boiler MACT 2015
Project Number:
Project Manager: Paula LaFleur
Company: Verso Corporation

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	BTU ASTM D5865-10ae1	BTU ASTM E711-87(2004)	Cl Tot Bomb HL 9056 Modified	Grind Grind	TS ASTM E871-82
K1509841-001	#11 Boiler Wood Residue Comp	1 /	Solid Fuel	8/31/15	0720	9/8/15	TUCSON		V		V	V
K1509841-002	#11 Boiler Wood Residue Comp	/	Solid Fuel	8/31/15	0720	9/8/15	TUCSON		V		V	V
K1509841-003	#11 Boiler Wood Residue Comp	/	Solid Fuel	8/31/15	0720	9/8/15	TUCSON		V		V	V
K1509841-004	#9 Boiler Wood Residue Comp 1	/	Solid Fuel	9/3/15	1230	9/8/15	TUCSON		V		V	V
K1509841-005	#9 Boiler Wood Residue Comp 2	/	Solid Fuel	9/3/15	1230	9/8/15	TUCSON		V		V	V
K1509841-006	#9 Boiler Wood Residue Comp 3	/	Solid Fuel	9/3/15	1230	9/8/15	TUCSON		V		V	V
K1509841-007	#9 Boiler Wood Residue	0	Solid Fuel	9/3/15	1415	9/8/15	TUCSON					V
K1509841-008	#9 Boiler Wood Residue	0	Solid Fuel	9/3/15	1645	9/8/15	TUCSON					V
K1509841-009	#11 Boiler Pulverized Coal	/	Coal	9/1/15	0830	9/8/15	TUCSON	V		V	V	V
K1509841-010	#11 Boiler Pulverized Coal	/	Coal	9/1/15	0830	9/8/15	TUCSON	V		V	V	V
K1509841-011	#11 Boiler Pulverized Coal	/	Coal	9/1/15	0830	9/8/15	TUCSON	V		V	V	V
K1509841-012	#11 Boiler TDF Comp 1	/	Solid Fuel	8/31/15	0650	9/8/15	TUCSON	V		I	V	V

Special Instructions/Comments
Please provide the electronic (PDF and EDD) report to the following e-mail address: ALKLS.Data@alsglobal.com.

pH Checked ______

Turnaround Requirements
____ RUSH (Surcharges Apply)
PLEASE CIRCLE WORK DAYS
1 2 3 4 5
____ STANDARD
Requested FAX Date: ______
Requested Report Date: 09/25/15

Report Requirements
____ I. Results Only
____ II. Results + QC Summaries
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
PQL/MDL/J N
EDD N

Invoice Information
PO# 51K1509841
Bill to

Relinquished By: [signature] 9/9/15 Cynthia [signature] 9/22/15

Received By: 015-017 only - [signature] 9/10/15 (0921) Rec'd [signature] 9/24/15 0940

Airbill Number:

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

ALS Contact: Janet Malloch

Project Name: Boiler MACT 2015
Project Number:
Project Manager: Paula LaFleur
Company: Verso Corporation

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	BTU ASTM D5865-10ae1	BTU ASTM E711-87(2004)	Cl Tot Bomb HL 9056 Modified	Grind Grind	TS ASTM E871-82
K1509841-013	#11 Boiler TDF Comp 2	1	Solid Fuel	8/31/15	0650	9/8/15	TUCSON	V		I	V	V
K1509841-014	#11 Boiler TDF Comp 3	1	Solid Fuel	8/31/15	0650	9/8/15	TUCSON	V		I	V	V
K1509841-015	#11 Boiler WWTP Residuals	1	Sludge, Solid	8/31/15	0705	9/8/15	TUCSON		V		V	V
K1509841-016	#11 Boiler WWTP Residuals	1	Sludge, Solid	8/31/15	0705	9/8/15	TUCSON		V		V	V
K1509841-017	#11 Boiler WWTP Residuals	1	Sludge, Solid	8/31/15	0705	9/8/15	TUCSON		V		V	V

Test Comments

Cl Tot Bomb HL - 9056 Modified	K1509841-009,10,11	100 ppm MRL
BTU - ASTM D5865-10ae1	K1509841-009,10,11	report as received
Grind - Grind	K1509841-012,13,14	Grind to 6mm,remove metal and report as a % of the total,grind to 1mm and return 10 g to Kelso
Grind - Grind	K1509841-001,2,3,4,5,6	Grind to <1mm
Grind - Grind	K1509841-009,10,11	Grind to <1mm return 10 g for Kelso HgLL
Grind - Grind	K1509841-015,16,17	Grind to <1mm return 50 g to ALS Kelso

Folder Comments:

