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

B582359032

FACILITY: AJAX MATERIALS CORP		**SRN / ID:** B5823
LOCATION: 7392 KENSINGTON RD, BRIGHTON		**DISTRICT:** Lansing
CITY: BRIGHTON		**COUNTY:** LIVINGSTON
CONTACT: Kathleen Anderson , President		**ACTIVITY DATE:** 07/26/2021
STAFF: Daniel McGeen	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Unannounced, scheduled, on-site inspection.		
RESOLVED COMPLAINTS:		

On 7/26/2021, the Michigan Department of Environmental Quality (DEQ), Air Quality Division (AQD), conducted an unannounced, scheduled onsite inspection of the brand new Hot Mix Asphalt (HMA) plant known as Ajax materials Plant 6. This inspection was conducted as a Partial Compliance Evaluation (PCE) activity, part of a Full Compliance Evaluation (FCE).

Environmental contacts:

Kathleen Anderson: President, Axis Environmental Consulting Corp.; 810-845-3925; kanderson@ajaxpaving.com

Facility description:

This facility is a 2018-installed Hot Mix Asphalt (HMA) plant, equipped with a counterflow drum dryer, and a truck loadout and silo control system. It also has a cyclone, a larger baghouse, and an exhaust stack taller than the previous plant had. The facility has a paved yard area, and paved roadways. There are also aggregate storage piles onsite, and unpaved yard areas. The old plant which was at the site was removed, prior to installation of the new one.

Emission units:

Emission Unit ID	Emission unit description	Permit or exemption	Operating status
EUHMAPLANT	Hot Mix Asphalt (HMA) facility including: Aggregate conveyors, 500 tons per hour counterflow drum mix plant, and fabric filter dust collector. HMA includes Warm Mix Asphalt.	PTI No. 76-17	Compliance
EUYARD	Fugitive dust sources including: Plant roadways, plant yard, material storage piles, and material handling operations (excluding cold feed aggregate bins).	PTI No. 76-17	Compliance
EUACTANKS	Liquid asphalt cement (AC) tanks, with vapor condensation and recovery systems.	PTI No. 76-17	Compliance
EUSILOS	HMA paving material product storage silos.	PTI No. 76-17	Compliance

FGFACILITY	**All process equipment source-wide, including equipment covered by other permits, grandfathered equipment, and exempt equipment.**	**PTI No. 76-17**	**Compliance**

*** An *emission unit* is any part of a stationary source that emits or has the potential to emit an air contaminant.**

Regulatory overview:

This new-as-of-2018 facility has an opt-out permit, Permit to Install (PTI) No. 76-17, which limits the facilitiy's potential to emit (PTE) for carbon monoxide (CO). CO is the limiting pollutant; that is, the criteria pollutant which the plant has the highest potential to emit (PTE). The other criteria pollutants have lower PTE, and thus TPY permit limits were not needed. These pollutants include nitrogen oxides (NOx), sulfur dioxides (SO2), volatile organic compounds (VOC), particulate matter (PM), and lead. Lead emissions are limited in the PTI from an air toxics standpoint. Limiting the plant's PTE for CO keeps it from becoming a major source subject to the Renewable Operating Permit program. The facility is not considered to be a major source for Hazardous Air Pollutants (HAPs), because it does not have the PTE to emit 10 TPY or more of a single HAP, nor the PTE to emit 25 TPY or more of all HAPs combined.

The plant is subject to 40 CFR Part 60, Subpart I, *Standards of Performance for Hot Mix Asphalt Facilities*. This is also known as the New Source Performance Standards (NSPS) for HMA plants. The plant conducted required NSPS particulate and opacity testing, on 8/30/2018.

The plant is allowed to use up to 50% Recycled Asphalt Pavement (RAP) and Recycled Asphalt SHingles (RAS) content in the PTI. The plant is also allowed to utilize Recycled Used Oil (RUO) as a fuel type, but no RUO tank has been built at the site, as they have no stated plans to use RUO in the foreseeable future.

The PTI No. 38-90C, for the previous plant at this site, was voided, following notice by the company on 5/17/2018 of the startup of the new plant. The previous plant was removed from the site, prior to construction of the new plant.

Fee status:

This facility is classified as a Category D fee source, because it is subject to an NSPS (Subpart I), *Standards of Performance for Hot Mix Asphalt Facilities*.

The facility is required to submit a Michigan Air Emission Reporting System (MAERS) report each yeart.

Location:

This facility is located in an industrial park, at the west end of Ajax Drive, a private drive off of the west side of Kensington Road. To the north are several industries of various types, including a concrete batch plant. To the east are a few industries along Ajax Drive, including another aggregate industry, a concrete crusher. Further east is land which is part of a state park. To the west is a solid waste transfer station. Further west there is wooded land which is part of a state park. To the south are businesses, and residential areas. The closest residences to the HMA plant are roughly 1,400 feet to the southwest, and 2,000 feet to the southeast. There is a residential subdivision to the east southeast, and an industrial park to the southeast.

Plant history:

An HMA plant with a parallel flow drum dryer was permitted at this site in 1979, under PTI No. 254-79. The permit underwent minor revisions, to allow for use of RAP, to change a fan location, and a modification to a venturi scrubber. The drum dryer was kept when the plant received a new PTI, No. 38 -90, for replacement of the venturi scrubber and a demister with a baghouse. That PTI underwent

revisions to allow for the use of Nos. 2 through 6 fuel oils and Recycled Used Oil (RUO) as fuels for the drum dryer, and to revise the Compliance Monitoring Plant for RUO.

