



DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

Permit Application Analysis
A0015994

Date__

NAME OF FIRM:	Hunt Construction Company, Inc. (CMP100825)
NAME OF FACILITY:	Hunt Construction - Asphalt Maintenance Yard (F031362)
FACILITY LOCATION:	7577 S Hwy 89, Jackson, WY 83001 Lat: 43.37135° Long: -110.74277° Teton County, Wyoming
TYPE OF OPERATION:	Portable Asphalt Recycler
MAILING ADDRESS:	PO Box 7515 Jackson, WY 83002
RESPONSIBLE OFFICIAL:	Jason Hunt
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REVIEWING ENGINEER:	Ken O'Donnell, NSR Permit Writer Janell Mellish, NSR Air Quality Modeler

1.0 PURPOSE OF APPLICATION

On January 18, 2024, the Division of Air Quality received an application from Hunt Construction Company, Inc. to install and operate a Bagela BA10000 portable diesel-fired asphalt recycler (HMA001), to be initially located at 7577 S Hwy 89, Jackson, in Teton County, Wyoming. Maximum production for the portable asphalt recycler is reported at 3,000 tons per year (tpy) and will use one-hundred percent (100%) Recycled Asphalt Pavement (RAP), broken chunk asphalt, or milled asphalt.

The portable asphalt recycler is trailer-mounted and powered by a 25 hp Kubota D1105 (or equivalent model) diesel generator engine (ENG001). This unit recycles either broken chunk or milled asphalt into fresh hot mix at a rate of ten (10) tons per hour (tph). Using convection heating from a 1.48 MMBtu/hr E.O.-B45Z/H twin stage burner (HET001), the flame from the burner does not come in direct contact with the material inside the mixing drum. Material is loaded into the front of the recycler via a hydraulically operated hopper and discharged through rear of mixing drum at rear of the recycler.

2.0 PROCESS DESCRIPTION

The portable asphalt recycler recycles either broken chunk or milled asphalt. By design, the asphalt recycler can be taken to a construction site to perform various pavement patching tasks using the broken chunk asphalt removed at the physical location of the job site. For example, when a portion of paved road requires digging to access a waterline for purposes of maintenance and repairs, the asphalt recycler may be used to recycle the broken chunk asphalt resulting from the digging into hot mix asphalt which can be laid after the underground work has been completed. The portable asphalt recycler requires no oil additives, therefore requiring no silos to store hot asphalt cement oil or tack oil. There is no storage of hot mix asphalt.

When not being used in this manner, the portable asphalt recycler may be operated at the location stated above in Section 1.0. When used at this location, there will be a stockpile onsite of broken chunk asphalt roughly 50 feet square, stacked at most 6 feet high (approximately 556 cubic yards). The broken chunk asphalt from the stockpile is then reduced to more manageable pieces for the portable asphalt recycler using a small jackhammer and the resulting material is fed into the asphalt recycler which is then towed to the location requiring pavement patching work. There are no silos required for storage of the resulting hot mix asphalt.

3.0 ESTIMATED EMISSIONS

3.1 Portable Asphalt Recycler

With respect to estimating potential emissions in this case, and in lieu of lacking literature and testing for units such as the portable asphalt recycler, the Division has determined that the portable asphalt recycler (HMA001) may be approximated using known estimates of hot mix asphalt plants. Based on the Division's experience with hot mix asphalt plants, it is known that the operating nature, size, and equipment configuration of a hot mix asphalt plant would result in significantly greater emissions than the Bagela BA10000 portable asphalt recycler. For example, a recent application received for a counterflow drum mix hot mix asphalt plant with a reported annual production of 576,000 tpy (the portable asphalt recycler will implicitly be limited to 3,000 tpy based on 300 annual operating hours and 10 tph production rate) included multiple silos storing hot asphalt cement oil, tack oil and hot mix asphalt, a 100.0 MMBtu/hr natural gas burner (the diesel-fired burner on the Bagela asphalt recycler is rated at 1.5 MMBtu/hr), and numerous conveyor/transfer drop points. As described in Section 2.0, there will be no storage silos, oil additives, or numerous conveyor transfers or drop points to account for. In addition, a representative hot mix asphalt plant is typically powered by a much larger generator than the Bagela's 25 hp Kubota generator engine.

As mentioned above, the portable asphalt recycler will be implicitly limited to a maximum annual production of 3,000 tpy, through conditions of this proposed permit placed on annual operating hours. This value was determined based on a maximum operational capacity of 10 tph and 300 annual hours of operation. Therefore, the Division has determined that the estimated emission rates of a portable hot mix asphalt plant, as shown in Table 1 below, would be unduly conservative in comparison with the portable asphalt recycler considering that, as mentioned above, a recent application received by the Division for a portable hot mix asphalt plant reported a maximum annual production of 576,000 tpy. The emission rates in Table 1 are therefore used to inform the estimate of emissions for the portable asphalt recycler and are not representative of the emission rates of the portable asphalt recycler.

The pollutants of main concern during hot mix asphalt plant operations are fugitive particulate matter, nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC) and sulfur dioxide (SO₂). The Division averaged the emissions of twenty (20) hot mix asphalt plants from previous air quality permits issued from January 1, 2014 until January 1, 2021. Table 1 lists the average estimated emissions for a hot mix asphalt plant.

Table 1: Hot Mix Asphalt Plant Emissions, tpy^{1, 2}						
Source	PM	PM ₁₀	NO _x	CO	VOC	SO ₂
Hot Mix Asphalt Plant	17.0	12.5	9.7	35.6	11.0	4.4

¹ Emissions estimated to nearest 0.1.

