

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection**

B706872878

FACILITY: GMI - HMA Plant 19		SRN / ID: B7068
LOCATION: 2675 TREAT RD, ADRIAN		DISTRICT: Jackson
CITY: ADRIAN		COUNTY: LENAWEE
CONTACT: David Benecke , Environmental Manager		ACTIVITY DATE: 07/11/2024
STAFF: Brian Merle	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Announced scheduled compliance inspection.		
RESOLVED COMPLAINTS:		

Facility Contact

Dave Benecke, Environmental Manager

dbenecke@gerkenpaving.com

419-533-7701 Ext. 107

Purpose

On July 11th, 2024, an announced scheduled compliance inspection was conducted at Gerken Materials, Inc., HMA Plant 19, 2675 Treat Road, Adrian, Michigan. The purpose of the inspection was to determine the facility's compliance status with applicable federal and state air pollution regulations, particularly with the Michigan Natural Resources and Environmental Protection Act 451 of 1994, Part 55, Air Pollution Control and the administrative rules, and the conditions of Permit to Install (PTI) No. 783-79G.

Facility Location

The facility is located on the southeast side of Adrian, Michigan.

Facility Background

The facility was last inspected August 26th, 2020, and found to be in compliance. In January of 2024, the facility contacted AQD Staff Brian Carley to inquire about changes that they had made to their process equipment. The facility had submitted a permit application in February 2021 which was not received by the AQD. The facility reconstructed their drum/dryer/mixer as well as installed a new burner and baghouse. Brian Carley issued the facility a Violation Notice citing Rule 201 for failure to obtain a permit.

Regulatory Applicability

The facility operates under PTI No. 783-79G, which is a facility wide synthetic minor opt-out permit.

Arrival

Prior to my inspection, I reviewed the facilities 2023 emissions submittal to determine compliance with the limits in their permit. The facility reported emissions over their permitted limits for Arsenic, Nickel, and Manganese.

I arrived 12:55 PM and proceeded to the office. No visible emissions or odors were observed. I parked and met with Dave, and we headed inside.

Pre-Inspection Meeting and Records Review

We entered the plant office and met with the operator. The facility keeps all of its records on site and had prepared them for my inspection.

I began by asking about the status of their permit application in response to their VN. Dave explained that they would have it in soon.

We then went through the permit and the corresponding records.

EUHAMPLANT

SC II.1 The facility only uses natural gas. They are in compliance with this condition.

SC II.2 The facility does not use any asbestos containing materials. They are in compliance with this condition.

SC II.3 The records reviewed did not show the facility exceeding 50% RAP. They are in compliance with this condition.

SC II.4 For the facility's 2023 Annual Emissions Report, they reported a yearly throughput of 100,538 tons of HMA. This was confirmed by the 12-month rolling calculations seen in Image 2. This is in violation of the 100,000 tons of HMA paving materials per 12-month rolling time period.

SC II.5 Image 3 shows the facility exceeded the 225 tph for a daily average on June 7th, 20th, 22nd, and 24th, violating this condition. This was explained by the facility as having inaccurately recorded the operating hours, which were updated and provided for the months of May and June 2024 (Attachment 1). These demonstrate compliance with the 225 tph condition.

SC III.1 The facility has implemented the Fugitive Dust control Plan specified in Appendix A. They maintain records of duct control activities at the plant, which I reviewed on site. The company has a sweeper that travels between their different properties and is brought to the facility as needed. The aggregate they receive is washed stone and rarely needs attention for fugitive dust. All roadways for HMA haul vehicles were paved and watered weekly and as needed. The facility does not currently have a sign indicating the speed limit of 10 mph as specified in 1.b of the Fugitive Dust Control Plan. The facility committed to installing a sign during my inspection.

SC III.2 The facility has implemented the Preventative Maintenance Program specified in Appendix B. The facility records the pressure drop for the dust collector and records it at least once per day. They also keep an inventory of bags and blacklight powder on site. They also keep records of visual inspections, black light inspections, bag replacements, and maintenance activities. The facility did not perform a blacklight inspection before the 2024 paving season began, as required in the preventative maintenance plan in Appendix B.6. Once notified of this condition during my visit, the facility planned to conduct a blacklight inspection. The facility performed the blacklight inspection on Saturday, July 13th following my inspection.