During the years 2000 through 2012, no air pollution complaints were received, regarding the existing parallel flow drum plant under PTI No. 38-90C. Starting in 2013, AQD began to receive intermittent complaints, attributing odors, downwashing emissions of either blue smoke or steam from the exhaust stack, and fallout of particulate emissions to this plant. AQD investigated these complaints. Fallout samples were collected by AQD staff, but results were inconclusive. Odors were sometimes detected offsite, but the odor levels experienced by staff were insufficient to constitute a violation of Rule 901(b), which prohibits unreasonable interference with the comfortable enjoyment of life and property.

On 5/11/2017, AQD received PTI Application No. 76-17, to replace the existing HMA plant with a new, state -of-the-art HMA plant. The permit application underwent the New Source Review process, and a public comment period was held, in which the US EPA submitted comments. AQD addressed the comments that were made, and the new opt-out PTI, No. 76-17, was issued on 11/3/2017.

The new plant includes a counterflow drum dryer, a drum design type which has proven effective at eliminating blue smoke emissions and reducing odor levels offsite, in AQD's experience, when replacing HMA plants equipped with parallel flow drum dryers. The new plant also has a truck loadout and silo control system, to capture and control emissions from those areas of the plant, which the previous plant did not have. It also has a cyclone, and a larger baghouse, rated at 110,000 air cubic feet per minute (acfm). The baghouse exhausts to a 120 foot tall stack. It is my understanding that the previous stack was 70 feet tall, although one facility contact has said that it was 60 feet.

<u>Recent history:</u>

On 7/19/2021, I had done an odor evaluation in the area around the plant, documented in a separate activity report. Although odors were detected offsite, they were not at levels sufficient to cause a violation of Michigan Air Pollution Control (MAPC) Rule 901(b), which prohibits unreasonable interference with the comfortable enjoyment of life and property.

I attempted to conduct an unannounced inspection on 7/19/2021, but the plant was shutting down as I was arriving. Ajax Operations Manager David Grabowski explained that they were running a special limestone mix, and limestone dust had locked up a vane feeder. It appeared it might be some time before the plant would be able to resume operating, and I left the area at that time.

On 9/20/2021, I contacted Mr. Grabowski and Ajax's environmental consultant, Ms. Kathleen Anderson, President of Axis Environmental Consulting Corp., to confirm that this vane feeder was not part of the drm dryer, as a drum dryer malfunction would have triggered a requirement to conduct CO monitoring. Mr. Grabowski indicated that this was not a drum dryer malfunction, but a malfunction of the vane feeder which was feeding the drum dryer.

<u>Stack testing:</u>

Stack testing of this new HMA plant wais required pursuant to the NSPS Subpart I, and the PTI No. 76-17. Testing for NSPS particulate and opacity was conducted on 8/30/2018. Results indicated compliance. Particulate was below the NSPS grains/dscf limit and the lbs/ton HMA limit in the PTI. Opacity was 0.2%, below the 20% opacity limit of the NSPS and Rule 301.

<u>Safety attire required:</u>

Hard hats, safety glasses with side shields, steel-toed boots, and high visibility safety vests. I also wore a disposable paper mask, to reduce the risk of transmitting the coronavirus during the ongoing COVID-19 pandemic.

<u>Arrival:</u>

This was an unannounced compliance inspection.

As I drove south on Kensington Road, I conducted an odor evaluation to determine if there were any offsite odor impacts. Please see attached odor evaluation form, map, and summary of weather data.

The 0 to 5 odor scale used by AQD is as follows:

Level	Description
0	Non-detect
1	Just barely detectable
2	Distinct and definite
3	Distinct and definite objectionable odor
4	Odor strong enough to cause a person attempt to avoid it completely
5	Odor so strong as to be overpowering and intolerable for any length of time

Odors were detected during the odor evaluation, as follows:

- 8:49 AM, on Emerson R., a wet earth smell was detected.
- 8:56 AM, on Kensington Rd, north of Ajax Dr., a level 1 odor was detected, but was too faint to assign a character to it.
- 8:56 AM, at Kensington Rd.'s intersection with Silver Lake Rd., a level 1 disel exhaust was detected, suspected to be from a truck.
- 8:57 AM, on SIlver Lake Rd., east of Kensington Rd., a level 1 odor was detected, but was too faint to assign a character to it.
- 8:59 AM, at the end of Wellington, a level 1 odor of vegetation was detected.
- 9:01 AM, at the intersection of Kensington Rd. and Kensington Ct., a level 2 odor of burnt rubber was detected. It was not asphaltic in nature.
- 9:06 AM, at a bend in Kensington Ct., a level 2 diesel exhaust odor was detected. Trucks were idling along the shoulder of the road.
- 9:07 AM, on SIlver Lake Rd., east of the railroad tracks, a level 1 diesel exhaust odor was detected.
- 9:11 AM, on Silver Lake Rd., at the railroad crossing, a level 1 odor like manure was detected. The source was unknown.