² These emissions are used to approximate the portable asphalt recycler and are significantly greater than the portable asphalt recycler.

The Division determined an average throughput of 453,709 tpy for the hot mix asphalt plants permitted under the same previous air quality permits issued from January 1, 2014 until January 1, 2021. The throughput for the Bagela BA10000 portable asphalt recycler will be 3,000 tpy. Thus, the production rate for the portable asphalt recycler is approximately 0.7% (3000/453709) of the production rate of the averaged hot mix asphalt plant displayed in Table 1. Therefore, it follows that a reasonable and justifiable estimate for emissions from the portable asphalt recycler can be made by reducing the emissions from Table 1 by 99.3% (100% - 0.7% = 99.3%). Emissions for the portable asphalt recycler, calculated by reducing the emissions from Table 1 by 99.3% are show in Table 2 below.

Table 2: Bagela BA 10000 Portable Asphalt Recycler Estimated Emissions, tpy ¹						
Source	PM	PM ₁₀	NO _x	CO	VOC	SO ₂
Portable Asphalt Recycler	0.1	0.1	0.1	0.2	0.1	<0.1

¹ Emissions estimated to nearest 0.1.

3.2 Generator Engine

A 25 hp Kubota D1105 (or equivalent model) diesel generator engine (ENG001) will be used to power the portable asphalt recycler. The major pollutants emitted from the engine include NO_x, CO, VOCs and PM₁₀ from incomplete combustion. To estimate emissions the Division used emission factors from EPA AP-42 Table 3.3-1 and a limited operation of 300 hours per year. Emissions estimates for the Kubota D1105 diesel generator engine are shown in Tables 3 and 4.

Table 3: Emission Factors (g/hp-hr) ¹						
Engine	hp	Controls	NO _x	CO	VOC	PM ₁₀
Kubota D1105 generator engine (ENG001)	25	N/A	14.1	3.1	1.1	1.0

¹ Emission factors based on AP-42 Table 3.3-1 *Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines*.

Table 4: Engine Estimated Emissions, tpy ¹					
Source	hp	NO _x	CO	VOC	PM ₁₀
Kubota D1105 generator engine (ENG001)	25	0.1	<0.1	<0.1	<0.1

¹ Emissions are based on 300 hours of operation per year.

3.3 Heating System

The heating system for the Bagela portable asphalt recycler is a diesel-fired 1.48 MMBtu/hr E.O.-B 45Z/H twin stage burner (HET001). With a fuel consumption rate of 5 kg per ton and an approximate diesel fuel density of 3.2 kg per gallon, the estimated fuel consumption by volume is 1.6 gallons per ton of hot mix asphalt produced. Emission factors for the 1.48 MMBtu/hr heating system (HET001) were estimated by the Division using an approximate fuel consumption rate of 1.6 gallons per ton and EPA AP-42 Tables 1.3-1 and 1.3-2 (expressed therein as lb/10³ gal) for distillate oil fired boilers less than 100 MMBtu/hr. Estimated emission factors are shown in Table 5 below. Estimated emissions based on a proposed production rate of 3,000 tpy are shown in Table 6 below.

Table 5: Emission Factors (lb per ton hot mix asphalt produced)				
Source	NO _x ¹	CO ¹	VOC ²	PM ¹
1.48 MMBtu/hr E.O.-B 45Z/H (HET001)	<0.1	<0.1	<0.1	<0.1

¹ Emission factors based on AP-42 Table 3.3-1 *Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines*.

² Emission factors based on AP-42 Table 1.3-2 *Emission Factors for Total Organic Compounds (TOC), and Nonmethane TOC (NMTOC) from Uncontrolled Fuel Oil Combustion*.

Table 6: Heater Estimated Emissions, tpy ¹				
Source	NO _x	CO	VOC	PM ₁₀
1.48 MMBtu/hr E.O.-B 45Z/H (HET001)	0.1	<0.1	<0.1	<0.1

¹ Emissions are based on 300 hours of annual operation and production rate of 10 tph (=3,000 tpy).

3.4 Stockpile

Emissions from the stockpiling of broken chunk asphalt were estimated using Equation 1 from EPA AP-42 13.2.4.3 *Predictive Emission Factor Equations*, found in EPA AP-42 Section 13.2.4 *Aggregate Handling and Storage Piles*. Fugitive particulate emissions from the 556 yd³ stockpile were estimated to be <0.1 tpy TSP and <0.1 tpy PM₁₀. Calculations for these estimates can be found in Appendix A.

Total potential emissions from the Bagela BA10000 portable asphalt recycler are estimated to be 0.3 tpy NO_x, 0.2 tpy CO, 0.1 tpy VOC, <0.1 tpy TSP, 0.1 tpy PM, and <0.1 tpy SO₂.

4.0 BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

Although the estimated potential emissions from the portable asphalt recycler were analyzed in terms of the generator engine (ENG001), heating system (HET001), stockpiling, and hot mix asphalt production (HMA001) as separate sources, the asphalt recycler is one single, portable trailer mounted unit. Per the requirements of Chapter 6 Section 2 of the Wyoming Air Quality Standards and Regulations (WAQSR), all facilities must demonstrate the use of BACT.

The portable asphalt recycler will be limited to 300 hours of annual operation and visible emissions will be limited to twenty percent (20%) opacity. The Division considers the limitation on annual operating hours and opacity from visible emissions as representative of BACT for this unit.

