

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

N176167511

<b>FACILITY:</b> Michigan Paving and Materials - Spartan Asphalt	<b>SRN / ID:</b> N1761
<b>LOCATION:</b> 16777 Wood Street, LANSING	<b>DISTRICT:</b> Lansing
<b>CITY:</b> LANSING	<b>COUNTY:</b> CLINTON
<b>CONTACT:</b> John Peters , Division Manager	<b>ACTIVITY DATE:</b> 05/25/2023
<b>STAFF:</b> Michelle Luplow	<b>COMPLIANCE STATUS:</b> Compliance
<b>SUBJECT:</b> Onsite compliance inspection to determine compliance with PTI 804-87I.	
<b>RESOLVED COMPLAINTS:</b>	

**Inspected by:** Michelle Luplow

**Personnel Present:** John Peters (jpeters@mipmc.com), Division Manager

Brooks Cozart (bcozart@mipmc.com), Plant Operator

Trevor, Grounds Staff

**Other Personnel:** Sue Hanf (SHanf@mipmc.com), Environmental Engineer

**Purpose:** Conduct an unannounced onsite partial compliance evaluation (PCE) inspection by determining compliance with Spartan Asphalt's Opt-Out Permit No. 804-87I. This inspection was conducted as part of a full compliance evaluation (FCE).

**Facility Background/Regulatory Overview:** Michigan Paving Materials (MPM) - Spartan Asphalt Division is a hot mix asphalt facility that uses both recycled asphalt (RAP) and virgin aggregate in their mixes. This facility was last inspected in June 2019.

On March 24, 2014 AQD received a letter from Spartan Asphalt explaining that they were interested in using process equipment to produce Warm Mix Asphalt, under exemption 285(b). They provided documentation showing that installation of this new equipment would not produce a meaningful change in the quality and nature or meaningful increase in the quantity of emissions of the air contaminants released from the Warm Mix Asphalt process. The AQD has allowed exemption R 285(b) to be used for warm mix asphalt projects. During this inspection, John Peters, Division Manager, said that the equipment used to produce warm mix asphalt was been disbanded; the equipment currently onsite cannot be used for warm mix asphalt in the future, as specific equipment is necessary to create the warm mix asphalt. At this time Spartan Asphalt is not creating warm mix asphalt. J. Peters stated that additives can be used to create the same compaction effect that warm mix asphalt does.

Crumb rubber asphalt has also been used at this site. J. Peters explained that crumb rubber becomes the aggregate portion of the asphalt mix. During past use of crumb rubber, the crumb rubber would get mixed with liquid asphalt at Seneca prior to being delivered to Spartan Asphalt. On July 17, 2014 AQD received a letter from Spartan Asphalt explaining that for the month of August 2014 they would be intending to use Crumb Rubber in their asphalt mix and operating under exemption R 283(1)(a)(vi) in order to conduct field testing for production of product. On October 18, 2014 a stack test was conducted at Spartan Asphalt to determine emissions/collect data on the use of crumb rubber in asphalt processes. Dan McGeen (AQD LDO) and Dave Riddle (AQD Permits) developed criteria for determining when crumb rubber use is no longer considered "field testing" that exemption Rule 283(1)(a)(vi) refers to, but instead production that requires a permit. The following is a direct quote from the email Mary Ann Dolehanty sent out to inform industry of AQD's position regarding the use of crumb rubber:

“For 2015, RMA paving projects may proceed under Rule 283, the research and development exemption, provided that the liquid asphalt cement utilized has a tire rubber content of no greater than 12%, and the length of the paving project is no greater than 1 mile.”

On 8/26/15 J. Peters informed AQD that the crumb rubber project had started. This was the first crumb rubber project Spartan Asphalt had undertaken since the August 2014 project. The project length was 1 mile and the percentage of crumb rubber allowed in the asphalt mix, per the bidding document set forth by Ingham County Road Department, was 0.65+/-0.10% crumb rubber content by weight of the mixture. During that time, it was determined that Spartan Asphalt met the requirements of the R 283 exemption for research and development projects. During this inspection, J. Peters said that they have not done crumb rubber projects since 2015 and that they only plan to conduct crumb rubber pavement jobs for Ingham County grants in the future. There are no crumb rubber paving projects scheduled at this time, and J. Peters confirmed that no crumb rubber projects have occurred since the 2014 project.