These odors which I detected offsite could not be considered to be asphaltic in nature. Trucks were suspected to be the source of the diesel exhaust odors, and possibly the burnt rubber odor. A source for the manure odor was unknown. Odors too faint to have an identifiable character could not be identified as coming from any particular source. No violation could be determined of Rule 901(b), which prohibits unreasonable interference with the comfortable enjoyment of life and property.

There were no odors as I drove west on Ajax Drive. I arrived at the site at 9:13 AM. The plant was running at the time. There was an attached steam plume from the plant exhaust stack, with no discoloration, and with no particulate emissions after the steam plume breakoff point. I noted that there appeared to be puffs of steam from the RAP collar of the counterflow drum dryer, where RAP was being fed by conveyor into the drum.

From the car, I called Ajax;s consultant, Ms. Kathleen Anderson, President, Axis Environmental Consulting Corp. and explained that I was at the site, to do an unannounced inspection. She advised me to go on up to the control tower, but cautioned me not to walk around the site, because they were short-staffed that day, and could not spare someone to accompany me around the site, from a safety standpoint. She advised that she would drive out to the site as soon as she could, to meet me in about 20 minutes.

I went up the external stairway to the plant control tower, and met with the Primary Plant Operator, Mr. Steve Neifert.

Inspection:

I was informed that there had been heavy rains two days prior, on 7/24. Moisture appeared to be draining out of the aggregate piles of virgin material. The unpaved roadways and yard areas showed the brown color characteristic of calcium chloride. Calcium chloride is an approved dust suppressant, as is water. The paved plant yard and roadways appeared to have been recently swept.

Operating data related to the air permit was collected during the inspection, as follows.

Time	9:26 AM
Production rate TPH	367
Virgin aggregate TPH	258
RAP/RAS TPH	92
RAP/RAS % of total mix	25.06%
Baghouse pressure drop " w.c.	2.8

Fugitive emissions check:

Source	Fugitive emissions?
Drum dryer	Steam from RAP collar
Burner	None
Virgin aggregate feed system	None
Virgin aggregate screen deck	None
RAP/SHRAP feed system	None
Ductwork	None
Cyclone	None
Baghouse	None
Liquid AC tanks w/condensers	None
RUO tank	None, tank not installed

Drag slat conveyor	None, until drum emptied out through discharge chute**
Top of silos	None
Truck loadout	None
Paved roadways	None
Unpaved roadways	None

*** Puffs of steam were observed from the RAP collar. I was informed that this is because of the currently high moisture content in the RAP. I was told that the water in the RAP heats up so quickly that it causes individual chunks of RAp to explode.**

**** At about 9:45 AM, the plant ceased production for the day, and I was advised that this was an unusual day, due to light orders for paving material. The remaining contents of the counterflow drum were gradually emptied, via the drag slat conveyor's discharge chute, into a waiting truck. I was informed that the collected materials would be added to the RAP pile onsite, for recycling. As seen from the control room, the fugitve emissions were backlit by the sun, which exaggerated the opacity, and a reliable emission estimate could not be made.**

As seen from the control room, the blue smoke control system, which serves as the control device for the truck loadout and top-of-silo capture systems, had backlit emissions of steam or blue smoke. Although Ms. Anderson was not yet onsite, I asked the operator, Mr. Neifert, if they would be okay with me going to the blue smoke system by myself. Mr. Neifert indicataed that he could come with me, now that the plant had stopped production.

We approached the blue smoke control system, which I have been advised is a proprietary design, using different filtration materials for different stages. I observed 3 tote containers of collected hydrocarbons from the unit, and 3 empty ones nearby.

With the sun at my back, I observed what appeared to be a steady 5% opacity of blue smoke from the blue smoke control system, while using a shadowed portion of a product storage silo as my viewing backdrop. The 5% opacity looked like it would not exceed the limit of MAPC Rule 301, which prohibits visible emissions from exceeding a 6-minute average of 20% opacity, except for one 6-minute average per hour not to exceed 27%.

From the north truck loadout tunnel, I could not see any fugitive emissions as a truck was loaded with paving material. I was able to detect a distinct and definite scent of asphalt, although it was not clear if the odor source was the loadout tunnel, or the material which had been removed from the drum dryer following the ceasing of production this morning.

I noted that there were no emissions of blue smoke or of steam from the top of the asphalt paving storage silos. The top-of-silo capture system appeared to be working properly.

At this point, Ms. Anderson arrived onsite, and accompanied me during the inspection.

We discussed the blue smoke control device. I was told that replacing the filtration materials relates to the amount of production that is done. I was shown spare filter materials stored in atrailer onsite.

The design of the blue smoke control device is said to be proprietary, and so is not described in detail here.

I was advised that the collected totes of hydrocarbons are taken offsite for recycling or re-refining, at an oil recycler. The collected conndensate is classified as a non-hazardous industrial waste, I was informed.

There were no visible emissions from the liquid asphalt cement (AC) storage tanks, which are controlled by vapor condensation and recovery systems. Please see attached photo 001.

We discussed shingle material, which has in the past been used by the asphalt industry as a recycled material. I was advised that there are no shingles at the site, and it is not clear what the future of recycled shingle use might be in the asphalt industry.

I asked if there was an asphalt emulsion tank onsite. Ms. Anderson indicated that she was not sure, but would get back with me.