5.0 CHAPTER 6, SECTION 3 APPLICABILITY

The Hunt Construction – Asphalt Maintenance Yard facility is not a “major source” as defined by Chapter 6, Section 3 of the WAQSR. Emissions from the facility do not exceed 100 tpy of NO_x, CO, VOC, 25 tpy of HAPs, or 10 tpy of any individual HAP. Therefore, Hunt Construction Company, Inc. shall obtain an operating permit in accordance with Chapter 6, Section 2 of the WAQSR.

6.0 PREVENTION OF SIGNIFICANT DETERIORATION (PSD)

The Hunt Construction – Asphalt Maintenance Yard facility is not a “major emitting facility” as defined by Chapter 6, Section 4 of the WAQSR. Therefore, further analysis is not required under this section.

7.0 NEW SOURCE PERFORMANCE STANDARDS (NSPS)

There are no applicable NSPS for portable asphalt recyclers such as the Bagela BA10000. Although the averaged emissions of twenty (20) hot mix asphalt plants from previous air quality permits issued from January 1, 2014 until January 1, 2021 were used to determine an estimate of potential emissions for the portable asphalt recycler, the unit itself cannot be classified as a hot mix asphalt plant with respect to the NSPS; and, therefore, 40 CFR Part 60, Subpart I – *Standards of Performance for Hot Mix Asphalt Facilities* is not applicable.

8.0 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPs)

There are no applicable NESHAPs for portable asphalt recyclers such as the Bagela BA10000.

9.0 PROJECTED IMPACT ON EXISTING AMBIENT AIR QUALITY

9.1 MODELING INPUTS

The Division has determined that estimating emissions based on relative proportions of production rates of a representative portable hot mix asphalt plant and the portable asphalt recycler to be a reasonable and justifiable approach to approximating emissions from the Bagela BA10000 portable asphalt recycler. Based on the Division's experience with the operating nature and size of portable hot mix asphalt plants, it is known that these units typically have significantly larger burners, engines, and throughputs; and include emissions from silo filling and numerous conveyor transfer/drop points. Therefore, it is reasonable to conclude that emissions from the portable asphalt recycler will be well below (about 99.3% less) those listed above in Table 1 and are most accurately represented by the emissions listed above in Table 2. The Division expects that ambient air quality standards will be maintained with the utilization of the control measures recognized as BACT (see section 4.0 regarding operating hour limitations and opacity limitations).

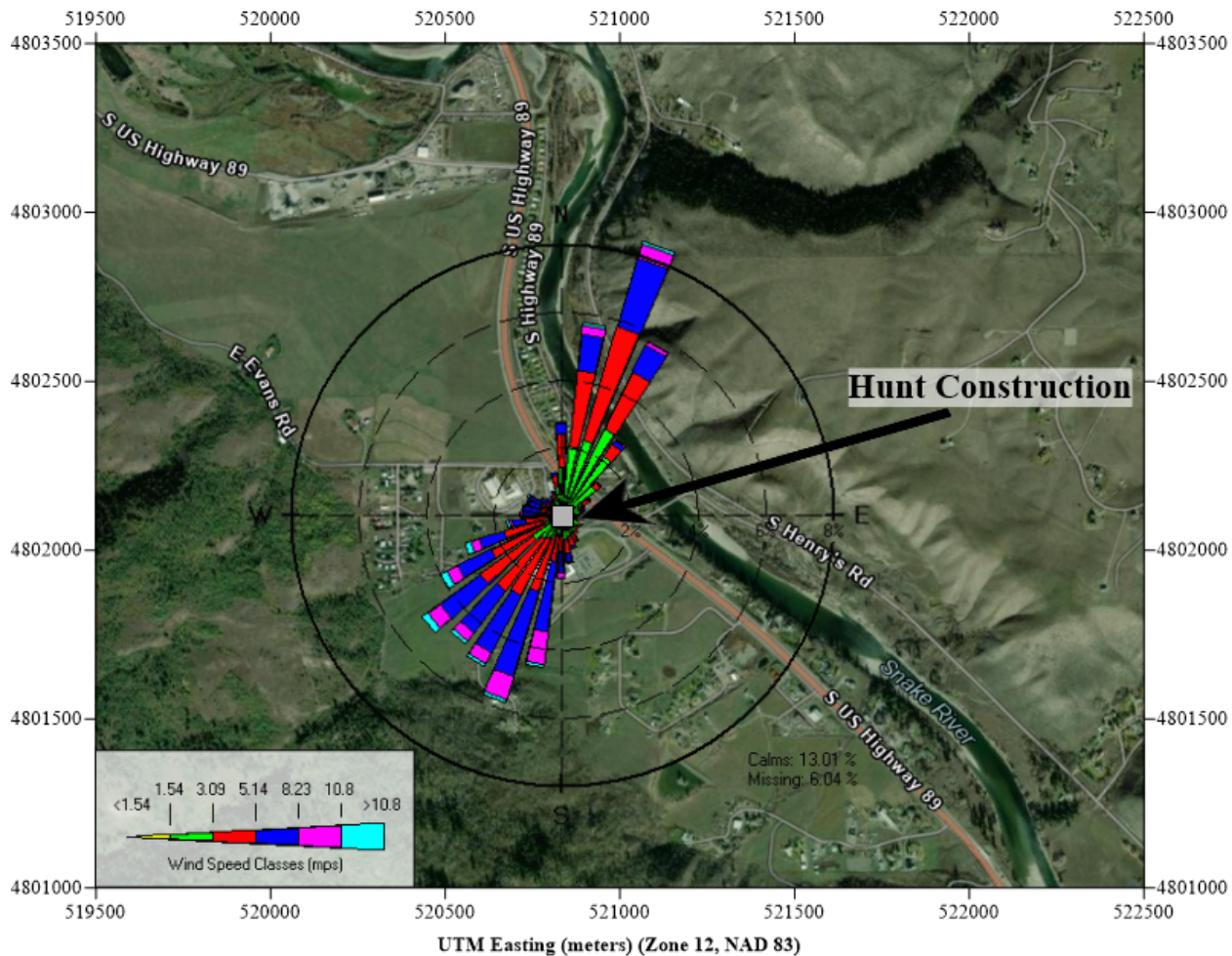
To ensure the portable asphalt recycler will not cause or contribute to a violation of ambient air quality standards, the division has conducted air dispersion modeling. The Environmental Protection Agency's (EPA) AERMOD, version 23132, was used for evaluating concentrations of all National Ambient Air Quality Standards (NAAQS). All model runs were simulated using recommended regulatory defaults. The portable asphalt recycler was modeled as a volume source, located centrally (520844, 4802086) on the Hunt Construction-Asphalt Maintenance Yard facility. The ambient air boundary was adjusted to include the access road to the adjacent property. Figure 1 shows the facility with the location of the portable asphalt recycler with the layout of the ambient air boundary.