J. Peters said that Spartan Asphalt generally fires up the plant the 3<sup>rd</sup> or 4<sup>th</sup> week of April and operates until Thanksgiving, but that the operating season largely depends on weather (frost laws and asphalt is best applied at 40°F+) and the workload (driven by sales and customers). Trevor stated that the 2023 operating season began on April 18, based on facility records. The 2022 operating season began on April 26.

Spartan Asphalt is an opt-out facility for HAPs.

PTI 804-87I was issued February 20, 2020 to modify PTI 804-87H permit language. EUHMAPLANT SC II.6 was rewritten to allow Spartan Asphalt to determine their hourly HMA production by dividing daily HMA production by the daily operating hours, rather than calculating a 24-hour rolling production rate. Additionally, Appendix B, #6 for Black Light Inspections, was updated to require black light inspections be conducted within 3 calendar days of beginning production for the paving season.

**Inspection:** At approximately 8:40 a.m. on May 25, 2023, I arrived at Spartan Asphalt and met with Brooks Cozart, plant operator, and Trevor, grounds staff. John Peters, Division Manager, joined us later in the inspection.

The facility was in a 1 hr, 15 min “hot stop” when I arrived. This means that the system is turned off (belts, drum burner, etc) while hot mix asphalt is contained within the drum. I was told that when the material from a hot stop gets too cold, they were kicked this material out of the drum as waste.

When coming out of the hot stop, I noticed fugitive dust emitting from the drum as it began rotating. B. Cozart explained that the fan is manually started after a hot stop and after he manually started the fan, the fugitive dust was no longer emitting from the drum. He stated that they will typically turn the fan on before the drum, but had forgotten to during this incident.

Table 1 contains all equipment at the site.

**Table 1. Equipment List**

<b>Equipment</b>	<b>Description</b>	<b>PTI/ Exemption</b>	<b>Installation dates</b>
<b>EUHMAPLANT</b>	Natural gas-fired 650-ton/hr counter flow drum dryer/mixer with fabric filter dust collector. Bruner is rated at 2 MMBtu/hr.	804-87H/ NA	2008 or 2009
<b>EUYARD</b>	Fugitive dust sources including plant roadways, plant yard, material storage piles, and material handling operations (excluding cold feed aggregate bins)	804-87H; NA	NA
<b>EUACTANKS</b>	Install of 5 new 35,000-gallon AC "heater" tanks to replace the tanks permitted under 804-87H. Tanks are heated to 300°F.  1 new heated 15,000 gallon asphalt emulsion tank	804-87H; Rule 284(2)(i)	March 2018
<b>EUSILOS</b>	Ten (10) hot mix asphalt paving material storage silos	804-87H/ NA	NA
<b>Diesel storage tank</b>	Double-walled diesel storage tank with 10,000-gallon capacity; used to fuel plant vehicles	NA/ Rule 284(2)(d)	2012 or 2013
<b>Oil heater</b>	2 MMBtu/hr Natural gas-fired, used to indirectly heat oil which maintains temperatures in the liquid AC tanks and the emulsion tank.	NA/ Rule 282(2)(b)(i)	NA

**EUHMAPLANT**

The hot-mix asphalt (HMA) plant was operating during the inspection (post-hot stop). I saw no signs of opacity from the asphalt plant's stack.

**Emission Limits, Testing/Sampling & Monitoring/Recordkeeping**

Spartan Asphalt is limited to 89.9 tpy CO and 89.9 tpy SO<sub>2</sub>, both determined on a 12-month rolling period, as determined at the end of each calendar month. Various toxic air contaminants (TACs), PM, NO<sub>x</sub>, CO and SO<sub>2</sub> are

also limited in lb/ton, according to the Emission Limits table of PTI 804-871. These lb/ton Emission Limits are based on the maximum permitted production rate of 895,000 tons HMA paving material production. At the request of AQD, Spartan Asphalt may test for the lb/hr TACs, PM, NOx, CO and SO2 emission rates.