SC III.3 The facility has implemented the Emission Abatement Plan for Startup, Shutdown, and Malfunctions specified in Appendix C. They are in compliance with this condition.

SC III.4 The facility performs yearly burner tuning. They are in compliance with this condition.

SC IV.1 The facility recently replaced their fabric filter dust collector (see above for VN). The facility continuously monitors the pressure drop of the baghouse while it is operating. They are in compliance with this condition.

SC IV.2 The facility uses a device to continuously monitor the feed rates of both virgin and RAP. They are in compliance with this condition.

SC VI.2 The facility uses a device to continuously monitor the feed rates of both virgin and RAP. They are in compliance with this condition.

SC VI.3 The facility performed their yearly CO testing May 7th, 2024. The testing showed 8 CO readings under 500 PPM, meeting the condition of their permit (Image 1). However, they were conducted over a period of less than 30 minutes, violating the condition.

SC VI.5 The facility keeps all maintenance records on site. These were reviewed and found to be in compliance.

SC VI.6 The facility keeps monthly records of tons of HMA containing RAP produced, as well as the average percent of RAP per ton of HMA produced with RAP, on site (Image 2). These were reviewed and found to be in compliance.

SC VI.7 Daily records of virgin aggregate feed rate, RAP feed rate, asphalt material product temperature, and information sufficient to identify all components of the asphalt paving material mixture (Image 3). These were reviewed for the month of June 2024 and found to be in compliance. The initial mix design and subsequent mix designs and their corresponding times are recorded by the operator.

SC VI.8 Monthly and 12 month rolling time period emission records for all criteria pollutants and TACs listed in the Emission Limit Table for EUHAMPLANT are kept on site (Image 4). The facility does not use stack test results to calculate these emissions, instead using the applicable emission factor listed in the Emission Limit Table is used for each pollutant. These were reviewed on site for June 2024 and show compliance with the emission limits of SC I.1-14.

SC VI.9 Records of CO emissions as described in SC VI.3 were reviewed (Image 1).

SC VI.10 Average daily, monthly, and 12 month rolling time period records of the amount of HMA paving materials produced were reviewed on site and found to be in compliance (Image 2).

EUYARD

SC III.1 The facility has implemented the fugitive dust control plan specified in Appendix A. They are in compliance with this condition.

SC VI.2 The facility submitted their fugitive dust emissions with their 2023 MiEnviro Annual Emissions Report. They are in compliance with this condition.

EUSILOS

SC III.1 I was able to observe the emission capture system on the top of each silo during my inspection. They are in compliance with this condition.

SC III.2 I was able to observe the load-out area controlled by the Blue Smoke collection system (Image 5). They are in compliance with this condition.

FGFACILITY

SC VI.2 The facility maintains individual HAP emission calculations for monthly and 12-month rolling time periods. All HAPs are below the 9.0 tpy specified in the permit. The facility does not calculate the aggregate value, but this was calculated to be 1.07 tpy on a 12-month rolling basis for the month of June, which is below the 22.5 tpy limit specified in the permit. They are in compliance with this condition, but it is recommended to calculate the monthly and 12-month rolling aggregate total.

Inspection

Dave took me out to the plant yard and explained the entire process. Aggregate is loaded from the yard into hoppers (seen in back left of Image 6). This is then transferred by conveyor into the rotary drum (Image 7) where it is heated with the binder to produce asphalt. I asked Dave about their current production, and he said they typically operate at 50-60 tph, but they process is capable of reaching 300 tph. The permit is currently permitted for 225 tph, but they were planning on submitting a modification to increase this limit. The new baghouse was observed to be in good working order (Image 6). We then went over to the asphalt storage tanks, where the material is transferred by conveyor from the drum into the asphalt storage tanks (Image 5, behind Blue Smoke collection system). This is also where the Blue Smoke collection system is located (Image 5). The facility also has a sign posted for drivers to remember their tarps as required in the Fugitive Dust Control Plan (Image 8). Dave explained that any particulate collected by the baghouse is kept in a storage pile at the facility or put back into the process. Overall, the yard and process equipment appeared to be well maintained and clean. No emissions or fugitive dust were observed from the process.

