

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

N692273240

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|--|--------------------------------------|----------------------------------|
| FACILITY: PAYNE & DOLAN INC C29 | | SRN / ID: N6922 |
| LOCATION: C29 PORTABLE ASPHALT PLANT #67-00, GLADSTONE | | DISTRICT: Marquette |
| CITY: GLADSTONE | | COUNTY: DELTA |
| CONTACT: Dan Bishop , Operator | | ACTIVITY DATE: 08/20/2024 |
| STAFF: Joe Scanlan | COMPLIANCE STATUS: Compliance | SOURCE CLASS: SM OPT OUT |
| SUBJECT: Unannounced inspection to determine compliance with PTI No. 67-00C | | |
| RESOLVED COMPLAINTS: | | |

REGULATORY AUTHORITY

Under the Authority of Section 5526 of Part 55 of NREPA, the Department of Environment, Great Lakes, and Energy may upon the presentation of their card, and stating the authority and purpose of the investigation, enter and inspect any property at reasonable times for the purpose of investigating either an actual or suspected source of air pollution or ascertaining compliance or noncompliance with NREPA, Rules promulgated thereunder, and the federal Clean Air Act.

FACILITY DESCRIPTION

Payne & Dolan, Inc. (P&D) is an asphalt material producer and pavement contractor based out of Waukesha, WI. P&D is one of several companies that make up the Walbec Group, which is a collection of companies that provides construction and engineering services. The company owns and operates several portable and stationary asphalt plants in Wisconsin and Michigan. P&D C29 is a portable HMA plant operating under Permit to Install (PTI) No. 67-00C. The HMA plant consists of aggregate and reclaimed asphalt pavement (RAP) storage piles, cold feed bins, conveyors, screens, drum dryer, fabric filter, asphalt cement storage tanks, silos, loaders, and haul trucks.

PROCESS DESCRIPTION

HMA is produced by the drying and mixing of aggregate, RAP, and liquid asphalt cement. HMA plants can be categorized as either batch or continuous mix. Continuous mix plants are further subdivided based on the type of dryer, which can be either a parallel-flow drum or counter-flow drum.

The HMA process begins with the transfer of aggregate, consisting of sand and crushed rock, from storage piles into cold aggregate feed bins. From the bins, material is dispensed onto conveyors that transport the material into screens and then into the drum dryer. The quantities of the type and size of aggregate are determined from the control room. The virgin aggregate is heated by a recycled used oil (RUO)-fired burner to remove moisture. Once the virgin aggregate reaches a certain length of the dryer, RAP is dispensed from a separate bin and added to the dryer. The RAP and aggregate continue to be heated and are then mixed with asphalt cement prior to exiting the dryer. After exiting the dryer, HMA is conveyed to storage silos where it is loaded into trucks to be hauled off-site.

EMISSIONS

The primary source of emissions from all three types of plants is the dryer. Air contaminants emitted include PM from aggregate drying and gaseous pollutants from the combustion process of the dryer. The gaseous pollutants consist of sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC). The quantities of gaseous pollutants emitted varies based on the type of fuel being burned and operating parameters. A fabric filter collector is primarily used as PM control for the dryer. Other sources of emissions at HMA plants include fugitive emissions of PM and VOCs from storage silos, truck load-out operations, liquid asphalt cement storage tanks, aggregate storage and handling, and vehicle traffic. Dust suppressants, such as water or calcium chloride, can be used to control fugitive PM emissions.

EMISSIONS REPORTING

P&D C29 is a synthetic minor source and is subject to the New Source Performance Standards (NSPS), Subpart I – Standards of Performance for Hot Mix Asphalt Facilities. This facility is required to report its annual emissions to the State and Local Emissions Inventory System (SLEIS).

Because the facility did not operate in Michigan since 2021, no emissions were reported for the 2023 or 2022 reporting years. Emissions reported in 2021 to MACES are summarized in the table below:

| Pollutant | 2021 Reported Emissions (tons)* |
|-------------------------------------|--|
| CO | 3.25 |
| Lead | 0.00003 |
| NO_x | 1.38 |
| PM₁₀, Filterable | 0.76 |
| PM₁₀, Primary | 0.33 |
| PM_{2.5}, Filterable | 0.075 |
| SO₂ | 0.28 |
| VOC | 0.80 |

*Total asphalt mix throughput 50,031 tons

COMPLIANCE HISTORY

The source was last inspected in August 2008 for compliance with PTI No. 67-00. No compliance issues were observed during that inspection.

