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

B582334882

FACILITY: AJAX MATERIALS CORP		SRN / ID: B5823
LOCATION: 7392 KENSINGTON RD, BRIGHTON		DISTRICT: Lansing
CITY: BRIGHTON		COUNTY: LIVINGSTON
CONTACT: Mike Herzfeld , Plant Operator		ACTIVITY DATE: 06/08/2016
STAFF: Daniel McGeen	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Partial Compliance Evaluation (PCE) activities, conducted as part of a Full Compliance Evaluation (FCE): 1.) unannounced, scheduled inspection, and 2.) review of facility recordkeeping.		
RESOLVED COMPLAINTS:		

On 6/8/2016, the DEQ, AQD conducted an unannounced, scheduled inspection of the Ajax Materials Plant 6, in Brighton, and reviewed the facility's recordkeeping and operational logs. These were Partial Compliance Evaluation (PCE) activities, conducted as part of a Full Compliance Evaluation (FEC).

Facility environmental contacts:

Mike Herzfeld, Plant Operator: 248-244-3448; mherzfeld@ajaxpaving.com

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

Facility description:

This facility is a Hot Mix Asphalt (HMA) plant. It consists of a cold aggregate handling system for both virgin aggregate and Recycled Asphalt Pavement (RAP), a parallel flow drum dryer, a baghouse, and product storage silos with a truck loadout area beneath them. Parallel flow drums are an older style of dryer, compared with newer counterflow designs. The truck loadout area and the silos are uncontrolled. The facility has a paved yard area, and paved roadways around the HMA plant. There are also aggregate storage piles onsite, and unpaved yard areas.

Emission units:

Emission Unit ID	Emission unit description	Permit or exemption	Operating status
EUHMAPLANT	HMA facility including aggregate conveyors, 400 ton per hour parallel flow drum mixer, and baghouse, with 70,000 ACFM	PTI No. 38-90C	Compliance
EUYARD	Fugitive dust sources including plant roadways, plant yard, material storage piles, and material handling operations (including cold feed aggregate bins).	PTI No. 38-90C	Compliance
EUACTANKS	Liquid asphalt cement (AC) tanks with vapor condensation and recovery system.	PTI No. 38-90C	Compliance
EUSILOS	6 HMA paving material product storage silos.	PTI No. 38-90C	Compliance
Flyash silo	Silo for storing flyash, as an ingredient of the paving mixture.	PTI No. 38-90C	Not in use
FGFACILITY	All process equipment at the stationary source, including equipment covered by other permits (if any), grandfathered equipment, and exempt equipment.	PTI No. 38-90C	Compliance

Regulatory overview:

This facility has a synthetic minor permit, Permit to Install (PTI) No. 38-90C, which limits the facilitiy's potential to emit (PTE) for five of the criteria pollutants: carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxides (SO2), volatile organic compounds (VOC), and particulate matter (PM), to keep it from becoming a major source. The remaining criteria pollutant, lead, is limited by the PTI from an air toxics standpoint, because it does not have the PTE to reach major source levels. 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, the New Source Performance Standards (NSPS) for

HMA plants. The plant successfully passed its NSPS particulate and opacity testing, on 9/11/1990.

Fee status:

This facility is not classified as a Category I fee source, because it is not a major source, for either criteria pollutants or HAPs. Because it is subject to an NSPS (Subpart I), the facility is classified as a Category II fee source. It is not subject to one of the National Emissions Standards for Hazardous Air Pollutants, and so is not classified as a Category III fee source. Each year, the company reports annual production and emissions through the Michigan Air Emission Reporting System (MAERS).

Recent history:

In 2015, AQD received two complaints alleging odors. The complainant also alleged that a black ring of unknown origin on their pool liner was suspected to be caused by the asphalt plant. A sample of the unknown material was collected. Results were inconclusive. Odors detected in the area by AQD staff were not sufficient to constitute a violation of Rule 901(b). AQD has not received any odor complaints, so far this year.

Arrival:

Weather conditions were mostly sunny and 55 degrees F, with winds out of the northwest at 15 miles per hour.

