

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

N190548912

FACILITY: BOLEN ASPHALT PAVING, INC.		SRN / ID: N1905
LOCATION: M 32, LACHINE		DISTRICT: Gaylord
CITY: LACHINE		COUNTY: ALPENA
CONTACT: Matt Bolen , Owner		ACTIVITY DATE: 05/21/2019
STAFF: Sharon LeBlanc	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: self-initiated site inspection- last site inspection 6/11/2018. Odor evaluation completed in conjunction with event. Awaiting CO and blacklight data. sgl		
RESOLVED COMPLAINTS:		

INTRODUCTION

On May 21, 2019, AQD District Staff arrived at the Bolen Asphalt-LaChine Hot Mix Asphalt (HMA) Plant for a self-initiated site inspection. The referenced facility is located on Bolen Road, LaChine, Michigan (N1905) in what is sometimes referenced as the Klein#2 Pit. The referenced facility operates under Permit to Install (PTI) No. 359-88C.

The most recent site inspection was conducted on June 11, 2018. The Facility was found to be in compliance at that time. The purpose of the scheduled inspection was to confirm continued compliance with the referenced permit. Records requests were e-mailed on Friday, May 24, 2019, for emission records since June 2018.

District Staff met with Robert Bolen and Ron Balfour at the time of the inspection. Weather conditions included partly cloudy, sunny skies, with temperatures of 66 degrees, and a light variable, wind (<5 mph).

FACILITY

The Bolen Asphalt – LaChine HMA Plant is located at the southern end of Bolen Road and M-32, LaChine, Green Township, Alpena County, Michigan. The Facility can also be accessed from the west by a private paved drive off Manning Hill Road. Of the two, the Facility is only visible from the Manning Hill Road access drive. At the time of the site inspection, truck traffic was using Bolen Road to enter and exit the plant.

Available Plat maps indicate that the Facility is on approximately 120 acres located in Section 28 of Township 30 N, Range 6 E. It should be noted that documents in the file indicate the facility is located in Section 21. Section 28 is bounded to the west by Manning Hill Road, and to the south by Carney Road.

Adjacent properties include what appear to be residential properties on both small parcels and undeveloped acreage, as well agricultural properties. Bean Creek or its flood plain runs through the Bolen Property on the east.

The Bolen Asphalt-LaChine HMA Plant is a parallel flow, 250-ton per hour drum mix asphalt plant. Particulate emissions are controlled by a fabric filter baghouse. The desired aggregate mix is loaded into feed bins using a front-end loader, and the raw material is conveyed to the drum dryer where it is heated and dried. Liquid asphalt is added after the flame and mixed with the aggregate to create the HMA. HMA is transported to the silo via elevator to the top of the silo for storage. Trucks transporting the HMA loadout at the bottom of the silo. No loadout controls are present onsite.

HMA production activities are seasonal, with startups at HMA plants across the state occurring as early as April, and as late as November. Facility startup for the 2019 season was reported to be the previous day (May 20, 2018). The 2018 season at the plant was from May 2 to October 31, 2018.

CALENDAR YEAR	HOURS OF OPERATION FOR CALENDAR YEAR *
2018	387
2017	477
2016	477
2015	531

2014	495
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*Source is the Michigan Annual Emissions Reporting Program (AKA MAERS).

At the time of the inspection, the Facility reported HMA production of 219 TPH, 12 TPH asphaltic Cement, no Recycled Asphalt Product (RAP), HMA mix temperature of 299 degrees, and an exhaust temp of 270 degrees. First day production totaled 1573 tons HMA, production for May 21, 2019 totaled 1541 tons at the time of inspection.

PERMITTING

Only one active permit exists for the Facility (PTI 359-88C) and was issued on February 29, 1996. The AQD permit database indicated that the initial permit application for the HMA Plant was submitted by Peninsula Asphalt Corporation but was voided on July 2, 1990. An April 17, 1990 note in the file indicated that the Plant was purchased by Bolen Asphalt Paving, Inc. The HMA Plant (Bituma 250 Asphalt Drum Mix Plant) was relocated to its present site under PTI 359-88B on July 12, 1990, with a supplemental revision on August 15, 1995. The referenced permits are for a portable plant, however other than "the plant" no specific emission units are spelled out in the permit.