Spartan Asphalt is required to keep monthly and 12-month rolling records of all criteria pollutants and TACs. Spartan Asphalt keeps track of the monthly and 12-month rolling emissions for all criteria pollutants and TACs listed in the Emission Limit Summary table of their PTI, as required by the permit. S. Hanf provided me with 12-month rolling records from January 2021 – April 2023 (attached).

I reviewed January 2021 – April 2023 12-month rolling data. CO and SO2 emission limits are being met. Table 2 contains the highest 12-month rolling emissions for CO, SO2, and permitted TACs, which occurred during the 12-month rolling period of July 2021 – June 2022). Although TACs do not have a 12-month rolling emission limit, 12-month rolling emission calculations are required by the permit. Based on the data provided, Spartan Asphalt appears to be meeting their emission limits.

**Table 2.** 12-month rolling (July 2021 - June 2022)

<b>Pollutant</b>	<b>12-month rolling total (tons)</b>	<b>Emission Limit (12-month rolling tpy)</b>
CO	51.9	89.9
SO <sub>2</sub>	64.9	89.9
PM	10.3	NA
NOx	31	NA
Pb	3.9E-3	NA
Benzene	2.6E-1	NA
Toluene	1.55	NA
Ethylbenzene	1.29	NA
Xylene	2.6E-1	NA
Naphthalene	2.6E-1	NA
Formaldehyde	2.58	NA

Acrolein	2.07	NA
Arsenic	3.88E-4	NA
Nickel	3.88E-2	NA
Sulfuric acid	3.88	NA
Manganese	1.3E-2	NA
HCl	6.15	NA

In 2007 a stack test was conducted to verify and quantify emissions of various TACS and criteria air pollutants using recycled used oil as the fuel oil. See Table 3 for the pollutant, emission limit, and stack test result as reported by Network Environmental Inc. All are in compliance and/or verified with their emission limits. These values can be used as emission factors to determine monthly and 12-month rolling emissions when burning RUO.

**Table 3.** 2007 Stack Test Results based on RUO fuel

<b>Pollutant/TAC</b>	<b>Stack Test Result (lb/ton)</b>	<b>Emission Limit (lb/ton)</b>	<b>Compliant?</b>
Lead	1.21E-6	1.5E-5	Yes
Manganese	4.97E-6	5.0E-5	Yes
Nickel	1.48E-6	1.5E-4	Yes
Particulate Matter	0.006 (grains/dscf)	0.04 (grains/dscf)	Yes
Benzene	7.4E-4	0.001	Yes
Ethyl benzene	1.4E-4	0.005	Yes
Toluene	3.2E-4	0.006	Yes
Xylene	2.3E-4	0.001	Yes
Acrolein	3.8E-4	8.0E-4	Yes

Formaldehyde	2.96E-4	0.01	Yes
Naphthalene	1.0E-4	1.0E-4	Yes
Sulfuric Acid	14.4E-4	0.015	Yes
Hydrochloric Acid	3.0E-4	0.024	Yes
Carbon Monoxide	0.108	0.201	Yes
Sulfur Dioxide	0.023	0.253	Yes
Nitrogen Oxides	NA	0.12	NA

#### Material Limits & Monitoring/Recordkeeping

Spartan Asphalt is only allowed to burn natural gas; propane; distillate oil; residual oil; blended fuel oil or recycled used oil (RUO) where the % sulfur, specific gravity, flash point, higher heating value of all fuel oils combusted must be recorded monthly. J. Peters said that Spartan Asphalt only burns natural gas and said they haven't used RUO since 2011; he stated that their drum dryer currently onsite does not have the capability to run on RUO. Spartan Asphalt is therefore also in compliance with the requirement not to burn any RUO that exceeds the specified concentrations of contaminants in the permit and the other RUO permit conditions are not applicable at this time.