Figure 1: Hunt Construction Facility



The emissions were run with meteorological data collected from the period from January 1, 2021 through December 31, 2021 at the Jackson Hole Airport meteorological tower (Station ID 24166). The meteorological data and upper air stations were selected based on proximity to the project site. AERMET version 22112 was used to produce the dataset described here. AERMINUTE was not run. The ADJ_U* option was employed in AERMET. Approximately 1,140 (13%) calm hours and 529 (6%) missing hours were identified. Upper-air data consisting of twice-daily soundings from the nearest upper-air monitoring station in Riverton, Wyoming (Station ID 24061) were merged with the surface meteorological data.

Figure 2: AERMET Wind Rose ¹



¹ Wind rose from Jackson Hole Airport meteorological tower.

9.1.1 Emissions and Stack Parameters

Allowable emission rates for all sources were calculated based on an operational schedule of 2,817 hours per year. However, the Portable Asphalt Recycler will only operate 300 hours per year. MHRDOW option in AERMOD was used to account for possible operating hours (Monday-Saturday, 8am until 5pm, March through November). Emission rates and the model parameters for the facility included in the modeling analysis can be found in the following table:

Table 7: Hunt Construction Stack Parameters									
MODEL ID	Easting ¹ (m)	Northing ¹ (m)	Elev. (m)	Stack Height (m)	NO _x (g/s)	PM _{2.5} ² (g/s)	PM ₁₀ (g/s)	CO (g/s)	SO ₂ (g/s)
VOL1	520844	4802086	1828	2.2	5.37E-03	9.84E-03	7.16E-03	2.147E-02	2.68E-03

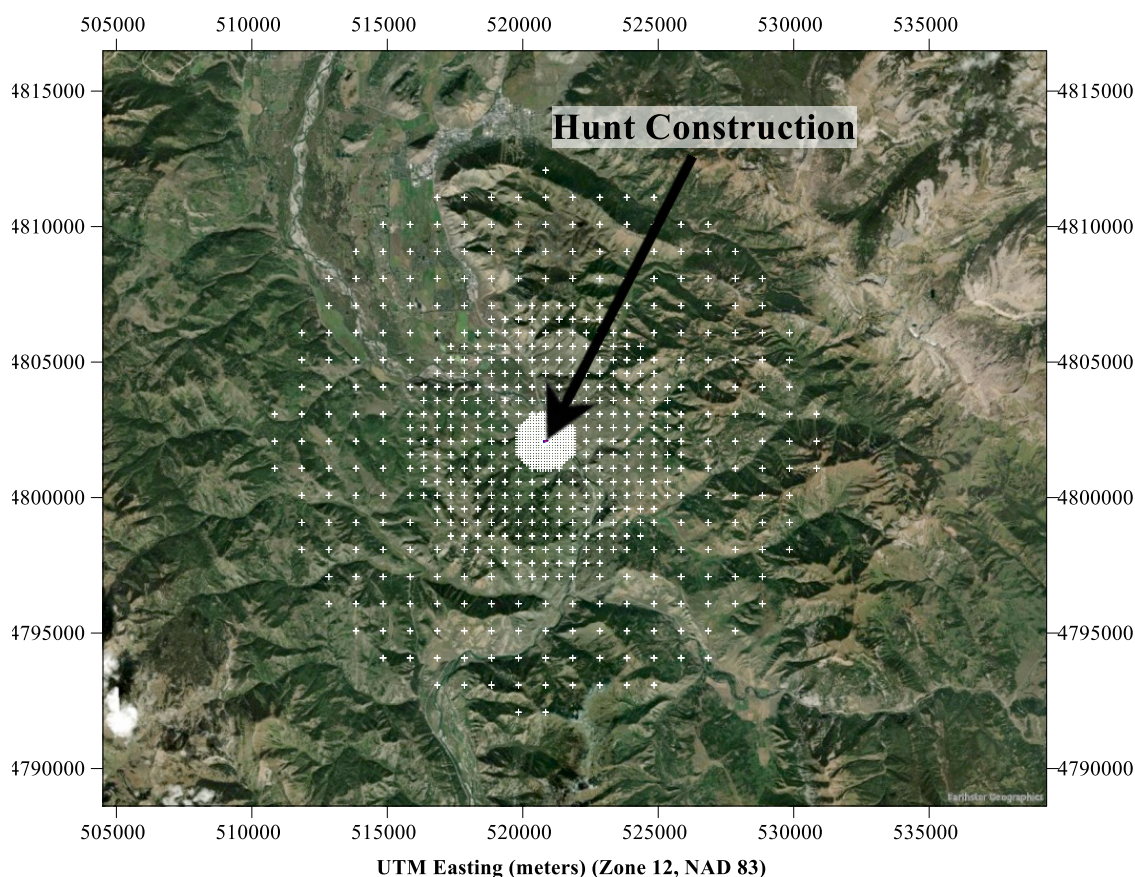
¹ UTM Zone 12, NAD 83.