The most recent modification (February 29, 1996) was made to incorporate a "general addendum" to the permit which would provide a federally enforceable limit on production and allow the source to be considered a synthetic minor. This exempted the Facility from the Title V permit program as well as the Category I Facility as define in Part 55 of Act 451 of 1994.

REGULATORY

Classifications based on Potential to Emit (PTE):

PARAMETER	CLASSIFICATION
NOx	Synthetic Minor
SO2	Synthetic Minor
CO	Minor
Pb	Minor
PM	Synthetic Minor
VOC	Minor
HAPs	Area

Applicable Federal Requirements:

EMISSION UNIT	40 CFR SUBPART	TITLE
Source	Part 70	State Operating Permit Program
Generators*	Part 63, Subpart A and ZZZZ	National Emission Standards for HAPs for Stationary Reciprocating Internal Combustion Engines (RICE)
HMA Plant	Part 60, Subpart A and I	New Source Performance Standards (NSPS) for Asphalt concrete Plants (effective date 7/25/1977)**

* One or more of the generators may be subject to NSPS (Part 60) Subparts IIII or JJJJ for RICE constructed after June 12, 2006.

** requirements under the referenced subpart were incorporated into permit 359-88C.

EQUIPMENT

Equipment associated with the HMA Plant includes:

- Rotary drum dryer/mixer installed in 1990

The rotary drum dryer/mixer is a parallel flow, 250-ton per hour unit controlled by a fabric filter baghouse. At the time of the initial permitting, emissions were controlled by a wet scrubber. The

scrubber was replaced with the existing bag house. The change in pollution control equipment would be exempt under Rule 285(2)(d) which allows for reconstruction or replacement of air pollution control equipment with equivalent or more efficient equipment. The pulse cycle time is reported by Facility Staff to be approximately eight seconds. Facility Staff report 6-8 boxes (25 bags each) of replacement bags are normally onsite. Five boxes were clearly visible through an open storage trailer door.

CO measurements are made by the company at the beginning of each campaign and per the PM/MAP implemented under the CO every 500 hours. The Facility uses a Bacharach Monoxor III CO meter to monitor CO levels for the plant. Per the PM/MAP, monitoring activities include a total of eight measurements collected over a minimum of a 30-minute period. Records kept by the Facility are consistent with the PM/MAP.

In response to discussions with staff the previous year regarding meter calibration checks and potential for instrument drift, the Facility is in the process of shipping the CO meter to the manufacturer to conduct instrument calibrations. The Facility reports that once the unit comes back the CO readings will be completed for the present season. AQD District Staff will be notified of completion of activities.

DATE	CO RANGE (PPM)	HMA PRODUCTION (TPH)
5/31/2018	162 - 205	210
5/8/2017	97 - 145	220
5/8/2016	87 - 219	230

Storage Silo and associated hot conveyor

The existing 150-ton storage silo is filled by an enclosed hot conveyor and is equipped with two 125-Hp fans to capture vapors at the top of the silo. The captured vapors are returned to the drum burner for destruction. The vapor capture system was installed after permitting but would appear to be exempt from Rule 201 permitting based on Rule 285(2)(f) which allows for installation or construction of air pollution control equipment for an existing process or process equipment if the control equipment does not generate a significant amount of criteria pollutants or a meaningful increase in the quantity or quality of toxic air contaminants.

CAT Diesel generator

Electricity is provided by a 550 KW (apx. 750 Hp), Caterpillar C-18 Diesel generator installed in 2017. Fueled with ultra-low sulfur diesel, this spark Ignition unit (SI) is believed to be subject to both subpart JJJJ and ZZZZ requirements. At the time of the inspection and report preparation AQD has not received delegation for the referenced subparts, and as such a determination of compliance with respect to the referenced federal regulations has not been made. District Staff provided the Facility with supplemental information regarding RICE related Subparts in 2018, to allow the company to determine what activities may be required to be in compliance with the regulations.

