Mark J. Zausmer Gary K. August Michael I Caldwell Heidi D. Hudson Mischa M. Boardman1 Nicole M. Wright Matthew G. McNaughton Cameron R. Getto Cinnamon A. Rice Amy S. Applin Andrea M. Johnson James C. Wright² Jeremy M. Mullett April E. Moore Bryan R. Padgett Michael A. Schwartz Devin R. Sullivan¹ Lauren M. Wawrzyniak Daniel J. McCarthy

ZAC

Zausmer, August & Caldwell, P.C.

FARMINGTON HILLS & LANSING

Adrian Acosta³ Joshua D. Apel Nicholas J. Assenmacher Scott M. Assenmacher Mark M. Bassily Dylan M. Beadle Thomas T. Bearse Laura C. Belden Theresa A. Bodwin Raffi J. Bush Celesta Campbell Spencer J. Chauncey Christopher A. Chesney Joshua T. Christopher Nicole L. Coleman⁵ Jalese D. DeBiasi Katelyn M. DePrekel Danielle R. DePriest Cristy M. DeVos¹ Kaitlin C. Dodge Melissa A. Durity John R. Gehring Jonathan F. Gruner Nickolas M. Guttman Brandon S. Heintzelman Daniel I. Jedell Eula J. Johnson Jessica G. Kingston Logan R. Kovach Janetta A. Ksar Colin B. MacBeth Kristina M. Macionski Katharine G. McCarthy Shaun M.J. Neal Elizabeth J. Ollgaard Breanne M. Patton Alex M. Petrik A. Adam Post, II Michelle C. Ruggirello Elizabeta Rumery Carol Smith Sandy Alec M. Torigian Nicholas A. Tselepis John A. VanGemert Kyle A. Warwick Daniel P. Webber Eric J. Wejroch Tali F. Wendrow

FARMINGTON HILLS 32255 Northwestern Highway, Suite 225 Farmington Hills, MI 48334-1574 (248) 851-4111 phone (248) 851-0100 fax

¹Also Admitted in IL
²Also Admitted in OH
³Also Admitted in TX
⁴Also Admitted in District of Columbia
⁵Also Admitted in NY
⁶Also Admitted in FL
⁷Also Admitted in CA

Of Counsel: Emily K. Neuberger1

August 31, 2018

Joseph Scanlan
Upper Peninsula District
Air Quality Division
Michigan Department of Environmental Quality.

Re: Grede, LLC

Kingsford, Michigan

August 6, 2018 Violation Notice ("NOV")

Dear Mr. Scanlan:

I am writing on behalf of Grede, LLC ("Grede") in response to Department of Environmental Quality, Air Quality Division's ("AQD") August 6, 2018 NOV regarding Grede's Kingsford facility.

As a longtime member of the Kingsford community, Grede takes air quality issues very seriously and has committed significant technical, financial, and staff resources to ensuring that the Kingsford facility fully complies with all applicable air quality standards. With the guidance and cooperation of AQD staff, Grede has implemented many improvements to the Kingsford facility's operations and increased staffing levels over the last few years. For example, Grede has installed a new electronic monitoring system for the controlled baghouses, which has improved our staff's ability to ensure that these

{01878313}



air pollution control devices are working properly at all times. Grede has added five new air quality staff members who perform weekly preventative maintenance, daily housekeeping activities, and monitor and maintain the facility's extensive air quality control equipment on a daily basis. Grede has replaced two of its former "wet" pollution control devices with two more efficient "dry" devices, which has significantly increased the collection efficiency and control of those units. Grede has also worked cooperatively with AQD staff to improve its "housekeeping" procedures to eliminate this potential source of airborne dust. For instance, Grede installed and now operates a spray bar to reduce fugitive emissions at the end of the shakeout line/returns as suggested by AWD during a recent MDEQ inspection. Grede has also arranged to have an "on-call" sweeper available in the event Grede's sweeper is inoperable for any length of time to ensure that dust does not accumulate in the yard. Finally, Grede has retained the services of Paul Blindauer, a well-qualified and experienced air quality consultant with GEI Consultants, to provide further guidance on air quality issues.

These improvements have resulted in the Kingsford facility's reliable and consistent compliance with its Renewable Operating Permit ("ROP"), the 2016 Consent Order, and all other applicable requirements. Consequently, Grede was very surprised to receive the NOV, particularly the alleged violations regarding fugitive emissions, which Grede does not believe are factually supported. Grede's response to each alleged violation is provided below.

1. Failure to provide ADQ notification of a change in RO and for ROP certifications to be signed by RO.

As was explained during the August 7th meeting between Grede and AQD staff, Grede's General Manager is the Responsible Official ("RO") for the facility. There was significant turnover in this position during the past year with three different individuals holding the position: Chuck Kalupa until October 2017; Adam Buchcuski until November 2017; Roger Rask from November 2017 through March 9, 2018; and Tyler Hill since March 12, 2018. Although the General Manager/RO at the time of each report appropriately signed each of the certification statements, the M0001 and C0001 forms notifying AQD of the RO changes were inadvertently not included. As AQD instructed during the August 7th meeting, Grede is resubmitting each certified report submitted during this time period with the appropriate M001 and C001 notification forms attached. See Attachment 1. Grede will follow this protocol in the future in the event of a change in the General Manager position.

2. Failure to conduct performance testing as required in 2017.

Grede acknowledges that it did not conduct the MACT performance test to demonstrate compliance with its emission limit condition in 2017. Grede staff believed that ADQ had agreed to allow Grede to conduct the required MACT testing in 2018 so that this testing could be performed at the same time as Grede's ROP renewal stack testing. Upon receiving the NOV, Grede contacted Eric Grinstern to confirm that agreement, but Mr. Grinstern does not recall agreeing to postpone the MACT testing. Instead, Mr. Grinstern has indicated that he attempted to



allow Grede to move up the ROP stack testing to coincide with the MACT testing. Grede regrets that it did not confirm in writing its understanding of the agreement with Mr. Grinstern at the time so that this misunderstanding could have been resolved in time to conduct the MACT testing in 2017, if that was what was required.

Grede is in the process of soliciting bids from three qualified testing companies to conduct the required performance testing to satisfy both the MACT and ROP renewal testing requirements. Those bids should be received in the next month and the testing will be completed in 2018. Grede will submit a testing protocol to AQD 60 days prior to testing.

Although the good faith miscommunication that delayed the MACT testing is regrettable, the delay does not support any conclusion that Grede has not complied with all air quality standards. Grede passed its MACT testing in both 2007 and 2012 and fully anticipates that it will pass again this year as the air quality associated with its operations has only improved since 2012. Grede's semi-annual Opacity testing, which is conducted by a third-party consultant, has confirmed compliance with those related standards since entry of the Consent Order in 2016.

3. Failure to notify of change of ownership or operational control of stationary source.

As Grede explained during the August 7th meeting with AQD, ownership and control of the Kingsford facility has not changed and, therefore, no notification in this regard is required. Grede, LLC still owns and controls the Kingsford facility. To the extent relevant, Grede's parent company is still Grede Holdings, LLC. The 2016 merger between American Axle & Manufacturing Holdings and the Metaldyne Performance Group did not change the relevant corporate structure or the entity legally responsible for the facility.

4. Failure to provide consent of purchaser to assume all obligations of Consent Order.

There has not been a change in ownership of the Kingsford facility that would trigger this requirement. See response to 3, above.

¹ Both Mr. Grinstern and Grede remember agreeing that it made sense to perform the two sets of performance testing at the same time because many of the individual tests are the same and the cost of mobilizing twice could be avoided if the two sets of tests were performed together. It appears, however, that Mr. Grinstern understood the agreement to be that Grede would move up its 2018 ROP renewal testing to 2017 so it could be performed at the same time as the 2017 MACT testing. Grede thought that AQD was allowing Grede to postpone the 2017 MACT testing until 2018 so that it could be performed with the 2018 ROP renewal stack testing.