² Modeled emission rate for PM_{2.5} is conservatively based on PM emission rate.

9.1.2 Receptor Grid

Discrete Cartesian receptors were placed along the fence line of the facility using twenty (20) meter spacing. A fine receptor grid was generated which consisted of one-hundred (100) meter spacing, and encompassed an area approximately one (1) kilometer in each direction of the facility. A 500 meter spacing receptor grid extended from a one (1) kilometer distance beyond the facility out to five (5) kilometers in each direction. A coarse receptor grid with one (1) kilometer spacing was placed five (5) kilometers from the facility and extended out to ten (10) kilometers in each direction. The composite receptor grid used in the modeling analysis is shown in Figure 3.

Figure 3: Composite Receptor Grid



The Division performed a Significant Impact Analysis (SIA) to determine the Radius of Impact (ROI) from the Hunt Construction-Asphalt Maintenance Yard. The facility was initially modeled without any additional sources to determine which receptors in the receptor grid would show an impact of at least the Significant Impact Level (SIL) from the facility. The ROI was determined by evaluating the furthest receptor that showed a significant impact from the facility. All receptors within this ROI that were significant in impact were included in the cumulative NAAQS/WAAQS analysis.

The standards not discussed did not exceed the SIL so they were not included in the cumulative analysis, and it can be concluded that the Hunt Construction-Asphalt Maintenance Yard will not cause or contribute to a violation of the NAAQS standard for those pollutants and averaging times.

9.2 NAAQS/WAAQS ANALYSIS

Given that the SIL was exceeded for the NO₂ annual standard, PM_{2.5} 24 hour standard, PM_{2.5} annual standard, and SO₂ 1 hour standard, a cumulative analysis was conducted. In addition to modeled concentrations, the background concentrations were added to compare to the NAAQS/WAAQS standards. The Division considers the background concentration value to be representative of all sources not explicitly modeled.

9.2.1 1 Hour Nitrogen Dioxide (NO₂) NAAQS

The ROI for 1-hour NO₂ was 42 meters from the volume source on Hunt Construction-Asphalt Maintenance Yard, with 5 receptors exceeding the SIL on the fence line. A background NO₂ concentration of 33.8 µg/m³ was taken from the Pinedale Gaseous Monitor (AQS ID: 56-0350101), located in Sublette County. Supplement C to the Guideline on Air Quality Models allows the use of the ambient ratio method (ARM2). ARM2 provides estimates of representative equilibrium ratios of NO₂/NO_x based on ambient levels of NO₂ and NO_x derived from national data from the EPA's Air Quality System. The national defaults for ARM2 were used including a minimum ambient NO₂/NO_x ratio of 0.5 and a maximum ambient NO₂/NO_x ratio of 0.9. The volume source at the Facility and the nearby sources of NO₂ were modeled to determine compliance with the annual NAAQS/WAAQS of 188 µg/m³. The 98th percentile of 1-hour maximum concentration is the form of the standard that was used for 1-hour NO₂. The maximum modeled annual NO₂ concentration was 46 µg/m³ when the model result of 12.2 µg/m³ was added to the background

9.2.2 24 Hour/Annual Particulate Matter (PM_{2.5}) NAAQS

The background concentrations for the PM_{2.5} 24 hour and annual standard were taken from the Jackson State and Local Air Monitoring Station (AQS ID: 56-039-1006). A nearby source inventory was reviewed for the facility and no significant nearby PM_{2.5} sources were located within 20 km of the facility.

Nine (9) receptors exceeded the SIL and the ROI extended out 55 meters from the source for the 24-hour analysis. The form of the standard used was the 98th percentile. A cumulative analysis was run to determine compliance with the 24-hour NAAQS/WAAQS of 35 µg/m³. The maximum modeled concentration for 24 hour was 3.2 µg/m³ and was added to the background concentration of 17 µg/m³ for a result of 20.2 µg/m³.

The annual mean was used as the form of the standard for the annual PM_{2.5} analysis. The ROI extended 80 meters from the volume source and had 15 receptors that exceed the SIL along the fenceline. A cumulative analysis for annual PM_{2.5} resulted with a concentration of 0.8 µg/m³. Background concentration for the annual standard from the Jackson monitor is 3.1 µg/m³ and resulted in 3.9 µg/m³. Annual PM_{2.5} was determined to be in compliance with the NAAQS/WAAQS standard of 9 µg/m³.