Based on a conversion of 550 KW to less than 2 million BTUs/hr. It appears the existing diesel generator would be exempt from Rule 201 permitting under the Rule 285 (2)(g) exemption for internal combustion engines of less than 10 million BTUs maximum heat input.

Back up diesel generator

The 550 Kw Caterpillar Model 3412 unit is the original generator (installed in 1990) associated with the site and is now used by the Facility as a spare/backup unit. The unit is reported to be now be trailer mounted, for transport to and from the site. The unit had been removed from the site over the winter and had just been returned to the site earlier that morning (May 21, 2019). Fueled with ultra-low sulfur diesel, this unit would appear that the unit is exempt from Rule 201 permitting is also exempt under Rule 285 (2)(g).

Facility Staff indicated that this unit when in use generates dark smoke unit warmed up and is believed by Facility Staff to be the source of historical opacity complaints received for the Facility.

This spark Ignition unit (SI) is believed to be subject to subpart ZZZZ requirements based on the installation date of 2017. At the time of the inspection and report preparation AQD has not received delegation for the referenced subparts, and as such a determination of compliance with respect to the referenced federal regulations has not been made.

- Asphaltic Cement (AC) Above Ground Storage Tanks (ASTs)

Two 30,000 asphaltic cement tanks exist onsite. Referred to as Liquid #1 and Liquid #2, the two ASTs were installed in 2002 and 2018, respectively. The referenced ASTs would appear to be exempt from Rule 201 permitting under Rule 289 (2)(b), which exempts liquid asphalt storage tanks controlled by appropriately designed and operated vapor condensation and recover system or it's equivalent.

Heaters associated with the tanks may be exempt from permitting under Rule 282(2)(b)(i), which exempts from Rule 201 permitting indirect heaters of under 50 million BTU/hr which burns LPG fuels.

- Diesel AST

Three existing diesel ASTs (two on road and one off-road fuel) with capacities of 1,000 gallon each. The diesel stored onsite is reported to be the ultra-low sulfur fuel (15 ppm) and is used to fuel both the generators and mobile equipment onsite. Rule 284(d) appears to exempt storage tanks of no.1 to no. 6. No tank volume is specified under the exemption.

- LPG AST

LPG is supplied to the plant from an 18,000-gallon AST installed in 2001. Rule 284 (2)(b) exempts from Rule 201 permitting LPG tanks of less than 40,000 gallons.

COMPLIANCE

Complaints - The Facility has a history of noise, odor, dust and fall-out complaints. Since the June 11, 2018, site inspection, a total of 7 complaints have been received by the District Office. A total of 6 complaint investigations and odor evaluations have been conducted as a result of the referenced complaints.

Bulk Sampling - A review of District Files indicated that "Fall-Out" samples reported to be from the Facility were collected by either District Staff or complainants for microscopic evaluation on August 29, 2006, June 1, 2006 and November 6, 2008. The results of the microscopic evaluations did not indicate detectable asphalt components or fly ash which would link the materials to the Facility. The evaluation results are summarized in greater detail in the June 11, 2018, AQD site inspection report.

In addition, on October 26, 2005, one sample from Facility baghouse. The results of the baghouse sample indicated that the materials were consistent with kiln fly ash and unfused ash. These components were not reported present in the samples of "fall out" referenced above.

Violation Notices – No outstanding violations are of record for the Facility. Violation Notices of record issued to the Facility are summarized below:

ISSUED ON	COMPLIANCE ISSUE	RESOLVED ON
June 28, 2005	Rule 910 and SC 14 cited	November 6, 2006
November 8, 2005	Rule 301, Rule 910 and Rule 901 cited	November 6, 2006
July 13, 2010	Rule 901 cited	November 23, 2010

Consent Orders - A Consent Order (CO) (No. 34-2006) was issued in response to the November 8, 2005 VN. The CO was terminated on April 22, 2010. Under the referenced document, the Facility was required to:

- conduct supplemental compliance testing for CO and PM emissions (completed October 6, 2006)
- Maintain visible emissions (VEs) of less than 20% opacity,
- Prepare and implement an AQD approved Preventative Maintenance/Malfunction Abatement Plan (PM/MAP) (submitted August 30, 2006),

- Monitor CO emissions with a calibrated, handheld monitor a minimum of once per season or every 500 hours of operation, whichever is less,
- Implementation of AQD approved fugitive dust Plan (submitted August 30, 2006), and
- Pay a monetary settlement.