No asbestos tailings or waste materials containing asbestos shall be used in EUHMAPLANT. J. Peters said that virgin aggregate is crushed offsite and trucked in from Michigan Paving Materials (MPM) (internal) and from Schlegel Sand & Gravel in St. Johns. It is Spartan Asphalt's responsibility to ensure that these two places are not crushing and selling asbestos tailings or asbestos waste materials. J. Peters said that the Recycled Asphalt (RAP) is crushed onsite by Thompson Recycling/Stateline and they were present onsite in April 2023.

J. Peters said they know their rubble suppliers and strictly only take asphalt to crush into RAP; there is a sign onsite indicating such. The majority of their asphalt comes from MPM's milling crew. They also have a small concrete pile that has been present onsite for ~ 5 years, because they prefer not to take it in.

**RAP is limited to a maximum of 50%** in the (HMA) based on a monthly average and records are required to be kept for the tons of HMA-containing RAP produced, including the average percent of RAP per ton of HMA produced that contains RAP. S. Hanf provided me with electronic spreadsheet calculations for the 2020 – 2023 (through April) operating seasons, which contain the total HMA produced that contains RAP and the Total RAP aggregate used on daily and monthly bases to calculate the average percent RAP used monthly (attached). The highest percent RAP used during the 2020 – 2023 operation seasons was 34% in April 2023.

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The total tons of HMA produced is limited to **895,000 tons per 12-month rolling time period**, the records of which are required to be kept on a daily, monthly and 12-month rolling bases. S. Hanf provided me the daily, monthly and 12-month rolling total HMA records for 2020, 2021, 2022 and 2023 (through April) which were

reviewed for compliance. The highest quantity of HMA produced during these 12-month rolling periods was **552,036 tons** from April 2019 – March 2020 (see attached).

Spartan Asphalt is also **limited to 650 tons per hour**, determined by dividing daily HMA production by the daily operating hours. The highest hourly production rate from January 2020 – April 2023 was **469 lb/hr** on July 13, 2020.

#### Process/Operational Restrictions, Design/Equipment Parameters & Monitoring Recordkeeping

The **Fugitive Dust Plan** (Appendix A of the permit) is required to be implemented and maintained for EUYARD if Spartan Asphalt wishes to operate the plant.

#### **Fugitive Dust Plan Discussion**

##### **SITE MAINTENANCE**

The speed of vehicles on the site are required to be limited to 10 mph or less and signs will be posted to advise drivers of the speed limitation. I noted that 8 mph speed limit signs were posted for both entry and exit trucks. I observed trucks entering and exiting the facility who appeared to travel approximately 10 mph.

Stock piling is required to be performed in a manner that minimizes freefall drop distances. During the inspection I observed a front-end loader moving materials between piles. The drop distance, in my professional judgment was maintained at a distance that minimized fugitive dust while still allowing the equipment to function properly.

Piles are required to be maintained to prevent fugitive dust, including water, covering, and/or encrusting agents. I saw no signs of opacity from any of the piles onsite, which is indicative of well-maintained piles.

##### **MANAGEMENT OF ON-SITE ROADWAYS**

All roadways on which the HMA haul vehicles travel on are required to be paved, and includes the roadway on which the vehicles travel around the process equipment to be loaded with HMA. The paved plant roads are required to be controlled by water, sweeping, vacuuming, or other dust control methods that minimize fugitive dust and track-out dust. Dust control is required to occur a minimum of two times per month or more frequently. J. Peters said that they are scheduled to sweep the paved roads once per week.

During the inspection I noted the paved exit road had some dust from truck traffic; however, I observed multiple trucks leaving the site and observed no opacity being generated throughout this area from the truck traffic. Additionally, the paved plant roads and yard were also well maintained. J. Peters said Sani-sweep out of Grand Rapids had swept their paved yard 2-3 days ago.