A compliance check with the Special Conditions of PTI No. 76-17 follows.

Special Conditions for EUHMAPLANT:

I. EMISSION LIMITS

This condition specifies 21 emission limits in a table. Stack testing would be required in order to verify compliance with these limits. Testing for NSPS particulate was conducted on 8/30/2018. Results indicated compliance. Particulate was below the NSPS grains/dscf limit and the lbs/ton HMA limit in the PTI.

Testing of 13 different toxic air contaminants (TACS) is not automatically required in the newest HMA permits, including this one. The reason for this is that from 2000 through 2012, AQD had 17 different HMA plants undergo stack testing for multiple TACs. The test results were reviewed by AQD. It was found that the emission factors in the HMA permit template are reasonable factors and that an adequate compliance margin existed. Thus, the mandatory testing requirements are no longer included in new HMA permits. The 6/1/2012 AQD document *Eliminating the Mandatory Testing Requirement for Toxic Air Contaminants for Hot Mix Asphalt Plants in Michigan* provides a detailed overview of this subject. This document is included in the engineer's evaluation document for PTI No. 76-17.

II. MATERIAL LIMITS

1. The facility is prohibited from burning any fuel other than natural gas, propane, Fuel Oils Nos. 2 through 6, and recycled used oil (RUO) in EUHMAPLANT. The facility was burning natural gas at this time, and there are no plans to burn RUO in the foreseeable future, I was told. It is my understanding that there is no RUO tank onsite.

Note: The AQD 6/26/2018 inspection activity report for this facility erroneously states there is an unconnected RUO tank onsite.

2. The permittee is prohibited from burning in EUHMAPLANT any hazardous waste, blended fuel oil or RUO containing any contaminant that exceeds the following concentrations or for which the flash point, or ash content, vary from the standards in the following table.

Contaminant	Limit	Units
Arsenic	5.0	ppmw
Cadmium	2.0	ppmw
Chromium	10.0	ppmw
Lead	100.0	ppmw
PCBs	1.0	ppmw
Total Halogens	4000.0	ppmw
Sulfur	1.5	Weight %
Minimum Flash Point	100.0	Deg. F

Maximum Ash Content 1.0 Weight %

As previously mentioned, the facility has no plans to burn RUO as fuel in the foreseeable future. No RUO tank exists at the site, and the company has not expressed interest in installing one.

3. The permittee is prohibited from using any asbestos tailings or waste materials containing asbestos. It is my understanding that they do not use any asbestos tailings or any waste materials containing asbestos.

4. The RAP/RAS content of the asphalt mixture is limited to a maximum of 50% RAP/RAS, based on a monthly average. The content of RAP I saw in use today, based on instantaneous operating data, was 25.01%, indicating compliance with this condition.

5. Production is limited to no more than 895,000 tons of HMA in EUHMAPLANT per 12-month rolling time period, as determined at the end of each calendar month. Per my 9/10/2021 emailed request, Ms. Anderson emailed plant records to me on 9/13/2021, including a 2021 monthly and 12-month rolling total production report. Please see attached.

- As of the end of June 2021 (roughly corresponding to the 6/26/2021 inspection date), the 12-month production was 246,964 tons.08 tons, well below the 895,000 ton limit.
- As of the end of August 2021, the 12-month production was 262,867.97 tons, well below the 895,000 ton limit.

6. The plant is prohibited from a production rate of more than 500 tons per hour (TPH) of HMA, based on a daily average, to be determined by dividing the daily HMA production by the daily operating hours. The instantaneous production rate I recorded during the inspectiotoday was 367 TPH, well below the permitted maximum.

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The facility is required to implement and maintain the Fugitive Dust Control Plan for EUYARD, specified in Appendix A of the PTI. Ms. Anderson provided a copy of their year to date road maintenance activities, please see attached. The record lists numerous dates on which road and yard areas were swept and/or watered. Aggregates were additionally watered, I noted, on numerous dates. It also provides the dates when calcium chloride was used. On 4/1 and 5/13 and 6/10/2021, calcium chloride was applied to the unpaved roads and yard area, the record indicates. Additionally, on 7/20 and 8/6/2021, the yard was chlorided, but not the roads.

It appeared that the facility was following their fugitive dust plan appropriately. Signs of calcium chloride were still visible on unpaved roadways or yard areas, from a previous dust control application(s). During the inspection, I did not witness any fugitive dust being stirred up the wheels of a front end loader and trucks. I was advised that they have installed a sprinkler system which waters the paved onsite roadway, in addition to watering the lawn of the facility, and I was able to observe it operating today.

2. The permittee is required to implement and maintain the Preventative Maintenance Program specified in Appendix B of the PTI.

Appendix B requires a black light test at least once per year, prior to operations beginning for a paving season. AQD, in the newest version of Appendix B, now allows for black light testing to be done within one week of plant startup. The HMA industry had explained to AQD that at the start of a paving season, it takes at least a few days for a "dust cake" to build up on the fabric bags of a baghouse, to "seal" them and improve collection efficiency. Therefore, doing black light testing immediately upon startup would not be efficient.

Ms.Anderson sent records on 9/13/2021, which showed that on 4/10/2021 Operator Steve Neifert performed a black light test and baghouse inspection. Please see attached summary of black light testing results. Zero bags were reported replaced, but auger bearings were said to have been replaced.