Other – District Files indicated that US Environmental Protection Agency (US EPA) Staff had received a complaint regarding the facility and visited the complainant on October 15, 2007. Documentation in the files indicated that the agency determined that it would not be conducting additional investigation based on a lack of evidence of criminal activity.

District files also contain a copy of a complaint was filed in 2014, by Mr. B. Rothenstein with the Alpena County Equalization Department. The 2014 document was forwarded to the Alpena County Department of Public Health who evaluated the document and referred it to MDEQ. The document appears to not have included any new concerns regarding the Facility.

Permit Compliance - Compliance status for the facility has been based on information provided during the May 21, 2019, site inspection, as well as on supplemental data and reports submitted upon request or to meet permit requirements identified under 359-88C. It should be noted that data requested and reviewed was for the period of June 11, 2018 through May 20, 2019.

OPERATION LIMITS – Operational conditions associated with the Facility include:

- Installation and proper operation of the baghouse (SC.17 and Attachment A C.4, C.6, C.7) & C.9.A),

The baghouse is equipped with two magnahelic gauges to measure differential pressures across the baghouse. Readings are collected on a daily basis when the HMA plant is in operation and per the PM/MAP are to be greater than the 2-inches of water. At the time of the May 21, 2019, site inspection, the differential pressures on the instruments were noted by District Staff to be 3 and 3.8 inches of water.

The Facility has staff certified to read VE opacity levels, an aid in insuring that VE limits associated with the permit are met. Certified staff onsite is not a permit requirement. The PM/MAP allows for a certified VE reader within 2 hours or shut down of the plant until a determination of the issue and appropriate repairs are made. Based on records available for review, no VE issues were noted, and no plant shutdown occurred.

Seasonal activities are reported to include baghouse inspections, bag replacement and any necessary maintenance activities to the structure. Over 100 extra bags are reported to be maintained onsite, well above the 15 bags identified in the PM/MAP. The most recent bag replacements occurred on October 4, 2018, when 4 bags were reported.

Baghouse records included blacklight inspection and replacement of the bags as well as maintenance activities. Baghouse records are maintained onsite from 2003 to the present. Previous record review indicated that the Facility uses blacklight to conduct the baghouse inspections and facility staff indicate it makes the inspection easier. The Facility uses Visolite® Leak Detection System for blacklight inspections. However, one has not yet been conducted for the 2019 season and is anticipated to be conducted before mid-June. Notification of the anticipated date and/or completion has been requested by district Staff.

It should be noted that visually the stack appears to be in good condition, no oxidation or staining was noted on the outside of the stack. Plume observations by District Staff on May 21, 2019, from Manning Hill Road failed to detect any puffs during operation that would suggest that the baghouse needed additional attention. AQD District Staff observed the plume at multiple locations during an odor survey. No VEs were noted during the evaluation activities. In addition, the plume was clearly detached, with no visible emissions.

- Disposal of collected dust in a manner that minimizes the introduction of air contaminants into the outer air (SC.18),

PM collected by the fabric filter baghouse is returned to the HMA plant as aggregate for use in the HMA. This practice is in general compliance with the permit condition. No dust was noted to have collected

on plant surfaces indicating problems associated with the baghouse, or improper collection and disposal.

- No substitution of fuel from that in the permit application (SC.20),

Copies of the initial permit application (359-88) are not available in District Files. Engineer notes for Permit No. 359-88C indicate that the asphalt heater and HMA drum were approved for liquid petroleum gas (LPG) fuels. Generators onsite were approved for diesel fuels. These two fuels are still being used onsite in compliance with the permit conditions.

- Discharge of exhaust gas from the HMA unobstructed vertically from a stack with maximum dimension of 48-inches by 48-inches and from a height of not less than 42 feet above land surface. (SC.19)

The baghouse stack is an unobstructed vertical stack with dimensions of 48-inch by 48-inch and a minimum height of 42 feet above land surface in compliance with the permit condition.

