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United States Environmental Protection Agency
www.epa.gov/caa-permitting/

Technical Support Document

Tribal Minor New Source Review Permit

[Draft]

Permittee: J.K. Merrill and Sons, Inc.

Source: Merrill Pit

Location: 1850 Tank Farm Road
Pocatello, ID 83204
Fort Hall Reservation
Latitude: 42.9265° N, Longitude: 112.5476° W

Source Contact: Lloyd G. Merrill
WeCrushRock@gmail.com
208-237-6550

Source ID #: 16-077-E0001

Permit #: R10TNSR0xx00

Pursuant to the provisions of Clean Air Act (CAA) sections 110(a) and 301(d) and the Code of Federal Regulations (CFR) title 40, section 49.158, the United States Environmental Protection Agency Region 10 (EPA) is issuing a synthetic minor source permit in Indian Country to J.K. Merrill and Sons, Inc. ("Permittee") for their crushed aggregate production plant ("Source"), located in Pocatello, Idaho. This permit places enforceable restrictions on the potential to emit of the Source's existing operations.

This Technical Support Document (TSD) provides the EPA's analysis of the application and describes the equipment that is authorized to be operated and the permit conditions that are included in the synthetic minor source permit.

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Abbreviations, Acronyms and Symbols

ACO	Administrative Compliance Order
CAA	Clean Air Act [42 U.S.C. § 7401, *et seq*.]
CFR	Code of Federal Regulations
DOC	Diesel Oxidation Catalyst
EPA	U. S. Environmental Protection Agency, Region 10
EU	Emission Unit
FARR	Federal Air Rules for Reservations (40 CFR 49.121-139)
FIP	Federal Implementation Plan
gal	gallon
hr	hour
Id. No.	Identification Number
lb	pound
MACT	Maximum Achievable Control Technology
MMBtu	Million British Thermal Units
NOx	Nitrogen Oxides
NSR	New Source Review
PTE	Potential to Emit
SO_2	Sulfur Dioxide
TPY	Tons per Year
VOC	Volatile Organic Compounds

1. Authority

The CAA provides the EPA with broad authority to protect air resources throughout the nation, including air resources in Indian country. Title 40 of the Code of Federal Regulations, 49.151-165, establish a federal new source review program in Indian Country that, among other things, establishes a mechanism for otherwise major sources (including major sources of nitrogen oxides) to voluntarily accept restrictions on potential to emit to become synthetic minor sources pursuant to 40 CFR 49.158. In 2011, the EPA established the Tribal Minor New Source Review (NSR) Program as part of a FIP under the CAA for Indian country, through the Tribal Minor NSR Rule.[1] The EPA is issuing this permit under the Tribal Minor NSR Program.

2. Tribal Minor NSR Program Requirements

The Tribal Minor NSR Program (40 CFR 49.151-165) is applicable to owners and operators of sources located, or planning to locate, in Indian reservations where no EPA-approved tribal air permit program is in place, and in other areas of Indian country where no EPA-approved tribal air permit program is in place and where an Indian tribe or the EPA has demonstrated that the tribe has jurisdiction.[2] The Source in this permitting action is located on the Fort Hall Reservation of the Shoshone Bannock Tribes and there is no EPA-approved tribal CAA permitting program in place for this area. The Tribal Minor NSR Program allows existing major sources in Indian country to apply for a synthetic minor source permit to limit their PTE below title V and NSR major source permitting thresholds. *See* 40 CFR 49.158. Restrictions on the PTE of a synthetic minor source are required to be enforceable as a practicable matter, as defined in 40 CFR 49.152.

3. Source and Permit Information

3.1 Source and Area Description

J.K. Merrill operates an existing rock crushing operation located at the Merrill Pit, 1850 Tank Farm Road, northwest of Pocatello, Idaho, within the boundaries of the Fort Hall Reservation. The Fort Hall Reservation is a moderate PM_{10} nonattainment area. It is in attainment or unclassifiable for all other criteria pollutants. This is the facility's first air permit.

Figure 3-1 shows the map location of the facility and its location in the vicinity of the northeast corner of the Fort Hall Reservation. Figure 3-2 shows an aerial photograph of the facility.