- 5. Emission of an air contaminant that has caused injurious effects to property and/or has caused unreasonable interference with the comfortable enjoyment of life and property.
 - a. Failure to adequately collect and dispose of air contaminants.²
 - b. Failure to adequately maintain and operate an air cleaning device.

This set of alleged violations apparently arise from a January 2018 complaint made by the owner of property in the general area of the Kingsford facility regarding dust that had collected on various surfaces on the owner's property over the previous three months. AQD apparently analyzed the dust from the complainant's property and dust from the Kingsford facility and found the two samples to be "similar". When AQD inspected the Kingsford facility in May 2018, AQD did not identify any specific sources within the facility that were likely to have been the source of the fugitive dust found on the complainant's property. Nevertheless, Grede and AQD split dust samples from four different locations within the facility. Grede had its samples analyzed for the constituents identified by AQD by WhiteWater & Associates and has shared those results with AQD. AQD, on the other hand, has not shared either the results of the May split-sampling event or the analysis of the dust collected from the complainant's property, despite several requests for these data. Indeed, there were no further communications from AQD between the May inspection and the issuance of the August 6, 2018 NOV, despite several attempts by Grede to discuss these issues further.

Based on the information that AQD has shared with Grede, it does not appear that the alleged emission-related violations are factually supported. In fact, a great deal of evidence affirmatively indicates that the Kingsford facility is not the source of the dust collected from the complainant's property, including the following:

- There are other industrial facilities in the area of the Kingsford facility, including other foundries, that handle and/or manufacture iron. Although the AQD has not shared its analytical results with Grede, the operations of any one or a combination of these facilities could have generated fugitive dust "similar" to the dust collected at the complainant's property.
- As acknowledged by AQD during the August 7th meeting, Grede has operated in compliance with its ROP and Consent Order during the relevant time frame. The only deviations recorded were minor operational issues that Grede quickly corrected and that would not have resulted in fugitive dust emissions. Grede's Renewable Operating Permit Deviation Reports for the last year are attached as Attachment 2. These detailed reports demonstrate how closely Grede monitors its operations to ensure consistent compliance with applicable legal requirements.
- The Kingsford facility has routinely passed the semiannual Opacity testing conducted by a third-party testing firm, since entry of the 2016 Consent Order. See Grede's most recent results attached as Attachment 3.

² AQD acknowledges that it has no independent evidence of the violations listed as 5(a) and (b). Rather, these alleged violations are derivative of alleged violation No. 5 and are assumed to have occurred based on the AQD's conclusion that the Kingsford facility was the source of the dust collected from the complainant's property.



• The deposition of dust on the complainant's property occurred during the winter months when weather conditions would not have permitted fugitive dust from the Kingsford facility's yard to become airborne, even if dust from the facility's operations had accumulated in the yard (of which there is no evidence).

These facts and the many improvements to the Grede's operations discussed above make it very unlikely that its Kingsford facility is the source of the fugitive dust at issue. Based on the available information, Grede does not believe that it violated its ROP or the Consent Order with regard to fugitive dust emissions as suggested by the NOV. If AQD has any additional factual bases for concluding otherwise, please provide that information to Grede to consider.

Grede will continue to work cooperatively with AQD staff to assure Grede's continued compliance with its ROP, Consent Order, and any other applicable requirements. Please contact Tyler Hill if you wish to discuss this response or the related issues further.

Very truly yours,

ZAUSMER, AUGUST & CALDWELL, P.C.

Michael L. Caldwell

MLC/bas Enc.

cc:

Ed Lancaster, AQD Dean Teeples John Bomberg Tyler Hill Paul Blindauer, GEI

ATTACHMENT 1



Michigan Department Of Environmental Quality - Air Quality Division

RENEWABLE OPERATING PERMIT APPLICATION C-001: CERTIFICATION

This information is required by Article II, Chapter 1, part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to provide this information may result in civil and/or criminal penalties. Please type or print clearly.

This form is completed and included as part of Renewable Operating Permit (ROP) initial and renewal applications, notifications of change, amendments, modifications, and additional information.

Form Type C-	001				SRN B1577	
Stationary Sou	rce Name					
Grede, LLC - I	on Mountain	~*************************************				
City	Quantitation			County		
Kingsford				Dickinson		
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Renewal (Rule 210)	☐ Othe	r, describe on Al-001			
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3. Submittal			☐ FTP	☐ Disk		⊠ Paper
	Additional Information ID regarding a submittal.	- Create an Ac	dditional Information	(AI) ID that is us	sed to provide:	supplemental information
Al	regarding a submittal.					•
CONTACT IN	FORMATION	······································	······································	***************************************		
Contact Name			т	itle		
Tyler Hill				eneral Manage	r	
Phone number			E-mail address			
(906)7790201			tyler.hill@aam.com		······································	
This form	nust be signed and	dated by a	Responsible Of	ficial.		
Responsible C	Official Name			Title		
Tyler Hill				General Manag	er	
Mailing address	1					
801 S. Carpen	ter Avenue					
City		State	ZIP Code	County		Country
Kingsford		MI	49802	Dickinson	·	USA
As a Resp	onsible Official, I c	ertify that,	based on infor	nation and	belief form	ed after reasonable
inquiry, the	e statements and in	ormation in	n this submittal	are true, acc	curate and o	complete.
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Proceedings of the Parish of t	Y /				8/6	1,0_
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Signature of Re	sponsible Official				Date	



Michigan Department of Environmental Quality Air Quality Division

RENEWABLE OPERATING PERMIT M-001: RULE 215 CHANGE NOTIFICATION **RULE 216 AMENDMENT/MODIFICATION APPLICATION**

This information is required by Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment.

1.	SRN B1	577	2. ROP Nu	mber	MI-ROP-B1577-2	2014a	3. County	Dickins	on	
4.	Stationary	Source Name	Grede, LLC	- Iron N	1ountain					
5.	Location A	ddress	801 S. Carp	enter A	venue		6. City	Kingsfo	rd	
7.	up of the a	Type - The submittal must meet the criteria for the box checked below. Check only one box. Attach a mark- affected ROP pages for applications for Rule 216 changes. 215(1) Notification of change. Complete Items 8 – 10 and 14								
		1''	_	•						
		1	_		te Items 8 – 10 and 1					
		1.,	_		te Items 8 – 11 and 1					
		1	_	•	te Items 8 – 10 and 1					
		1			ent. Complete Items					_
		16(1)(a)(v) Admin nitted. See detail			. Complete Items 8 -	- 14. Kesu	iits of testing, moi	nitoring & r	есогаквері	ng must
	☐ Rule 2	16(2) Minor Modi	fication.	Complet	te Items 8 – 12 and 1	4				
	Rule 2	ld(3) Significant	Modification.		e Items 8 – 12 and 1 tion forms. See deta		•	ıl informati	on needed	on ROP
	☐ Rule 2	(4) State-Only	Modification.	Complete	e Items 8 – 12 and 1	4				
8.		ate of the changed instructions.	ge. (MM/DD/\	/ YYY)	<u>10//09/2017</u>	9.	Change in emis	sions?	☐ Yes	⊠ No
10					s or additions to the needed, complete					and/or
	Manager	of the facility un	til October 9,	2017. I	re occurred in the p Mr. Roger Rask se Manager and has s	rved as G	eneral Manager	from 11/		
11	. New Sou	rce Review Per	mit(s) to Insta	il (PTI)	associated with thi	s applicat	ion?		Yes 🔲	No
	If Yes, en	ter the PTI Num	ber(s)	-	-	-			•	-
12		nce Status - A na any of the follow			olan, including a sci	hedule for	compliance, m	ust be su	bmitted us	ing an
	a. Is the	change identifie	d above in co	mpliand	e with the associat	ted applic	able requiremer	nt(s)?	☐ Yes	☐ No
		e change identif ement(s)?	ied above co	ntinue to	be in compliance	with the a	associated appli	cable	☐ Yes	□ No
	c. If the c	hange includes	a future appl	icable re	equirement(s), will	timely cor	npliance be ach	ieved?	☐ Yes	□No
13		's Additional Info m used to provi			an Additional Information.	mation (A	l) ID for the asso	ociated	Al	
14	. Contact I	Vame	Te	elephone	e No.	E-1	mail Address			
	Tyler Hill		(9	06)779-	0201	tyle	er.hill@aam.con	<u> </u>		
15					application submite ROP must be atta				☐ Yes	□ N/A

