

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N190544740

FACILITY: BOLEN ASPHALT PAVING, INC.		SRN / ID: N1905
LOCATION: M 32, LACHINE		DISTRICT: Gaylord
CITY: LACHINE		COUNTY: ALPENA
CONTACT: Matt Bolen , Owner		ACTIVITY DATE: 06/11/2018
STAFF: Sharon LeBlanc	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: scheduled site inspection for synthetic minor source in Alpena County Michigan.		
RESOLVED COMPLAINTS:		

INTRODUCTION

On June 11, 2018, AQD District Staff arrived at the Bolen Asphalt-LaChine Hot Mix Asphalt (HMA) Plant for a scheduled 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 purpose of the scheduled inspection was to determine Facility compliance with the referenced permit.

District Staff met with Matt Bolen and Ron Balfour at the time of the inspection. Weather conditions included clear and sunny skies, with temperatures < 50 degrees, and a light wind to the west-northwest.

Self-initiated site inspections were of record for June 9, 2017, June 17, 2014 and June 6, 2013. The most recent scheduled site inspection for the Facility was conducted on August 15, 2012 and reported the Facility to be operating in compliance with their permit.

Note that District Staff also visited the site on June 7 and 8, 2018, with the intention of conducting the scheduled inspection, but the HMA Plant was not operating at the time of the visit.

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.

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. At the time of the inspection it appears that only the southern portion of the property is in use, the remaining portion of the property being wooded.

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 2018 season was May 2, 2018. The 2017 season was reported to have ended in mid-November.

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 presently onsite.

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 records indicate a total of eight measurements

collected over a minimum of a 30-minute period as specified in the PM/MAP. The Facility uses a Bacharach Monoxor III CO meter to monitor CO levels for the plant.

DATE	CO RANGE (PPM)	HMA PRODUCTION (TPH)	HOURS OF OPERATION REPORTED FOR CALENDAR YEAR *
5/31/2018	162 - 205	210	Not totaled for year
5/8/2017	97 - 145	220	477
5/8/2016	87 - 219	230	477

*Source is the Michigan Annual Emissions Reporting Program (AKA MAERS). Note that hours of operation for calendar years 2015 and 2014 were reported to be 531 and 495 hours, respectively.

- 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 have provided the Facility with supplemental information regarding RICE related Subparts to allow the company to determine what if any future 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

Installed in 1990, this 550 Kw Caterpillar Model 3412 unit is the original generator associated with the site and is now used by the Facility as a spare/backup unit. 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 until warmed up and is believed by Facility Staff to be the source of opacity complaints received for the Facility. At the time of the inspection, the Facility reported that the back up generator had to be used the previous week, which would be the cause of opacity complaint received by District Staff on June 6, 2018.

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

The two existing diesel ASTs have a capacity of 1,000 gallon each and were installed in 2002. 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 2012 scheduled site inspection, a total of 32 complaints have been received by the District Office. A review of the documents indicates that all but 2 were associated with a single household. A total of 30 compliant investigations, odor evaluations and self-initiated inspections have been conducted as a result of the referenced complaints.

Complainants have been advised that noise issues are not handled by MDEQ. Complaints regarding dying trees along Bean Creek should be referred to MDNR. In a VN response dated January 3, 2006, the facility provided both MDNR and AQD a December 2005 study which linked the dying trees with a previous flooding of the area (approximately 1990-1991) and the normal lifespan of the tree species impacted.

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. These include the following:

DATE	SAMPLE	MICROSCOPIC EVALUATION
August 29, 2006	two samples from Harrison Road location	Varying quantities of fungal mycelium, leafy plant materials and rounded quartz sand grains. No detectable asphalt components or ash components were identified.
June 1, 2006	one sample from Rothenstein residence	Predominantly pollen and plant parts, with the remaining portion of the bulk sample being described as having the characteristics consistent with road dust. (Carney Road is an unpaved road)
November 6, 2008	three samples reported to be from about 1/2-mile from Bolen	Possibly containing a combustion residue, with no components of fused fly-ash detected.