9.2.3 1 Hour Sulfur Dioxide (SO₂) NAAQS

A background concentration of 23.6 µg/m³ was used for the 1 hour SO₂ cumulative analysis from the Moxa Arch Station (AQS ID: 56-037-0300) located 2 miles northwest of Green River, WY in Sublette County. There were no significant nearby sources of SO₂ within 20 km of the facility. The ROI was 26 meters from the source with only 2 receptors exceeding the SIL on the fenceline. Modeled concentrations for 1-hour SO₂ was 8.2 µg/m³, using the 99th percentile standard of 1 hour daily maximum concentrations. After being added to the background concentration from the Moxa Arch Station, the cumulative analysis resulted in 31.8 µg/m³.

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The modeling analysis shows compliance with the NAAQS/WAAQS for NO₂, PM_{2.5} and SO₂ standards. Locations of max concentrations are plotted in Figure 4. The results for the NAAQS/WAAQS modeling for Hunt Construction are provided in Table 8.

Figure 4: Maximum Modeled Concentrations

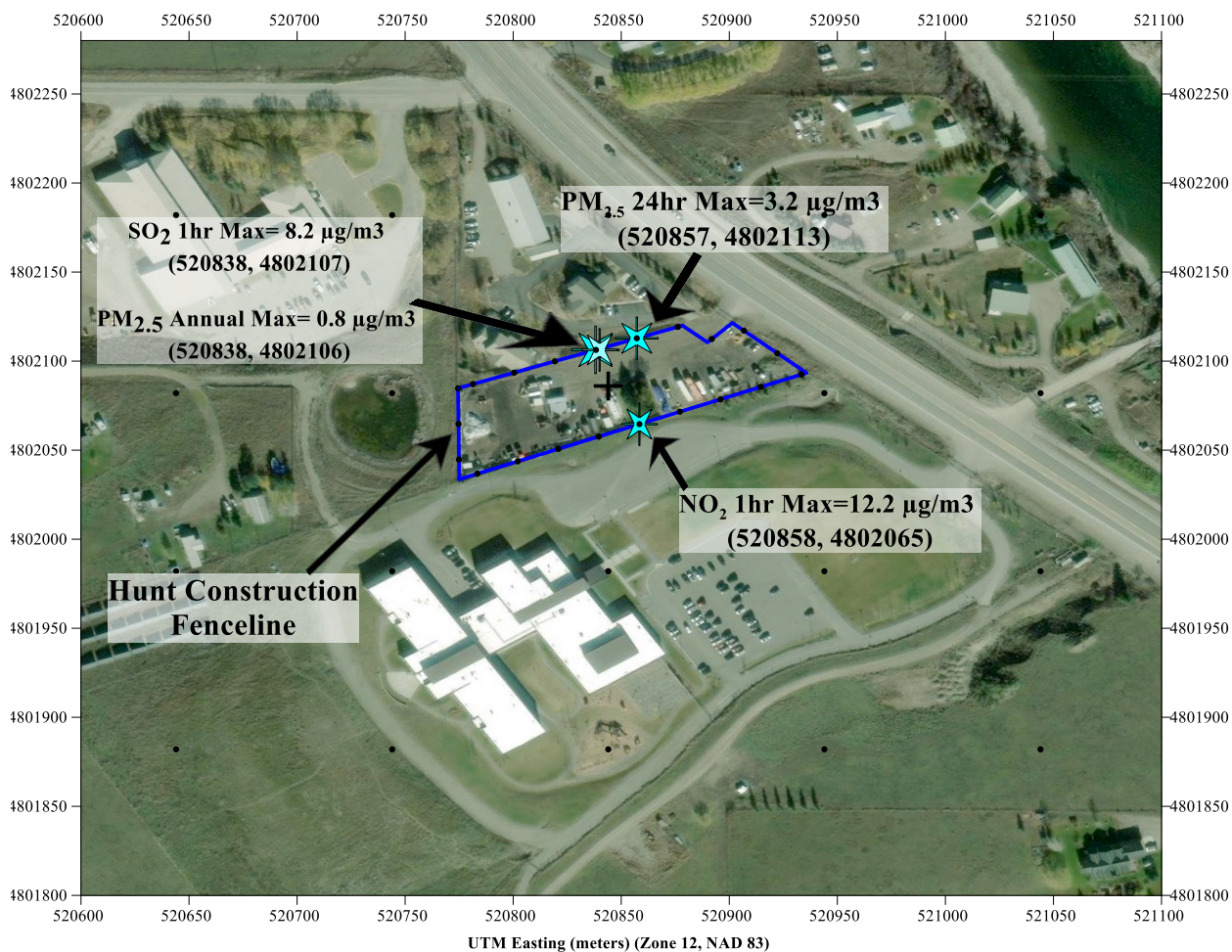


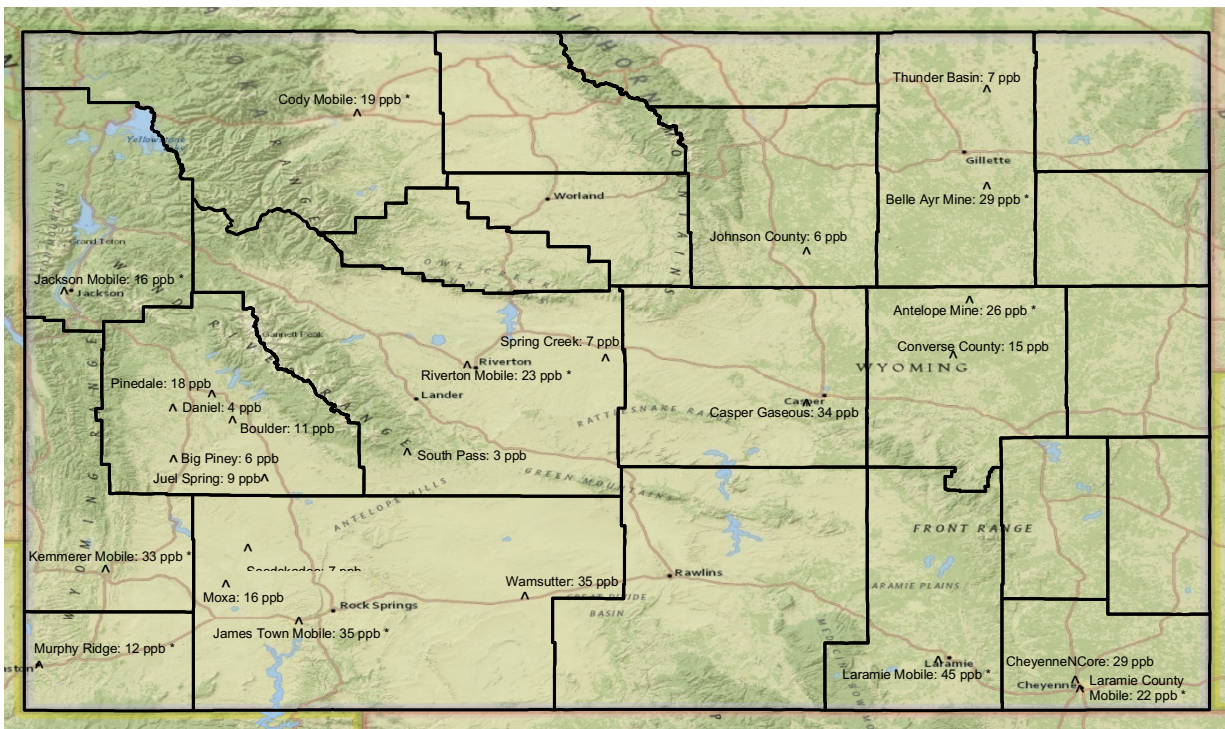
Table 8: NAAQS/WAAQS Analysis for Hunt Construction-Asphalt Maintenance Yard

Pollutant	Averaging Time	UTM Receptor Location (Zone 13) X (m) Y (m)		Maximum Conc. (µg/m ³)	PSD Increment (µg/m ³)	Background Conc. (µg/m ³)	Total Conc. (µg/m ³)	NAAQS/WAAQS (µg/m ³)	Percent of Standard
NO ₂	1 Hour	520858	4802065	12.2	None	33.8	46	188	24%
PM _{2.5}	24 Hour	520857	4802113	3.2	9	17	20.2	35	58%
PM _{2.5}	Annual	520838	4802106	0.8	4	3.1	3.9	9	43%
SO ₂	1 Hour	520838	4802106	8.2	None	23.6	31.8	196	16%

9.3 1-Hour Nitrogen Dioxide (NO₂) NAAQS

Statewide monitoring of NO₂ on the basis of a 1-hour averaging period indicates that the 1-hour NAAQS/WAAQS of 100 ppb is not threatened at any of twenty-four (24) monitoring sites through 2021 (see Figure 1 below). Several of the Wyoming monitors are located in areas of concentrated industrial development. County-wide NO_x emissions in Sweetwater County were an estimated 20,307 tons in 2017. Multiple monitors are also located in Campbell County (estimated 24,670 tons of NO_x in 2017), Converse County (estimated 21,289 tons in 2017) and Sublette County (estimated 2,234 tons NO_x in 2017). Based on the current statewide 1-hour NO₂ monitoring and the NO_x emissions total from the Hunt Construction-Asphalt Maintenance Yard, the Division is satisfied that the operation of the portable asphalt recycler will not prevent the attainment or maintenance of the 1-hour NAAQS/WAAQS for NO₂.