NOTE: A CERTIFICATION FORM (C-001) SIGNED BY A RESPONSIBLE OFFICIAL MUST ACCOMPANY ALL SUBMITTALS DEQ Environmental Assistance Center

Phone: 800-662-9278

www.michigan.gov/deq



RENEWABLE OPERATING PERMIT REPORT CERTIFICATION

Authorized by 1994 P.A. 451, as amended. Fallure 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

Source Name Gree	de LLC - Iron Mountain				County Dickin	son
Source Address 80	1 South Carpenter Ave	nue		City	Kingsford	
AQD Source ID (SRN)	B1577	ROP No.	MI-ROP_B1577- 2014a		ROP Section No.	IV
Please check the appro	opriate box(es):					
Annual Comptian	nce Certification (Pursuant	to Rule 213(4)	(c))			
Reporting period ((provide inclusive dates):	From	То			
☐ 1. During the enterm and conditi	ntire reporting period, this sou ion of which is identified and i ified in the ROP.	rce was in com	pliance with ALL term			
term and cordit	entire reporting period this so ion of which is identified and (s). The method used to dete e indicated and described on	i included by the included by	is reference, EXCEPT nce for each term and	for the	deviations identified	on the enclosed
Semi-Annual for	More Frequent) Report Ce	rtification (Pu	suant to Rule 213/3)	(c))		
	more requestly report we	i anoauon (i a	rouant to rain 210(0)	(<i>41)</i>		
	(provide inclusive dates):	From	To			
deviations from	entire reporting period, ALL m these requirements or any ot	onitoring and a her terms or co	ssociated recordiceph aditions occurred.	ng requii	rements in the ROP	were met and no
2. During the e deviations from enclosed deviations	ntire reporting period, all mon these requirements or any ot ion report(s).	itoring and asso her terms or co	ociated recordkeeping nditions occurred, EXC	requirer EPT for	nents in the ROP we the deviations ident	ere met and no ified on the
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Other Report Ce		F 1 /1 /	0017 To	10/21/	(0017	
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1	s Submittal Certificat		•			
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I certify that, based or supporting enclosures	n information and belief form are true, accurate and compl	ned after reaso ete	nable inquiry, the stat	tements	and information in	this report and th
Tyler Hill			General Manager			79-0207
Name of Responsible	r Official (print or type)		Title		Phone	Number
19	_				۲,	112/18
Signature of Responsi	ble Official					Date
* Photocopy this form as	needed.				EQP 5	736 (Rev 11-04)



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 NameGr	ede, LLC - Iron Mounta	in	***************************************	Co	unty <u>Dickin</u>	son
Source Address	801 South Carpenter Av	enue		City Ki	ngsford	
AQD Source ID (SF	B1577	ROP No.	MI-ROP-B1577- 2014	RC	P Section No.	IV
Please check the ap	propriate box(es):					
Annual Compl	ance Certification (Pursuar	nt to Rule 213(4)(c))			
Panorling pario	d (provide inclusive dates):	From 01/01	/2017 To	12/31/2017	7	
 1. During the term and cond 	entire reporting period, this s fition of which is identified and cified in the ROP.	ource was in com	pliance with ALL terr	ns and conditi	ons contained in	
term and con deviation repo	e entire reporting period this dition of which is identified an ort(s). The method used to de ise indicated and described o	nd included by the etermine compliar	is reference, EXCEP	T for the devi-	ations identified	on the enclosed
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⊠ Semi-Annual (or More Frequent) Report C	ertification (Pur	suant to Rule 213(3)(¢))		
Reporting perio	d (provide inclusive dates):	From 07/01	/2017 To	12/31/201	7	
	entire reporting period, ALL these requirements or any			ing requireme	nts in the ROP	were met and no
deviations fro	entire reporting period, all months these requirements or any obtain report(s).					
Other Report C	ertification					
	(provide inclusive dates):		/2017 To	12/31/201		
	oring reports or other applical	ole documents rec	quired by the ROP ar	e allached as	described:	
CAN Report	and Certification					······
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	on information and belief fo s are true, accurate and com		nable inquiry, the sta	itements and	information in	this report and th
Roger Rask			General Manager	•	906-7	79-0201
	le Official (print or type)		Title	***************************************	Phone	Number
Row D	Rol				2/28/	12018
Signature of Respon	sible Official				'''''''''''''''''''''''''''''''''''''	Date
* Photocopy this form	as needed.				EQP 5	736 (Rev 11-04)



RENEWABLE OPERATING PERMIT DEVIATION REPORT

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

This form may be submitted in conjunction with the Renewable Operating Permit Report Certification form (EQP 5738) to report deviations from all general conditions and special conditions in the Renewable Operating Permit (ROP) for which deviations required to be reported by R 336.1213 (Rule 213) subrule (3)(c) have occurred. 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. Items 1 - 8 must be completed for all deviations being reported.

Source Name Gr	ede, L	LC-Iron Mountain				County _	Dickinson	
Source Address	801 S	outh Carpenter Ave	e		City	Kingsfo	rd	
AQD Source ID (SF	RN) _	B1577 RO	P No. MI	-ROP-B1577-	-2014	ROP Secti	ion No.	IV
ROP Section Conta	act	Eric Grinstern			Contact P	hone No.	616-356-0	266
Reporting Period (p	rovide	inclusive dates): F	rom <u>07/01/1</u>	7	to	12/31/1	7	
Report Type:	Annual	Semi Annual	Other (Describe	e)				
1. Group or Source Wide ID		2. Condition No.	3. Date(s) o	f Occurrence	4. Previously ☐Yes	reported? ⊠ No	5. Duration	of Deviation
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8. Reason for Devi	ation a	nd Description of Correc	ctive Action Taker	}				
		2. Condition No.	10.0-1-10					
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RENEWABLE OPERATING PERMIT DEVIATION REPORT

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This form may be submitted in conjunction with the Renewable Operating Permit Report Certification form (EQP 5736) to report deviations from all general bonditions and special conditions in the Renewable Operating Permit (ROP) for which deviations required to be reported by R 336.1213 (Rule 213) subrule (3)(c) have occurred. 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. Items 1 - 8 must be completed for all deviations being reported.