3. The permittee shall not operate unless the emission abatement plan for startup, shutdown, and malfunctions specified in Appendix C is implemented and maintained. I have been advised that they follow this.

4. The permittee is required to implement and maintain the Compliance Monitoring Plan (CMP) for RUO specified in Appendix C of the PTI, or an alternate approved plan. They do not have an RUO tank for the site, which means that at present they cannot burn RUO as fuel. I have been advised that they have no plans to burn RUO, in the forseeable future. It is my understanding that due to the high price of RUO, it is much more cost affordable for the asphalt industry to burn natural gas, at this time.

5. The permittee is require to maintain the efficiency of the EUHMAPLANT drum mix burner(s), to control CO emissions, by fine tuning the burners. This is to be done at the start of the paving season, or upon a malfunction of EUHMAPLANT as shown by the CO emission monitoring data.

Pursuant to a request I made, I was sent an example of CO data, which was collected by C. Edwards on 4/19/2021, starting at 7:00 AM. Please see below:

REPLACE WITH UPDATED CO TABLE

CO Reading number	Time on 4/19/2021	CO reading in parts per million (ppm)
1	7:00 AM	130
2	7:04 AM	123
3	7:08 AM	131
4	7:12 AM	106
5	7:16 AM	88
6	7:20 AM	91
7	7:24 AM	99
8	7:30 AM	100

A scanned copy of analyzer printouts was provided, indicating date, fuel (natural gas, stack temperature, ambient temperature, O2, CO2, and draft, in addition to CO readings. .Please see attached.
The above readings are all well below 500 ppmv. The AQD has determined that values should be less than 500 ppmv to ensure that EUHMAPLANT is operating properly, and the facility is complying with this limit.

IV. DESIGN/EQUIPMENT PARAMETERS

1. The fabric filter dust collector, or baghouse, is required to be installed, maintained, and operated in a satisfactory manner. Satisfactory operation is said to require a pressure drop range between 2 and 10 inches of water column (w.c.), and the minimum pressure drop is prohibited from being less than 2 inches w.c., except when a large number of bags have been replaced or other reason acceptable to AQD. Currently, pressure drop was 2.8 inches w.c., within the acceptable range.

During the inspection, there were no visible emissions (other than steam) from the baghouse exhaust stack. The instantaneous pressure drop reading obtained from the control room computer was 2.8 inches, w.c.. The baghouse appeared to be operating properly, at this time. The Dust-Eater brand baghouse uses a pulse jet cleaning mechanism to clean an entire row of bags at a time, as I understand it.

None of the 924 bags were replaced at the start of the season, following a suuceesful black light test. I asked to see a bag, as an example of the spare parts they keep in inventory. Please see photo 002.

V. TESTING/SAMPLING

1. EUHMAPLANT is required to undergo stack testing for particulate emission emission rates within 60 days after achieving maximum production rate of HMA, but not later than 180 days after commencing trial operation, pursuant to 40 CFR Part 60, Subpart I, Standards of Performance for Hot Mix Asphalt Facilities. Stack testing for NSPS particulate took place 8/30/2018, and was observed by AQD. Results complied with the particulate limit.

2. This condition states that verification and quantification of emissions may be required, if the facility is notified to do so by the AQD District Supervisor. Such testing could include PM10, PM2.5, CO, SO2, NOx, lead, and the following TACs: acrolein, arsenic, benzene, ethylbenzene, formaldehyde, lead, manganese, naphthalene, nickel, sulfuric acid mist, toluene, xylene, and hydrogen chloride. At this time, only the particulate and opacity testing required by 40 CFR Part 60 Subpart I and by this PTI was pursued. AQD reserves the right to require additional stack testing under this special condition.

3. This condition states that verification of odor rates from this plant may be required, upon notification from the AQD District Supervisor. Testing for odor rates is not being required at this time. The counterflow design of the new plant, truck loadout and silo control, and taller stack are expected to result in fewer odor complaints. As of the date of this inspection report, no odor complaints have been received since startup of the new plant in 2018.

VI. MONITORING/RECORDKEEPING

1. All required calculations are required to be completed in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month. The calculations are in an acceptable format. It is not known when the calculations are completed each month, but this can be checked at a future date.

2. Virgin aggregate feed rate and RAP feed rate is required to be monitored on a continuous basis. This was verified visually, during the inspection. Individual aggregate types and feed rates thereof are monitored and tracked. It is my understanding that the individual aggregate and RAP feed bins are computerized, and are calibrated.

3. The permittee is required to monitor, with a hand held CO monitor, CO emissions from EUHMAPLANT and associated production data from the time of the emissions readings upon startup of each paving season, upon a malfunction of the drum dryer or its associated burner, and after 500 hours of operation. The example of CO data which I reviewed was dated 4/19/2021, and conducted by C. Edwards. Please see table below:

CO Reading number	Time on 4/19/2021	CO reading in parts per million (ppm)
1	7:00 AM	130
2	7:04 AM	123
3	7:08 AM	131
4	7:12 AM	106
5	7:16 AM	88
6	7:20 AM	91
7	7:24 AM	99
8	7:30 AM	100

A scanned copy of analyzer printouts was provided, indicating date, fuel (natural gas, stack temperature, ambient temperature, O2, CO2, and draft, in addition to CO readings. .Please see attached.