Post-Inspection Meeting

We returned to the office, where I was able to take a look at the process monitoring parameters (Image 9). I thanked Dave for his time and left at 1:50 PM.

Post-Inspection Records Review

I called Dave on July 18th to clarify some of their records and get a firm date of their permit application submittal. Dave explained that they would have the permit application submitted by the end of July, at most the first week of August. I also asked about their HMA tons per hour calculations for the month of June, which showed them exceeding the permit condition of 225 tph on June 7th, 20th, 22nd, and 24th (Image 3). During my inspection, Dave explained that they had been inaccurately reporting the operating hours of the plant for June. During my call I asked Dave if the exceedances shown in their records would be changed by updating their true operating hours, which he said they would. He emailed me the updated records on July 26th, which showed

the daily average tons per hour below the permit limit (Attachment 1). This replaced the data provided in Image 3. He also provided updated monthly and 12-month rolling emission calculations for June 2024 as well as production data for the same month (Attachments 2 and 3). These updated calculations replace Images 2 and 4. He also provided proof that the facility added speed limit signs to the yard (Images 10 and 11) as well as proof of the blacklight inspection (Images 12 and 13).

Compliance Determination

At this time, the facility is not in compliance with their permit due to exceeding their 12-month rolling HMA production limit, not having a speed limit sign posted in the plant yard, not conducting a blacklight inspection of the baghouse before the paving season began, and not performing their CO testing in a 30 minute or more period of time. Additionally, they have not resolved the VN issued January 25, 2024 for failure to obtain a PTI in violation of Rule 201. They are in compliance with all other permit conditions. A violation notice will be issued for the cited violations above.

Burner Monitoring Record

Da

Facility:
Gerken Materials HMA Plant 19
2675 Treat Road
Adrian, Michigan

Burner: *Vulcan*
Controls: *ModB Minds*
Plant: Counterflow Dr
Fuel: Natural Gas

Work Performed
Emissions Data was collected at the exhaust fan duct under the

Production: tons per hour
Baghouse pressure Drop inches WC *1*
Drum draft inches WC *1*
Oil Pressure *Natural Gas* psi *N/A*
Oil Flow gallons per minu

Analyzer Readings:

Reading	Time	% Oxygen	Carbon Monoxide PPM
1	7:30 AM	13.1	139
2	7:33 AM	13.0	147
3	7:38 AM	13.3	123
4	7:43 AM	13.4	118
5	7:47 AM	13.4	118
6	7:51 AM	13.5	128
7	7:54 AM	13.5	130
8	7:57 AM	13.5	122

Comments:

Technician: *Doug Wilkman*

tests 3301
V2 11.497 3024606/USA
App Version: 8.8 1.13043
Operating System: V08
OS Version: V12.4
Model: iPhone14,3
Gerken
Measuring site
Plant 19
Adrian
Fuel: Natural Gas
Flue Gas Analysis
5/1/24 7:30AM
176.7 °F Totack
13.1 % O₂
139 ppm CO
372 ppm CO AF
25 ppm NO
26 ppm NOx
85.2 % Eff
143.0 % ExAir
4.37 % CO₂
58.3 °F Tamb
Flue Gas Analysis
5/1/24 7:34AM
176.8 °F Totack
13.0 % O₂
147 ppm CO
389 ppm CO AF
28 ppm NO
29 ppm NOx
85.2 % Eff
145.1 % ExAir
4.42 % CO₂
61.2 °F Tamb
Flue Gas Analysis
5/1/24 7:38AM
182.5 °F Totack
13.3 % O₂
123 ppm CO
338 ppm CO AF
29 ppm NO
30 ppm NOx
84.9 % Eff
154.2 % ExAir
4.25 % CO₂
59.9 °F Tamb
Flue Gas Analysis
5/1/24 7:43AM
181.0 °F Totack
13.4 % O₂
118 ppm CO
329 ppm CO AF
26 ppm NO
30 ppm NOx
85.0 % Eff
157.4 % ExAir
4.20 % CO₂

Image 1: CO testing data.