Source Name G	rede,	LLC - Iron Mountain				County _	Dickinson
Source Address	801 S	. Carpenter Avenue		· · · · · · · · · · · · · · · · · · ·	City	Kingsfo	rd
AQD Source ID (S	RN) _	B1577 ROP N	o. MI-	-ROP-B1577-	-2014	ROP Sect	ion No. IV
ROP Section Cont	act	Eric Grinstern			Contact P	hone No.	616-356-0266
Reporting Period (provide	inclusive dates): From	01/01/2	017	to	06/30/2	017
Report Type:	Annual	Semi Annual 🔲 O	ther (Describe	•)			
1. Group or Source Wide ID EU-P032, P034,		2. Condition No. VI, 1	3. Date(s) of	Occurrence 4/22/17	4. Previously r ☐Yes If Yes, Date	reported?	5. Duration of Deviation 5 days
P038							
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4 Contin of							
1. Group or Source Wide ID		2. Condition No.	1	Occurrence	4. Previously I	reported?	5. Duration of Deviation
Source Wide ID EU-P009 6. Method Used to (if different from m	ethod s	VI, 10 line Compliance Status pecified in ROP)	3. Date(s) of	7. Description	☐Yes If Yes, Date on of Deviation	⊠ No	5. Duration of Deviation 1 hour Amp range is 115 – 200.
Source Wide ID EU-P009 6. Method Used to (if different from m Computer monitor 8. Reason for Dev	ethod sping systemation a	VI, 10 ine Compliance Status pecified in ROP) em nd Description of Corrective	4/20/17 Action Taken	7. Description Motor amps	If Yes, Date on of Deviation were out of range on quenche	⊠ No ge at 212.	1 hour Amp range is 115 - 200. and to be wide open
Source Wide ID EU-P009 6. Method Used to (if different from m Computer monitor 8. Reason for Dev	ethod sping systemation a	VI, 10 line Compliance Status pecified in ROP)	4/20/17 Action Taken	7. Description Motor amps	If Yes, Date on of Deviation were out of range on quenche	⊠ No ge at 212.	1 hour Amp range is 115 - 200. and to be wide open
Source Wide ID EU-P009 6. Method Used to (if different from m Computer monitor 8. Reason for Dev	ethod sping systemation a	VI, 10 ine Compliance Status pecified in ROP) em nd Description of Corrective	4/20/17 Action Taken a gate, amp	7. Description Motor amps	If Yes, Date on of Deviation were out of range on quenche	ge at 212.	1 hour Amp range is 115 - 200. and to be wide open
Source Wide ID EU-P009 6. Method Used to (if different from m Computer monitor 8. Reason for Devallowing for m 1. Group or Source Wide ID	ethod sing systemation as a second systematic	VI, 10 ine Compliance Status pecified in ROP) em nd Description of Corrective ixflow. Closed slide 2. Condition No.	4/20/17 Action Taken a gate, amp	7. Description Motor amps Slide gaterage was	☐Yes If Yes, Date on of Deviation were out of range on quenche returned to 4. Previously i ☐Yes	ge at 212. er was fo proper reported?	1 hour Amp range is 115 - 200. und to be wide open range.
Source Wide ID EU-P009 6. Method Used to (if different from m Computer monitor 8. Reason for Devallowing for m 1. Group or Source Wide ID 6. Method Used to (if different from m	ethod sing systemation a special control of the systematic control of the system of th	VI, 10 ine Compliance Status pecified in ROP) em nd Description of Corrective ixflow. Closed slide 2. Condition No.	Action Taken e gate, amp	7. Description Motor amps Slide gates arage was Coccurrence 7. Description	I Yes, Date on of Deviation were out of range on quenche returned to 4. Previously i Yes If Yes, Date	ge at 212. er was fo proper reported?	1 hour Amp range is 115 - 200. und to be wide open range.
Source Wide ID EU-P009 6. Method Used to (if different from m Computer monitor 8. Reason for Devallowing for m 1. Group or Source Wide ID 6. Method Used to (if different from m	ethod sing systemation a special control of the systematic control of the system of th	VI, 10 ine Compliance Status pecified in ROP) em nd Description of Corrective ixflow. Closed slide 2. Condition No.	Action Taken e gate, amp	7. Description Motor amps Slide gates arage was Coccurrence 7. Description	I Yes, Date on of Deviation were out of range on quenche returned to 4. Previously i Yes If Yes, Date	ge at 212. er was fo proper reported?	1 hour Amp range is 115 - 200. und to be wide open range.
Source Wide ID EU-P009 6. Method Used to (if different from m Computer monitor 8. Reason for Devallowing for m 1. Group or Source Wide ID 6. Method Used to (if different from m	ethod sing systemation a special control of the systematic control of the system of th	VI, 10 ine Compliance Status pecified in ROP) em nd Description of Corrective ixflow. Closed slide 2. Condition No.	Action Taken e gate, amp	7. Description Motor amps Slide gates arage was Coccurrence 7. Description	I Yes, Date on of Deviation were out of range on quenche returned to 4. Previously i Yes If Yes, Date	ge at 212. er was fo proper reported?	1 hour Amp range is 115 - 200. und to be wide open range.

ATTACHMENT 2



RENEWABLE OPERATING PERMIT DEVIATION REPORT

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Source Name Grede I	LC				County _	Dickinson
Source Address 801 S	outh Carpenter Ave			City	Kingsfo	rd
AQD Source ID (SRN)	b1577 ROP N	o. <u>MI</u>	-ROP-B1577-	-2009a	ROP Secti	on No. IV
ROP Section Contact	Eric Grinstern			Contact P	hone No.	616-356-0266
Reporting Period (provide	inclusive dates): From	01/01/1	8	to	06/30/1	8
Report Type:	⊠ Semi Annual ☐ O	ther (Describe)			
1. Group or	2. Condition No.	3. Date(s) of	Occurrence	4. Previously r		5. Duration of Deviation
Source Wide ID EU-P032, 34, 36, 38	VI,2	1/29/18		☐Yes If Yes, Date	⊠ No	3 HOURS
6. Method Used to Determ (if different from method sp			Different	n of Deviation ial pressure uaage was re	e is suppo eading 0.	osed to be 1"w.c
	nd Description of Corrective as plugged. Blew the			operation.		
	0 0 (111 N)	0 0-4-(-) -			110	
1. Group or Source Wide ID EU-P012	2. Condition No. VI, 2	3. Date(s) of	Occurrence	4. Previously I ☐Yes If Yes, Date	eported?	5. Duration of Deviation 1 HOUR
6. Method Used to Determ (if different from method s			Different	n of Deviation ial pressure uage was rea		osed to be 2"w.c
8. Reason for Deviation a	nd Description of Corrective	Action Taken	Different	ial line rur	nning to	the top of the
top of the collector	r was frozen. Thawed	d and blew	the lines	out. Back i	in operat	ion.
1. Group or	2. Condition No.	3 Date(s) of	Occurrence	4. Previously	renorted?	5. Duration of Deviation
Source Wide ID		, ,	Cocarronoc	☐Yes	⊠ No	
EU-PO40	VI,2	2/16/18 2/17/18		If Yes, Date		2 DAYS
6. Method Used to Determ				on of Deviation		acad to be
(if different from method s	pecined in ROP)		3.5"w.c		L6/18 it	was 7.5"w.c.,
not let the system	nd Description of Corrective build up enough pressifinding a replacement	sure to pul	Had an ai	r leak in a an the filte	pulse va ers. Turn	ed air off the



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Source Name Grede I	LLC				County _	Dickinson
Source Address 801 S	outh Carpenter Ave			City	Kingsfor	rd
AQD Source ID (SRN)	b1577 ROP N	o. <u>MI</u>	-ROP-B1577-	-2009a	ROP Secti	ion No. IV
ROP Section Contact	Eric Grinstern			Contact P	hone No.	616-356-0266
Reporting Period (provide	inclusive dates): From	01/01/1	3	to	06/30/1	8
Report Type:	Semi Annual 🔲 O	ther (Describe)			
Group or Source Wide ID	2. Condition No.	3. Date(s) of	Occurrence	4. Previously r ☐Yes	reported?	5. Duration of Deviation
EU-PO14	VI,2,4	3/30/18 3/31/18		If Yes, Date	24 110	2 DAYS
6. Method Used to Determ (if different from method s			Different 3.5"w.c		age read '	osed to be 7 & 6.4. Amps are ere 119, 131
for the pulse. Water also replaced. Back	nd Description of Corrective r froze and damaged a in operation. We did n a manual air wand a	about 12 as i also when	co valves. system co	Replaced/reuldn't pulse	build value, shut it	lves, air dryer t down each
1. Group or Source Wide ID EU-PO40	2. Condition No.	3. Date(s) of 3/30/18 3/31/18	Occurrence	4. Previously i □Yes If Yes, Date	reported? No	5. Duration of Deviation 2 DAYS
6. Method Used to Determ (if different from method s			Different	n of Deviation ial pressure 5.5"w.c 3/	e is supp /30 it was	osed to be s 6.8, 3/31 it was
8. Reason for Deviation a	nd Description of Corrective	Action Taken	Electrica	l issue insi	ide the p	ulse board.
Would pulse normal operation.	for 2-3 hours and hav	ve to be re	set. Repl	aced the pul	lse board	, back in
1. Group or	2. Condition No.	3. Date(s) of	Occurrence	4. Previously	reported?	5. Duration of Deviation
Source Wide ID	VI,2,5	4/13/18		☐Yes If Yes, Date	⊠ No	6 HOURS
6. Method Used to Determ (if different from method s	pecified in ROP)		Different 6"w.c. Gu to be 175	age was read -210, Guage	ding 10", was read	
quit working, repla	nd Description of Corrective ced motor for arm. Wa motor was replaced, h	as not prop	erly clean			