Special Instructions/Comments
Please provide the electronic (PDF and EDD) report to the following e-mail address:
ALKLS.Data@alsglobal.com

pH Checked ______

Turnaround Requirements
____RUSH (Surcharges Apply)
PLEASE CIRCLE WORK DAYS
1 2 3 4 5
____STANDARD
Requested FAX Date: ________
Requested Report Date: 09/25/15

Report Requirements
____ I. Results Only
____ II. Results + QC Summaries
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
PQL/MDL/J N
EDD N

Invoice Information
PO# 51K1509841
Bill to

Relinquished By: S... 9/9/15 Cynthia Nagh 9/22/15

Received By: 013-017 only S... 9/10/15 (0926)

Airbill Number:

Rec'd: K Smith 9/24/15 0940

PG 1 of 1

Cooler Receipt and Preservation Form

Client / Project: Verso Service Request K15 09841

Received: 9/24/15 Opened: 9/24/15 By: [illegible] Unloaded: 9/24/15 By: [illegible]

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* (*Box*) *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
—	—	—	—	—	—		774571455509	

4. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* Paper Styrofoam / peanuts
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page ____ *of* ____

ALS Environmental

Total Solids

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Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Verso / NewPage Mills	**Service Request:**	K1509841
Project:	Boiler MACT 2015	**Date Collected:**	08/31/15 - 09/03/15
Sample Matrix:	Solid Fuel	**Date Received:**	09/8/15
Analysis Method:	160.3 Modified	**Units:**	Percent
Prep Method:	None	**Basis:**	Air Dried

Solids, Total

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
#11 Boiler Wood Residue Comp 1	K1509841-001	**90.9**	-	1	09/30/15 14:52	
#11 Boiler Wood Residue Comp 2	K1509841-002	**89.5**	-	1	09/30/15 14:52	
#11 Boiler Wood Residue Comp 3	K1509841-003	**91.8**	-	1	09/30/15 14:52	
#9 Boiler Wood Residue Comp 1	K1509841-004	**87.9**	-	1	09/30/15 14:52	
#9 Boiler Wood Residue Comp 2	K1509841-005	**92.3**	-	1	09/30/15 14:52	
#9 Boiler Wood Residue Comp 3	K1509841-006	**84.5**	-	1	09/30/15 14:52	
#11 Boiler TDF Comp 1	K1509841-012	**99.3**	-	1	09/30/15 14:52	
#11 Boiler TDF Comp 2	K1509841-013	**99.3**	-	1	09/30/15 14:52	
#11 Boiler TDF Comp 3	K1509841-014	**99.0**	-	1	09/30/15 14:52	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Verso / NewPage Mills	**Service Request:**	K1509841
Project:	Boiler MACT 2015	**Date Collected:**	09/1/15
Sample Matrix:	Coal	**Date Received:**	09/8/15
Analysis Method:	160.3 Modified	**Units:**	Percent
Prep Method:	None	**Basis:**	Air Dried

Solids, Total

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
#11 Boiler Pulvervized Coal Comp 1	K1509841-009	**99.0**	-	1	09/30/15 14:52	
#11 Boiler Pulvervized Coal Comp 2	K1509841-010	**99.1**	-	1	09/30/15 14:52	
#11 Boiler Pulvervized Coal Comp 2	K1509841-011	**99.3**	-	1	09/30/15 14:52	

ALS Group USA, Corp.
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Analytical Report

Client:	Verso / NewPage Mills	**Service Request:**	K1509841
Project:	Boiler MACT 2015	**Date Collected:**	08/31/15
Sample Matrix:	Sludge, Solid	**Date Received:**	09/8/15
Analysis Method:	160.3 Modified	**Units:**	Percent
Prep Method:	None	**Basis:**	Air Dried

Solids, Total

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
#11 Boiler WWTP Residuals Comp 1	K1509841-015	**83.0**	-	1	09/30/15 14:52	
#11 Boiler WWTP Residuals Comp 2	K1509841-016	**81.0**	-	1	09/30/15 14:52	
#11 Boiler WWTP Residuals Comp 3	K1509841-017	**85.5**	-	1	09/30/15 14:52	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Verso / NewPage Mills	**Service Request:**	K1509841
Project	Boiler MACT 2015	**Date Collected:**	08/31/15
Sample Matrix:	Solid Fuel	**Date Received:**	09/08/15
Analysis Method:	160.3 Modified	**Units:**	Percent
Prep Method:	None	**Basis:**	Air Dried

Replicate Sample Summary
Solids, Total

Sample Name:	Lab Code:	MRL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
#11 Boiler Wood Residue Comp 1	K1509841-001DUP	-	90.9	91.1	91.0	<1	10	09/30/15
#11 Boiler TDF Comp 2	K1509841-013DUP	-	99.3	99.1	99.2	<1	10	09/30/15