Gerken Materials, LLC - HMA Plant 19
Adrian, MI
MDEQ 783-79

Monthly and Rolling 12-Month Production
Permit Limit = 100,000 tons per rolling 12

Month	Year	Hours			Tons			Tons	RAP Mix	AVG %	RAP
		MTD	AVG Daily	Rolling 12	MTD	AVG Daily	Rolling 12	Virgin Mix	MTD (tons)	RAP	Used
Jan	2024	0	0	550.25	0	0	100537.64	0	0	0	0
Feb	2024	0	0	550.25	0	0	100537.64	0	0	0	0
Mar	2024	0	0	550.25	0	0	100537.64	0	0	0	0
Apr	2024	0.00	0.00	544.75	0.00	0.00	99446.70	0	0.00	0	0.00
May	2024	44.83	2.49	513.08	7567.91	420.00	93354.63	0	7567.91	23	2012.22
Jun	2024	31.79	1.77	484.37	5843.55	324.64	87575.07	0	5843.55	27	1599.19
Jul	2023	88.50	4.43	462.37	15653.73	782.89	86161.53	548.46	15105.27	28	4317.26
Aug	2023	64.25	2.57	469.83	10734.55	429.38	86257.12	0	10734.55	29	3068.19
Sep	2023	76.75	3.84	499.50	12263.23	613.16	90905.29	0.00	12263.23	24	2925.15
Oct	2023	151.25	6.30	556.00	31936.83	1330.70	102135.11	0.00	31936.83	25	7887.30
Nov	2023	27.00	1.80	550.25	3575.27	238.35	100537.64	0	3575.27	29	1032.96
Dec	2023	0	0	550.25	0	0	100537.64	0	0	0	0
Total		484.37			87575.07			548.46	87026.61		22842.27

Image 2: Monthly and 12-month rolling production data for June 2024.