It should be noted that no operational limits exist with respect to seasonal start and end dates, nor for daily operations. A review of calendar years 2016 and 2017 indicated that seasonal operations have been from May through November. For 2018, the HMA plant was active the first week of May through the last week of October.

MATERIAL LIMITS – SC 22 limits the Facility to no more than 25% recycled asphalt product (RAP) in their HMA. RAP content reported thus far for the 2019 production season was 0%. The Facility reports that virgin asphalt mix is much more popular with their clients than a RAP mix.

Attachment A, C.2 indicates an annual production rate limit of 1,000,000 tons per 12-month rolling period based on LPG fuel. Production for the season at the time of the site inspection was reported to be 3,114 tons. Production for the month of May 2019 totaled 9,706.52. Production data submitted annually as part of the MAERS program is summarized below:

ANNUAL HMA PRODUCED (Tons/Year)	CALENDAR YEAR
49,030	2018
61,232	2017
49,101	2016
56,725	2015

The facility does not operate using either No. 4 Fuel Oil or Recycled Used Oil (RUO) and as such is not subject to permit conditions associated with Attachment A, specifically C.10, C.11, C.15, C.16 and C.18 (iv).

EMISSION LIMITS – Particulate emissions (PM) for the HMA Plant are limited to a not to exceed limit of 0.04 grains per dry standard cubic foot of exhaust gases (SC.13). Verification testing results summarized later in this report confirm compliance with the referenced limit.

In addition, the Facility is limited to a “not to exceed” total of 99 tons per year (tpy) (based on a 12-month rolling time period) for CO, SO₂, VOC, NO_x, PM₁₀ and Lead (Attachment A C.2 & C.3). Hazardous Air Pollutants (HAPs) are limited individually to below 10 tons per rolling 12-month period and a combined HAP total of 25 tons per 12-month rolling time period (Attachment A C.3). A review of annual emissions reporting (MAERS) indicated annual emissions well below the limits.

Calendar Year	Total Emissions (tons/year)
2019 (thru May)	1.51
2018	7.65

For compliance purposes, Attachment A C.14 A-C, directs Facilities using multiple fuels at the source and who do not elect to limit HMA production based on fuel type, to utilize emission factors in Table 1 of Attachment B to determine monthly and 12-month rolling totals for NOx, SO2 and CO. A review of production records for the two previous calendar years confirms that production is below the 1-million-ton limit. In addition, the Facility calculates emissions for NOx, SO2 and CO determined using the emission factors of Attachment B. The data provided confirmed emissions of below 5 tons per year for the referenced criteria pollutants. VOC were reported below 1 tpy.

It should be noted that the Facility uses MAERS EFs when submitting annual emissions reports, rather than the EFs found in Attachment B. No compliance issue is associated with this practice.

Visible Emissions (VEs) are limited to less than 20% opacity (SC 14). At the time of the site inspection, a detached plume was visible, and no emissions were visible immediately above the stack, indicating compliance with the 20% VE limit. Views of the plume a distance of up to half a mile from the Facility did not identify any tail out or other concerns. The Facility also reports that one or more of their onsite staff have been trained to take VEs.

TESTING ACTIVITIES –

Under SC 15, PTI 359-88C, verification testing is required for Particulate Matter (PM) within 180 days after commencement of trial operation. Information in District files indicates that the required testing was conducted in May 1989, and copies of the resulting test reports received in March 1991. However, copies of the referenced report were not found in the District Files.

The Facility was required under the 2006 CO to conduct supplemental verification testing activities. Records indicate that the appropriate test protocols, 7-day notifications and test reports were received in a timely manner. These activities were conducted on October 6, 2006, the results are summarized below.