The above readings are all well below 500 ppmv. The AQD has determined that values should be less than 500 ppmv to ensure that EUHMAPLANT is operating properly, and the facility is complying with this limit. Ms. Anderson, in her 9/13/2021 email to me, indicated that the facility had not yet reached 500 hours of operation this year, and so a second round of CO emissions monitoring had not commenced yet.

4. The permittee is required to monitor emissions and operating information in accordance with 40 CFR Part 60 Subparts A and I. The stack testing conducted on 8/30//2018 complied with 40 CFR Part 60, Subparts A and I, as well as the PTI.

5. The permittee is required to conduct all necessary maintenance and make all necessary attempts to keep all drum mixer/burner and fabric filter dust collector components of EUHMAPLANT maintained and operating In a satisfactory manner at all times. They are required to maintain a log of all significant maintenance activities conducted and all significant repairs made to EUHMAPLANT. Maintenance for the baghouse or fabric filter dust collector is required to be consistent with the Preventative Maintenance Program specified in Appendix B of the PTI.

Per my 9/10 request for records, on 9/13, Ms. Anderson emailed me records (attached) which included records of maintenance:

- On 10/20/2020, a Burner Relay input card was replaced with a new card.
- On 4/10/2021, all baghouse auger shaft bearings were replace with new bearings.

Note: Please see this activity report's discussion of SC EUHMAPLANT III. 2 and IV. 1, regarding black light testing of the new baghouse and an inspection of the new baghouse.

6. The permittee is required to keep the following records for each calendar month of operation:

a. Identification, type and amounts (in gallons) of all fuel oils combusted. I was advised that this plant has so far fired only natural gas.

b. Sulfur content (percent by weight), specific gravity, flash point, and higher heating value (Btu/lb) of all fuel oils being combusted. I was advised that this plant has so far fired only natural gas.

c. Tons of HMA containing RAP produced, including the average % of RAP per ton of HMA produced containing RAP/RAS. On 9/13/2021, I received copies of records (attached) for RAP usage from 1/1 through 9/10/2021. These showed that the facility is recording these required parameters. Average RAP contents for this time period was stated as 40%, below the permitted limit of 50%.

7. The permittee is required to keep intermittent daily records of the following production information for EUHMAPLANT:

a. The virgin aggregate feed rate. It is my understanding that they keep daily records of the feed rate, showing initial start time, end time, totals every 15 minutes or at mix design change, and totals at the end of the day. Please see attached daily intermittent record example from August 2021. This is an excerpt from a "Data Log" from 8/1 through 8/31/2021, which Ms. Anderson sent on 9/13/2021. The facility appears to be complying with this permit requirement.

b. The RAP/RAS feed rate. It is my understanding that they keep daily records of the RAP and or RAS feed rate, showing initial start time, end time, totals every 15 minutes or at mix design change, and totals at the end of the day. Please see attached daily intermittent record example from August 2021. This is an excerpt from a "Data Log" from 8/1 through 8/31/2021, which Ms. Anderson sent on 9/13/2021. The facility appears to be complying with this permit requirement. It is my understanding that no shingle materials are being used at this time, or even kept onsite.

c. The asphalt paving material product temperature. It is my understanding that this data is kept on daily print out records. Please see attached daily intermittent record example from August 2021. This is an excerpt from a"Data Log" from 8/1 through 8/31/2021, which Ms. Anderson sent on 9/13/2021. The facility appears to be complying with this permit requirement.

d. Information sufficient to identify all components of the asphalt paving material mixture. It is my understanding that this data is kept on daily print out records. Please see attached daily intermittent record example from August. This is an excerpt from a"Data Log" from 8/1 through 8/31/2021, which Ms. Anderson sent on 9/13/2021. The mix design 13 virgin aggregate feed bins, and 4 RAP feed bins, asphalt cement type and AC content of the mix are all included. The facility appears to be complying with this permit requirement.

The permittee is to record the initial mix design and time, upon startup. When a new mix design (i.e. a different mix design) is activated, the time and new mix design are to be recorded. It is my understanding that this is being done, although the except from the August 2021 Data Log was brief enough, only a single mix was shown. The mix design and start time were identified, as required. .

8. This requires monthly and 12-month rolling time period emission calculation records of all criteria pollutants and TACs listed in the emission limit table at the start of the Special Conditions in the PTI for EUHMAPLANT.

- Records e-mailed to me on 9/13/2021 by Ms. Anderson included calculated values for the criteria pollutants PM, PM10, PM2.5, SO2, NOx, CO, and lead in daily lbs/hr, and average monthly lbs/hr for the months in both 2020, and 2021.
- The records also included all of the TACs listed in the emission limit table at the start of the Special Conditions for EUHMAPLANT. This included benzene, toluene, ethylbenzene, xylene, naphthalene, formaldehyde, acrolein, arsenic, nickel, H2SO4 (sulfuric acid) manganese, and hydrogen chloride. Please see FGFACILITY for discussion of these pollutants compared with the permitted HAP limits for FGFACILITY of <9 TPY for single HAPs and <22.5 TPY for aggregate or total HAPs.

9. The permittee is to keep records of all CO emissions and related production data, at the times CO data is collected. They appear to be doing this. Please see the table of CO readings from 4/19/2021, earlier in this inspection report.