Gerken Materials, Inc. HMA Plant 19
Adrian, MI
Calculation Worksheet
MDEQ 783-79

Permitted production rate = 225 TPH and max 100,000 TPy

Jun-24	Production Tons	Hours	Avg Daily TPH	% RAP	Max RAP%	Aggregate	RAP	AC	Mix Total	Virgin Mix	Virgin Ag Feed Rate	RAP Feed Rate	Mix Temp	Baghouse Pressure Drop	Operator
1			#DIV/0!	#DIV/0!					0.00	0	#DIV/0!	#DIV/0!			
2			#DIV/0!	#DIV/0!					0.00	0	#DIV/0!	#DIV/0!			
3	73.91	0.7	106	29	30	49.61	21.26	3.04	73.91	0	71	30	300	3	Colin
4	33.14	0.3	110	29	30	22.25	9.53	1.36	33.14	0	74	32	300	2	Colin
5	80.15	0.78	103	29	30	53.60	23.06	3.20	80.15	0	69	30	300	3	Colin
6	53.67	0.53	101	29	30	35.97	15.49	2.21	53.67	0	66	29	300	3	Colin
7	272.24	1	272	29	30	153.60	78.85	9.95	272.24	0	194	79	300	3	Colin
8			#DIV/0!	#DIV/0!					0.00	0	#DIV/0!	#DIV/0!			
9			#DIV/0!	#DIV/0!					0.00	0	#DIV/0!	#DIV/0!			
10			#DIV/0!	#DIV/0!					0.00	0	#DIV/0!	#DIV/0!			
11	845.24	3	215	28	30	441.10	183.62	20.32	845.24	0	147	81	300	3	Colin
12	575.83	3	190	23	30	416.91	132.67	18.08	575.83	0	140	44	300	2	Colin
13	331.98	2	166	29	30	224.92	96.29	13.67	331.98	0	112	48	300	2	Colin
14	768.69	4	192	27	30	537.77	206.96	24.96	768.69	0	134	52	300	3	Colin
15			#DIV/0!	#DIV/0!					0.00	0	#DIV/0!	#DIV/0!			
16			#DIV/0!	#DIV/0!					0.00	0	#DIV/0!	#DIV/0!			
17			#DIV/0!	#DIV/0!					0.00	0	#DIV/0!	#DIV/0!			
18	180.02	1	180	28	30	122.06	49.61	7.55	180.02	0	123	50	300	3	Colin
19	303.26	2	152	29	30	204.41	87.60	11.25	303.26	0	102	44	300	3	Colin
20	243.46	1	243	29	30	165.01	79.22	9.73	243.46	0	165	71	300	3	Colin
21	181.67	1	182	29	30	122.21	52.37	7.69	181.67	0	122	52	300	2	Colin
22	250.76	1	251	29	30	169.74	72.74	8.28	250.76	0	170	73	300	3	Colin
23			#DIV/0!	#DIV/0!					0.00	0	#DIV/0!	#DIV/0!			
24	250.76	1	251	29	30	169.74	72.74	8.28	250.76	0	170	73	300	3	Colin
25	49.47	0.49	103	29	30	33.21	14.23	2.03	49.47	0	89	30	300	2	Colin
26			#DIV/0!	#DIV/0!					0.00	0	#DIV/0!	#DIV/0!			
27	300.02	3	180	23	30	836.26	227.66	35.15	300.02	0	122	46	300	2	Colin
28	852.28	4	183	28	30	441.62	184.15	26.31	852.28	0	110	46	300	2	Colin
29			#DIV/0!	#DIV/0!					0.00	0	#DIV/0!	#DIV/0!			
30			#DIV/0!	#DIV/0!					0.00	0	#DIV/0!	#DIV/0!			
Totals	5843.55	31.79	184	27.37		4033.29	1599.18	211.07	5843.55	0					
Avg Daily	325	1.77						%AC	Mix Total						
# Days	18							3.81	% variation						
Avg. TPH	184								0.00						

Image 3: Daily production data for the month of June 2024.