On Silver Lake Road, about 500 feet east of the intersection with Kensington Road, I detected an odor of diesel exhaust mixed with asphalt cement which was distinct, definite, and objectionable. The diesel exhaust component of the odor was stronger than the asphaltic component. I was about 1,000 feet southeast of the plant itself. I detected no further asphalt odors in the area, including further south on Silver Lake Road, where there is a residential area.

I met with Mr. Mike Herzfeld, plant operator, and with Mr. David Grabowski, Operations Manager for Ajax Materials Corp. Mr. Herzfeld had been provided with a copy of the DEQ brochure *Environmental Inspections: Rights and Responsibilities*, during the previous AQD inspection here, on 8/12/2015.

I mentioned that I had detected asphaltic odors and diesel exhaust odors downwind, at a level which was distinct, definite, and objectionable, with the diesel exhaust odors being the stronger component. Mr. Herzfeld indicated that they had done a mix change a few minutes prior, and that temperatures in the drum may go up when the mix changes. He indicated that this can be associated at times with a temporary increase in asphalt odors. The asphalt odors I detected on Silver Lake Road today were not considered sufficient to constitute a violation of Rule 901(b).

Inspection:

EUHMAPLANT; PTI No. 38-90C, 40 CFR Part 60, Subparts A and I:

In this parallel mix drum, virgin aggregate enters the front of the drum, near the burner. The RAP enters the drum in the drum's midsection. It is my understanding that this is to avoid scorching the RAP, which could cause emissions of blue smoke.

There was a detached steam plume, which appeared to be downwashing. I was not able to tell if there was any tailoff of blue smoke or of dust, because the plume was backlit by the sun. I briefly left the site, at 9:44 AM. In the parking lot of Phoenix Industries, with the sun at my back, I observed that there was no tailoff after the steam plume dissipated.

I checked for signs of fugitive emissions. I saw no fugitive emissions from the drum dryer, burner end of the dryer, virgin aggregate feed or RAP feed, ductwork, or baghouse. I could not see steam or blue smoke from atop the product storage silos and hot elevator. I could see small amounts of steam or blue smoke from the truck loadout.

The plant yard and unpaved plant roadways looked to have been recently chlorided. There was some water on an unpaved roadway, from recent rains. Additionally, the site has a posted speed limit of 5 miles per hour. Limiting speed at a site has been shown in AQD experience to be an effective means of reducing fugitive dust.

The operating data I collected throughout the morning was as follows:

Asphalt mix type:

Data:	Time: 9:26 AM	Time: 10:08 AM
Asphalt mix type	36-36 A	5-1100 T
Liquid AC grade	PG 52-28	PG 52-28
Total AC content (virgin and RAP)%	6.79	6.01
Total aggregate TPH	265	260
Virgin AC TPH	12.2	11.1
Virgin AC degrees F	300	300
Production rate TPH	269	270
Mix temperature deg. F	323	322
Virgin aggregate TPH	167 Includes 20 AA, 3/8 X 4 syl, MFS Woodstock (supplier site name), 2 NS	167 Includes 20 AA, 2 NS
Virgin aggregate ave.moisture content %	4.2	4.19
SHRAP content TPH	87 Includes 3/8 minus, and 3/8 minus with shingle content	90 Includes 3/8 minus, and 3/8 minus with shingle content
SHRAP content, % of mix	32.34	33.33
SHRAP moisture content %	3.0	2.7
Fuel for drum dryer	Natural gas	Natural gas
Baghouse pressure drop	3.9"	3.9-4.0"
Baghouse temperature deg. F	321	333
Draft on dryer	0.03"	0.05"

Compliance with PTI No. 38-90C Special Conditions (SC):

Emission Limits:

SC No. 1.1a through 1.1p limit emissions of particulate matter (PM), carbon monoxide (CO), sulfur dioxide (SO2), nitrogen oxides (NOx), volatile organic compounds (VOC), lead, and hydrogen chloride. Compliance with particulate matter in units of grains/dry standard cubic feet was determined by stack testing pursuant to 40 CFR Part 60, Subpart I, in 1990. The average test results were 0.0047 grains per dry standard cubic foot (dcsf), below the permitted limit of 0.04 grains per dscf. MAERS reporting for the most recent operating year (2015) for CO, SO2, NOx, VOC, and lead shows compliance with the permit limits. Please see SC No. 1.22 for further details on MAERS reporting.

