

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

B196030259

FACILITY: Cadillac Asphalt LLC		SRN / ID: B1960
LOCATION: 51777 W 12 MILE RD, WIXOM		DISTRICT: Southeast Michigan
CITY: WIXOM		COUNTY: OAKLAND
CONTACT: SUSANNE HANF, ENV. ENGINEER		ACTIVITY DATE: 07/15/2015
STAFF: Erik Gurshaw	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Self-Initiated Inspection		
RESOLVED COMPLAINTS:		

SRN: B1960

COMPANY: Cadillac Asphalt, LLC.

COMPANY ADDRESS: 51777 W. 12 Mile Road, Wixom, MI 48393

PURPOSE OF INSPECTION: Self-Initiated

CONTACT PERSON: Mr. Sue Hanf, Environmental Engineer (Ph: 734-854-2260; Cell: 734-777-3647; Fax: 734-856-7996; Email: shanf@stoneco.net)

COMPANY PHONE NUMBER: 248-349-8600

On July 15, 2015, AQD staff, Erik Gurshaw and Kerry Kelly conducted a self-initiated, announced inspection of Cadillac Asphalt's Wixom Plant located at 51777 W. 12 Mile Road in Wixom, Michigan. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department Environmental Quality, Air Quality Division (MDEQ-AQD) Rules; and Permit To Install (PTI) Number 476-94F for a hot mix asphalt plant (HMA) and associated equipment.

Upon arriving at the site, AQD staff introduced themselves and stated the purpose of the visit to Ms. Sue Hanf, Environmental Engineer with Stoneco of Michigan, and Mr. Mike Zelenock, Division Manager (Ph: 734-485-3095; Cell: 313-218-5871; Fax: 248-347-2589; Email: mzelenock@mipmc.com). Cadillac Asphalt is a subsidiary of Stoneco of Michigan. Ms. Hanf and Mr. Zelenock assisted AQD staff during the inspection.

Cadillac Asphalt, LLC makes asphalt for commercial building and road contractors and for County and State agencies. The plant operates from 7:00 AM until 5:00 PM Monday through Saturday, but operation can vary depending upon demand and weather conditions. 3 people are employed to run the plant. Equipment at the plant includes the following: a counterflow mixing drum and associated burner; 8 asphalt storage silos; 12 virgin aggregate storage bins; 3 recycled asphalt product (RAP) aggregate storage bins; a wheel loader; a skidsteer; a manlift; a water truck; a baghouse; a drag slat; 4 liquid asphalt storage tanks; a 12,000 gallon diesel storage tank; a 12,000 SS-1H-Meeker bonding agent storage tank; a 20,000 gallon recycled used oil (RUO) storage tank; and a "Gencor" natural gas fired boiler with a maximum rated heat capacity of 2.6 MBtu per hour. The boiler is used to provide heat to the liquid asphalt storage tanks and the process lines within the plant. It is exempt from PTI requirements pursuant to Rule 282(b)(i) and is not subject to NSPS Subpart Dc for small industrial and commercial boilers since it only burns natural gas and has a maximum rated heat capacity of less than 10 MBTU/hour. The boiler is also not subject to MACT Subpart JJJJJ for industrial, commercial, and institutional boilers and heaters since it only burns natural gas. The liquid asphalt storage tanks and asphalt storage silos are permitted, but no conditions have been established for either within the plant's PTI. The diesel storage tank, RUO storage tank, and SS-1H Meeker bonding agent storage tank are exempt from PTI requirements pursuant to Rule 284(d). The plant was operating at the time of the inspection.