[1] 76 FR 38748 (July 1, 2011) (codified at 40 CFR part 49).
[2] See 40 CFR 49.151(c)(1). "Indian country" is defined at 49.152(d).

Figure 3-1: Location Map

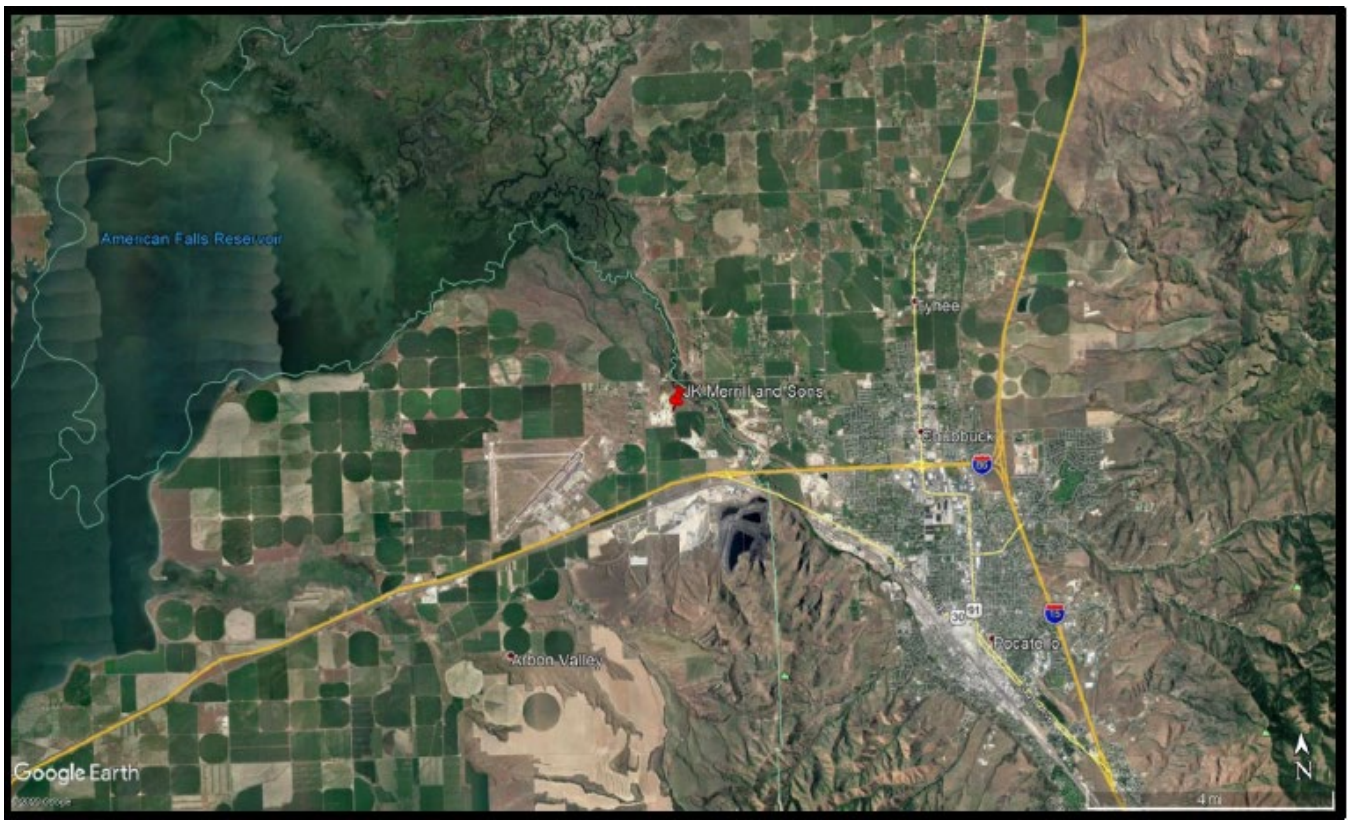
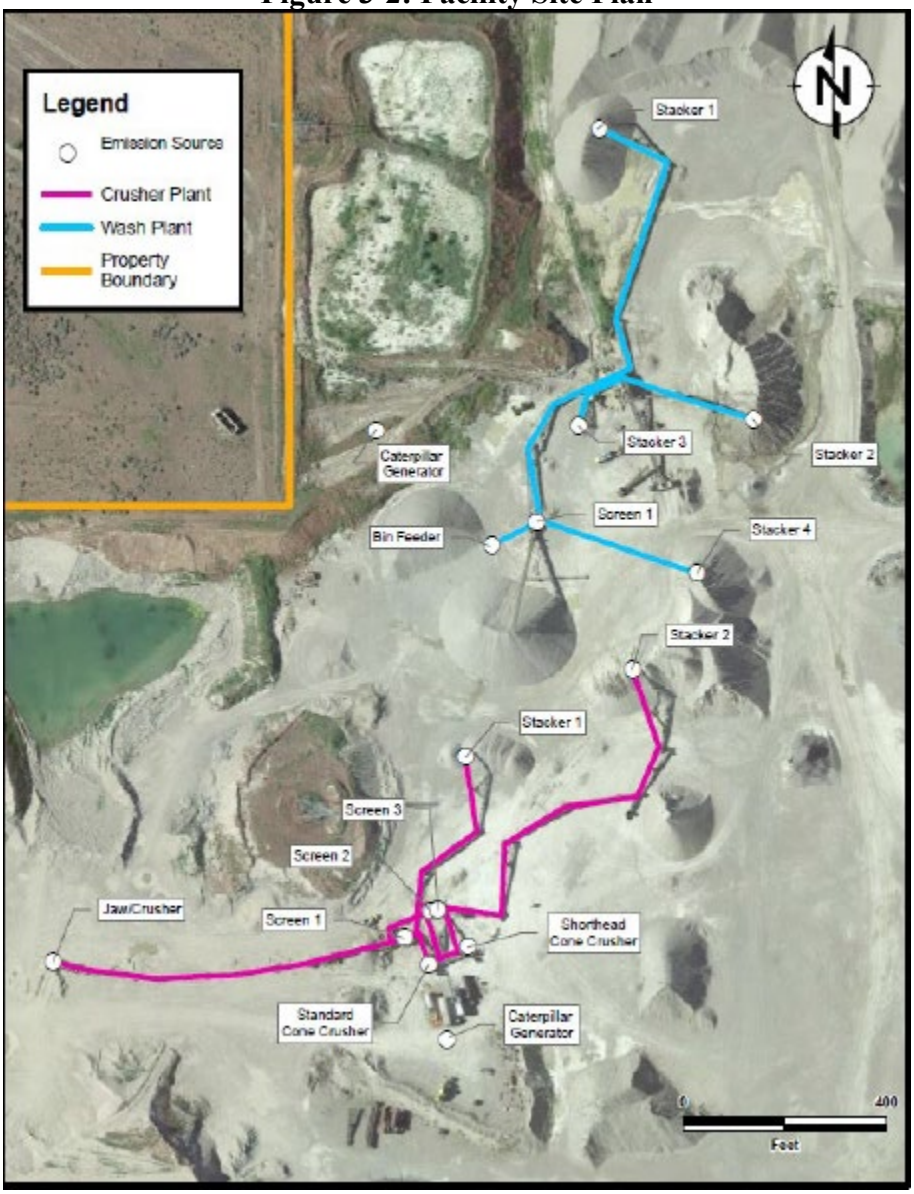