PARAMETER	EMISSION LIMIT (SC 13)	EMISSION LIMIT (Attachment A C.2 & C.3)	EMISSION LIMIT (Attachment A C.2 & C.3)	TEST RESULTS (October 6, 2006)
PM	0.04 gr/dscf	NA	NA	0.002 gr/dscf
PM	NA	99 tpy	0.1980 lb/ton	Not Reported
CO	NA	99 tpy	0.1980 lb/ton	4.63 tpy

MONITORING/RECORDKEEPING – SC 16 requires that the Facility monitor and record emissions and operating information required to comply with NSPS Part 60, Subpart I requirements. The referenced documents are required to be kept on file for a period of at least two years and made available to AQD Staff upon request. To meet this and other recordkeeping conditions, the Facility maintains 3 ring binders onsite with handwritten log sheets summarizing required information. Data for the 2018 and 2019 season to date reviewed included:

- Differential pressure readings across the baghouse (Attachment A, C.4 & C.7),
- Significant maintenance activities conducted (Attachment A, C.12) and all repairs made to the manufacturing process and to the baghouse (Attachment A, C.5), and
- Determine and record the total HMA produced and fuel used per calendar month and on a 12-month rolling basis (Attachment A, C.13).

Review of the original daily operation logs confirmed that the differential pressures are recorded as required on a daily basis (Attachment A C.9). The documentation observed onsite appeared to be complete and in compliance with requirements. In addition, the Facility records dust control activities, which have not been required due to recent rains.

Monthly records provided upon request by the Facility included the following:

- Total HMA production for the month (Attachment A, C.14 A-C),

MACES- Activity Report

- Total NOX, SO2 and CO emissions based on EF specified in Table 1 Attachment B (Attachment A C14 A-C), and
- Quantity of RAP used in HMA paving materials per month (Attachment A C.18).

HMA production and RAP usage records for 2016 and 2017 calendar years varied monthly, which is consistent with monthly changes in product type and production totals. Annual RAP use totals for the two referenced calendar years were consistent at approximately 4,000 tons per calendar year. 2018 RAP usage was 538.50 tons for the calendar year.

REPORTING -- Requirements for the Facility by permit are limited to HMA production and emissions for the previous calendar year under the MAERS program. (Attachment A C.19-21). AQD database records indicate that the Facility submits the required reporting in a timely manner in compliance with permit conditions.

ODOR OBSERVATIONS—in conjunction with the May 21, 2019, site visit, an odor survey was conducted to determine if any odors were associated with HMA production activities. AQD District Staff evaluated odor intensity and characteristics for 10 locations located in the vicinity of the Bolen-LaChine Plant.

Of the 10 locations, HMA odors were only detected at one of the 10 locations, and was determined to be barely detectable at that location. No Rule 901 violation was determined to have occurred at the time of the evaluation.

Temperatures were approximately 66 degrees Fahrenheit, under partly cloudy skies. Winds were less than 5 mph, and of a variable direction.

SUMMARY-

On May 21, 2019, AQD District Staff arrived at the Bolen Asphalt-LaChine Hot Mix Asphalt (HMA) Plant for a scheduled site inspection. The Bolen Asphalt-LaChine HMA Plant is a parallel flow, 250-ton per hour drum mix asphalt plant. Particulate emissions are controlled by a fabric filter baghouse. The referenced facility is located on Bolen Road, LaChine, Michigan (N1905) in what is sometimes referenced as the Klein#2 Pit. The most recent site inspection was conducted June 11, 2018.

The referenced facility is a synthetic minor with restrictions of 1 million tons per HMA per year and less than 99 tons per 12-month rolling time period for criteria pollutants. The Facility operates under Permit to Install (PTI) No. 359-88C. The Facility also operates under their approved Fugitive Dust Plan and PM/MAP (August 2006).

The CO meter for the has been shipped offsite for calibration, prior to obtaining CO monitoring data for the plant. CO monitoring of the burner exhaust and black light inspections of the bag house are anticipated to be completed by mid-June.

District Staff met with Robert Bolen and Ron Balfour at the time of the inspection. Weather conditions included clear and sunny skies, with temperatures 66 degrees, with light and variable winds. The purpose of the scheduled inspection was to determine Facility compliance with the referenced permit.

Based on observations and information obtained as part of the May 21, 2019, site inspection and supplemental information obtained to determine compliance with monitoring and record keeping activities, the Facility appears to be in general compliance with its permit as well as 40 CFR Part 60, Subpart A & I. Documentation of blacklight baghouse inspections and co monitor data is to be provided by the Facility in the near future.

NAME Sharon LeBlanc

DATE 4/10/2019 SUPERVISOR SN