Asphalt is produced by digitally programming the desired aggregate mix from the virgin aggregate and RAP aggregate feed hoppers. From the feed hoppers, the virgin and RAP aggregate is conveyed to a weigh bridge, screened, and then conveyed into a counterflow mixing drum where liquid asphalt is introduced into the mix. The resulting asphalt product is mixed in the mixing drum for approximately 5

minutes at 300 degrees Fahrenheit before being conveyed to a drag slat. From the drag slat, the final product is conveyed to the asphalt storage silos. From the storage silos, the final product is loaded into trucks in an enclosed load out area. Asphalt production occurs continuously while the plant is operating. The final asphalt product can be altered by changing the virgin aggregate and RAP mixture at the beginning of the process.

PTI #476-94F was issued to the company on April 11, 2011. The PTI contains the following Emission Units and Flexible Groups: EUHMAPLANT (the hot mix asphalt plant and associated equipment); EUYARD; EUACTANKS (the liquid asphalt storage tanks); EUSILOS; and FGFACILITY. EUHMAPLANT sets operating conditions for the hot mix asphalt plant. EUYARD sets conditions for the control of fugitive dust from the plant's yard and roadways. FG-FACILITY sets 12-month rolling individual and aggregate hazardous air pollutant (HAP) limits for the entire facility. As previously discussed, the liquid asphalt storage tanks and asphalt storage tanks are permitted, but the PTI sets no conditions for their operation. The inspection indicated the following with respect to compliance with the PTI:

EUHMAPLANT (hot mix asphalt plant)

The PTI sets pound per ton emission limits for PM, CO, SO₂, and NO_x and 12-month rolling emission limits for CO, SO₂, and NO_x. The PTI also sets a 0.04 grain per dry standard cubic foot of exhaust gas emission limit for PM. All of the emission limits established in the PTI are based on an annual production limit of 895,000 tons of asphalt. Derenzo and Associates was contracted by Edward C. Levy Co. (the plant was formerly owned by Levy) to conduct a stack test to determine compliance with 0.04 gr/dscf PM limit. Stack testing took place on August 27, 2012, and indicated that the average gr/dscf emission of PM occurring over three 1 hour runs was 0.011 which is below the permitted limit. The PTI states that the other emission limits within the PTI may have to be verified upon request of the AQD, but the AQD has never requested stack testing to take place and the company uses MAERS emission factors to calculate PM, CO, SO₂, and NO_x emissions. MAERS emission factors for PM, CO, SO₂, and NO_x are below those established in the PTI.

No hazardous waste or asbestos containing materials are being burned by the plant as required by Special Conditions II.2 and II.3 of the PTI, respectively. RAP is being limited to a maximum of 50% of the total asphalt mixture per month as required by Special Condition II.4 of the PTI. The plant is making less than 895,000 tons of asphalt per 12-month rolling time period and less than 600 tons per hour as required by Special Conditions II.5 and II.6 of its PTI, respectively. The company has only used natural gas to fuel the counterflow drum burner since 2008 so Special Condition III.4 and the Recycled Used Oil (RUO) Compliance Monitoring Plan in Appendix D of the PTI are not applicable to the plant's current operations. The plant is abiding by the Fugitive Dust Control Plan in Appendix A of its PTI as required by Special Condition III.1 of its PTI. Specifically, the plant is employing the following measures to control fugitive dust: water is applied to the plant yard and roadways when necessary; calcium chloride is applied to the plant yard and roadways occasionally; 8 MPH speed limit signs are posted around the plant yard to limit fugitive dust production from vehicle traffic; the drop distance is being minimized during the stockpiling of aggregate; paved roads are regularly swept to limit potential track out; aggregate spilled on roadways is immediately cleaned up; incoming trucks carrying aggregate are tarped; outgoing trucks carrying asphalt are tarped; the bucket of the wheel loader is loaded to avoid overfilling to prevent material spillage; records of water and calcium chloride applications to the plant yard are being maintained; and malfunctions from the plant's process equipment and the baghouse are immediately corrected to prevent fugitive emissions. AQD staff observed no fugitive dust production during the physical inspection of the plant and the plant's roadways and yard were wet during the inspection. The plant's baghouse is equipped with a device to monitor pressure drop across it and the plant's baghouse is installed and is being properly operated and maintained as required by Special Condition IV.1 and the Preventative Maintenance Program in Appendix B of the PTI. The plant is employing the following preventative maintenance measures on the baghouse as required by Appendix B of its PTI: the pressure drop across the baghouse is being recorded daily (the pressure drop needs to be between 2" and 8" of water column); a high temperature alarm is set to shut down the plant in the event that the temperature within the baghouse exceeds 390