REGULATORY ANALYSIS

P&D C29 is subject to PTI No. 67-00C, issued on November 18, 2021, for a portable HMA plant. The facility is considered a synthetic minor for HAPs and criteria pollutants because the source took emission limits to restrict its potential-to-emit (PTE) to below major source thresholds of 10 tpy for individual HAPS and 25 tpy for combined HAP emissions. The facility also took limits to restrict its PTE to 89.9 tpy for each criteria pollutant to stay below major source thresholds of 100 tpy. The source is subject to NSPS Subpart I, because the source is defined as a hot mix asphalt facility that commenced construction after June 11, 1973.

INSPECTION

AQD staff Joseph Scanlan (myself) performed an on-site inspection of P&D C29 on 8/20/2024. The plant was operating at the Aronson Pit located on 10403 Choate Road, Ewen, MI. P&D C29 is scheduled to operate at this location from 7/8/2024 to 10/19/2024. A relocation notice was provided on 7/03/2024 for the relocation from Wisconsin to the Aronson Pit. The relocation notice states the plant is located more than 800 feet from the nearest residential or commercial establishment.

Weather conditions at the time were clear with temperatures of 62 degrees Fahrenheit and little to no wind. The plant is located in an aggregate pit with a private driveway leading into the site from Choate Road. Upon arrival, AQD staff was able to see a truck leaving the plant and turning on to Choate Road, headed north. There was no track-out observed onto the road.

AQD staff proceeded to inspect the plant. While entering the aggregate pit, the plant and yard were observed for fugitive emissions. No opacity exceedances were detected, and the plant roadway leading into the aggregate pit is paved asphalt.

The drum was rotating when staff was observing the plant from the road, however shortly after entering the pit the plant shut down. AQD staff made contact with plant operator, Dan Bishop, in the control room and stated the purpose of the inspection. Dan explained that the plant had just finished production for the day (1:45 PM). Dan mentioned that typically they run later, however they were short truck drivers that day, so HMA production was reduced.

Even though the plant was not operating, a walk-around inspection of all the plant equipment was performed to check for necessary installations and condition of air pollution control equipment. The baghouse was installed and connected to the drum dryer. The baghouse appeared to be in good condition with no holes or gaps in the structure. The main exhaust duct from the dryer to the baghouse also appeared to be in good condition with no gaps in the structure. No excess material was observed around transfer points of the collected material from the baghouse. The collection system appeared to be well sealed. Areas around the feed bins were inspected for excess spills of aggregate material. No excess spills were observed and drop distances from the loader appeared to be kept to a minimum and in control.

Process data was gathered from the plant control room while on-site. The plant was producing on average 250 tons/hr, the percent RAP in the mix was 18%. Total HMA

produced that day was 1163 tons. Baghouse differential pressure readings are monitored constantly during operation and recorded once per day. Baghouse pressure check logs were provided by Dan using the company's recordkeeping database that he can access from his control room. Differential pressures reviewed over a two-week period were between 2.6" and 3.8" H₂O, which is within the normal operating range.

SC I.1 – 30, V.2

Plant C29 contains emission limits for PM, CO, SO₂, NO_x, VOCs, Lead, Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene, Formaldehyde, Acrolein, Arsenic, Nickel, Manganese, and Hydrochloric acid. Compliance with these emission limits is demonstrated through "upon request" stack testing and 12-month rolling emission calculations. To-date, the plant has not been requested to verify the hourly emission limits through stack testing.

SC II.1 – 5

The plant also contains limits on the specifications of the recycled used oil (RUO), as listed in SC II.1 and cannot process any asbestos tailings or waste materials containing asbestos. The percent RAP in the HMA mix is restricted to 30% based on a monthly average and the plant also has limits on the amount of HMA processed on both an hourly (300 tph) and 12-month rolling (500,000 tons) basis. Compliance with these limits is demonstrated through recordkeeping.