Figure 5: Monitoring for 1-Hour NO₂ in Wyoming (ppb)



Note: To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour averages must not exceed 100 ppb. Concentrations shown in the figure above from Wyoming monitoring stations are 3-year (2019-2021) averages of the 98th percentile of the daily maximum 1-hour averages. If three (3) years of data were not available for a particular station, the 98th percentile of the daily maximum 1-hour averages over the period of available data is shown.

* Less than three (3) years of complete data reported.

9.4 SUMMARY

The modeling analysis indicates that the model predicted concentrations of criteria pollutants are below the applicable National and Wyoming Ambient Air Quality Standards. Based on results of this analysis, the Hunt Construction-Asphalt Maintenance Yard is expected to be in compliance with all applicable ambient air quality standards.

10.0 LAND USE PLANNING

Chapter 6, Section 2(c) of the WAQSR requires permit applicants to demonstrate that a proposed facility will be located in accordance with proper land use planning as determined by the appropriate state or local agency. As a condition of this proposed Air Quality Permit, the portable asphalt recycler will be required to be located in accordance with proper land use planning as determined by the appropriate state or local agency charged with such responsibility. This ensures that the portable asphalt recycler will be located in accordance with proper land use as required in Chapter 6, Section 2(c)(iv) of the WAQSR.

Furthermore, regarding the initial location of the portable unit, the Division was provided on March 19, 2024 with a letter from Teton County Planning and Building, addressed to the applicant on January 25, 2024, stating “the asphalt patching business you operate has been in operation since 1982, which is before the current Teton County Land Development Regulations (LDRs) came into effect. Therefore, your business operations are recognized as a legally nonconforming use and are not in violation of the LDRs.” Therefore, the portable asphalt recycler is located in accordance with proper land use as required in Chapter 6, Section 2(c)(iv) of the WAQSR.