10. The permittee is to record average daily, monthly, and 12-month rolling time period records of the amount of HMA product produced. The facility is keeping daily, monthly, and yearly records on HMA produced, based on the year to date "Tons Produced" report which Ms. Anderson emailed on 9/13/2021; please see attached.

11. The permittee is to maintain shipment records demonstrating compliance with RUO limits. It is my understanding that this new plant has never burned RUO, and that there is no RUO tank onsite.

VII. REPORTING

1. Within 30 days after installation, construction, reconstruction, relocation or modification, the permittee is to notify the AQD in writing, of completion of this activity. Completion of installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation. On 5/25/2018, AQD received a 5/21 letter from Mr. Mark E. Boden, Vice President of Ajax Materials, advising us that trial operations commenced for the new facility on 5/17. This complies with the permit requirement.

VIII. STACK/VENT RESTRICTIONS

1. The exhaust gases from the baghouse exhaust stack are required to be exhausted unobstructed vertically upwards from a stack (SVHMAPLANT) with a maximum diameter of 68 inches, and a minimum height of 120 feet. The stack appears to comply with this requirement. The AQD Lansing DIstrict Office now has a laser range finder for staff to use to measure stack height at facilities. I will employ the laser range finder on a future visit to this site.

IX. OTHER REQUIREMENTS

NA.

Special Conditions applicable to EUYARD:

1. EMISSION LIMITS

NA

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The fugitive dust control plan in Appendix B of the PTI is required to be implemented and maintained. Ms. Anderson provided a copy of their year to date road maintenance activities, please see attached. It lists the dates on which road and yard areas were swept and/or watered. It also provides the dates when calcium chloride was used.

The plant yard and roads were both reported chlorided on:

- 4/21/2021
- 5/13/2021
- 6/10/2021

On 7/20 and 8/6 /2021, the yard alone was reported chlorided.

It appears that the fugitive dust control plan has been implemented and maintained throughout the operating season.

There is a 5 mile per hour speed limit sign posted onsite, with enhanced signage to compel site visitors to comply.

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

1. All required calculations are to be completed by the 30th day of the calendar month, for the previous calendar month. It is not clear to me by what dates calculations were made for monthly and 12-month rolling emissions calculations. This can be followed up on at a future date.

2. The permittee is required to calculate the annual fugitive dust emissions for EUYARD, using emission factors from the U.S. Environmental Protection Agency (EPA) document AP-42, or other emission factors approved by the DEQ. The company files MAERS reports each year, ahead of the March 15 deadline to submit reports for the prior calendar year. These include fugitive dust emission calculations.

For the operating year 2020, emissions from EUYARD were reported to MERAS as:

- Aggregate storage: 406.00 lbs PM10fltrble, from EPA emission factor
- Hauling: 2,119 lbs PM10fltrble, from EPA emission factor
- Cold aggregate handling: 964.00 lbs PM10primary, from EPA emission factor

Ajax appears to be in compliance with this requirement.

VII. REPORTING

1. The permittee is required to report the actual emission levels from EUYARD to the AQD through the annual MAERS report. The company files MAERS reports each year, ahead of the March 15 deadline to submit reports for the prior calendar year. These include fugitive dust emission calculations. The report for this facility is audited each year. Please see discussion of estimated emissions based upon EPA emission factors, above. The facility appears to be complying with this requirement.

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

Special Conditions applicable to EUACTANKS

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

The permittee is required to install, maintain, and operate in a satisfactory manner a vapor condensation and recovery system. The six new liquid AC tanks are all equipped with condensers. No visible emissions could be seen from the tanks, or their vapor condensation and recovery systems. Please see attached photo 001, showing the condensers

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

NA

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

Special Conditions applicable to EUSILOS

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee is required to have an emission control system from the top of each storage silo which is installed, maintained, and operated in a satisfactory manner. The emission capture system atop each silo appeared to be working properly, as no emissions of either blue smoke or steam could be seen from atop the silos. The captured emissions were routed to a blue smoke control device shared with the truck loadout capture system. The blue smoke control device had emissions of what appeared to be blue smoke at 5% opacity, well below the 20% limit of MAPC Rule 301.

2. The permittee is required to have the load out activities take place in an area which is enclosed except for entrance and exit points, with emissions vented into the burning zone of the drum dryer, or equivalent means of control. The company chose as an equivalent means a blue smoke control system. They are required to install, maintain, and operate the system in a satisfactory manner. The system appeared to be installed, maintained, and operated properly. Please see discussion below.

There are eight storage silos for HMA product, and two loadout lanes which pass underneath them. The loadout lanes are enclosed with what appear to solid side panels. Cameras are used, I have been advised, as well as a direct line of site from the loadout operator's station, so the loadout operator knows where the trucks are within the enclosures. This is to avoid the risk of tons of asphalt product being dropped onto the cab roof of a truck in the load out tunnel. The south row of silos, starting from the west end, are numbered 1 through 4. The north row of silos, starting from the west, are numbered 5-8. The silos range from 200 to 250 to 300 ton storage capacity.