Unpaved surfaces are required to be controlled with appropriate dust control measures to ensure opacity generated from these surfaces is 5% or less. During the inspection I noted that the unpaved surfaces were well-maintained and saturated with moisture, and I saw no opacity from truck traffic on these unpaved surfaces. J. Peters said that they apply calcium chloride as a dust suppressant as needed, which generally

occurs every 2 -3 weeks. He also said that they are hoping to obtain a water wagon for the site within the next month or so to manage fugitive dust between chloride applications.

Aggregate spillage of any kind on the roads is required to be removed immediately. During the inspection I noted that there was no aggregate spillage throughout the paved plant yard and roadways. All paved surfaces were well-maintained.

#### **ON-SITE MANAGEMENT OF HAUL VEHICLES**

All trucks entering the site to deliver loads and all trucks leaving the site with HMA paving materials are required to cover the loads. Signs are posted for the trucks leaving and entering the site to remind them to tarp the loads prior to leaving the site. The signs state "All loads should be tarped." I observed several trucks leave the site during the inspection and all covered their loads prior to leaving the site.

#### **MANAGEMENT OF FRONT-END LOADER OPERATIONS**

Front-end loader operators shall be directed to avoid overfilling the bucket on the loader to prevent spillage and to minimize the drop height of the material when loading the feed hoppers or transferring material to stockpiles.

During the inspection I noted a small front end loader transferring material to the feed bins. No overfilling was observed and drop height distances from the bucket to the feed bins was minimized.

Spartan Asphalt is currently in compliance with their Fugitive Dust Plan at this time.

The **Preventative Maintenance Program (PMP)** for the fabric filter dust collector (Appendix B in permit) is required to be implemented and maintained if Spartan Asphalt wishes to operate the plant. Maintenance records for the dust collector are required to be kept and consistent with the PMP.

#### **PMP Discussion**

##### **FABRIC FILTER DUST COLLECTOR OPERATING PRESSURE DROP**

The fabric filter dust collector pressure drop is required to be recorded once per day, but continuously monitored. The acceptable pressure drop range should be no less than 2 in H<sub>2</sub>O and no greater than 10 in H<sub>2</sub>O. During the inspection, the instantaneous pressure drop reading was 3.09 in H<sub>2</sub>O. The pressure drop is continuously monitored in the control room via digital readout. I requested baghouse pressure drop records for the 2023 operating season (April 18 – May 24, 2023). Pressure drops were recorded once per day during this time period, and all recorded pressure drops were within the 2 – 10 in H<sub>2</sub>O range.

##### **FABRIC FILTER DUST COLLECTOR/PLANT ALARM SYSTEM**

A high temperature sensor and alarm system should be equipped on the fabric filter dust collector that is designed to set off an alarm when the high temperature set-point has been violated, which should begin immediate sequential shut-down if the situation is not resolved in a short time period. B. Cozart, control room



operator, told me that the set-point is 400°F and said that if the inlet temperature reaches 400°F, the system turns off (burner automatically shut down). A visual alarm will go off on the computer monitoring system if the inlet set point is reached. The inlet temperature (“Stack Temperature” on the monitor screen) during the inspection was 193°F.

#### **HANDLING AND STORAGE OF FABRIC FILTER DUST**

Accumulated fabric filter dust is required to be stored and/or disposed of in a manner which minimizes the introduction of dust to the outer air. B. Cozart said that all of the particulate that is captured in the fabric filter dust collector is collected and then recycled back into the mix (closed-loop system) via baghouse augers. They do not dispose of any particulate.

#### **PIPING AND SEALS MAINTENANCE**

Piping and seals on the baghouse are required to be replaced as needed. B. Cozart and J. Peters said that the piping and seals were not replaced for this operating season and that the seals were last changed when they changed out all of the bags (2021).

#### **VISIBLE EMISSIONS AND ACTIONS TO BE TAKEN**

Spartan Asphalt is required to cease operations if visible emissions are seen from the stack and there is no Method 9 certified reader available within 60 minutes of seeing the emissions. There was no opacity emitting from the stack during the inspection, only water vapor. Spartan Asphalt conducts daily walkthroughs of the plant and includes a column for a check of the stack exhaust for opacity. All logs indicate no opacity was observed for the 2023 operating season thus far.