SC II.1, III.1, VI.9 – 10

Plant C29 uses RUO as fuel in the drum dryer. The RUO specification is not allowed to exceed the maximum concentration of the parameters listed in SC II.1. Plant C29 keeps records of delivery receipts and fuel oil analysis certifications. An example record was provided that notes a used oil tank was sent to the plant on 8/15/2024 from the Gladstone Light Oil Terminal. The delivery receipt states the tank number (#15) and the amount delivered (43.16 tons). A fuel oil analysis certification of the tank was supplied with the delivery. Samples of the tank were taken on 04/15/2024 and analyzed by Summit Environmental Technologies. The results of the analysis show the RUO to be within specification of the parameters outlined in SC II.1.

SC III.2 & 3, VI.3,4 & 7

The plant is required to maintain the efficiency of the drum burner to control CO emissions by performing burner tune ups at the start of the paving season, every 500 hours of operation, or upon a malfunction of the dryer. Records were provided of burner tune-ups, the most recent conducted on 7/31/2024. The analyzer calibration date for this report was 4/01/2021. The table below outlines the burner tune up report reviewed.

5/17/2024

| | Before | After |
|------------------|--------|-------|
| O ₂ % | 9.5 | 11.5 |

| | | |
|-------------------------------|-------------|------------|
| CO ppm | 723 | 298 |
| CO2% | 10.4 | 7.2 |
| Excess Air % | 125 | 135 |
| Production Rate (TPH) | 308 | 308 |
| Burner Firing Rate (%) | 52 | 52 |
| Agg Moisture (%) | 4.1 | 4.1 |
| Mix Temp (deg F) | 301 | 301 |
| Ambient Temp (deg F) | 64 | 64 |
| Stack Temp (deg F) | 277 | 277 |
| Baghouse d.p (in WC) | 4.5 | 4.5 |
| Percent RAP in mix | 18 | 18 |

The report describes eight points of data were collected over a half hour period during the burner tune up. The final CO concentration after adjustments were made was 298 ppm. Having a CO concentration below 500 ppm indicates proper burner performance.

SC III.3, IV.1 & 2, VI.4 & 12

P&D C29 is equipped with a pulse jet baghouse for particulate control from the dryer. The pressure drop is continuously monitored and recorded from the control room. At the time of the inspection, the baghouse and plant were not in operation. The environmental tracking record for that day showed a differential pressure reading of 2.8" H2O. Baghouse pressure check logs were provided by Dan using the company's environmental tracking database that he can access and utilize from the plant control room. Differential pressures reviewed over a two-week period (7/31/2024 through

8/20/2024) were between 2.6” and 3.8” H₂O, which is within the normal operating range of 2-8” H₂O during operation. A baghouse maintenance record was provided that notes which bags were replaced. The record notes 11 bags were changed on 8/05/2024, and all bags were replaced at the end of 2023. Maintenance records are consistent with the Preventative Maintenance Program specified in Appendix B of PTI No. 67-00C.

SC V.1

To-date, odor testing has not been required for this plant. No asphalt odors detected were greater than a “1” or “0” on the odor scale, however the plant had just stopped operations for the day.

SC VI.2,5,6,8 & 11

Plant C29 utilizes a control system to continuously monitor the virgin aggregate feed rate, the RAP feed rate, and information to identify all components of the asphalt paving material mixture. The plant maintains a daily environmental tracking database that records the baghouse differential pressure, drum differential pressure, drum mix and exhaust temperatures, RAP content, virgin aggregate content, HMA produced, and hours of production for a given date. Baghouse differential pressure recordings are performed every 8 hours.

The environmental tracking records also track the daily fuel data that note the amount of fuel used, specific gravity of the fuel, BTU content, if specification sheet was provided with delivery, if the specifications are okay, and percent sulfur by weight. Environmental tracking records were provided for the dates 7/15/2024 through 8/26/2024.

The daily sulfur content of the fuel oil was 0.2011 (limit = 0.5%), and the differential pressure of the baghouse indicates proper operation.

