

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

ACTIVITY REPORT: Scheduled Inspection

N176149575

FACILITY: Michigan Paving and Materials - Spartan Asphalt		SRN / ID: N1761
LOCATION: 16777 Wood Street, LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: CLINTON
CONTACT: John Peters , Division Manager		ACTIVITY DATE: 06/12/2019
STAFF: Michelle Luplow	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled, unannounced inspection of Spartan Asphalt to determine compliance with Opt-out PTI #804-87H.		
RESOLVED COMPLAINTS:		

Inspected by: Michelle Luplow

Personnel Present: John Peters (jpeters@mipmc.com), Division Manager
Jaired Sweet (jaired.sweet@mipmc.com), Plant Operator

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

Purpose: Conduct an unannounced, scheduled, partial compliance evaluation (PCE) inspection by determining compliance with Spartan Asphalt's Opt-Out Permit No. 804-87H. 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 July 2015.

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.

Crumb rubber asphalt has also been used at this site. J. Peters explained that crumb rubber becomes the aggregate portion of the asphalt mix. It gets 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.

J. Peters said that Spartan Asphalt generally fires up the plant the 3rd or 4th week of April and operates until Thanksgiving, but that this operating season length depends on weather and the workload, which is driven by sales and customers. For the 2019 operating season, J. Peters said operations started on April 22, 2019.

Spartan Asphalt is an opt-out facility for HAPs.

Inspection: At approximately 9:00 a.m. on June 12, 2019, I arrived at Spartan Asphalt and met with John Peters, Division

Manager. I provided J. Peters with a copy of the "January 2017 Permit to Install Exemptions Handbook." Table 1 contains a list of all equipment currently onsite.

Table 1. Equipment List

Equipment	Description	PTI/ Exemption	Installation dates	Modification dates
EUHMAPLANT	650-ton/hr counter flow drum dryer/mixer with fabric filter dust collector	804-87H/ NA	2008 or 2009	NA
EUYARD	Fugitive dust sources including plant roadways, plant yard, material storage piles, and material handling operations (excluding cold feed aggregate bins)	804-87H; NA	NA	NA
EUACTANKS	Install of 5 new 35,000-gallon AC tanks to replace the tanks permitted under 804-87H. 1 new 15,000 gallon asphalt emulsion tank	804-87H; Rule 284(2)(i)	March 2018	NA
EUSILOS	Ten (10) hot mix asphalt paving material storage silos	804-87H/ NA	NA	NA
Diesel storage tank	Double-walled diesel storage tank with 10,000-gallon capacity; used to fuel plant vehicles	NA/ Rule 284(2)(d)	2012 or 2013	NA
Oil heater	2 MMBtu/hr Natural gas-fired, used to indirectly heat oil which maintains temperatures in the liquid AC tanks	NA/ Rule 282(2)(b) (i)	NA	NA
Generators	Portable generators are used for road crews, there are no generators installed onsite.	NA	NA	NA

EUHMAPLANT

The hotmix asphalt plant was operating during the inspection. 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 SO₂, both determined on a 12-month rolling period, as determined at the end of each calendar month and is required to keep monthly and 12-month rolling records of all criteria pollutants and TACs. Spartan 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 2018 – June 2019 (attached).

I reviewed 2017, 2018 and January 2019 – May 2019 12-month rolling data and found emissions for CO and SO₂ to meet their 12-month rolling emission limits for those periods; Table 2 shows the 12-month rolling data for June 2018 – May 2019. 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. **However**, during the 2015 inspection S. Hanf had provided me with emission calculations that were based on AP-42 emission factors for using natural gas as fuel (as opposed to the recycled used oil (RUO) that the permit limits are based on or the 2007 stack test values, also based on RUO). The permit only allows for either stack test data emission limits or permit emission limits to be used as emission factors. During the 2015 inspection, I explained this to S. Hanf who revised the excel spreadsheets to reflect emissions based on the permit limits rather than AP-42 emission factors. At that time I had mentioned that if they wish to use something other than stack test data or Emission Limit Table emission factors, they must apply for a PTI modification of their existing permit to incorporate that flexibility. During this inspection I found that Spartan Asphalt uses a combination of the AP-42 and Emission Limit Table emission factors to calculate emissions; therefore, compliance for emissions is pending. Spartan Asphalt was made aware of appropriate emission factors at the past inspection, and it was expected they should have

corrected the calculation sheets moving forward. They did not and therefore they have been given a limited amount of time to correct all 2018-2019 calculated emissions. A PCE for record review will be conducted once new calculations have been submitted to revisit the compliance status.