Figure 3-2: Facility Site Plan



3.2 Permit Action

The Tribal Minor NSR Rules at 40 CFR 49.158 provides a mechanism for new and existing sources to establish a synthetic minor limit on their PTE. Synthetic minor permit limits are voluntary, enforceable restrictions on a source's operations that reduce the source's PTE. Such limits can then be used to avoid being subject to other CAA requirements such as the major NSR program or the title V operating permit program.

On May 29, 2020, the Permittee entered into an Administrative Compliance Order (ACO) with the EPA.[3] Among the terms of this ACO, the permittee agreed to submit an application for a permit to establish enforceable limits on NOx such that the source would become a minor source and not subject to permitting under title V of the CAA (i.e., PTE less than 100 tpy for NOx). This synthetic minor permit will limit NOx emissions by establishing legally and practicably enforceable limits on the operation of stationary reciprocating internal combustion engines.

[3] Administrative Compliance Order on Consent, Docket No. CAA-10-2020-0081, U.S. EPA, Region 10, June 3, 2020.

3.3 Permit History

Table 3-1 reflects that this is an action for issuance of an initial synthetic minor permit for the Facility.

Table 3-1: Permit Revision History

Issue Date	Permit #	Action
xx/xx/2022	R10TNSR0xx00	Initial Synthetic Minor Permit

4. Public Participation

4.1 Public Comment Period

In accordance with 40 CFR 49.157, the EPA must provide public notice and a 30-day public comment period to ensure that the affected community and the general public have reasonable access to the application and draft permit information.

The draft permit, this TSD, and all other supporting materials for the draft permit are available for review online at: https://www.epa.gov/publicnotices/notices-search/location/Idaho

You can also request a physical copy of the administrative record or individual documents in the record by contacting EPA's Rizwan Syed at (206) 553-6345 or syed.rizwan@epa.gov.

Any person may submit written comments on the draft permit, or the EPA's finding under this action pursuant to section 106 of the National Historic Preservation Act, during the public comment period. These comments must raise any reasonably ascertainable issues with supporting arguments by the close of the public comment period. Anyone may request a public hearing pursuant to 40 CFR 49.157(c) prior to the end of the public comment period. A request for public hearing must include the nature of the issues to be raised at the hearing. The EPA will base its decision on whether a hearing will be held upon the showing of a significant degree of public interest. The EPA may also hold a public hearing at its discretion. The EPA will provide at least 30 days' notice prior to the date of the hearing. The public comment period will be extended to the close of any public hearing. The EPA accepts comments and requests for a public hearing via email to r10_air_permits@epa.gov. If you are unable to submit comments via email, please call Rizwan Syed at (206) 553-6345. Please address comments with the subject "Comments on Draft Permit for J.K. Merrill & Sons, Inc."

4.2 Final Minor NSR Permit Action

In accordance with 40 CFR 49.159 and 124.19, a final permit becomes effective 30 days after the service of notice of the decision, unless: (1) a later effective date is specified in the permit; (2) appeal of the final permit is made as detailed in the next section; or (3) the permitting authority makes the permit effective immediately upon issuance, which it can do only if no comments requested a change in the draft permit or a denial of the permit. We will send notice of the final permit action to any individual who commented on the draft permit during the public comment period. As required in 40 CFR 49.159, the EPA will notify the permittee in writing of the final decision and will provide adequate public notice of the final permit decision to ensure that the affected community, general public and any individuals who commented on the draft permit have reasonable access to the decision and supporting materials. In addition, anyone may request a copy of the final permit from the contact for this action or through the list of minor NSR permit actions on our website. See the contact information provided below.

4.3 Appeals to the Environmental Appeals Board (EAB)

In accordance with 40 CFR 49.159, within 30 days after a final permit decision has been issued, any person who filed comments on the draft permit or participated in the public hearing may petition the EAB to review any condition of the permit decision. The 30-day period within which a person may request review under this section begins when the Region has fulfilled the notice requirements for the final permit decision. A petition to the EAB for review of the final permit decision is, under section 307(b) of the Act, a prerequisite to seeking judicial review of the final agency action. For purposes of judicial review, final agency action occurs when the EPA denies or issues a final permit and agency review procedures are exhausted.

4.4 Contact Information

The contact for this action is:

Rizwan Syed (he/him)
Email: syed.rizwan@epa.gov
Phone: (206) 553-6345
EPA Region 10 toll-free general information line: (800) 424-4372

The EPA Region 10 maintains a list of its Tribal Minor NSR permitting actions on its website at: https://www.epa.gov/caa-permitting/air-permits-issued-epa-region-10.

You may also sign-up to be added to EPA Region 10's public notice distribution list for draft CAA permit actions issued by EPA Region 10 at: https://www.epa.gov/caa-permitting/forms/mailing-list-clean-air-act-permit-actions-epa-region-10.

5. Facility Description

The source produces construction grade sand and gravel from rock quarried on site and comprises two plants. The crusher plant processes rock into smaller and smaller pieces. The wash plant washes and screens wet materials.