An air handling system has been installed for the loadout lanes under the silos, with the intent to capture emissions of blue smoke from the loadout process. The captured emissions from the loadout and from atop the silos are then routed to a blue smoke control system. The controlled emissions are then exhausted unobstructed vertically upwards, through a single, rectangular exhaust stack. It is my understanding that the control mechanism is a series of four mechanical filters, in a proprietary design.

As noted earlier in this report, I observed 3 tote containers of collected hydrocarbons from the unit, and 3 empty ones nearby.

With the sun at my back, I observed what appeared to be a steady 5% opacity of blue smoke from the ble smoke control system, while using a shadowed portion of a product storage silo as my viewing backdrop. The 5% opacity looked like it would not exceed the limit of MAPC Rule 301, which prohibits visible emissions from exceeding a 6-minute average of 20% opacity, except for one 6-minute average per hour not to exceed 27%.

From the north truck loadout tunnel, I could not see any fugitive emissions as a truck was loaded with paving material. I was able to detect a distinct and definite scent of asphalt, although it was not clear if the odor source was the loadout tunnel, or the material which had been removed from the drum dryer following the ceasing of production this morning.

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

NA

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

FGFACILITY

DESCRIPTION: All process equipment source-wide, including equipment covered by other permits, grandfathered equipment and exempt equipment.

Emission units: EUHMAPLANT, EUACTANKS, EUSILOS, EUYARD

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS:

1. CO is limited to 89.9 TPY. This is to be achieved through the annual production limit of 895,000 tons of production of HMA paving product. CO testing is not being required at this time, but the permit indicates CO testing may be required by the District Supervisor. See FGFACILITY Special Condition VI. 2 for CO recordkeeping. The 12-month rolling CO emissions were calculated to be 24.70 tons, as of June 2021, and 26.29 tons, as of August 2021, the most recent month for which actual operating data was available. The facility appeared to be in compliance with this condition.

2. Each individual HAP is limited to less than 9.0 TPY, to keep the plant from going over the 10 TPY threshold for a single HAP which would make it a major HAPs source. HAPs testing is not being pursued at this time, but the permit indicates HAP testing may be required by the AQD District Supervisor. See FGFACILITY Special Condition VI. 3. a and 3. b. The HAP with the highest 12-month rolling total value was Hcl, calculated to be 2.63 tonsnfor the 12-month period ending in August 2021.

3. Aggregate HAPs are limited to less than 22.5 TPY, to keep the total HAPs from going over the 25 TPY threshold which would make the plant a major HAPs source. HAPs testing is not being pursued at this time, but the permit indicates HAP testing may be required by the AQD District Supervisor. See FGFACILITY Special Condition VI. 3. a and 3. b. All individual HAPs were well below the limit of <9.0 TPY, and aggregate or total HAPs were below the limit of 22.5 TPY.

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING SAMPLING

NA

VI. MONITORING/RECORDKEEPING

1. All required calculations are to be completed in a format acceptable to the AQD District Supervisor, and made available by the 15th day of the calendar month. It is not known to me by what date each month calculations are done. This can be followed up on, at a future date.

2. The facility is required to keep in a satisfactory manner monthly and 12-month rolling time period CO emission calculation records for FGFACILITY. The facility is keeping these emission calculation records in a satisfactory manner. Please see attached electronic document from Ajax which includes a spreadsheet of calculated emissions, including CO emissions. The 12-month rolling CO emissions were calculated to be 24.70 tons, as of June 2021, and 26.29 tons, as of August 2021, the most recent month for which actual operating data was available.

3.The facility is required to keep the following for FGFACILITY:

a. Monthly individual HAP and aggregate HAP emissions determining the emission rate of each in tons per calendar month. It is my understanding that this data is kept on daily print out records. Please see also the attached electronic document from Ajax, which includes an emission calculation spreadsheet.

Records (attached) e-mailed to me on 9/13/2021 by Ms. Anderson included all of the TACs listed in the emission limit table at the start of the Special Conditions for EUHMAPLANT. This included the HAPs benzene, toluene, ethylbenzene, xylene, naphthalene, formaldehyde, acrolein, arsenic, nickel, H2SO4 (sulfuric acid) manganese, and hydrogen chloride, from the emission limit table at the start of the PTI Special COnditions, EUHMAPLANT I.

The HAPs with the highest 12-month rolling emissions, as of August 2021, were:

August 2021 12-month rolling values:

- HCl: 2.63 tons
- H2SO4: 1.97 tons
- formaldehyde: 1.31 tons
- acrolein: 1.31 tons
- toluene: 0.79 tons
- benzene: 0.13 tons
- ethylbenzene 0.13 tons
- napthalene 0.13 tons
- xylene 0.13 tons

- manganese: 0.01 tons
- nickel: 0.01 tons
- arsenic: 0.00 tons
- lead (which is a HAP, as well as a criteria pollutant): 0.00 tons
- TOTAL: 8.55 tons total HAPs, aka aggregate HAPs

b. Annual emission rates of individual and aggregate HAPs in tons per 12-month rolling time period. These record are being kept, as shown in the attached emission calculation spreadsheet. Please see above for a summary of annual emissions of individual and aggregate, or total HAPs.

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

Conclusion:

No instances of noncompliance were observed.

Image 1(001) : Controls atop liquid AC tanks.

Image 2(002) : New bag filter, kept as a spare.

NAME _____ DATE 9/29/2021 SUPERVISOR B.M.