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Source Name Grede LLC County Dickinson Source Address 801 South Carpenter Ave City Kingsford AQD Source ID (SRN) b1577 ROP No. MI-ROP-B1577-2009a ROP Section No. IV **ROP Section Contact** Eric Grinstern Contact Phone No. 616-356-0266 Reporting Period (provide inclusive dates): From 01/01/18 06/30/18 ☐ Other (Describe) 1. Group or 2. Condition No. 3. Date(s) of Occurrence 4. Previously reported? 5. Duration of Deviation Source Wide ID ⊠Yes П No EU-P018 VI,2 4/17/18 If Yes, Date 4/13/18 4 HOURS 6. Method Used to Determine Compliance Status 7. Description of Deviation (if different from method specified in ROP) Differential pressure is supposed to be 1"w.c.-6"w.c.. Guage was reading 10"w.c. 8. Reason for Deviation and Description of Corrective Action Taken PD Blower pump was not working, collector was not getting air to clean bags. Replaced with a rebuilt blower. Was back within range in less than an hour. Back in operation. 1. Group or 2. Condition No. 4. Previously reported? 3. Date(s) of Occurrence 5. Duration of Deviation Source Wide ID □Yes ☐ No If Yes, Date 6. Method Used to Determine Compliance Status 7. Description of Deviation (if different from method specified in ROP) 8. Reason for Deviation and Description of Corrective Action Taken 2. Condition No. 3. Date(s) of Occurrence 1. Group or 4. Previously reported? 5. Duration of Deviation Source Wide ID □Yes □ No If Yes. Date 6. Method Used to Determine Compliance Status 7. Description of Deviation (if different from method specified in ROP) 8. Reason for Deviation and Description of Corrective Action Taken



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Source Name Grede, LLC - Iron Mountain						Dickinson		
Source Address 801 S	. Carpenter Avenue	City	Kingsfor	rd				
AQD Source ID (SRN)	B1577 ROP N	o. MI	-ROP-B1577-	-2014	ROP Secti	on No. IV		
ROP Section Contact	Eric Grinstern		•	Contact P	hone No.	616-356-0266		
Reporting Period (provide	06/30/2	017						
Report Type: Annual Semi Annual Other (Describe)								
Group or Source Wide ID	2. Condition No.	3. Date(s) of	Occurrence	4. Previously □	reported?	5. Duration of Deviation		
EU-P032, P034, P038	VI, 1	4/18/17 -	4/22/17	If Yes, Date	⊠ 140	5 days		
6. Method Used to Determ (if different from method s			Differential p			to 10 w.c. after initial		
•	·		start up of co	ollector. Proper	range is 1 v	v.c. to 6 w.c.		
	nd Description of Corrective							
	se properly to clean							
4 Croup or	2. Condition No.	La Data(a) a	f Occurrence	4. Previously	-anartad2	5. Duration of Deviation		
Group or Source Wide ID	2. Condition No.	3. Date(s) of	Occurrence	☐Yes	No ⊠	5. Duration of Deviation		
EU-P009	VI, 10	4/20/17	T	If Yes, Date		1 hour		
Method Used to Determ (if different from method s Computer monitoring syst	pecified in ROP)			on of Deviation were out of ran	ge at 212. /	Amp range is 115 – 200.		
8. Reason for Deviation a	nd Description of Corrective irflow. Closed slide							
1. Group or Source Wide ID	2. Condition No.	3. Date(s) o	f Occurrence	4. Previously ☐Yes If Yes, Date	reported?	5. Duration of Deviation		
				<u></u>				
6. Method Used to Determ (if different from method s			7. Description	on of Deviation				
8. Reason for Deviation a	and Description of Corrective	Action Taker	<u> </u> 1					
	,							



RENEWABLE OPERATING PERMIT DEVIATION REPORT

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This form may be submitted in conjunction with the Renewable Operating Permit Report Certification form (EQP 5736) to report deviations from all general conditions and special conditions in the Renewable Operating Permit (ROP) for which deviations required to be reported by R 336.1213 (Rule 213) subrule (3)(c) have occurred. 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. Items 1 - 8 must be completed for all deviations being reported.

Source Name Grede, I	LC-Iron Mountain				County _	Dickinson	
Source Address 801 S	outh Carpenter Ave			City	Kingsfor	rd	
AQD Source ID (SRN)	B1577 ROP N	o. <u>MI</u>	-ROP-B1577-	-2014	ROP Secti	ion No.	IV
ROP Section Contact	Eric Grinstern			Contact F	hone No.	616-356-0	266
Reporting Period (provide	inclusive dates): From	07/01/1	7	to	12/31/1	7	
Report Type: Annual	I ⊠ Semi Annual 🔲 O	ther (Describe	·)				-
1. Group or Source Wide ID EU-P009	2. Condition No.	3. Date(s) of	Occurrence	4. Previously Yes If Yes, Date	reported? ⊠ No	5. Duration 15 mins	of Deviation
6. Method Used to Determ (if different from method s	ine Compliance Status pecified in ROP)		Tried to temp up w	on of Deviation start up 2 ithing 15 m ch is below	inutes, st	tack temp	was at
Electricians and Mar Electricians replace	nd Description of Corrective intenance to the Cupo ed fire eye. Started r through out the day	ola. A fire up again a	eye had f nd stack t	ailed for the	he upper s er 1300 de	stack burn egrees. I	er.
1. Group or Source Wide ID	2. Condition No.	3. Date(s) of	Occurrence	4. Previously Yes If Yes, Date	reported?	5. Duration	of Deviation
	nine Compliance Status	3. Date(s) of		□Yes		5. Duration	of Deviation
6. Method Used to Determ (if different from method s	nine Compliance Status		7. Description	☐Yes If Yes, Date		5. Duration	of Deviation
Source Wide ID 6. Method Used to Determ (if different from method s 8. Reason for Deviation a	nine Compliance Status pecified in ROP) and Description of Corrective	e Action Taken	7. Description	☐Yes If Yes, Date on of Deviation	□ No		
6. Method Used to Determ (if different from method s	nine Compliance Status pecified in ROP)	e Action Taken	7. Description	☐Yes If Yes, Date	□ No		of Deviation
6. Method Used to Determ (if different from method s 8. Reason for Deviation a	nine Compliance Status pecified in ROP) and Description of Corrective 2. Condition No.	e Action Taken	7. Description	☐Yes If Yes, Date on of Deviation 4. Previously ☐Yes	No No reported?		

ATTACHMENT 3



BADGER LABORATORIES & ENGINEERING INC.

501 WEST BELL STREET • NEENAH, WISCONSIN 54956-4868 • EST, 1956 (920) 729-1100 • FAX (920) 729-4945 • 1-800-776-7196

April 16, 2018

Project #18-0006A

Mr. Tom White **AAM Castings**801 South Carpenter Avenue
Kingsford, MI. 49802-5594

Dear Mr. White:

Attached is a copy of the report detailing the Visible Emission tests run April 11, 2018 at the AAM Castings facility located in Kingsford, MI. All the points read were in compliance with their respective Opacity limitation.

If you have any questions regarding the report, please call. Thank you for allowing us to provide this service to you.

BADGER LABORATORIES & ENGINEERING WDNR Certified Lab #445023150

Bruce F. Farmers

Bruce F. Lamers

Project Manager

Attachment

AAM Castings - Visible Emission Test

I. Introduction and Summary

Badger Laboratories & Engineering Co., Inc. (BL&E) was retained by AAM Castings to determine the fugitive Visible Emissions from foundry operations located at the facility. The facility is located at 801 South Carpenter Avenue, Kingsford, MI.

The emission tests were conducted April 11, 2018 by Mr. Jeff Jennerjohn of BL&E (phone No. 920-729-1100). The testing was performed to demonstrate compliance with the MACT standard for the iron and steel foundry industry. Testing was performed at four points. Each point consisted of a scan of the length of the wall. A one-hour long testing was also performed on the cupola baghouse discharge

No representative from any control agency was present to witness the tests. Testing was performed following U.S. EPA Method 9 by a certified visible emission observer. Mr. Tom White is the AAM Castings contact.