#### **BLACK LIGHT INSPECTIONS**

A black light test is required to be conducted at least once per year within 3 calendar days of beginning production for the paving season and records of the inspections, date, time and findings are required to be kept. A black light test is a test where black light-reactive dust is injected into the system, and using a black light, operators are able to determine if the black light-reactive dust is escaping the baghouse, thus detecting any baghouse leaks. The plant is run hot to allow the equipment to expand, and therefore cracks and openings will become more evident. The blacklight test is then conducted once the system cools down the following day.

Spartan Asphalt’s records indicate that the black light test for the 2023 paving season was conducted on May 6, 2023. Although the plant began operations on April 18, production (consistently operating 5 days a week) began on May 3, 2023, therefore meeting the requirement to conduct black light testing within 3 calendar days of beginning production. Black light test information is captured in their spreadsheets and records were reviewed for the 2020 – 2023 paving seasons. The black light test specific dates and associated times of day were missing for the 2021 and 2022 operating seasons, and the time of day the 2023 black light test was conducted was also missing; however, the 2021 - 2023 records also include the number of bags replaced for each operating season, which imply that black light tests were conducted (all bags were replaced in 2021, 0 bags were replaced in 2022 and 2023). On 8/24/23 S. Hanf provided me with additional documentation: the 2022 black light test was conducted on 4/29/22 at 6:00 a.m. and the 2023 black light test was conducted at 6:30 a.m. Based on my observations during the inspection, there was no opacity and therefore it is believed the baghouse is being maintained properly; however, I have made John Peters and Sue Hanf aware of these deficiencies (missing dates, times, and additional information regarding black light test results in their original records and the need to ensure these are present).

Black light inspection materials are required to be available during the paving season. I was told Spartan Asphalt keeps the blacklight powder and blacklight in a storage container onsite.

#### **INVENTORY OF FILTER BAGS**

An inventory of fabric filter bags is required to be maintained so that filter bags are readily available within 4 hours of requesting filter bags and a minimum of 15 filter bags are required to be kept onsite at all times. During the inspection we confirmed that Spartan Asphalt has at least 2 boxes of baghouse filters, each containing 100 bags.

#### **FABRIC FILTER DUST COLLECTOR INSPECTION RECORD**

Spartan has an electronic spreadsheet of all maintenance activities that occur on the site, including records for baghouse inspections.

Records were reviewed for the 2020 – 2023 paving seasons. Visual inspections of the baghouse and other parts of the asphalt plant are documented, including the maintenance that is conducted on these items for each operating season. This includes bag replacements, baghouse hanger bearings, baghouse pulser wires, and dust augers.

The **Emission Abatement Plan for Startup, Shutdown, and Malfunctions** (Appendix C in permit) is required to be implemented and maintained if Spartan Asphalt wishes to operate the plant.

J. Peters and I discussed the requirements within Appendix C of the PTI to determine whether Spartan Asphalt is meeting these requirements. J. Peters said their goal is to fire up once and shut down once, and to avoid hot stops (stopping production, but leaving all equipment active).

They conduct daily walkthrough inspections which are conducted every morning and include all aspects of the plant listed in Appendix C. Brooks Cozart, Operations Manager, is listed as in charge of all the maintenance and repairs associated with Appendix C; Loader Operators Ryan Rider and Jim Thelan are listed as in charge of the stock pile management, fugitive dust control and daily visual inspections of the plant, as outlined in Appendix C.

In the fall J. Peters said they will inspect all components of the plant and identify those items that are in need of major repair, including feeders, inside the drum, etc, and baghouse maintenance. In the spring, prior to startup, they conduct all items in need of repair which were identified during the fall inspection. This meets the requirement to conduct thorough inspections of the baghouse control unit before the paving season starts.

Replacement parts, according to this plan, are required to be kept in stock: a minimum of 15 bags, a minimum of 5 lbs of black light powder, minimum of 2 tubes of silicone caulk. To meet this plan, J. Peters said they currently have 2 boxes of filters in inventory, each box contains 100 baghouse bag filters, in

addition they currently have 30 lbs of black light powder in their onsite inventory and 10 tubes of silicone caulk used for minor leaks around doors and seals.