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:15-0000347640 rev 00

General Chemistry

ALS Environmental—Kelso Laboratory
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Analytical Report

Client:	Verso / NewPage Mills	**Service Request:**	K1509841
Project:	Boiler MACT 2015	**Date Collected:**	08/31/15 - 09/03/15
Sample Matrix:	Solid Fuel	**Date Received:**	09/8/15
Analysis Method:	9056A Modified	**Units:**	mg/Kg
Prep Method:	EPA 5050	**Basis:**	Dry, Air Dried

Chloride

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
#11 Boiler Wood Residue Comp 1	K1509841-001	**51**	39	2	10/01/15 13:29	10/1/15	
#11 Boiler Wood Residue Comp 2	K1509841-002	**59**	39	2	10/01/15 13:49	10/1/15	
#11 Boiler Wood Residue Comp 3	K1509841-003	**45**	40	2	10/01/15 13:59	10/1/15	
#9 Boiler Wood Residue Comp 1	K1509841-004	**62**	42	2	10/01/15 14:09	10/1/15	
#9 Boiler Wood Residue Comp 2	K1509841-005	**75**	40	2	10/01/15 14:19	10/1/15	
#9 Boiler Wood Residue Comp 3	K1509841-006	**53**	45	2	10/01/15 15:18	10/1/15	
Method Blank	K1509841-MB	ND U	2.0	2	10/01/15 13:20	10/1/15	

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Analytical Report

Client:	Verso / NewPage Mills	**Service Request:**	K1509841
Project:	Boiler MACT 2015	**Date Collected:**	08/31/15
Sample Matrix:	Sludge, Solid	**Date Received:**	09/8/15
Analysis Method:	9056A Modified	**Units:**	mg/Kg
Prep Method:	EPA 5050	**Basis:**	Dry, Air Dried

Chloride

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
#11 Boiler WWTP Residuals Comp 1	K1509841-015	**540**	45	2	10/01/15 15:28	10/1/15	
#11 Boiler WWTP Residuals Comp 2	K1509841-016	**550**	45	2	10/01/15 15:38	10/1/15	
#11 Boiler WWTP Residuals Comp 3	K1509841-017	**498**	44	2	10/01/15 15:48	10/1/15	

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Metals

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Analytical Report

Client:	Verso / NewPage Mills	**Service Request:**	K1509841
Project:	Boiler MACT 2015	**Date Collected:**	08/31/15
Sample Matrix:	Solid fuel	**Date Received:**	09/08/15

Mercury, Total

Prep Method:	METHOD	Units:	ng/g
Analysis Method:	1631E	Basis:	Dry
Test Notes:			

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
#11 Boiler Wood Residue Comp 1	K1509841-001	0.9	20	09/26/15	10/02/15	11.2	
#11 Boiler Wood Residue Comp 2	K1509841-002	1.1	20	09/26/15	10/02/15	9.2	
#11 Boiler Wood Residue Comp 3	K1509841-003	0.9	20	09/26/15	10/02/15	8.4	
#9 Boiler Wood Residue Comp 1	K1509841-004	1.1	20	09/26/15	10/02/15	8.0	
#9 Boiler Wood Residue Comp 2	K1509841-005	0.9	20	09/26/15	10/02/15	8.5	
#9 Boiler Wood Residue Comp 3	K1509841-006	1.1	20	09/26/15	10/02/15	8.4	
#11 Boiler Pulvervized Coal Comp 1	K1509841-009	4.5	100	09/26/15	10/02/15	71.4	
#11 Boiler Pulvervized Coal Comp 2	K1509841-010	4.4	100	09/26/15	10/02/15	73.2	
#11 Boiler Pulvervized Coal Comp 2	K1509841-011	4.9	100	09/26/15	10/02/15	69.6	
#11 Boiler TDF Comp 1	K1509841-012	1.0	20	09/26/15	10/02/15	9.7	
#11 Boiler TDF Comp 2	K1509841-013	0.9	20	09/26/15	10/02/15	8.8	
#11 Boiler TDF Comp 3	K1509841-014	0.9	20	09/26/15	10/02/15	11.3	
#11 Boiler WWTP Residuals Comp 1	K1509841-015	1.0	20	09/26/15	10/02/15	25.1	
#11 Boiler WWTP Residuals Comp 2	K1509841-016	1.2	20	09/26/15	10/02/15	28.9	
#11 Boiler WWTP Residuals Comp 3	K1509841-017	1.0	20	09/26/15	10/02/15	27.0	
Method Blank 1	K1509841-MB1	1.6	20	09/26/15	10/02/15	ND	
Method Blank 2	K1509841-MB2	1.6	20	09/26/15	10/02/15	ND	
Method Blank 3	K1509841-MB3	1.6	20	09/26/15	10/02/15	ND	