Special Conditions related to material usage:

SC No. 1.2 of PTI No. 38-90C requires that the facility not burn any hazardous waste, blended fuel oil or specifocation recycled used oil containing any contaminant exceeding limits in a table for RUO. The facility does not burn hazardous waste . Furthermore, it has not burned RUO in a number of years. The current fuel is natural gas, I was informed.

SC No. 1.3 requires the facility not use asbestos tailings or waste materials containing asbestos. I have been informed that they do not use such materials.

SC No. 1.4 limits RAP content to a maximum of 35% measured on a monthly average. The instantaneous values which I observed for SHRAP (recycled shingles and RAP combined) were below the 35% RAP limit.

SC No. 1.5 limits the facility to no more than 895000 tons of HMA per 12-month rolling time period. According to the annual MAERS report for this facility, their 2015 production of paving material

was 232,534 tons.

SC No. 1.6 limits the facility to processing no more than 400 tons of HMA per hour based on a daily average. During the inspection the plant was well below 400 TPH for production rate, as shown in the above table.

Special Conditions related to Process/Operational limits:

SC No. 1.7 requires the facility to implement and maintain the Compliance Monitoring Plan for RUO. The facility is neither burning nor receiving any shipments of RUO. It is my understanding that the RUO tank is empty.

SC No. 1.8 requires that the facility implement and maintain the program for fugitive dust control for EUYARD. The facility appeared to be complying with this, based on my observations of onsite conditions, and their recordkeeping (please see SC No. 2.1, also).

Mr. Herzfeld printed a copy for me of their Daily Road Maintenance log (attached for reference), from 2/1/2016 through 6/7/2016. This details their various fugitive dust control activities at the site, including applying calcium chloride to the yard and unpaved roadways on 5/11 and 6/6/2016. This relates to SC Nos. 1.8 and 2.1.

SC No. 1.9 requires the drum mix burner(s) be maintained for efficiency by fine tuning the burners, to control CO emissions. At the start of each paving season, the facility is required to conduct CO readings. The purpose of the requirement is to maintain the efficiency of the burner for the drum dryer. The readings were recorded by Ms. Kathleen Anderson, and were documented in a binder of records. The readings are listed in the table, below.

CO Reading number	Time on 5/4/2016	Co reading in parts per million (ppm)
1	7:40 AM	240
2	7:44 AM	163
3	7:47 AM	185
4	7:55 AM	260
5	8:05 AM	242
6	8:08 AM	204
7	8:14 AM	253
8	8:23 AM	227
9	8:25 AM	228

SC No. 1.10 requires the fabric filter dust collector to be installed, maintained, and operated in a satisfactory manner, and states that satisfactory operation requires a pressure drop range between 2 and 10 inches water column (w.c.). During today's inspection, pressure drop ranged from 3.9 to 4.0 inches, w.c.

Special Conditions related to Monitoring:

SC No. 1.11 requires monitoring in a satisfactory manner of the virgin aggregate feed rate and RAP feed rate on a continuous basis. Instantaneous observations as I recorded operating data showed that they appear to be meeting this condition.

SC No. 1.12 (a) through (c) requires monitoring, with a handheld CO monitor of the CO emissions from the plant upon start-up of each paving season, upon a malfunction of the drum dryer or its burner, and after every 500 hours of operation. Mr. Herzfeld showed me their CO readings from the start of this paving season. These CO readings are listed above, in a table related to SC No. 1.9.

S.C. No. 1.13 requires monitoring emissions and operating information in accordance with 40 CFR Part 60, Subparts A and I, respectively titled *General Provisions*, and *Standards of Performance for Hot Mix Asphalt Facilities*. On 9/11/1990 the facility underwent stack testing for particulate emissions, pursuant

Section 60.92(a)(1) of Subpart I. Results averaged 0.0047 grains per dry standard cubic feet, below the limit of 0.04 grains per dry standard cubic feet.

Section 60.92(a)(2) prohibits visible emissions of 20%, or greater. During the 9/11/1990 stack test, opacity readings conducted by the consulting firm Ramcon Environmental Corporation showed that opacity ranged from 0 to 5%. It is my understanding, from today's visit, that Mr. Herzfeld does periodic visual checks for opacity from the baghouse exhaust stack.