The **Compliance Monitoring Plan for RUO** (Appendix D) does not apply because Spartan Asphalt does not burn RUO at this time and J. Peters said their current drum dryer does not have the capability to use RUO.

### **CO Emissions**

Spartan Asphalt is required to maintain the efficiency of the EUHMAPLANT drum mix burners to control CO emissions by fine-tuning the burners for proper burner operations. One CO data set is required to be recorded for each of the following occurrences: upon start-up of each paving season; upon malfunction of the drum dryer or its associated burner; and after every 500 hours of operation. Each data set shall consist of at least 8 separate CO readings over a period of 30 minutes or longer. CO emissions are limited to less than 500 ppmv.

At the time of inspection, the plant had been operating for approximately 100 hours and there were no malfunctions of the drum dryer or burner during that 100 hours of time; therefore, Spartan Asphalt is required to complete one set of CO readings for start-up of the paving season.

The startup CO emissions measurements were taken on May 12, 2023 from 11:09 a.m. – 11:39 a.m. (see attached for record). A total of 8 readings were taken.

Each recorded reading on 5/12/23 was below 500 ppmv, with the highest reading at 192 ppmv CO. The spreadsheet is attached containing all 8 readings. The production data and emissions data for the day of the CO emissions should also be recorded, which is included with their CO readings. CO emissions records for 2021 and 2022 were also reviewed. All data points were found to be less than 500 ppmv CO.

### **Other Monitoring/Recordkeeping**

Spartan is required to continuously monitor the virgin aggregate feed rate and RAP feed rate to EUHMAPLANT and keep intermittent, daily records for these rates. Spartan Asphalt continuously monitors the instantaneous feed rates directly from their computer program in the control room. The feed rate varies depending on the mix that they are creating that day. S. Hanf keeps the electronic spreadsheets of daily RAP and virgin aggregate feed rates on a ton/day basis.

In addition to the feed rates, Spartan must also keep a daily intermittent records of the asphalt paving material product temperature and keep information sufficient to identify all components of the asphalt mix. This includes recording the initial mix design and time upon initial start-up, and the time and new mix design whenever the mix design changes. Spartan keeps “Daily Mix Change” spreadsheets that are used to record the date, mix name, mix code, time of mix start, temperature of the mix, and baghouse pressure drop at the time of the mix start. I requested records for 5/15 – 5/19/23, attached.

### **Stack/Vent Restrictions**

The stack on the HMA plant (SVHMAPLANT) is required to be a minimum of 133 feet above ground level. I used the Lansing District's Nikon Pro Forestry II Rangefinder to verify the stack height. The stack height, based on the rangefinder readings, was determined to be 135 feet, in compliance with the permitted minimum stack height.

## **EUYARD**

EUYARD includes all fugitive dust sources at the site, including plant roadways, plant yard, material storage piles, and material handling operations.

*There are currently no Emission Limits, Material limits, Design/Equipment Parameters, Testing/Sampling, or Stack/Vent Restrictions requirements for EUYARD.*

### Process/Operational Restrictions

Spartan is required to follow the Fugitive Dust Program in Appendix A. Per the analysis earlier in the report, Spartan is in compliance with this condition.

### Monitoring/Recordkeeping & Reporting

Fugitive dust emissions from the plant roadways, plant yard, material storage piles, and material handling operations (excluding the cold feed aggregate bins) are required to be calculated annually for MAERS using AP-42 emission factors. Based on the 2022 MAERS emission year, Spartan is in compliance with this condition. (Emissions reported under "cold aggregate handling," "storage piles," and "haul roads.")

## **EUACTANKS**

EUACTANKS represents 5 new liquid asphalt cement (AC) tanks. J. Peters said the liquid AC is kept at 300-320F depending on the PG grade. These 5 new tanks replaced the old tanks because he said the old tanks were too small to meet demand and there were heating inefficiencies. Oil is heated via a natural gas-fired heater and is then circulated in the insulated layer of the tank to keep the product up to temperature.

