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

N351264221

FACILITY: PAYNE & DOLAN INC C21		**SRN / ID:** N3512
LOCATION: C21 PORTABLE ASPHALT PLANT #336-92R, GLADSTONE		**DISTRICT:** Marquette
CITY: GLADSTONE		**COUNTY:** DELTA
CONTACT: JAMES MERTES , ENVIRONMENTAL COORDINATOR		**ACTIVITY DATE:** 08/11/2022
STAFF: Michael Conklin	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Complaint investigation for PEAS (#24964) and targeted inspection for FY 22.		
RESOLVED COMPLAINTS: C-22-01350		

Facility: Payne & Dolan Inc. C21 (SRN: N3512)

Location: PO Box 781, N3W23650 Badinger Rd, Waukesha, WI 53187

Contact: Jim Mertes, Environmental Manager, 262-524-1849

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 C21 is a portable HMA plant operating under Permit to Install (PTI) No. 336-92V. 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 (SO_2), nitrogen oxides (NOx), 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 C21 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 Michigan Air Emissions Reporting System (MAERS). Source total emissions for 2021 are summarized in the table below.

Pollutant	Emissions (lbs)
CO	8918.91
Lead	0.37
NOx	3773.38
PM10, Filterable	2096.21

PM10, Primary	**4459.45**
PM2.5, Filterable	**1029.11**
SO2	**3979.21**
VOC	**2195.42**

Compliance History

The source was last inspected in August 2019 for compliance with PTI No. 336-92T. A Violation Notice (VN) was issued for failing to maintain records as required by Special Conditions 1.7, 1.11, and 1.12 from PTI No. 336-92T. The facility provided the required records and the VN was considered resolved in October 2019.

Regulatory Analysis

P&D C21 is subject to PTI No. 336-92V, 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

A PEAS complaint (#24964) was received by the AQD Marquette District Office on 8/10/2022 regarding odors and fugitive dust attributed to P&D C21. At the time of the complaint, the plant was operating at the Rasner Agg Site located off County Road 338, 0.7 miles east of County Road 571 in Wallace, MI. P&D C21 is scheduled to operate at this location from 7/6/2022 to 9/25/2022. A relocation notice was provided on 6/21/2022 for the relocation from the Bark River Concrete site to the Rasner Agg Site. The relocation notice states the plant is located more than 800 feet from the nearest residential or commercial establishment.

AQD staff (Michael Conklin) performed a complaint investigation and on-site inspection on 8/11/2022. Weather conditions at the time were clear with temperatures of 75 degrees Fahrenheit and winds at 6 mph out of the northeast. The plant is located in an aggregate pit with a private road leading into the site from County Road 338. Upon arrival, AQD staff was able to see

a truck leaving the plant and turning on to County Rd 338, headed west. There was track-out observed onto the county road causing a large dust plume to be carried by the trucks for a few hundred feet and blowing into residential houses. The source of the track-out appeared to be from the end of the quarry road and from the trucks' trailers dipping into the shoulder from turning sharp. This was causing very fine sand/gavel to be pulled out onto 338 and carried with the trucks resulting in fugitive dust. The portion of County Road 338 that the trucks are operating is a residential area with houses close to the road.

After observations of trucks leaving the plant and turning onto County Road 338, AQD staff proceeded to inspect the plant. While entering the aggregate pit, observations of the plant and yard were taken to inspect for fugitive emissions and opacity limits. No opacity exceedances were detected, and the plant roadway leading into the aggregate pit appeared to be well saturated. AQD staff next met with plant operators, Chris Noel and Ryan Thorbahn, and stated the purpose of the inspection. Mr. Noel and Mr. Thorbahn were informed a complaint was made on the plant for nuisance odors and fugitive dust. AQD staff explained the fugitive dust issues observed from the track-out onto County Road 338. Mr. Noel and Mr. Thorbahn immediately contacted the driver for the brine truck and stated they would apply asphalt to the intersection area and shoulder. Within an hour, both brine and asphalt were applied to these areas. Given the amount of truck traffic in and out, AQD staff recommended there be frequent monitoring of this intersection and dust control applications be used as needed. The trucks should be advised to turn wide onto 338 to avoid the trailers dipping into the gravel shoulder.

While the plant was 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.

While the plant was producing HMA, visible emission checks were performed. The fabric filter collector was connected to the drum mixer/dryer and exhausting out the stack. No visible emissions were observed, only steam from aggregate drying. Fugitive dust from loader operations were below 5 percent opacity and drop distances were kept to a minimum into the feed bins. There were no visible fugitive emissions from process equipment as all doors and seals appeared to be maintained and operating properly. Process data was gathered from the plant control room while on-site. The plant was producing on average 380 tons/hr, the percent RAP in the mix was 10%, and the baghouse pressure drop was reading 4.0 "WC.