degrees Fahrenheit; any particulate matter collected by the baghouse is recirculated back into the asphalt mix; a black light test on the bags within the baghouse is conducted at the start of each paving season; at least 15 new bags are kept on site at all times; and baghouse maintenance records are being recorded. The pressure drop across the baghouse was 3 inches of water column at 12:12 PM and no visible emissions were observed to have been emanating from the baghouse's stack during the inspection. The virgin aggregate feed rate, RAP feed rate, asphalt paving material temperature, and the aggregate used to produce a particular asphalt mixture are being continuously recorded as required by Special Conditions VI.5.a through VI.5.d of the PTI. CO emissions from the counterflow drum's burner are monitored with a handheld monitor at the start of each paving season, after a malfunction event, and after 500 hours of operation as required by Special Conditions VI.7.a through VI.7.c and Special Condition VI.8 of the PTI. CO emissions were measured with a handheld monitor on April 10, 2014, April 18, 2015, and June 24, 2015. No CO concentrations greater than 500 ppmv were detected during these CO monitoring events. The company is operating the plant in accordance with the Emission Abatement for Startup, Shutdown, and Malfunction Plan as required by Special Condition III.3 and Appendix C of its PTI. Specifically, the plant is following the plan for normal startups, normal shutdowns, hot starts and hot stops, malfunctions, maintains an inventory of replacement parts on site, and is conducting daily visual inspections of the items listed in Appendix C. Appendix C is the company's internal policy for startup, shutdown, and malfunction events, and it was incorporated into the PTI by the Permit Engineer at the time of the issuance of the PTI. No recordkeeping is required by Appendix C. The plant is maintaining the following daily records as required by Special Conditions VI.4 and VI.5 of its PTI: the tons of asphalt produced containing RAP and the percentage of RAP in the asphalt; the virgin aggregate feed rate; the RAP feed rate; the temperature of the asphalt while it is being produced; and the aggregate used to produce a particular asphalt mix. The plant is maintaining 12-month rolling emission records for CO, SO₂, and NO_x as required by Special Condition VI.6 of its PTI. 12-month rolling CO, SO₂, and NO_x emission records from February 2014 through June 2015 indicate that the highest emissions of CO, SO₂, and NO_x were 23.01 tons, 0.6 tons, and 4.6 tons, respectively, occurring from October 2013 through September 2014. This is well below the 89.9 ton, 75.5 ton, and 80.6 ton 12-month rolling emission limits established in the PTI for CO, SO₂, and NO_x, respectively. The plant is recording average daily, monthly, and 12-month rolling time period asphalt production records and daily hourly operational records as required by Special Condition VI.9 and Special Condition VI.10 of its PTI, respectively. From February 2014 through June 2015, the highest 12-month rolling HMA production rate was 354,086 tons occurring from October 2013 through September 2014. This is well below the 895,000 ton HMA production limit established in the PTI. AQD staff informed Ms. Hanf and Mr. Zelenock that the plant's stack was a lot shorter than the stack of every other asphalt plant he has inspected and that the short stack may be a contributing factor to recent odor complaints the AQD has been receiving about the plant. They said that there is a regional airport nearby which limits their ability to raise the stack. AQD staff said that the stack is a lot lower than the asphalt storage silos, however, and that he did not understand why the stack could not be at least as high as the storage silos. AQD staff was also unsure if the stack was 47 feet above the ground as required by Special Condition VIII.1 of the PTI. Ms. Hanf and Mr. Zelenock said that they would have someone measure the stack to verify that it is 47 feet above ground level and inquire about the potential of raising the stack by the start of the 2016 construction season.