The crusher plant and wash plant are each powered by a separate diesel-fired generator, which emits CO, NOx, and other combustion byproducts. Other equipment involved in materials processing and transfer emit particulate matter.

According to the ACO: "Since at least 2014, the facility has been a stationary source." The permittee's application identifies the following equipment and emission generating activities, listed in Table 5-1.

Table 5-1: Existing Emissions Generating Units and Activities

Emission Unit (EU) ID	Unit Description	Make/Model/Serial #/Manufacture Date	Capacity	Control Technology	Fuel/Material
EU 01	Crusher Plant Engine	Caterpillar 3512 SN: 024Z07632 1996	1,818 bhp 1,356 kW 12.7 mmBtu/hr	Oxidation Catalyst	Ultra Low Sulfur Diesel
EU 02	Wash Plant Engine	Caterpillar 3406 SN: 1DZ10421 2005	587 bhp 438 kW 4.1 mmBtu/hr	Oxidation Catalyst	Ultra Low Sulfur Diesel

Emission Unit (EU) ID	Unit Description	Make/Model/Serial #/Manufacture Date	Capacity	Control Technology	Fuel/Material
EU 03	Primary Jaw Crusher, Dry	Cedar Rapids SN: 444117 1991	300-500 tons/hr	n/a	Stone
EU 04	Secondary Crusher, Wet	Symons SN: 41109	236-358 tons/hr	Wet suppression	Aggregate
EU 05	Shorthead Cone Crusher	Noberg 400 SN: 400302 2000	209-336 tons/hr	Wet suppression	Aggregate
EU 06	Crusher Screen	Cedar Rapids SN: 48103 1996	500 tons/hr	Wet suppression	Aggregate
EU 07	Twin Screen #1	JCI Twin Screen SN: 5051555 2004	71.6% of crusher screen	Wet suppression	Aggregate
EU 08	Twin Screen #2, fines	JCI Twin Screen SN: 5051555 2004	66% of Twin Screen #1	Wet suppression	Aggregate
EU 09	Material transfer – drop points	See Table 5-2, below			
EU 10	Active stockpile	n/a	6 acres	Wet suppression	Aggregate
EU 11	Unpaved roads	n/a	216 VMT/day	Wet suppression	n/a

Table 5-2: Material Transfer Drop Points

Drop	Description	Media	Potential Throughput	Controls	# similar drops
1	Crusher Plant - first drop from screen on to conveyors	Sand, aggregate	1,752,000 tpy	Low drop height	5
2	Crusher Plant – conveyor transfer points	Sand, aggregate	1,752,000 tpy	Low drop height	12
3	Crusher Plant - drop, conveyor to pile storage	Sand, aggregate	1,752,000 tpy	Low drop height	3
4	Wash Plant - drop into bin	Sand, aggregate	2,190,000 tpy	Low drop height	1
5	Wash Plant - first drop on to conveyor	Sand, aggregate	2,190,000 tpy	Low drop height	1
6	Wash Plant - conveyor transfer points	Sand, aggregate	2,190,000 tpy	Low drop height	1

5.1 Emission Unit EU 01

According to the Permittee's application, EU 01 is a 1996 model year Caterpillar model 3512, diesel-fired compression ignition engine with a rated power of 1,675 bhp. EU 01 provides prime power for the crusher plant, which includes the crushers and screens identified as EU 03 – EU 08 in Table 5-1.

EU 01 is subject to 40 CFR part 63, subpart ZZZZ: *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* (the RICE NESHAP). The RICE NESHAP establishes work practice standards and emission limits for existing, non-emergency compression ignition engines located at area sources of hazardous air pollutants (HAP). Table 2d of the RICE NESHAP limits CO emissions from EU 01 to 23 ppmvd at 15% oxygen or, alternatively, a reduction of CO emissions by 70% or more. The Permittee's application includes specifications for a Miratech IQ2-26-14 diesel oxidation catalyst (DOC) proposed to meet the RICE NESHAP limits.[4] The RICE NESHAP requires an initial performance test of EU 01 to assure compliance with the CO limit within 180 days of the initial compliance date and ongoing performance tests every 8,760 hours or every three years, whichever comes first. See 40 CFR 63.6612(a) and Table 3 to the RICE NESHAP.