SC I.1 – 10, VI.10

Plant C21 contains emission limits for PM, SO2, NOx, CO, formaldehyde, acrolein, and sulfuric 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 Special Condition (SC) II.1, and can not 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.7 – 8

Plant C21 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 C21 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 6/22/22 from the Gladstone Light Oil Terminal. The delivery receipt states the tank number (#15) and the amount delivered (43.41 tons). A fuel oil analysis certification of the tank was supplied with the delivery. Samples of the tank were taken on 04/26/2022 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, VI.3 and 6

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 a burner tune-up conducted on 7/14/2022. The analyzer calibration date for this report was 1/27/2022. The table below outlines the burner tune up report reviewed.

	7/14/2022	
	Before	After
O2%	13.8	13.5
CO ppm	149	144

CO2%	**5.8**	**5.69**
Excess Air %	**186**	**178**
Production Rate (TPH)	**273**	**273**
Burner Firing Rate (%)	**67**	**67**
Agg Moisture (%)	**4.3**	**4.3**
Mix Temp (deg F)	**312**	**312**
Ambient Temp (deg F)	**65**	**65**
Stack Temp (deg F)	**274**	**274**
Baghouse d.p (in WC)	**3.5**	**3.5**
Percent RAP in mix	**22**	**22**

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 144 ppm. Having a CO concentration below 500 ppm indicates proper burner performance.

SC IV.1-2, VI.9

P&D C21 is equipped with a pulse jet baghouse for particulate control from the dryer. The pressure drop is continuously monitored and recorded form the control room. At the time of the inspection, the pressure drop was 4.0 "WC. Environmental tracking records were provided for the week of 08/07/2022. The records show the baghouse differential pressure is recorded every 8 hours, the baghouse was in operation during HMA production, and the differential pressure stayed within range. From records reviewed and from observations during the inspection, the differential pressure of the baghouse stays between 2-8 "WC during operation. A baghouse maintenance record was provided that notes which bags were replaced. The record notes 5 bags

were changed on 7/12/2022 as part of the 2022 first 20,000 ton check, and all bags were replaced at the end of 2021.

SC V.1

To-date, odor testing has not been required for this plant. As part of the complaint investigation, an odor evaluation was performed on 8/11/2022. The odor evaluation was performed at the intersection of the quarry road and County Road 338. Readings were taken between 4:09 and 4:39 PM CST. During that time period, any asphalt odors detected were on the odor scale of a "1" or "0". Odors with an intensity of greater than "3" and extended duration were not detected.

SC VI.2, 4, 5

Plant C21 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 form that records the baghouse differential pressure, drum differential pressure, RAP content, virgin aggregate content, HMA produced, and hours of production for a given date. The pressure drop recordings are performed every 8 hours. The environmental tracking forms also provide 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 week of 08/07/2022. The records reviewed show the % RAP in the mix to be 10%, the sulfur content of the fuel oil was less than 0.5%, and the differential pressure of the baghouse indicates proper operation. The total amount of HMA produced for the week was 13,738 tons, the mix temperature was at 310 degrees Fahrenheit, and the amount of RUO fired was 20,663 gallons. 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 IX.1

P&D C21 is portable asphalt plant and has not remained in a geographical location longer than 12 months. A relocation notice, dated 6/21/2022, was provided for the relocation from the Bark River Concrete Agg site to the Rasner Agg site off County Road 338. The setback distance of the plant is greater than 800 feet from the nearest residential or commercial establishment.

<u>EUYARD</u>

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.

Compliance

Based on the inspection performed and records reviewed, Payne & Dolan C21 appears to be in compliance with PTI No. 336-92V.

Image (1): Plant C21 at Rasner Agg site.