The records reviewed showed the percent of RAP in the mix ranged from 12 to 19%:

| Log Date | RAP Percent (Limit = 30) |
|---------------------|--------------------------|
| 08/26/2024 4:43 PM | 18 |
| 08/23/2024 12:14 PM | 12 |
| 08/22/2024 4:38 PM | 12 |
| 08/21/2024 5:04 PM | 12 |
| 08/20/2024 3:16 PM | 18 |

| | |
|---------------------------------|-----------|
| 08/19/2024 6:17 PM | 18 |
| 08/15/2024 11:14 AM | 19 |
| 08/14/2024 6:15 PM | 19 |
| 08/13/2024 12:00 AM | 18 |
| 08/12/2024 1:03 PM | 18 |
| 08/08/2024 3:53 PM | 18 |
| 08/07/2024 7:11 PM | 18 |
| 08/06/2024 7:14 PM | 18 |
| 08/05/2024 12:44 PM | 18 |
| 08/02/2024 3:39 PM | 18 |
| 08/01/2024 3:25 PM | 18 |
| August Average % RAP | 17 |
| 07/31/2024 7:31 PM | 18 |
| 07/30/2024 4:15 PM | 18 |
| 07/26/2024 4:52 PM | 18 |
| 07/25/2024 5:52 PM | 18 |
| 07/24/2024 6:23 PM | 18 |
| 07/23/2024 3:53 PM | 18 |
| 07/22/2024 4:19 PM | 18 |
| | |

| | |
|---------------------------|-------------|
| 07/17/2024 3:22 PM | 18 |
| 07/16/2024 5:30 PM | 18 |
| 07/15/2024 4:51 PM | 17 |
| July Average % RAP | 17.9 |

Hours of production:

| Log Date | Drum Hours |
|----------------------------|-------------------|
| 08/26/2024 4:43 PM | 7 hr |
| 08/23/2024 12:14 PM | 1 hr |
| 08/22/2024 4:38 PM | 5 hr |
| 08/21/2024 5:04 PM | 6 hr |
| 08/20/2024 3:16 PM | 4 hr |
| 08/19/2024 6:17 PM | 7 hr |
| 08/15/2024 11:14 AM | 3 hr |
| 08/14/2024 6:15 PM | 8 hr |
| 08/13/2024 12:00 AM | 8 hr |
| 08/12/2024 1:03 PM | 1 hr |
| 08/08/2024 3:53 PM | 5 hr |
| | |

| | |
|----------------------------|---------------|
| 08/07/2024 7:11 PM | 9 hr |
| 08/06/2024 7:14 PM | 10 hr |
| 08/05/2024 12:44 PM | 1 hr |
| 08/02/2024 3:39 PM | 3 hr |
| 08/01/2024 3:25 PM | 3 hr |
| 07/31/2024 7:31 PM | 9 hr |
| 07/30/2024 4:15 PM | 6 hr |
| 07/26/2024 4:52 PM | 8 hr |
| 07/25/2024 5:52 PM | 7 hr |
| 07/24/2024 6:23 PM | 8 hr |
| 07/23/2024 3:53 PM | 9.5 hr |
| 07/22/2024 4:19 PM | 4.5 hr |
| 07/17/2024 3:22 PM | 4.5 hr |
| 07/16/2024 5:30 PM | 6 hr |
| 07/15/2024 4:51 PM | 1 hr |

The total amount of HMA produced from 7/15/2024 through 8/26/2024 ranged from 28.4 tons to 2800.3 tons per day, mix temperature ranged from 306 to 314 degrees Fahrenheit, and the amount of RUO fired ranged between 242 gallons and 4575 gallons per day. 12-month rolling tonnage of HMA produced for the months of June, July, and August of 2024 were 1912, 8037, and 12,123 tons, respectively. For RAP usage, 12-month rolling tonnage for the same time period was 4.9, 1277, and 2031 tons, respectively.

The daily environmental tracking form contains a checklist of items to inspect and maintain such as fuel pump, door and drum seals, gauge and line checks, baghouse checks, ductwork integrity, and damper operations.

SC VI.13

The company keeps records based on the most recent calendar year for CO, SO₂, NO_x, VOCs, PM, and lead emissions from EU001. Emissions data with calculations were provided for all criteria, metals, and HAP pollutants on a daily, monthly, annual, and 12-month rolling basis. The facility has not had a stack test and uses the applicable emission factors to estimate the emissions of a pollutant.