A summary of the emission results is shown below. The Smoke Forms containing the raw field data are also contained in the Appendix.

Method 9 Observations

Point No.	Time Period	Point Description	Opacity Limit*	Opacity Results Highest 6' ave.
				1 Hour*
1	9:00-10:00	North Side of Building	20%	0.0%
2	9:00-10:00	West Side of Building	20%	0.0%
3	11:05-12:05	South Side of Building	20%	0.0%
4	11:05-12:05	East Side of Building	20%	0.0%
5	10:02-11:02	Cupola Bagliouse	20%	1.6%

The limit is 20% except for one 6-minute period per hour which may be 27% Opacity.

II. Process Description

The Visible emission testing was performed to demonstrate that the building fugitive emissions were in compliance with the MACT standard limitation for the iron and steel foundry industry. The length of each wall (point) of the facility was scanned to determine the fugitive visible emissions from indoor operations.

Visible emission testing was also performed on the discharge of the baghouse controlling emissions from the cupola. Observations were performed at the exit ports of the positive pressure baghouse.

Badger Labs personnel was advised by AAM Castings personnel that foundry operations were at normal levels and it was OK to take visible emission readings. Badger Labs personnel was not supplied with any process or operating data. Any and all process data will be supplied by AAM Castings personnel.

III. Comments

The testing on April 11, 2018 proceeded normally with no problems that we were aware. To the best of our knowledge the test results are accurate and indicate the process emissions during the test period.

IV. Stack Testing and Analytical Procedures

The EPA reference method used in the testing program is summarized below.

Method 9: Visible Emissions

Opacity observations were performed according to EPA Method 9 by a certified visible emission observer. The observer was certified on April 10, 2018 at a qualified Smoke School.

The points read were the sides (walls) of the building. There were multiple openings in each wall. A scan of the length of the wall was performed which included all the openings. The highest opacity observed was recorded. Two separate points (walls) were read concurrently. Readings were taken at fifteen seconds intervals. No emissions were observed at any of the points (4). The smoke forms used are contained in the Appendix.

The cupola baghouse point read was the discharge ports of the positive pressure baghouse. There were multiple ports along one face of the baghouse. A scan of the length of the face was performed which included all the openings. The highest opacity observed was recorded. Readings were taken at fifteen seconds intervals. The smoke form used is contained in the Appendix.

Appendix

Name of Company	Date 4-1	1-18	SEC MIN	0	15	30	45	SEC	0	15	30	45
Location	FID Number	1 10	0	2	0	0	0	30	0	\mathcal{C}	O	0
Docarion	FID Number		1	0	0	0	0	31	0	0	0	0
City, State, Zip Code	Observer Certific	ation Date	- 2	0	0	0	0	32 (\hat{C}	Ô	0	0
Kings for a MI Discharge Location	4-10	>-18	3	0	Ô	Ô	O	33	0	0	0	0
Discharge Location	Control Device		4	0	0	0	0	34	0	0	0	0
North Side of Build	9/4	4	5	0	Δ	0	0	35	0	Ô	0	0
Height of Discharge Above Ground	Steam Plume? Attached	Yes Detached (No)	6	6	0	0	0	36	0	0	0	0
0.30 11.	Initial	Final	7	0	0	0	0	37	0	D	0	0
Time of Observation	9:00:00	9:59:45	8	0	0	Ô	0	38	0	O	0	0
Observer Location			9	0	0	10	0	1L	0	0	0	0
Distance to Discharge	150 ft (1)	Same	10	O	3	0	0	40	0	B	0	0
Direction from Discharge	NN		11	G	O	0	0	41	<u>() </u>	0	0	0
Duscout tom Discustige	// /	Sane	12	\bigcirc	0	0	0	42	6	0	0	0
Height of Observation Point in Relation to Discharge	grandlevel	sane	13	σ	2	2	0	43	0	0	8	0
Plume Description	NA	NA	14	0	0	0	0	44	<u>0</u>	18	18	10
(Color, Length, etc.)		- W []	16	0	0	-	0	-	<u>0 </u>	M	10	10
Plume Background Description	gry/while	Same	17	6	0	0	0	47	0	0	0	10
Weather Conditions			18	0	0	0	0	48	<u>A</u>	3	0	(3)
Wind Direction	W	Sane	19	0	0	10	0	49 (\dot{c}	0	10	10
Wind Speed	0-5	Sme	20	Ō	10	6	0		6	0	0	6
**************************************		3/WE_	21	0	0	0	0	51	6	0	0	6
Ambient Temperature	38°F	sane	22	0	0	0	0	52	O	G	0	0
Sky Conditions (clear, overcast,	overcust		23	0	0	0	Ø	53	6	O	O	0
% clouds, etc.)		Saul	24	0	0	0	0	54	0	0	0	TO
Describe Point in Plume as Which O	pacity was Determined		25	0	0	0	0	55	0	0	0	0
Remarks:	invilled	<u> </u>	26	0	0	O	0	56	0	0	10	10
evosem ade	•		27	0	0	0	0	57	0	0	0	0
•			28	0	0	0	0	58	0	0	0	0
			29	0	0	D	0	59	6	<u> </u>	0	0
					S	umma	ry of A	verag	е Орі	acity		

Summary of Average Opacity (From Computer Program)

Allowable Source Opacity

	Set	Time	Op	acity
	Number	Start - End	Sum	Average
Signature of Observer (Please print) Jeff Tennayohn				
Sketchar Discharge, and Sun Location.				
x Reading Point in Plume				ļ
/ / / / / / / / / / / / / / / / / / /				•

Sun Location Line

Le-, , , , , , , , , , , , , , , , , , ,	The second secon		
Name of Company	Date 4-11-1	18	SEC 0 15 30 45 SEC MIN 0 15 30 45
Location	FID Number	<u> </u>	00000000000
Location	F1D Number		1 0 0 0 0 31 0 0 0
City, State, Zip Code	Observer Certific	ration Date	- 2 0 0 0 0 32 0 0 0 0
Kingsford, MI	4-10		30000330000
Discharge Location	Control Device		40000340000
West side of Buildin			50000350000
Height of Discharge Above Ground	Steam Plume?	Yes (No)	60000360000
0-10+	Attached	Detached	7 0 0 0 0 37 0 0 0 0
Time of Observation	Initial	Final	8 0 0 0 0 38 6 0 0 0
	91,001,00	9:59:45	
Observer Location	100 ft (1)	Ca	
Distance to Discharge	1/00/1/00	Same	
Direction from Discharge	NW	Conn	11 0 0 0 0 41 0 0 0
	 // //	Sime	12 0 0 0 0 42 0 0 0
Height of Observation Point in Relation to Discharge	Grundlas	Same	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Plume Description (Color, Length, etc.)	NA	NA	15 0 0 0 0 45 0 6 0 0
Plume Background Description	gray/uh/2	Same	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Weather Conditions			
Wind Direction	W	Same	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Wind Speed	0-5	C	20 0 0 0 0 0 50 0 0 0
w mu opeeu	10.3	sane	$-\frac{21}{21}$ 0 0 0 0 51 0 0 0
Ambient Temperature	380t	Same	22 0 0 0 0 52 0 0 0
Sky Conditions (clear, overcast,	overenst		23 0 0 0 0 53 0 6 0
% clouds, etc.)		Same	24 0 0 0 0 54 0 0 6 0
Describe Point in Plume at Which O			25 C O O M 55 O O O ()
San length of the	1acility		- 26 0 6 0 5 56 0 0 0 0
nemarks,	/		27 0 0 0 0 57 0 6 0 0
,	`		28 0 0 0 0 58 0 0 0 0
			29 0 0 0 59 6 0 0
			Summary of Average Opacity

Summary of Average Opacity (From Computer Program)

Sat	Time	Op	ncity		
Set Number	Start - End	Sum	Average		

Signature of Observer

Name of Observer (Please print)

Teff Jenney john

Skeythow Observer Discharge, and Sun Location.