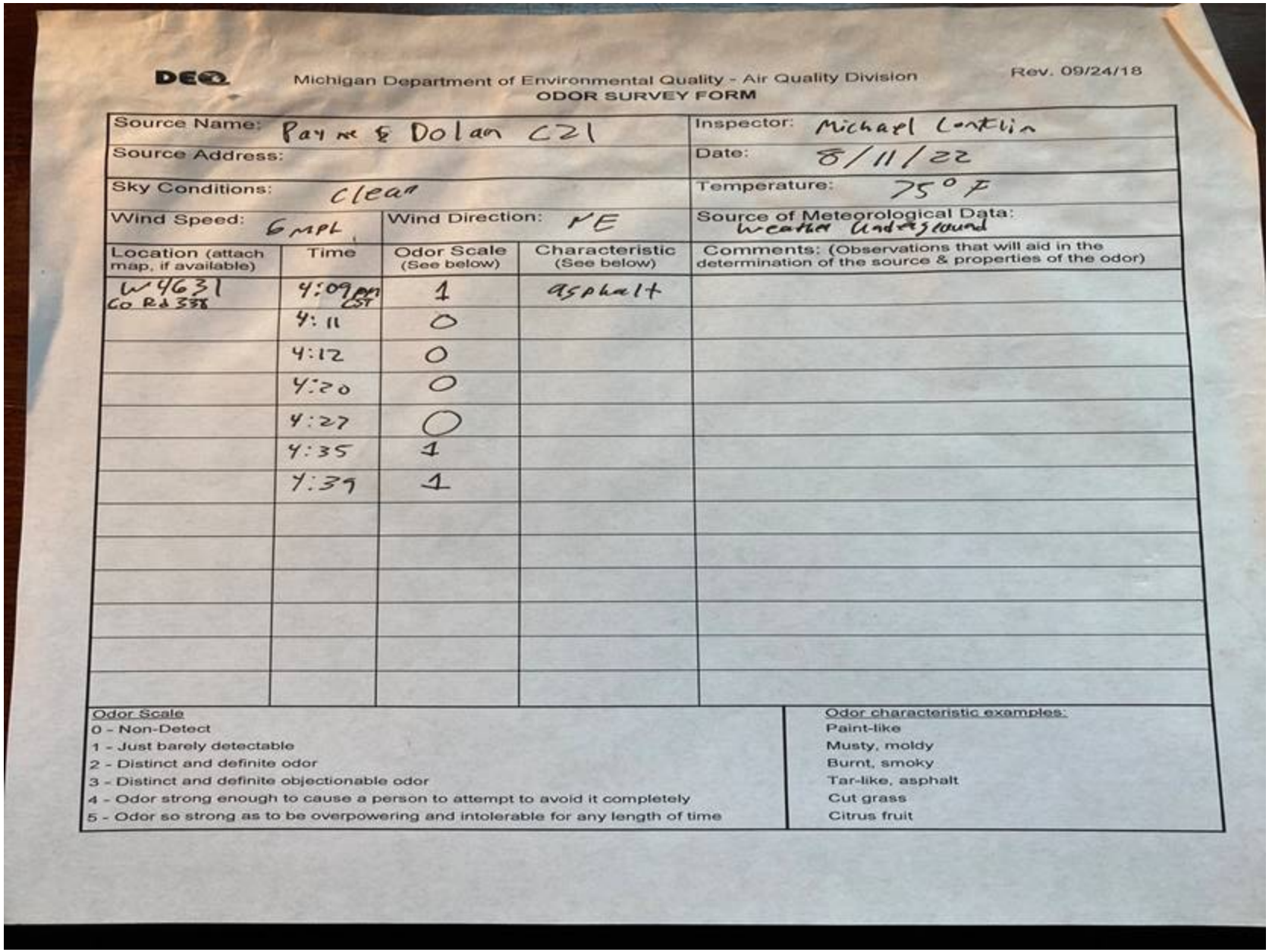
Image (2): Truck load-out operations.

Image (3): Source of fugitive dust at intersection of County Road 338 and the quarry road.

Image (4): Track-out observed onto County Road 338.

Image (5): Brine and asphalt being applied to the intersection.

Image (6): Intersection after brine and asphalt applied.



DEQ Michigan Department of Environmental Quality - Air Quality Division Rev. 09/24/18

ODOR SURVEY FORM

Source Name: Payne & Dolan C21				Inspector: Michael Conklin	
Source Address:				Date: 8/11/22	
Sky Conditions: Clear				Temperature: 75° F	
Wind Speed: 6 MPH		Wind Direction: NE		Source of Meteorological Data: Weather Underground	
Location (attach map, if available)	Time	Odor Scale (See below)	Characteristic (See below)	Comments: (Observations that will aid in the determination of the source & properties of the odor)	
W4631 Co Rd 388	4:09 pm CST	1	Asphalt		
	4:11	0			
	4:12	0			
	4:20	0			
	4:27	0			
	4:35	1			
	4:39	1			

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

Odor characteristic examples:
Paint-like
Musty, moldy
Burnt, smoky
Tar-like, asphalt
Cut grass
Citrus fruit

Image (7): Odor evaluation form.

NAME _____ DATE 8-29-2022 SUPERVISOR _____