Table 2. 12-month rolling (June 2018 - May 2019)

Pollutant	12-month rolling total (tons)	Emission Limit (12-month rolling tpy)
CO	34.5	89.9
SO ₂	0.9	89.9
PM	8.7	NA
NOx	7.1	NA
Pb	2.0E-4	NA
Benzene	1.0E-4	NA
Toluene	5.4E-2	NA
Ethylbenzene	7.5E-2	NA
Xylene	5.5E-2	NA
Naphthalene	2.6E-2	NA
Formaldehyde	8.3E-1	NA
Acrolein	1.9E-3	NA
arsenic	1.5E-4	NA
Nickel	1.7E-2	NA
Sulfuric acid	3.6E-2	NA
Manganese	2.1E-3	NA
HCl	0.0	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.

Table 3: 2007 Stack Test Results based on RUO fuel

Pollutant/TAC	Stack Test Result (lb/ton)	Emission Limit (lb/ton)	Compliant?
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) and 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. 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 onsite 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 Recycle.

RAP is limited to a maximum of 50% in the hot-mix asphalt (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 2017, 2018 and January – May 2019 containing the total HMA produced that contains RAP and the Total RAP aggregate used on a monthly basis to calculate the average percent RAP used monthly (attached). They also track tons of RAP HMA produced and tons of RAP aggregate used on a daily basis (example attached) I spot-checked a few daily records to verify that the daily records added up to the monthly records. **The highest percent RAP used during 2017, 2018 and 2019 was 38% in May 2016.**

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 basis. S. Hanf provided me the daily, monthly and 12-month rolling total HMA records for 2017, 2018 and 2019 (through May), which were reviewed for compliance. The highest quantity of HMA produced during these 12-month rolling periods was **548,212 tons** from May 2018 – April 2019 (see attached).

Spartan Asphalt is also limited to 650 tons per hour, based on a 24-hour rolling time period, as determined at the end of each hour. S. Hanf stated that they do not calculate the number of tons they produce per hour to create an hourly value. Rather, they calculate total tonnage produced per day and divide this number by the number of hours operated per day to get an hourly average. PTI 804-87G allowed for this daily average, but the requirement changed in PTI 804-87H, the current permit. This was changed because during permitting it was determined that Spartan Asphalt had the capability of recording hourly throughputs electronically. S. Hanf stated that they will apply for a permit modification as other MPM facilities have hourly averages, and J. Peters stated that Spartan Asphalt is interpreting the condition differently. I will work with J. Peters and S. Hanf to determine their capabilities and whether a violation should be pursued; applying for a permit modification may not resolve the issue. For the interim, review of 2017, 2018 and 2019 hourly numbers, averaged over a day are below the 650-ton per hour limit, the highest daily average being 469 lb/hr on 9/12/18 and 477 lb/hr on 7/7/17. Attached are the 2019 hourly records.

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

The **Fugitive Dust Plan** (Appendix A in permit) is required to be implemented and maintained for EUYARD if Spartan Asphalt wishes to operate the plant. During the inspection I took into consideration the fact that every other day for the past month the Lansing area has had rain events. Rain events can cause significant track out occurrences because the unpaved portions of the road are constantly wet while trucks maneuver over these areas, which causes constant track out that is challenging to maintain. This inspection was conducted 2 days after the last rain event. Dust issues were expected to be present.

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 also 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. Spartan Asphalt, however, has not started any dust control measures for this operating season at the time of the inspection. During the inspection I observed that the paved roads were covered with a layer of dust, that was generating fugitive dust when truck traffic passed over it. Considering the consistent periods of rain the area has had, I allowed Spartan Asphalt until the end of the week to send a vacuum truck to take care of the paved areas of the road. Two days after the inspection (6/14/19), J. Peters sent me photographic evidence (attached) that a vacuum truck, also equipped with water, was being used to clean the paved roadways. This is considered acceptable to achieve compliance with the requirement to maintain paved

roads appropriately.