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 - 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. Under the referenced document, the Facility was required to:

- **conduct supplemental compliance testing for CO and PM emissions,**
- **Maintain visible emissions (VEs) of less than 20% opacity,**
- **Prepare and implement an AQD approved Preventative Maintenance/Malfunction Abatement Plan (PM/MAP),**
- **Monitor CO emissions with a calibrated, hand held monitor a minimum of once per season or every 500 hours of operation, whichever is less,**
- **Implementation of AQD approved fugitive dust Plan, and**
- **Pay a monetary settlement.**

The referenced testing was conducted on October 6, 2006. Test Results are summarized later in this document. District Files contain copies of approved PM/MAP (August 30, 2006) and Fugitive Dust Plans (August 30, 2006) for the Facility. The CO was terminated on April 22, 2010.

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 document expresses his concerns regarding decreases in property values as a result of dying trees along Bean Creek, as well as health issues being experienced by his pets, fallout and his own health issues that have previously been received by the AQD Gaylord Field Office. 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 had been based on information provided during the June 11, 2018, site inspection, as well as on supplemental data and reports submitted upon request or to meet permit requirements identified under 359-88C.

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 Facility reports that the installation and operation of the fabric filter baghouse was an improvement over the wet scrubber originally associated with the HMA Plant. Two magnahelic gauges to measure differential pressures across the baghouse were installed and are monitored. Readings are collected on a daily basis when operating and are greater than the 2-inches of water identified in the PM/MAP.

Facility staff have until recently been 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.

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. The most recent activities are summarized below:

DATE	BLACKLIGHT INSPECTION*	BAGS REPLACED
6/6/2018	Not Documented	Six (6)
4/28/2018	YES	Six (6)
9/22/2017	Not Documented	Two (2)

5/4/2016	YES	Eight (8)
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- * Facility uses Visolite® Leak Detection System for blacklight inspections.

Note that documentation reviewed failed to confirm documentation of blacklight inspection for the beginning of the 2017 season however, further discussions with Facility Staff indicated that a black light is always used for bag inspections, because it makes leak detection much easier. Facility Staff have indicated that they will improve future documentation.

Upon review, the PM/MAP indicates that the records should document whether a used/cleaned bag filter or a new/unused bag filter was used for replacement activities. Records maintained on site did not include that level of documentation. The Facility has indicated that they will modify their form to include the information for all future activities.

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 June 11, 2018, from Manning Hill Road and Carney Road failed to detect any puffs during operation that would suggest that the baghouse needed additional attention. In addition, the plume was clearly detached, with no visible emissions until the steam plume appeared over 4 ft above the top of the stack.

- 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 as is a common practice is returned to the HMA plant for use in generating product. 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 the last two calendar years of operations indicates that seasonal operations have been from May through November. The plant was reported being inactive 5 months of the calendar year.

MATERIAL LIMITS – SC 22 limits the Facility to no more than 25% recycled asphalt product (RAP) in their HMA. Attachment A C.15 limits the Facility to no more than 30% RAP in their HMA product. A review of daily production records for 2016 and 2017 indicated that RAP content did not exceed 15%. RAP content reported thus far for the 2018 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 data submitted annually as part of the MAERS program confirm that HMA production for the facility is below the referenced limit for production.

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 presented below 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.

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 NO_x, 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 NO_x, 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.

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.

As previously indicated, the Facility was required under the 2006 CO to conduct supplemental verification testing activities. 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	NR
CO	NA	99 tpy	0.1980 lb/ton	4.63 tpy

Records indicate that the appropriate test protocols, 7-day notifications and test reports were received in a timely manner.

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 2016, 2017 and the 2018 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). Except for the documentation of whether bags were replaced with used/cleaned or new/unused bag filters, the documentation observed onsite appeared to be complete and in compliance with requirements.

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

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

Monthly fuel usage onsite also reflects the monthly variability of product and production levels. Records are maintained for both LPG as well as the ultra-low sulfur diesel. All monthly records received were determined to be complete and in compliance with permit conditions.

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.

SUMMARY-

On June 11, 2018, 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 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).

District Staff met with Matt Bolen and Ron Balfour at the time of the inspection. Weather conditions included clear and sunny skies, with temperatures < 50 degrees, and a light wind to the west-northwest. The purpose of the scheduled inspection was to determine Facility compliance with the referenced permit.

Self-initiated site inspections were of record for June 9, 2017, June 17, 2014 and June 6, 2013. The most recent scheduled site inspection for the Facility was conducted on August 15, 2012 and reported the Facility to be operating in compliance with their permit.

Based on observations and information obtained as part of the June 11, 2018, 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. Though some further efforts to improve documentation of activities have been discussed with the Facility and will be implemented in the near future.

NAME Sharon C. Blane DATE 6/25/18 SUPERVISOR SN