田

X Reading Point in Plume

Observer's Position

140°

Sun Location Line

Allowable Source Opacity

			r Orm 4	500-29 KeV, 6-85		
Name of Company AAA	Date 4-	11-18	SEC 0	15 30 45 SEC 0		30 45
Location	FID Number	11 10	100	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		<u> </u>
ASS	01 01		$\frac{1}{2}$	$ \begin{array}{c ccccc} $		<u>つ</u>
City, State Zip Code Kingstowd, MI	Observer Certific	AT X	1310	0 0 0 33 0		0 0
Discharge Location	Control Device		40	000340		0 0
Height of Discharge Above Ground	liky		5 0	0 0 0 35 0		0 0
O-2017-	Steam Plume? Attached	Yes Detached	6 0	0 0 0 36 0		0 0
Time of Observation	Initial 11:05:00	Final 12:04:45	7 <u>0</u> 8 <u>0</u>	O O O 37 O O O O 38 O		<u>)</u>
Observer Location			9 0	0 0 0 39 0		010
Distance to Discharge	200 ft (t)	Same	10 0	0 0 0 40 0		00
Direction from Discharge	south	Sane	11 O	0 0 0 41 0 0 0 0 42 6		
Height of Observation Point in Relation to Discharge	grand level	Sone	13 O	0 0 0 43 0 0 0 0 44 0		00
Plume Description (Color, Length, etc.)	WA	NA	15 🔘	0 0 0 45 6	0	60
Plume Background Description	5m/b/m	Sone	16 O 17 O	D D D 47 0		0 0
Weather Conditions Wind Direction	N'	Sme	18 ()	O O O 48 7	***************	0 0
Wind Speed	5-10	Soul	20 🔿	0 0 0 50 0		
Ambient Temperature	404	Some	21 O 22 O	0 0 0 52 0	Ŏ	
Sky Conditions (clear, overcast, % clouds, etc.)	90% clows	Sone	23 ()	$ \begin{array}{c cccc} O & O & O & 53 & C \\ O & O & O & 54 & C \end{array} $		0 0
Describe Point in Plume at Which of Scribe Tre Krish	Opacity was Determined,		25 Ö	0 0 0 55 0		0 0
Remarks:	101 THE ENGINA		26 🔘	0 0 0 56 0		0 0
•	,		27 0	O O O 57 C		Q Q
•			28 C) 29 ()	D O O 58 O D O O O S 59 O	·	0 0
			29 0	Summary of Average	Opacity	<u>U_IU</u>
				(From Computer Pro		
	•		Set Number	Time Start — End	Sum	Average
· · · · · ·						The state of the s
Signature of Observer	Name	of Observer (Please print)				:
Sketch of posterver, Discharge, and	I Sun Location.	tt Jennenjohn				
				<u> </u>		
9-	700				<u> </u>	
	x Reading Pi	oint in Plyme			 	
	71					
Processing the state of the sta						
	N	Doubbon	Allowabla	Source Opacity		
	Observer's	rusition	a amo er alole	pressor operately		
	140°	S				
	Sun Location Line					

Allowable Source Opacity

Name of Company AAM	Date U_ /1_18	de la companya de la	SEC	0	15	30	45	SEC	0	15	30	45
Location	FID Number		0	_0_	0	8	<u>Q</u> _		$\frac{\cup}{\triangle}$	0		2
				0	0	0	0		0_	0_	0	
City, State, Zip Code KINAS FOND, MI	Observer Certification D	ate	2	0			0	32	<u>0</u> 0	0		<u>Q</u>
Discharge Location	4-/0-18 Control Device		3.	0	0	0	$\frac{O}{C}$	34	<u>U</u>	0		<u>5</u>
East side of facility	COMMON DEVICE	,	5	0	3	5	0	35	X	8	81	5
Height of Discharge Aboye Ground	Steam Plume? Ye		6	Ö	0	0	0	36	0	O	Вi	Ŏ
0-2017	Attached De	tached Final	7	Ö	C	Ŏ	Ŏ	37	Ď	0	O C	5
	105100	12:04:45	8	Q	0	0	0	38	0	0		2
Observer Location	-c. 61 (2)	C.	9	0	0	- <u>G</u>	()	39	Ŏ_	Ŏ	0 1	2_
	06 (1)	Save	.10	0	0		0		0	0	6	2
Direction from Discharge Sp.	nth	Sane	11	0	0		8		D	0	0 0	<u>ر</u>
Height of Observation Point in Relation to Discharge	round level	Sane	13	0	0	Ó	Ŏ	43	0	0	00	2
Plume Description (Color, Length, etc.)	NA	NA	14 15	0			0	44 45	0	0	0	0
Plume Background Description	1 blue	Save	16 17	0		************	2	46	0	0	0	3
Weather Conditions Wind Direction		Sme	18	0	0	0	0	48	0	8	0 (<u>) </u>
Wind Speed	-10	sare.	19 20	0	0		<u>O</u>	49 50	9	0	0 0	
	b°F	Same	21	6	0		<u>C</u>	51 52	0	0	0 0	2
	b cluds	Soup	23	Ö	00	0	Ö	53	2	0		2
Describe Point in Plume at Which Opacity	was Defermined	1 Drat	24 25	B	0		0	54 55	0	0	8 8	3
	in tacility		26	\forall	0		0	56	0	<u> </u>	0	<u> </u>
Remarks:	1		27	0			ĎΠ	57	8	8	01	<u> </u>
,			28	0	0		0	58	Ŏ		Ď là	<u> </u>
			29	Ö	8	0 1	Ŏ	59	0	0	0 (2
						mmary From C						
	•	·		[***************************************	Tin	ne		T	Ор	acity	
			Nun	et aber		Start -	- Enc	i .		Sum	Avera	ge
			}************************************		***************************************		•	w			<u> </u>	
Signature of Observer ,	Name of Observ	er (Please print)	~ *************		······································	······································	4)***** ****	***************************************	-		ļ	
Sketch of Displayer ver, Discharge, and Sun Lo	Jeff Jenn	erjohn	·		***************************************		, , , , , , , , , , , , , , , , , , , 		+			
Showing of the State of the Sta		· ·				***************************************						
	F-1-15-15-}	0'0				***************						
						~~ ~~~		***************************************	-		<u> </u>	_
	x Reading Point in Plu	ume /			······································			······································			<u></u>	***************************************
	· (// // // // // // // // // // // // /	1 [*****			ļ	

bserver's Position

Sun Location Line

	and the second s			-							-	
Name of Company	Date L.	-18	SEC	0	15	30	45	SEC	0	15	30	45
Location	FID Number		0	0	0	5'	0	30	0	0	0	5
Docarion	FID Number		1	5	5	0	0	31	5	0	0	5
City, State, Zip Code	Observer Certific	ation Date	2	5	5	5	5	32	グ	10	10	0
	4-11	7-12	3	0	0	0	0	33	G	O	D	0
Kimchord MI Discharge Location	Control Device		14	Ō	5	0	0	34	0	0	0	Ō
Cupola Ban House			5	Ŏ	0	0	5	35	5	5	0	5
Height of Discharge Above Ground	Steam Plume?	Yes (No)	6	Õ	O	O	0	36	()	0	0	157
60tt-	Attached	Detached	7	ŏ	Ö	0	Ø	37	5	0	0	0
Time of Observation	Initial (000)	Final //:0/:55		Ö	ŏ	Ŏ	0	38	Ó	Ŏ	0	10
Observer Location	10:02:00	11.01.39	9	0	5	0	1δ	39	5	3	5	1
Distance to Discharge	200 ft:	Same	10		0	5	0	40	5	3	0	
6.4				5	5	5	0	41	\bigcirc	0		10
Direction from Discharge	N	Same	12		0		0	42	$\overline{\circ}$	Ö	18	10
Height of Observation Point	1.0		13	7	5	3	0	43	X	0	0	18
in Relation to Discharge	100TF	Sane	14	0	0	0	10	44	~	10	5	5
Plume Description (Color, Length, etc.)	3.6 ft.	Sane	15	0	Ö	0	0	45	Ó	3	5	15
	whiteland		16	5	\bigcirc	0	0	46	0	0	0	0
Plume Background Description	6 lows	Same	17	α	0	0	()	47	0	0	5	12
Weather Conditions	1. ,		18	Ŏ	0	0	5	48	0	0	0	0
Wind Direction	I W	Some	19	0	()	0	0	49	5	5	0	0
Wind Speed	0-5	0 1	20	\mathcal{O}	0	0	(7)	50	0	5	15	南
		Sme	21	\circ	0	0	O	51	0	5	5	5
Ambient Temperature	400x	Sone	22	0	0	0	0	52	5	0	Q	5
Sky Conditions (clear, overcast,	overcust		23	5	5	0	0	53	0	0	5	0
% clouds, etc.)		Same	24	0	O	0	0	54	5	5	5	10
Describe Point in Plume at Which Op			25	0	5	5	0	55	5	5	15	5
Scan length of e	XIT PORIS	**//***********************************	26	0	0	0	O	56	5	5	10	15
recinaras,	,		27	0	0	0	0	57	0	0	5	5
•	•		28	0	G	0	0	58	0	0	Ö	0
			29	0	0	0	0	59	O	0	b	0
			***************************************	***************************************	S	it eva vara a	ry of A	Vera	ge On	acity		