In addition to paved plant roadways, I also asked J. Peters about the track out that occurs on Wood Road. There was no track out from Spartan Asphalt's road onto Wood Road, but considerable track-out from the Granger Wood Street Landfill was observed before and after the inspection (which were addressed internally with the Materials Management Division and the Wood Street Landfill). J. Peters said that Spartan Asphalt and Granger have an arrangement for how to maintain Wood Road from any track-out that their facilities cause. He said that their goal between the two of them, is to sweep Wood Road several times per week.

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 not wetted or controlled in a way to minimize fugitive dust. Opacity was in excess of 5% each time vehicular traffic moved across the unpaved surfaces. I explained to J. Peters that the condition of the unpaved surfaces was noncompliant with this requirement but noted that due to the rainy weather I understood the challenges of maintain roads. I requested that dust control should be applied to the unpaved surfaces before the end of the workday in order to get back into compliance. J. Peters sent me photos at 1:37 p.m., approximately 40 minutes after I had left the facility, of a front-end loader applying bucketsful of water on the unpaved portions of the road (attached). This is considered acceptable for managing the fugitive dust that was seen during the inspection. J. Peters is aware of the requirement to maintain unpaved roadways to less than 5% and it is expected of Spartan Asphalt to be in compliance with this condition moving forward and for future inspections. He said that when water is not sufficient for control they apply calcium chloride.

Aggregate spillage of any kind on the roads is required to be removed immediately. Throughout the plant yard I noticed spillage on the roads. They were working on cleaning up the spillage throughout the site during the inspection. I informed J. Peters of the requirement to ensure all spillage is cleaned up immediately in order to prevent trackout and he stated that he would work with plant yardsmen to address this issue and ensure a cleaner yard in the future.

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."

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 multiple times that the front-end loader bucket was being overfilled – material was continuously being spilled out for each transfer of material (from piles to feed bins). I pointed this observation out to J. Peters and explained to him the need to inform the operators that buckets should not be overfilled in order to prevent spillage on the plant roads and thus create the potential for fugitive dust. He acknowledged this observation and said he would work with the operators to minimize overfilling of the loader buckets. As noted previously, the front-end loader met the requirement to minimize drop height distances.

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 H₂O and no greater than 10 in H₂O. During the inspection, the instantaneous pressure drop reading was 3.69 in H₂O. The pressure drop is continuously monitored in the control room via digital readout. I reviewed the 2017, 2018 and 2019 daily production records that S. Hanf provided. Pressure drops were recorded once per day for each of these years and all recorded pressure drops were within the permitted 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. Jared Sweet, control room operator, told me that the set-point is 420°F and said that if the inlet temperature reaches 420°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 during the inspection was 234°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. J. Sweet said that all of the particulate that is captured in the fabric filter dust collector is collected and then put back into the process (closed-loop system). They do not dispose of any particulate.

VISIBLE EMISSIONS AND ACTIONS TO BE TAKEN

Spartan Asphalt is required to cease operations if visible emissions are seen and there is no Method 9 certified reader available within 60 minutes of seeing the emissions. J. Sweet said that he is not aware of any visible emissions emitting from the stack so far this operating season and stated that daily inspections are conducted and the stack is observed throughout the day. I observed only steam being emitted from the stack during the inspection.

BLACK LIGHT INSPECTIONS

A black light test is required to be conducted at least once per year before operations for the paving season begin 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. During the inspection J. Sweet said that the black light test was conducted on April 23rd, with powder injection on April 22nd. The records provided by S. Hanf (attached), reflect this information, as well as the time and the findings (no leaks, no bags needed to be replaced). J. Sweet explained that the plant is run hot because when the plant gets hot, equipment expands, and therefore cracks and openings will become more evident. The blacklight test is then conducted once the system cools down (the following day).

Black light inspection materials are required to be available during the paving season. J. Sweet said they keep the blacklight powder and blacklight in a storage container onsite.

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. For the start of the paving season through the time of inspection, Spartan had conducted a black light test with no need to replace baghouse bags. The blowpipes and diaphragm valves were inspected on April 23rd, with no need to perform maintenance as a result of the inspection. There was no documentation that significant maintenance activities had been conducted, implying that no significant maintenance was required this operating season to-date.

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 and said he is currently working on developing a hard copy checklist of all daily walkthrough items, which he said can be provided at future inspections. J. Peters verified that the requirements under "Description of Inspected Items" in Appendix C are addressed during the daily walkthroughs. J. Peters said both he and J. Sweet will walk the plant yard to check for opacity, and other plant personnel are responsible for checking on the cold feed bins and other aspects of the plant and plant yard. These daily walkthroughs are conducted more than once per day.