EU-YARD

The plant is abiding by the Fugitive Dust Control Plan in Appendix C of its PTI to control fugitive dust from the plant yard. The plant is also reporting particulate matter emissions from the plant yard and roadways in its annual MAERS report. As previously mentioned, no fugitive dust was observed to have been produced by vehicle traffic during the inspection.

FGFACILITY

The plant is maintaining 12-month rolling individual and aggregate HAP emission records. MAERS emission factors are used to calculate HAP emissions. 12-month rolling records from February 2014 through June 2015 indicate that the highest emission of aggregate HAPs was 0.75 tons occurring from

October 2013 through September 2014. During the same time period, the highest emission of an individual HAP was 0.548 tons of formaldehyde occurring from October 2013 through September 2014. 12-month rolling emissions of aggregate HAPs and individual HAPs are, therefore, well below the 22.5 ton and 9 ton limits established in the PTI for aggregate HAPs and individual HAPs, respectively.

COMPLIANCE DETERMINATION

Based on this inspection, with the possible exception of the baghouse's stack height, it was determined that Cadillac Asphalt's Wixom Plant is in compliance with its PTI and all other applicable air rules and regulations. AQD staff will reevaluate the plant's compliance status if the company determines that the stack height is less than permitted requirements. The following records are on the CD attached to this report: daily fuel usage records from July 7, 2015, through July 14, 2015; daily asphalt production records and hourly operational records from July 7, 2015, through July 14, 2015; daily emission calculations for the 2015 construction season; monthly asphalt production records; monthly records of the raw materials used to produce the final asphalt mixes (including the average monthly percentage of RAP used in those mixes); monthly natural gas usage records; monthly hourly operational records; and monthly and 12-month rolling CO, NOx, SO2, PM, individual HAP, and aggregate HAP emission records from February 2014 through June 2015. The daily production log includes a record of whether dust control was applied to the plant yard and roadways and the daily pressure drop across the baghouse. Hardcopies of the following records are attached to this report in the following order: sweeping records from Mainline Sweeping, LLC and Progressive Sweeping Contractors, Inc. for a portion of the 2014 construction season and the entire 2015 construction season; calcium chloride application records from Kleen Way, Inc. for a portion of the 2014 construction season and the entire 2015 construction season; daily asphalt mix change records from July 6, 2015, through July 11, 2015; CO monitoring event records from the counterflow drum's burner from July 24, 2012, through June 24, 2015; baghouse and plant maintenance records from May 1, 2007, through July 13, 2015; and Plant Preventative Maintenance Procedures required by Appendix C of the plant's PTI.

After completing the walk through inspection of the plant with Ms. Hanf and Mr. Zelenock, AQD staff conducted odor observations downwind of the plant along 11 Mile Road and Napier Road without detecting any odors. The 4 outstanding odor complaints received by the AQD on July 11, 2015, and July 13, 2015, are not considered to be adequately investigated and resolved, however. AQD staff is waiting for a day more conducive for odors to be observed in the neighborhood of the complainants (the Knightsbridge Court Subdivision east and south of the plant) before formally investigating the complaints. Mr. Zelenock told AQD staff during the inspection that he would have no problem if the AQD provided the complainants with his phone number and asked that they contact him in the event of future bad odor events. AQD staff attempted to give the complainants Mr. Zelenock's contact information after conducting the odor observations, but none of them were home at the time. Ms. Hanf and Mr. Zelenock said that the blue smoke system which is designed to minimize fugitive emissions from the load out area and the asphalt storage silos has not been operating correctly and that the company who manufactured the system is scheduled to troubleshoot it as soon as possible. Ms. Hanf and Mr. Zelenock believe that the malfunction of the blue smoke system may be causing the odors reported by the complainants.

NAME Erik Gurskaw DATE 7/17/15 SUPERVISOR CJE