Summary of Average Opacity (From Computer Program)

Sat	Time	Opa Opa	city
Set Number	Start - End	Sum	Average
	51-56	700	4,2
S	44-49	60	2.5
3	30-55	55	23
			,

Signature of Observer (Please print)

Te (Please print)

Sketch/of Observer Discharge, and Sun Location.

Observer's Position

140°

Sun Location Line

Allowable Source Opacity

hadrely ove 1.6%

Opacity Readings Cupola Baghouse 4/11/2018

		U	upola i	bagnou	ise	4/11/2	2018			Sorte	ч		
										Sorte	u		
^	0	15	30	45	Total	Start		Sum	Ave		End	Sum	
0 1	0 5	0 5	5 0	0	5	0	5	45	1.9	51	56	100	
2	5	5	5	0 5	10 20	1 2	6 7	40 30	1.7 1.3	52	57	95	
3	Õ	Ö	ő	Ō	0	3	8	10	0.4	50 53	55 58	90 85	
4	0	5	0	Ō	5	4	9	10	0.4	49	54	80	
5	0	0	0	5	5	5	10	10	0.4	54	59	80	
6	0	0	0	0	0	6	11	20	0.8	44	49	60	
7	0	0	0	0	0	7	12	20	8.0	47	52	60	
8 9	0 0	0	0	0	0	8	13	35	1.5	30	35	55	
10	0	0	0 5	0	0 5	9 10	14 15	35	1.5	31	36	55	
11	5	5	5	ő	15	11	16	35 35	1.5 1.5	48 32	53 37	55 50	
12	Ö	ō	ō	ŏ	ő	12	17	20	0.8	35	40	50	
13	5	5	5	0	15	13	18	25	1.0	39	44	50	
14	0	0	0	0	0	14	19	10	0.4	40	45	50	
15	0	0	0	0	0	15	20	10	0.4	42	47	50	
16	5	0	0	0	5	16	21	10	0.4	43	48	50	
17 18	0	0	0	0 5	0 5	17	22	5	0.2	45	50	50	
19	0	0	0	0	0	18 19	23 24	15 10	0.6 0.4	46 0	51 5	50 45	
20	ŏ	ő	ő	Ö	ő	20	25	20	0.8	1	6 6	40	
21	0	0	0	0	0	21	26	20	8.0	27	32	40	
22	0	0	0	.0	0	22	27	20	8.0	28	33	40	
23	5	5	0	0	10	23	28	20	8.0	29	34	40	
24	0	0	0	0	0	24	29	10	0.4	34	39	40	
25 26	0	5	5 0	0	10	25	30	15	0.6	41	46	40	
27	0	0	0	0	0	26 27	31 32	15 40	0.6 1.7	8 9	13	35	
28	Õ	ŏ	Ö	Ö	0	28	33	40	1.7	10	14 15	35 35	
29	0	0	Ö	ō	Ö	29	34	40	1.7	11	16	35	
30	0	0	0	5	5	30	35	55	2.3	36	41	35	
31	5	0	0	5	10	31	36	55	2.3	2	7	30	
32 33	5 0	10 0	10 0	0	25	32	37	50	2.1	37	42	30	
34	0	0	. 0	0	0 0	33 34	38 39	25 40	1.0 1.7	13 33	18	25	
35	5	5	Ö	5	15	35	40	50	2.1	38	38 43	25 25	
36	Ö	0	0	5	5	36	41	35	1.5	6	11	20	
37	-5	0 .	0	0	5	37	42	30	1.3	7	12	20	
38	0	0	0	0	0	38	43	25	1.0	12	17	20	
39 40	0	5	5	5	15	39	44	50	2.1	20	25	20	
41	5 0	5 0	0	0	10 0	40 41	45 46	50 40	2:1 1.7	21 22	26	20	
42	Õ	ő	ŏ	Ö	Ö	42	47	50	2.1	23	27 28	20 20	
43	0	0	0	0	Ō	43	48	50	2.1	18	23	15	
44	5	10	5	5	25	44	49	60	2.5	25	30	15	
45	0	5	5	5	15	45	50	50	2.1	26	31	15	
46 47	0	0	0	0	0	46	51	50	2.1	3	8	10	
48	0	0	5 0	5 0	10 0	47 48	52	60	2.5	4	9	10	
49	5	5	Ö	Ö	10	49	53 54	55 80	2.3 3.3	5	10	10	
50	Ô	5	5	5	15	50	55	90	3.8	14 15	19 20	10 10	
51	0	5	5	5	15	51	56	100	4.2	16	21	10	
52	5.	0	0	5	10	52	57	95	4.0	19	24	10	
53	ō	0	5	0	5	53	58	85	3.5	24	29	10	
54 55	5 5	5 6	5	10	25	54	59	80	3.3	17	22	5	
56	5 5	5 5	5 10	5 5	20 25					Change	لديوج	C.,	A
57	0	Ö	5	-5	10		Set N	n.	1	Start 51	End 56	100	Ave
58	Ö	ŏ	Ŏ,	Ö	0		i4	J.	2	44	49	60	4.2 2.5
59	0	0	0	0	0				3	30	35	55	2.3

Total 385 **Hourly Ave** 1.6 %



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 Grede, LLC - Iron Mounta	ain	County Dickinson
Source Address 801 South Carpenter A	venue	City Kingsford
AQD Source ID (SRN) B1577	ROP No. MI-ROP-B1577- 2014	ROP Section No. IV
ease check the appropriate box(es):		
Annual Compliance Certification (Pursua	ant to Rule 213(4)(c))	
		ns and conditions contained in the ROP, each od(s) used to determine compliance is/are the
term and condition of which is identified a	and included by this reference, EXCEP determine compliance for each term and	ns and conditions contained in the ROP, eac T for the deviations identified on the enclose I condition is the method specified in the ROI
Semi-Annual (or More Frequent) Report	Certification (Pursuant to Rule 213(3)(c))
	·	
Reporting period (provide inclusive dates): 1. During the entire reporting period, ALI deviations from these requirements or any	monitoring and associated recordkeep	ing requirements in the ROP were met and n
2. During the entire reporting period, all n deviations from these requirements or any enclosed deviation report(s).		
Other Report Certification		
Reporting period (provide inclusive dates):	From 01/01/2017 To	12/31/2017
Additional monitoring reports or other application		
ertify that, based on information and belief for porting enclosures are true, accurate and cor		atements and information in this report and
oger Rask	General Manager	
ame of Responsible Official (print or type)	Title	Phone Number
Rigu D Rul -		3/8/2018
anatura of Poenoncible Official		Date

EQP 5736 (Rev 11-04)

* Photocopy this form as needed.