In the winter J. Peters said J. Sweet will inspect all components of the plant and identifies those items that are in need of major repair, including feeders, inside the drum, etc, and baghouse maintenance. This meets the requirement to conduct thorough inspections of the baghouse control unit before the paving season starts.

Spartan Asphalt's Mix Change spreadsheets which J. Sweet maintains, also include a checkbox to ensure the morning walkthrough has been conducted. J. Sweet provided me records for 6/3/19 – 6/8/19 showing the checks that the daily morning walkthroughs have been conducted (see attached).

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 also keep over 100 baghouse bags in inventory, in addition to 8 tubs of blacklight powder (4-5 tubs are used for the blacklight test), and 2 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. J. Sweet said they haven't used RUO in 8-9 years.

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.

The startup CO emissions measurements were taken on April 22, 2019 at 1:32 p.m. (see attached for record). A total of 8 readings were taken. The PTI does not specifically require that Spartan Asphalt record the time at which each reading was taken, rather just the "dates and times emissions were monitored." I will work with the company to ensure that each emission data point has a time associated with it to ensure that the readings were taken over a 30-minute period for future inspections.

Each recorded reading on 4/22/19 was below 500 ppmv, with the highest reading at 449 ppmv. The spreadsheet is attached containing all 8 readings. Additional CO measurements were taken on 5/15/19 for maintenance. All 8 readings for the 5/15/19 test were also under 500 ppmv, the highest reading at 131 ppmv. Based on the "Daily Production Log" electronic spreadsheet, the total hours of operation from the start of the paving season through June 11, 2019 was 312.9 hours, and therefore no other CO readings are required until 500 operating hours have been reached. The production data and emissions data for the day of the CO emissions should also be recorded, which is included in the "Daily Production Log."

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. S. Hanf keeps the electronic spreadsheets of daily RAP and virgin aggregate feed rates on a ton/day basis. Spartan Asphalt continuously monitors the instantaneous feed rates directly from their computer program in the control room. J. Sweet explained that the feed rate varies depending on the mix that they are creating that day.

In addition to the feed rates, Spartan must also keep a daily intermittent record 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. Attached are 6/3/19 – 6/8/19 mix design records.

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 2018 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. Sweet said that there are charcoal filters 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. Sweet explained that the carbon has to be manually replaced, but this would take many years before the carbon breakthrough point was reached. J. Peters said he would look into the replacement schedule for carbon based on manufacturer

recommendations. I did not detect any odors from the AC tanks during the inspection.

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

During the inspection I watched the loading of several trucks. Winds were out of the south at 13 mph and I observed steam mixed with opacity blowing out from the load-out area to the north during the inspection. Watching from the back end of the load-out area I also noticed the capture efficiency of the blue smoke/opacity was less than 100%. I pointed this out to J. Peters who said that he would look into the emission capture system for the silo loadout to ensure emissions are efficiently captured. J. Sweet said that he currently only uses the vacuum/control on the entry and exit points of the silo loadout emissions capture system, although there are multiple points within the loadout area that also control the emissions. I will work with the company to ensure appropriate capture is addressed and recommend that all locations within the silo loadout that are equipped will emission capture controls be utilized. As it stands now, it appears that the emissions control system is underutilized.

The emissions captured from truck load-out are sent to a large particulate filter which is comprised of fabric prefilters and 12-inch thick filters before exhausting to ambient air. I saw no signs of opacity from this control unit.

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.

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 HAPS regulated under this permit are all pollutants listed in the emission unit summary table, except for the criteria air pollutants.

As discussed under EUHMAPLANT for emissions calculations, Spartan Asphalt does not use stack test results, nor the Emissions Limits Summary table emission factors to calculate HAPs, but rather AP-42 for natural gas drum dryers. I will request that 2017, 2018 and 2019 records be corrected with the appropriate emission factors. Their emissions will be re-reviewed at that time. Spartan Asphalt is required to use the appropriate emission factors, and if this is not corrected it may result in violation notices at future inspections.

Table 4 contains a summary of June 2018 – May 2019 12-month rolling emissions for individual and aggregate HAPs, as Spartan Asphalt has reported them (AP-42 natural gas emission factors) (see attached for actual records).