SC No. 1.14 of PTI No. 38-90C requires a pressure drop gauge to be installed, maintained, calibrated, and operated in a satisfactory manner, and that it be calibrated on an annual basis. The baghouse pressure drop gauge was calibrated in April 2016, as was the damper for the drum dryer, records showed.

SC No. 1.15 requires the permittee to monitor fuel use in gallons per day. The facility is not burning RUO as fuel at this time, and so 0 gallons of RUO were burned year to date in 2016, or in calendar year 2015. It is burning natural gas, which is measured not in gallons, but in units of thousand or million cubic feet.

SC No. 1.16 requires that drum mix temperature and drum exhaust gas temperature be monitored and continuously recorded in a manner and with instrumentation acceptable to AQD. During the inspection, I observed the mix temperature being measured on an ongoing basis, along with the baghouse/stack temperature, which represents drum exhaust gas temperature as the gas travels through the baghouse.

It is my understanding that every 15 minutes, a hard copy report is printed in the plant control trailer, which records numerous parameters, including product mix temperature. Mr. Herzfeld has indicated that drum exhaust gas temperature, or stack temperature, is continuously monitored but is not recorded. However, he explained that the stack temperature is up to 10 degrees hotter than mix temperature for a stony HMA mix, and around several degrees hotter than mix temperature for a sandy mix. With this general observation in mind, it appears that the stack temperature may be estimated, within several degrees F, if one is looking at historical records.

Special Conditions related to recordkeeping/reporting/notification:

SC No. 1.17 requires all calculations to be completed in a manner acceptable to the AQD District Supervisor. Annual facility throughput/production and emissions calculations are reported to AQD via MAERS.

SC No. 1.18 requires records of emissions and operating information to comply with 40 CFR 60 Subpart A, *General Provisions*, and Subpart I, *Standards of Performance for Hot Mix Asphalt Facilities*. On 5/21/1990, the company informed AQD in writing that they had commenced trial operation as of 5/21. This was done to comply with their PTI, but also is within the time frame of 30 days required by Subpart A. Pursuant to Subpart I, stack testing was done on 9/11/1990, and opacity testing was conducted as well. This testing was conducted within 180 days of initial startup, which is another requirement of Subpart A.

Note: It is not apparent from the records in AQD's files if the September 1990 testing was within 60 days of achieving maximum production rate. The AQD file does indicate that testing was not conducted sooner, though, because there were not enough production orders earlier in the season, to sustain running long enough to stack test.

SC No. 1.19 requires all necessary maintenance to keep all components of the HMA plant maintained and operating in a satisfactory manner at all times. This includes maintenance records for the fabric filter. Mr. Herzfeld showed me their start of season baghouse maintenance checklist, which he completed on 4/19/2016. They did an annual black light test of the baghouse, which was reported to have been found satisfactory. Mr. Herzfeld indicated they did not need to replace any bags.

SC No. 1.20(c) of PTI No. 38-90C requires records be kept of tons of HMA produced, including the average % of RAP per ton of HMA produced containing RAP. Following the inspection, I asked for the monthly production report for May 2016 be sent to me. This report was faxed to me by Mr. Herzfeld (please see attached). The report shows that for May 2016, all production (30,706 tons) was of RAP

mixes, and that no tons of virgin mixes were produced.

SC No. 1.21 (a) through (d) require records of the following production information:

a.) virgin aggregate feed rate (hourly). I have been informed that this is one of the parameters included in the report which is printed out every 15 minutes , in the plant control trailer.

b.) RAP feed rate (hourly). it is my understanding that this is include in the report which is printed every 15 minutes.

c.) Asphalt paving material product temperature (intermittent). it is my understanding that this is include in the report which is printed every 15 minutes.

d.) Information sufficient to identify all components of the asphalt paving material mixture (hourly). I asked about this in a 7/29/2016 e-mail I sent to Mr. Herzfeld. He forwarded my e-mail to Ms. Kathleen Anderson, who is the environmental manager for Ajax Materials.

The production report also shows the company is keeping records of the tonnage of all product mixes made each day. This appears to be in keeping with SC No. 1.21 of PTI No. 38-90C, which requires that when a new mix design is activated after startup, the new mix design shall be recorded.