11.0 GREATER SAGE-GROUSE, MULE DEER AND ANTELOPE PROTECTION

The initial location of the portable asphalt recycler complies with the Greater Sage-Grouse Executive Order 2019-3 and Migration Corridors of Mule Deer and Antelope Executive order 2020-1. Hunt Construction Company, Inc. shall comply with the Greater Sage-Grouse Executive Order 2019-3 and Migration Corridors of Mule Deer and Antelope Executive order 2020-1 each time the equipment is relocated to a new location.

12.0 PROPOSED PERMIT CONDITIONS

The Division proposes to issue an Air Quality Permit to Hunt Construction Company, Inc. for the operation of a portable asphalt recycler subject to the following conditions:

1. That authorized representatives of the Division of Air Quality be given permission to enter and inspect any property, premise or place on or at which an air pollution source is located or is being constructed or installed for the purpose of investigating actual or potential sources of air pollution and for determining compliance or non-compliance with any rules, standards, permits or orders.
2. That all substantive commitments and descriptions set forth in the application for this permit, unless superseded by a specific condition of this permit, are incorporated herein by this reference and are enforceable as conditions of this permit.
3. Hunt Construction Company, Inc. shall obtain an operating permit in accordance with Chapter 6, Section 2(a)(iii) of the WAQSR 120 days after startup in order to operate this facility.
4. That all notifications, reports and correspondence associated with this permit shall be submitted to the Stationary Source Compliance Program Manager. Submissions may be done electronically through <https://airimpact.wyo.gov> to satisfy requirements of this permit.
5. That the date of commencement of construction shall be reported to the Administrator within thirty (30) days of commencement. In accordance with Chapter 6, Section 2(h) of the WAQSR, approval to construct or modify shall become invalid if construction is not commenced within twenty-four (24) months after receipt of such approval or if construction is discontinued for a period of twenty-four (24) months or more. The Administrator may extend the period based on satisfactory justification of the requested extension.

6. That the portable asphalt recycler shall be limited to 300 hours of annual operation. Records shall be kept for a period of five (5) years to demonstrate compliance with this condition and shall be made available to the Division upon request.
7. That the time (hours and days) of operation of the portable asphalt recycler shall be limited to the hours of 8:00 am until 5:00 pm on the days of Monday through Saturday.
8. That visible emissions shall be limited to twenty percent (20%) opacity as determined by 40 CFR part 60, appendix A, Method 9.
9. That all work areas and stockpiles shall be treated with water and/or chemical dust suppressants on a schedule sufficient to control fugitive dust.
10. Hunt Construction Company, Inc. shall check for the presence of any visual emissions from the portable asphalt recycler on any day the unit is operating. The visual observation shall be conducted by personnel who are educated on the general procedures for determining the presence of visible emissions but not necessarily certified to perform Method 9 observations. Observation of any visible emissions from these controls shall prompt immediate inspection and, if necessary, corrective action. Records of the observations shall be kept and maintained for a period of at least five (5) years.
11. In accordance with Chapter 6, Section 2(b)(ii) of the WAQSR, Hunt Construction Company, Inc. shall submit a “self-issuance” relocate permit for each new location. Such permit shall be submitted on a complete Portable Facility Relocate Form. The form can be downloaded from the Air Quality website <http://deq.wyoming.gov/aqd/> or obtained from the Air Quality Division. A fee will be assessed upon issuance of the relocation permit.
12. In accordance with Chapter 6, Section 2(c)(iv) of the WAQSR, Hunt Construction Company, Inc. shall locate the portable asphalt recycler in accordance with proper land use planning as determined by the appropriate state or local agency charged with such responsibility.

APPENDIX A

Emission Calculations

STORAGE PILES AND HANDLING:

TSP and PM₁₀ emissions associated with storage piles and handling are estimated from AP-42 Equation 13.2.4-1 as follows, assuming 939 tpy (556 yd³ per year) of stockpiled material:

$$E = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:

k=particle size multiplier

U=average wind speed, mph

M=material moisture content, %

TSP:

k=0.74

U=7.2 mph (average wind speed for Jackson Hole, WY)

M=0.7% Rock – Table 13.2.4-1

$$E = 0.74(0.0032) \frac{\left(\frac{7.2}{5}\right)^{1.3}}{\left(\frac{0.7}{2}\right)^{1.4}} = 0.017 \frac{lb}{ton}$$

$$\text{TSP Emissions} = (0.017 \frac{lb}{ton})(939 \frac{ton}{year}) \left(\frac{ton}{2000lb}\right) = 0.008 \frac{ton}{year} \rightarrow 0.004 \frac{ton}{year} \text{ (50\% control)}$$

PM₁₀:

k=0.35

U=7.2 mph (average wind speed for Jackson Hole, WY)

M=0.7% Rock – Table 13.2.4-1

$$E = 0.35(0.0032) \frac{\left(\frac{7.2}{5}\right)^{1.3}}{\left(\frac{0.7}{2}\right)^{1.4}} = 0.008 \frac{lb}{ton}$$

$$\text{PM}_{10} \text{ Emissions} = (0.008 \frac{lb}{ton})(939 \frac{ton}{year}) \left(\frac{ton}{2000lb}\right) = 0.004 \frac{ton}{year} \rightarrow 0.002 \frac{ton}{year} \text{ (50\% control)}$$