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Subcontract Lab Results

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ALS Environmental

October 8, 2015

Client: Verso Corporation
7100 County Road 426
P.O. Box 757
Attn: Paula LaFleur
Project: Boiler MACT 2015

Date Received: 9/ 8/15

Certificate of Analysis

Sample ID:	Sample Date:		Lab #:	Moisture, Total E871 wt%	Chlorine, Total Wire Free 5050/9056 Moist. Free wt%	Heating Value Wire Free D5865/E711 As Received BTU/lb	Heating Value Wire Free D5865/E711 Moist. Free BTU/lb	Heating Value With Wire calculated As Received BTU/lb	Heating Value With Wire calculated Moist. Free BTU/lb	Wire Content D6700 Air Dried wt%
#11 Boiler Wood Residue Comp 1	8/31/15	0720	K1509841-001	33.66	n/a	5,704	8,598	n/a	n/a	n/a
#11 Boiler Wood Residue Comp 2	8/31/15	0720	K1509841-002	39.20	n/a	5,389	8,865	n/a	n/a	n/a
#11 Boiler Wood Residue Comp 3	8/31/15	0720	K1509841-003	35.64	n/a	5,640	8,763	n/a	n/a	n/a
#9 Boiler Wood Residue Comp 1	9/3/15	1230	K1509841-004	43.13	n/a	4,825	8,485	n/a	n/a	n/a
#9 Boiler Wood Residue Comp 2	9/3/15	1230	K1509841-005	41.05	n/a	5,008	8,495	n/a	n/a	n/a
#9 Boiler Wood Residue Comp 3	9/3/15	1230	K1509841-006	40.26	n/a	5,084	8,512	n/a	n/a	n/a
#9 Boiler Wood Residue Moisture 1	9/3/15	1415	K1509841-007	39.50	n/a	n/a	n/a	n/a	n/a	n/a
#9 Boiler Wood Residue Moisture 2	9/3/15	1645	K1509841-008	34.88	n/a	n/a	n/a	n/a	n/a	n/a
#11 Boiler Pulvervized Coal Comp 1	9/1/15	0830	K1509841-009	0.55	0.17	12,586	12,656	n/a	n/a	n/a
#11 Boiler Pulvervized Coal Comp 2	9/1/15	0830	K1509841-010	0.51	0.18	12,634	12,698	n/a	n/a	n/a

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ALS Environmental

October 8, 2015

Client: Verso Corporation
7100 County Road 426
P.O. Box 757
Attn: Paula LaFleur
Project: Boiler MACT 2015

Date Received: 9/ 8/15

Certificate of Analysis

Sample ID:	Sample Date:		Lab #:	Moisture, Total E871 wt%	Chlorine, Total Wire Free 5050/9056 Moist. Free wt%	Heating Value Wire Free D5865/E711 As Received BTU/lb	Heating Value Wire Free D5865/E711 Moist. Free BTU/lb	Heating Value With Wire calculated As Received BTU/lb	Heating Value With Wire calculated Moist. Free BTU/lb	Wire Content D6700 Air Dried wt%
#11 Boiler Pulvervized Coal Comp 2	9/1/15	0830	K1509841-011	0.58	0.17	12,550	12,623	n/a	n/a	n/a
#11 Boiler TDF Comp 1	8/3`/15	0650	K1509841-012	3.22	0.04	15,918	16,447	15,726	16,249	1.2
#11 Boiler TDF Comp 2	8/3`/15	0650	K1509841-013	3.04	0.05	15,800	16,295	15,711	16,203	0.6
#11 Boiler TDF Comp 3	8/3`/15	0650	K1509841-014	3.17	0.04	15,790	16,307	15,690	16,204	0.6
#11 Boiler WWTP Residuals Comp 1	8/3`/15	0705	K1509841-015	63.79	n/a	1,574	4,346	n/a	n/a	n/a
#11 Boiler WWTP Residuals Comp 2	8/3`/15	0705	K1509841-016	64.06	n/a	1,612	4,486	n/a	n/a	n/a
#11 Boiler WWTP Residuals Comp 3	8/3`/15	0705	K1509841-017	61.69	n/a	1,658	4,329	n/a	n/a	n/a

Notes:

Solid samples were air dried at 40°C for several days, measured for moisture loss, coarse ground to < 6mm, and split into sub-samples, one for storage and one for further grinding to < 1mm. TDF sample required freezing with liquid nitrogen prior to the coarse and fine grinding steps. The wire was removed from the coarse ground TDF sample using magnetic separation. Analyses of TDF sample performed on a wire free sample. Samples were received in Tucson on 09/11/15.

W. Hyatt

Wendy Hyatt, Client Services Manager

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