SC No. 1.22 requires monthly and 12-month rolling time period emission calculation records of all criteria pollutants and HAPs listed in the Emission limit table for EUHMAPLANT.

Data reported to MAERS for the 2015 operating year by the company shows that emissions for the 2015 operating year were:

Pollutant	Emissions in lbs	Emissions in tons	Permit limit in tons	Compliance?
CO	30,229.42	15.11	89.95	Yes
Lead	0.41	0.0002	2.02 X 10^{-6} lb/ton = 0.47 ton limit for the # of tons of product processed in 2015*	Yes
NOx	6,695.48	3.35	31.33	Yes
PM10, filterable	2,308.00	1.15	14.0	Yes
PM10, primary	15,998.71	8.00	14.0	Yes
PM2.5, filterable	3,488.01	1.74	14.0	Yes
SO2	793.40	0.40	74.78	Yes
VOC	7,454.08	3.73	48.87	Yes

*Lead: 2.02 X 10^{-6} lb/ton = 2.02 X 10^{-6} lb/ton X 232,534 tons produced = 0.47 tons would be the applicable limit for the amount of production done in 2015; 232,534.00 tons of HMA

Note: the lead emissions were calculated using a standard MAERS emission factor for a natural gas-fired HMA production of 1.75 X 10^{-4} lbs/ton of product made.

According to the annual MAERS report for this facility, their 2015 production of paving material was 232,534 tons. This is below the 895,00 tons throughput allowed by PTI No. 38-90C. The MAERS report was audited, and passed, in May, 2016.

SC No. 1.23 requires the facility to keep records of CO emissions and related production data, including dates and times CO was monitored. This appears to have been done. The facility is required calculate the pounds of CO emitted per ton of HMA paving materials produced. I e-mailed Mr. Herzfeld, to ask about this, on 7/29/2016, and he forwarded my e-mail to Ms. Anderson, for a response.

SC No. 1.24 requires the facility to keep average hourly, monthly, and 12-month rolling time period records of the amount of HMA materials produced from EUHMAPLANT. The facility is keeping daily,

monthly, and yearly records. Mr. Herzfeld forwarded my 7/29/2016 e-mail to Ms. Anderson, for a response.

SC No. 1.25 requires the permittee to keep average hourly, monthly, and 12-month rolling time period records of the amounts of fuel used for all fuels combusted for EUHMA plant.

Condition related to stack/vent restriction:

SC No. 1.26 requires stack height tor the baghouse exhaust stack to be a minimum of 70 feet and to have a maximum diameter of 60 inches. The stack visually appears to be in keeping with this requirement.

EUYARD; PTI No. 38-90C; 40 CFR Part 60, Subparts a and I:

Conditions related to process/operational limits:

SC No. 2.1 requires the facility to implement and maintain the fugitive dust control program, from Appendix A of the PTI. They appeared to be doing this. the yard and plant roadways appeared to have been recently chloride. Water was visible on one of the unpaved roadways, and there is a sign posting a site speed limit of 5 miles per hour. Additionally, I was provided with a copy of their recordkeeping for fugitive dust control this season, which is attached to this report for reference. SC No. 2.1 is similar to SC No. 1.8.

Conditions related to recordkeeping/reporting/notification:

SC No. 2.2 requires that the permittee calculate annually the fugitive emissions of particulate matter.

MAERS emissions of fugitive dust for the 2015 operating year:

Emission source	Pollutant	Emissions in lbs	Emissions in tons
Aggregate storage	PM10, filterable	372.00	0.19
Hauling	PM10, filterable	1,936.00	0.97
Cold aggregate handling	PM10, primary	884.00	0.442

After leaving the site at 10:35 AM, I checked for odors in the downwind area. I did not detect any asphalt odors, and the absences of a steam plume from the baghouse exhaust stack was a possible indicator that the plant had ceased running. I left the area, at this time.

Conclusion:

I could not find any instances of noncompliance. AQD is currently waiting for a response to a 7/28/2016 e-mail I sent, asking how the company does recordkeeping for Special Condition Nos. 1.21(d), 1.23, and 1.24 of PTI No. 38-90C.

NAME _____ DATE 8/1/2016 SUPERVISOR _____