Table 4. June 2018 – May 2019 12-month rolling emissions.

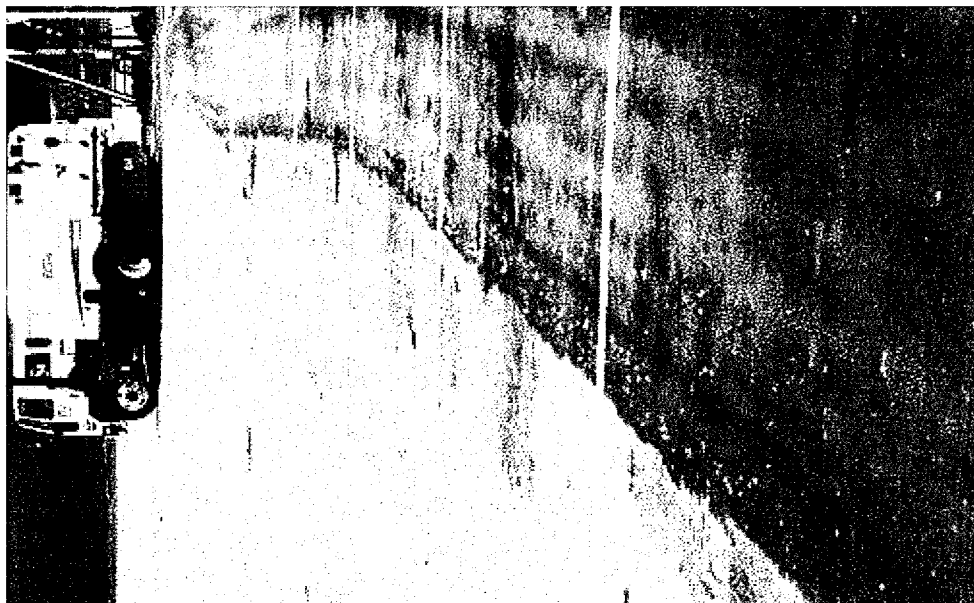
HAP	Individual (tpy, 12-month rolling)	Compliance with HAP limits?
Benzene	1.0E-4	Yes
Ethyl benzene	7.5E-2	Yes
Xylene	5.5E-2	Yes
Toluene	5.4E-2	Yes
Naphthalene	2.6E-2	Yes
Formaldehyde	8.3E-1	Yes
Acrolein	1.9E-3	Yes
Arsenic	1.5E-4	Yes
Nickel	1.7E-2	Yes
Sulfuric acid	3.6E-2	Yes
Hydrochloric acid	0.0 (5 tpy at last	Yes

	inspection)	
Manganese	2.1E-3	Yes
Total Aggregate HAPs (tpy, 12-month rolling)	1.2	Yes

Compliance Statement: Spartan Asphalt appears to be in compliance with PTI 804-87H, pending the aforementioned deficiencies in recordkeeping, loadout control, and hourly emissions calculations.