Because it is located on tribal land within the state of Idaho, the Source is subject to emission limits in the General Rules for Application to Indian Reservations in EPA Region 10, 40 CFR 49.121-49.139.[5] The FARR applies limits on opacity, PM, SO_2, and fuel sulfur, but does not apply limits to NOx from internal combustion engines.

5.2 **Emission Unit EU 02**

According to the Permittee's application, EU 02 is a 1996 model year Caterpillar model 3406, diesel-fired compression ignition engine with a rated power of 469 bhp. However, permittee provided information identifying that this engine was replaced by a 2005 model year Caterpillar model 3406, diesel-fired compression ignition engine with a rated power of 587 bhp. EU 02 provides prime power for the wash plant, a series of wet processes that remove dust and debris from crushed and screened aggregate to provide a high quality and properly sized product.

EU 02 is subject to 40 CFR part 63, subpart ZZZZ: *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* (the RICE NESHAP). The RICE NESHAP establishes work practice standards and emission limits for existing, non-emergency compression ignition engines located at area sources of hazardous air pollutants (HAP). Table 2d of the RICE NESHAP limits CO emissions from EU 02 to 23 ppmvd at 15% oxygen or, alternatively, a reduction of CO emissions by 70% or more. The Permittee's application includes specifications for a Miratech IQ2-26-14 diesel oxidation catalyst (DOC) proposed to meet the RICE NESHAP limits.[6] The RICE NESHAP requires an initial performance test of EU 01 to assure compliance with the CO limit within 180 days of the initial compliance date and ongoing performance tests every 8,760 hours or every three years, whichever comes first. See 40 CFR 63.6612(a) and Table 3 to the RICE NESHAP.

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[4] DOCs use solid state, precious metal catalysts to oxidize CO and VOC to CO_2 and water. The catalyst is fixed in a flow-through honeycomb structure and must operate within a specified temperature range to be effective. Both the EPA and the state of California verify DOCs. https://www.epa.gov/sites/default/files/2016-03/documents/420f10031.pdf

[5] Also known as the Federal Air Rule for Reservations (FARR)

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5.3 Other Emission Units

Miscellaneous fugitive and non-fugitive activities are subject to FARR requirements. Plant traffic and the mechanical transfer of aggregate are two prominent activities that generate fugitive dust. Both activities are subject to the FARR 20% opacity six-minute average visible emissions limit (40 CFR 49.124(d)(1)). The FARR also requires the permittee to take all reasonable precautions to prevent fugitive PM emissions and to maintain and operate all pollutant-emitting activities to minimize fugitive PM emissions (40 CFR 49.126(d)(1)). Surveying the facility annually to determine the sources of fugitive PM emissions is part of the FARR requirement (40 CFR 49.126(e)(1)(i)).

The crushing, screening, conveying, storage and particulate matter fugitive dust emission sources are subject to 40 CFR 60 subpart OOO. Affected operations must meet the Standard for PM emissions identified in 40 CFR 60.672, Monitoring of operations identified in 40 CFR 60.674(b), test methods and procedures identified in 40 CFR 60.675 and reporting and recordkeeping requirements identified in 40 CFR 60.676.

6. Summary of Emissions

6.1 Emission Inventory Basics

An emission inventory generally reflects either the "actual" or "potential" emissions from a source. Actual emissions generally represent a specific period of time and are based on actual operation and controls. Potential emissions, referred to as PTE, generally represent the maximum capacity of a source to emit a pollutant under its physical and operational design, taking into consideration regulatory restrictions, including required control devices. PTE is often used to determine applicability for several EPA programs, including title V, PSD and section 112 (NESHAP). Emissions can be broken into two categories: point and fugitive. Fugitive emissions are those which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Examples of fugitive emissions are roads, piles that are not normally enclosed, wind blown dust from open areas, and those activities that are normally performed outside buildings. Non-fugitive or point sources of emissions include any emissions that are not fugitive. The equation below represents the general technique for estimating emissions (in tpy) from each emission unit at the facility. Emissions are calculated by multiplying an EF by an operational parameter. To estimate actual emissions, the permittee will need to track the actual operational rates.