Gerken Materials, Inc. - HMA Plant 19 Adrian, MI MDEQ 783-79														
Monthly Emission Calculations (pounds per month)														
Emission Factor (lb/ton)	PM*	CO	Lead	Benzene	Toluene	Ethylbenzene	Xylene	Naphthalene	Formaldehyde	Acrolein	Arsenic	Nickel	H2SO4	Manganese
Month	Production (tons)													
Jan-24	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00
Feb-24	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00
Mar-24	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00
Apr-24	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00
May-24	7967.91	189	3027	0.02	7.57	45.41	7.57	7.57	7.57	75.68	7.57	0.008	0.76	24.22
Jun-24	5843.55	146	2337	0.01	5.84	35.96	5.84	5.84	5.84	58.44	5.84	0.006	0.58	18.70
Jul-23	15653.73	591	6261	0.03	15.65	93.92	15.65	15.65	15.65	156.54	15.65	0.016	1.57	50.09
Aug-23	10734.55	268	4294	0.02	10.73	64.41	10.73	10.73	10.73	107.35	10.73	0.011	1.07	34.35
Sep-23	12263.23	307	4905	0.02	12.26	73.56	12.26	12.26	12.26	122.63	12.26	0.012	1.23	39.24
Oct-23	31936.83	798	12775	0.06	31.94	191.62	31.94	31.94	31.94	319.37	31.94	0.032	3.19	102.20
Nov-23	3575.27	89	1435	0.01	3.58	21.45	3.58	3.58	3.58	35.75	3.58	0.004	0.36	11.44
Dec-23	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00
Rolling 12 Total	67575.07	2189	35030	0.18	87.58	525.45	87.58	87.58	87.58	875.75	87.58	0.088	8.76	280.24
*PM emission factor from AP 42 Table 11.1-1 all others calculated based on permit limits														
Rolling 12 Emissions														
Emissions in pounds per rolling 12 months														
Month	PM*	CO	Lead	Benzene	Toluene	Ethylbenzene	Xylene	Naphthalene	Formaldehyde	Acrolein	Arsenic	Nickel	H2SO4	Manganese
Jan-24	2513	40215	0.20	100.54	603.23	100.54	100.54	100.54	1005.38	100.54	0.101	10.05	321.72	5.03
Feb-24	2513	40215	0.20	100.54	603.23	100.54	100.54	100.54	1005.38	100.54	0.101	10.05	321.72	5.03
Mar-24	2513	40215	0.20	100.54	603.23	100.54	100.54	100.54	1005.38	100.54	0.101	10.05	321.72	5.03
Apr-24	2486	39779	0.20	99.45	598.68	99.45	99.45	99.45	994.47	99.45	0.099	9.94	318.23	4.97
May-24	2334	37342	0.19	93.35	560.13	93.35	93.35	93.35	933.55	93.35	0.093	9.34	298.73	4.67
Jun-24	2189	35030	0.18	87.58	525.45	87.58	87.58	87.58	875.75	87.58	0.088	8.76	280.24	4.38
Jul-23	2154	34495	0.17	86.16	516.97	86.16	86.16	86.16	861.62	86.16	0.086	8.62	275.72	4.31
Aug-23	2158	34503	0.17	86.26	517.64	86.26	86.26	86.26	862.57	86.26	0.086	8.63	276.02	4.31
Sep-23	2273	36302	0.18	90.91	545.43	90.91	90.91	90.91	908.05	90.91	0.091	9.09	290.90	4.56
Oct-23	2563	40854	0.20	102.14	612.81	102.14	102.14	102.14	1021.35	102.14	0.102	10.21	326.83	5.11
Nov-23	2513	40215	0.20	100.54	603.23	100.54	100.54	100.54	1005.38	100.54	0.101	10.05	321.72	5.03
Dec-23	2513	40215	0.20	100.54	603.23	100.54	100.54	100.54	1005.38	100.54	0.101	10.05	321.72	5.03

Image 4: Monthly and 12-month rolling emission data for the month of June 2024.



Image 5: Blue Smoke collection system with storage tanks.



Image 6: Baghouse with aggregate hoppers to the back left.



Image 7: Rotary drum. Aggregate is fed from the left, and exits the drum to the right and is conveyed up into the storage tanks.



Image 8: Tarp sign at facility.



Image 9: Production diagram.



Image 10: Speed limit sign posted following my inspection.



Image 11: Speed limit sign posted at entrance following my inspection.

BAGHOUSE MAINTENANCE AND REPAIR REPORT	
Facility name: HMA Plant 19	Date: 5/3/24
Facility location: Adrian, Michigan	Prepared by: Collin Johnson
Process: Drum Plant Hot Mix Asphalt	Signature: <i>Collin Johnson</i>
Fabric Filter Baghouse ID: Baghouse 19	Presented to:
ROUTINE MAINTENANCE	EMERGENCY REPAIRS
Description of Work Performed and Parts Used: cleaned out dust in bag house	Description of Work Performed and Parts Used:
Complete	Work Completed or temporary repair? If temporary, projected date of completion.

Image 12: Baghouse service form.

BAGHOUSE MAINTENANCE AND REPAIR REPORT	
Facility name: HMA Plant 19	Date: 7/13/24
Facility location: Adrian, Michigan	Prepared by: Collin Johnson
Process: Drum Plant Hot Mix Asphalt	Signature: <i>Collin Johnson</i>
Fabric Filter Baghouse ID: Baghouse 19	Presented to:
ROUTINE MAINTENANCE	EMERGENCY REPAIRS
Description of Work Performed and Parts Used:	Description of Work Performed and Parts Used:
Vistalite the bag house all bags are good	
Complete	Work Completed or temporary repair? If temporary, projected date of completion.

Image 13: Baghouse blacklight inspection form completed after my inspection.

NAME *Collin Johnson*DATE 08/02/2024SUPERVISOR *SC*