Image 1(Wet Vacuum Truck) : Vacuum truck cleaning dusty roads



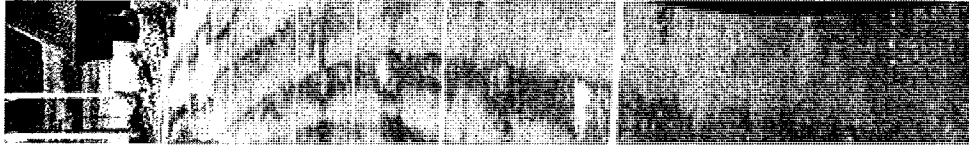


Image 3(Load-out area) : Partially enclosed load-out area

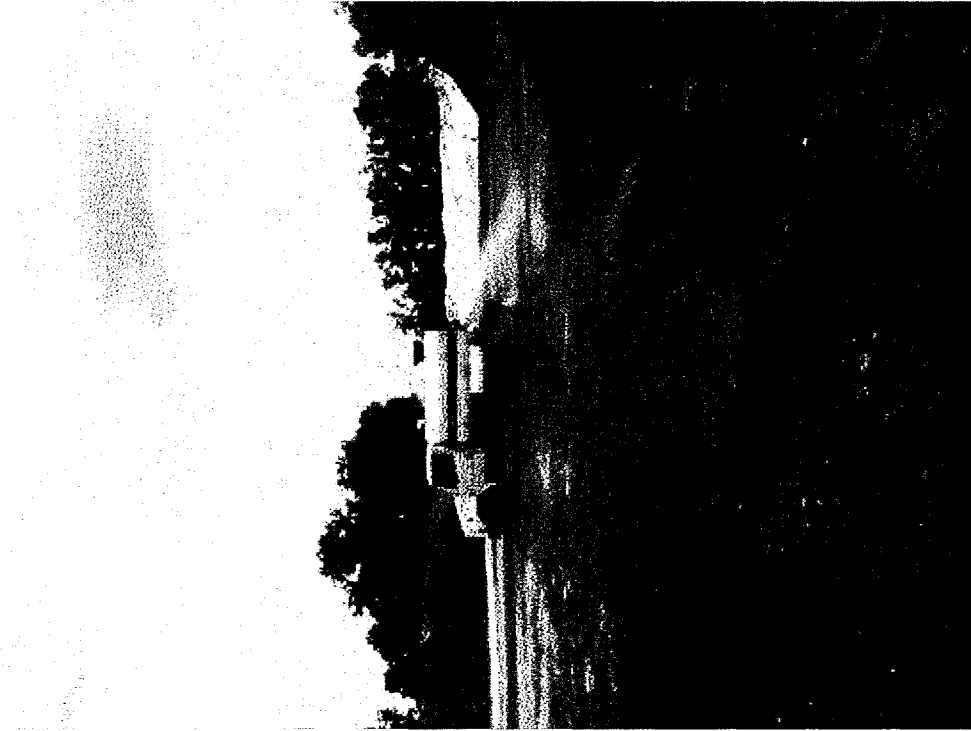


Image 4(Water Truck) : Used to control unpaved plant yard

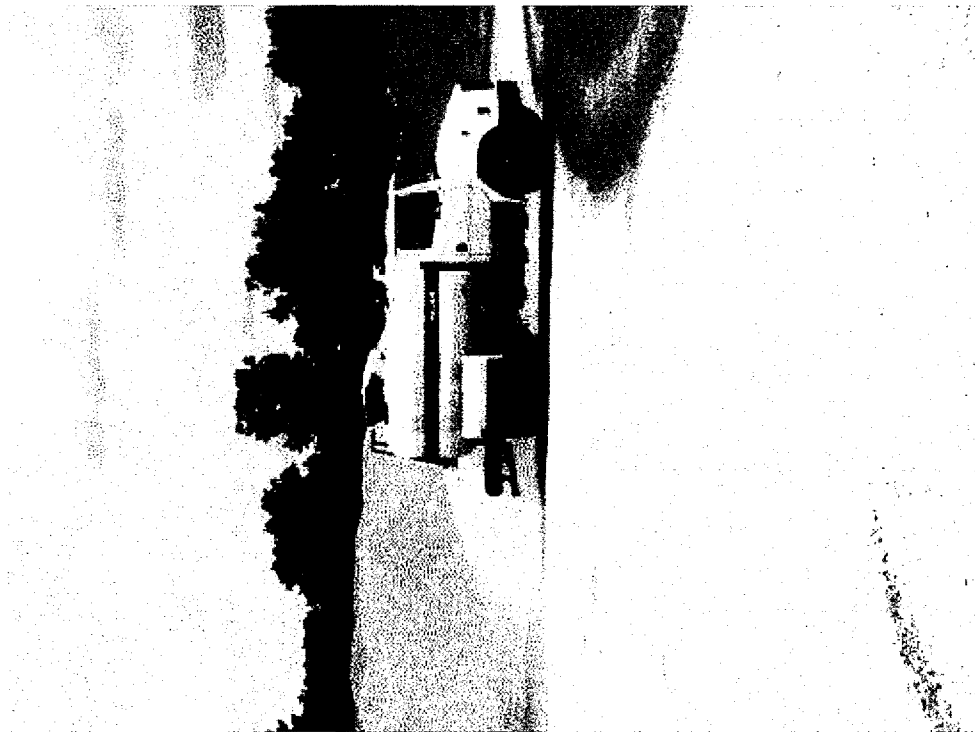


Image 5(Water Truck #2) : Note dry, dusty unpaved plant yard. Water truck used to control unpaved road dust.

NAME Walter Spivey

DATE 7/17/19

SUPERVISOR [Signature]