$$E = EF * OP * 8760 * 1/2000$$

Where:

E is the pollutant emissions in tons
EF is the emission factor in appropriate units (e.g., lbs per ton throughput or lb per gallon of fuel)
OP is the operational rate (e.g., material throughput, fuel combustion)
8760 is the number of hours per year (or a smaller number if operation is limited)
1/2000 is the conversion from pounds to tons

6.2 PTE Emissions Inventory

In its application, the Permittee included the regulated NSR pollutant PTE for all existing equipment at the facility, which is shown in Table 6-1. See Appendix A to this TSD for excerpts from the permittee's application illustrating how PTE was determined for EU 01 and EU 02. Prior to obtaining a permit, the facility had the potential to exceed the title V major source threshold for NOx.

Table 6-1: Potential Emissions of Existing Sources (not including proposed limitations)

Regulated NSR Pollutant	Potential to Emit of the Existing Source (tpy)
PM	68
PM_{10}	35
$PM_{2.5}$	11
NOx	228
CO	18
SO_2	<1
VOC	11

6.3 Actual Emissions Inventory

In its application, the Permittee included diesel fuel use information for 2019 in gallons. Using this information and the emission factors used to calculate PTE, we have calculated actual 2019 emissions from the engines, shown in Table 6-2. See Appendix B to this TSD for EPA's calculation of actual 2019 emissions from the engines.

Table 6-2: 2019 Actual Emissions from EU 01 and EU 02 (calculated)

Regulated NSR Pollutant	Actual Emissions from 2019 (tpy)
PM	<1
PM_{10}	<1
$PM_{2.5}$	<1
NOx	8
CO	<1
SO_2	<1
VOC	<1

7. Emission Limits, Testing, Monitoring and Recordkeeping Decision-making

Pursuant to 40 CFR 49.158 the Permittee has proposed to take enforceable operating and emission limitations that will limit the source's emissions of NOx to 90 tpy by limiting fuel consumption in EU 01 and EU 02, which are the only emission units that generate NOx. Limiting fuel combustion in EU 01 and EU 02 will effectively limit emissions of PM, PM_{10}, $PM_{2.5}$, NOx, CO, SO_2, and VOC from these units.

In its application, the Permittee proposed to assure compliance with the 90 tpy NOx limit by continuously monitoring fuel consumption in each engine and calculating monthly and rolling-twelve-month NOx emissions using the emission factors in AP-42 Sections 3.3 and 3.4.[7] However, a recent (November 2020) EPA enforcement alert recommends against using AP-42 for assuring compliance with emission limits because these emission factors are averages over several different units and may not be representative of the permitted units.[8] For this reason, we are requiring performance testing to establish emission factors to determine compliance with the emission limit. This performance testing is automatically triggered when NOx emissions calculated using the AP-42 factors and monitored fuel usage results exceed 50 tpy, which is 50 percent of the title V permitting threshold.

On August 5, 2021, the Sunroc Corporation, doing business as Depatco, submitted to EPA, Region 10 a Request for Coverage under the General Air Quality Permit for New or Modified Minor Source Hot Mix Asphalt Plants in Indian Country. Condition 20.b of the General Air Quality Permit for New or Modified Minor Source Hot Mix Asphalt Plants in Indian Country establishes an 18,275 gallons-per-calendar month fuel limit on all engines and generators, excluding nonroad engines and states that "[t]his fuel

[7] https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-fifth-edition-volume-i-chapter-3-stationary-0
[8] https://www.epa.gov/sites/default/files/2021-01/documents/ap42-enforcementalert.pdf

consumption limit also includes any fuel use at a co-located stone quarrying, crushing, and screening operation."[9] Thus, the fuel limit will apply to the Permittee whenever the hot mix asphalt plant is present.

Table 7-1 shows a comparison of potential to emit from EU 01 and EU 02 prior to any limit being established, with total NO_x capped at 90 tpy, and with the 18,275 gallons-per-calendar-month diesel fuel limit in the general permit, conservatively assuming that 100 percent of the diesel fuel is combusted in EU 01 and EU 02. AP 42 factors were used for all pollutants except CO. The CO emission factor was provided by the Permittee and was based on information provided by the manufacturer of the catalytic oxidizer required to assure compliance with the RICE NESHAP. See Appendix A for more information on how the calculations were performed.