*There are currently no Emission Limits, Material Limits, Design/Equipment Parameters, Testing/Sampling, Monitoring/Recordkeeping, Reporting, or Stack/Vent Restrictions requirements for EUACTANKS.*

### Process/Operational Restrictions

Spartan Asphalt is required to ensure that the vapor condensation and recovery system on the tanks is installed, maintained, and operated in a satisfactory manner. J. Peters confirmed charcoal filters are installed on the tanks to control odors. The blower motor pulls vapors off the tank and sends them to the charcoal filters. The previous control devices were condenser towers. J. Peters said the replacement schedule for the carbon is once every 1 – 3 years, depending on their usage and how much product is moved in and out of the tanks. The carbon was not replaced for this current paving season.

## **EUSILOS**

There are 10 HMA storage silos present onsite. They are not heated but insulated to maintain the temperature that the HMA was produced at.

There are currently no Emission Limits, Material Limits, Design/Equipment Parameters, Testing/Sampling, Monitoring/Recordkeeping, Reporting, or Stack/Vent Restrictions requirements for EUSILOS.

**Process/Operational Restrictions**

Spartan is required to install, maintain and operate the emissions capture system on the silo loadout system. Blue smoke from the silos and loadout are controlled by a “blue smoke” filtration system. The system is comprised of 2 layers of blue smoke filters: 1 layer of white accordion filters and a second layer of blue, smaller accordion filters. The filters were replaced prior to this 2023 operating season.

During the inspection I observed the loading of 1 truck. Winds were out of the ENE at 13 mph. There was minimal blue smoke being released from the loading area during truck loadout, an indication that the blue smoke filtration system is operating properly and at a sufficient air flow to capture blue smoke emissions. There were no signs of opacity from the blue smoke filtration system’s exhaust.

The emission controls at the top of each storage silo are also required to be installed, maintained and operated in a satisfactory manner. This system is used to control emissions from the transfer of material as it enters the silo. I did not observe any signs of opacity being emitted from the silos during the inspection; however I did not the presence of steam.

The loadout activities are required to be “satisfactorily enclosed” except for the truck entrance and exit points. The green siding encloses both sides of the truck loadout area under the silos and is flush with the tops of the trucks. Although the enclosure is only partial, this is satisfactory for meeting the enclosure requirements, particularly from a safety standpoint.

**FGFACILITY**

FGFACILITY takes into account all emissions sources and restricts HAP emissions to 9.0 tpy for each individual HAP and 22.5 tpy for aggregate HAPs. The primary HAPS emissions are those pollutants listed in the emission unit summary table, except for the criteria air pollutants. Records from January 2021 – April 2023 were reviewed. The 12-month period with the highest aggregate HAPS emissions was from July 2021 – June 2022. Table 4 contains a summary of July 2021 - June 2022 12-month rolling emissions for individual and aggregate HAPs.

Hydrochloric acid predominantly contributed to the aggregate HAPs emissions at 6.1 tons for the 12-month rolling period.

**Table 4.** July 2021 – June 2022 12-month rolling emissions.

HAP	Individual	Compliance with HAP limits?
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	(tpy, 12-month rolling)	
Lead	3.9E-3	Yes
Benzene	2.6E-1	Yes
Ethyl benzene	1.29	Yes
Xylene	2.6E-1	Yes
Toluene	1.6	Yes
Naphthalene	2.6E-1	Yes
Formaldehyde	2.6	Yes
Acrolein	2.1E-1	Yes
Arsenic	3.9E-2	Yes
Nickel	1.7E-2	Yes
Sulfuric acid	3.9	Yes
Hydrochloric acid	6.1	Yes
Manganese	1.3E-2	Yes
<b>Total Aggregate HAPs (tpy, 12-month rolling)</b>	<b>12.6</b>	<b>Yes</b>

**Compliance Statement:** Spartan Asphalt appears to be in compliance with PTI 804-87I at this time.

NAME Michelle Luplow

DATE 8/30/23

SUPERVISOR RB