Because the plant operates in both Wisconsin and Michigan, it tracks and reports pollutants based on geographic location. The facility will only be operating at the Aronson Pit in Michigan in 2024 and hasn't operated in Michigan since 2021. The 12-Month Rolling data for pollutants begins in June of 2024 when the plant began operating in Wisconsin:

| Pollutant | Emission Factor (lb/ton) | Time Frame | June 2024 (tons) | July 2024 (tons) | August 2024 (tons) | Emission Limit (tons) |
|-----------------|--------------------------|------------------|------------------|------------------|--------------------|-----------------------|
| CO | 0.13 | Monthly | 0.1242 | 0.921 | 1.319 | |
| | | 12-Month Rolling | 0.1242 | 1.045 | 2.364 | 50.3 tpy |
| NO _x | 0.055 | Monthly | 0.0526 | 0.389 | 0.558 | |
| | | 12-Month Rolling | 0.0526 | 0.442 | 1.0001 | 30 tpy |
| SO ₂ | 0.058 | Monthly | 0.0554 | 0.411 | 0.589 | |
| | | 12-Month Rolling | 0.0554 | 0.466 | 1.055 | 40 tpy |
| VOC | 0.032 | Monthly | 0.0306 | 0.227 | 0.325 | |
| | | 12-Month Rolling | 0.0306 | 0.257 | 0.582 | 14.5 tpy |
| PM 2.5 | 0.0029 | Monthly | 0.0027 | 0.0206 | 0.029 | |
| | | | | | | |

| | | | | | | |
|------|----------|------------------|--------|---------|--------|------------|
| | | 12-Month Rolling | 0.0027 | 0.0233 | 0.053 | 29 tpy |
| PM10 | 0.0042 | Monthly | 0.0040 | 0.0298 | 0.043 | |
| | | 12-Month Rolling | 0.0040 | 0.0338 | 0.076 | 29 tpy |
| Lead | 0.000015 | Monthly | 1.5E-5 | 1.5E-5 | 1.5E-5 | |
| | | 12-Month Rolling | 1.5E-5 | 0.00012 | 0.0003 | 5.0E-4 tpy |

SC IX.1

P&D C29 is portable asphalt plant and has not remained in a geographical location longer than 12 months. A relocation notice, dated 7/03/2024, was provided for the relocation from Wisconsin to the Aronson Pit located on 10403 Choate Road, Ewen, MI 49925. The plant will be located at the Aronson Pit until 10/19/2024. The setback distance of the plant is greater than 800 feet from the nearest residential or commercial establishment.

EUYARD – Fugitive dust sources including plant roadways, plant yard, material storage piles, material handling operations (excluding cold feed aggregate bins)

SC III.1

The environmental tracking form notes if fugitive dust was checked for and if roads were swept or watered. The environmental tracking form reviewed states areas were checked for fugitive dust and watered during days of operation.

FGPLANT – Emissions associated with the EU001 & EUYARD

SC I.1 – 6

12-month rolling limits of 89.9 tpy for CO, SO₂, NO_x, VOC, PM₁₀, PM_{2.5}. The totals provided in the table above for SC VI.13 include total emission for EU001 & EUYARD, showing compliance with the emission limits of FGPLANT for these pollutants.

SC I.7 & 8

12-month rolling limits of <8.9 tpy for each individual HAP and <22.49 tpy for aggregate HAPs. The company provide a detailed spreadsheet of emissions calculations for individual and aggregate HAPs by source. 12-month rolling aggregate HAPs have totaled 5.3 tons for 2024, showing compliance with all individual HAP and aggregate HAP limits:

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

| 2024 HAPs Emissions | Time Frame | June 2024 (tons) | July 2024 (tons) | August 2024 (tons) | |
|--|------------------|------------------|------------------|--------------------|---------------------------------------|
| Plant | Monthly | 0.2721 | 2.053 | 2.942 | |
| | 12-Month Rolling | 0.2721 | 2.330 | 5.271 | |
| Silo | Monthly | 0.00014 | 0.0012 | 0.0015 | |
| | 12-Month Rolling | 0.00014 | 0.0012 | 0.0027 | |
| Load Out | Monthly | 5.35e-5 | 0.0004 | 0.0006 | |
| | 12-Month Rolling | 5.35e-5 | 0.0004 | 0.0010 | |
| Total HAPs | | 0.277 | 2.054 | 2.944 | |
| 12-month rolling Aggregate HAPs | | 0.277 | 2.332 | 5.275 | Emission Limit (tons) 22.4 tpy |

COMPLIANCE

Based on the inspection performed and records reviewed, Payne & Dolan C29 appears to be in compliance with PTI No. 67-00C.

NAME 

DATE 10/1/2024

SUPERVISOR 