Table 7-1[1]: Allowable Emissions Comparison from EU 01 and EU 02

Pollutant	PTE, pre-limit (tpy)	Maximum expected emissions, with 90 tpy NO_x limit (tpy)	Maximum expected emissions based on general permit fuel limit (tpy)
PM	10	4	2
PM_{10}	7	3	2
$PM_{2.5}$	7	3	2
NOx	228	90	52
CO	18	7	4
SO_2	<1	<1	<1
VOC	11	4	3

[1] Table is for informational purposes only. This permit only limits NOx PTE.
Values in this table are rounded to the nearest ton.

8. Listed Species-Related Requirements

Pursuant to section 7 of the Endangered Species Act (ESA), 16 U.S.C. 1536, and its implementing regulations at 50 CFR part 402, the EPA is required to ensure that any action authorized, funded, or carried out by the EPA is not likely to jeopardize the continued existence of any federally endangered (FE) or federally threatened (FT) species listed under the ESA, or result in the destruction or adverse modification of such species designated critical habitat. The EPA has determined that this synthetic minor permitting action for the facility is subject to ESA section 7 requirements. In complying with its duty under the ESA, the EPA, as the action agency, examined the potential effects on listed species and critical habitat. This permit limits emissions generated by existing emission units. It does not authorize the construction of any new emission unit or the modification or increased utilization of any existing emission units. The EPA concludes that the issuance of this permit will not affect a listed species or critical habitat.

EPA's no effect determination concludes EPA's obligations under Section 7 of the ESA.

9. Historic Properties-Related Requirements

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires federal agencies, including the EPA, to take into account the effects of an undertaking on historic properties. The implementing regulations of the NHPA can be found at 36 CFR part 800. An "undertaking," as defined

[9] https://www.epa.gov/tribal-air/5-source-categories-hot-mix-asphalt-plants-final-rule

at 36 CFR 800.16(y), includes projects requiring a federal permit. Therefore, the issuance of this permit constitutes an undertaking.

Because the proposed action includes no construction and will only result in a decrease in PTE, we have determined that the undertaking will have no effect on historic properties.

10. Environmental Justice Analysis

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," calls on each federal agency to make environmental justice a part of its mission by "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations."

The EPA defines "Environmental Justice" (EJ) to include the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and polices. The EPA's goal is to provide an opportunity for overburdened populations or communities to participate in the permitting process. "Overburdened" is used to describe the minority, low-income, tribal and indigenous populations or communities in the United States that potentially experience disproportionate environmental harms and risks due to exposures or cumulative impacts or greater vulnerability to environmental hazards.

The EPA has developed an EJ mapping and screening tool called EJSCREEN. It is based on nationally consistent data and an approach that combines environmental and demographic indicators in maps and reports. According to EPA's EJSCREEN Version 2020 environmental justice screening and mapping tool, people of color comprise 18% of the community within a five-mile radius of the facility, and 37% of the 30,564-resident population within that area (only 123 of whom live within one mile of the facility) is characterized as low income. These numbers are comparable to the average for the state of Idaho (18% people of color and 33% low income).

Because the proposed action includes no construction and will result in a decrease in PTE, we have determined that the undertaking will not have disproportionately high and adverse impacts on minority or low-income populations.

11. Permit Content and Revisions

11.1 Permit Content - General

The terms and conditions of the permit are based on the required permit content and analysis for synthetic minor permits listed in the Tribal Minor NSR Rule. *See, e.g.*, 40 CFR 49.155(a)(*What information must my permit include?*). Because this permit does not authorize the permittee to construct or modify the synthetic minor source, permit content prescribed by regulation related to construction or modification is not included in the permit. Described below is the basis for the permit conditions.

Part 49 Permit Issuance History
This permitting action is for the initial issuance of a synthetic minor permit.

Source/Project Description

The Permittee is requesting issuance of a synthetic minor permit to avoid title V permitting requirements.

Table 1: Source Information and Emission Units
Table 1 lists the emission units subject to the emission limits on PTE for NOx.

Section 1 – General Provisions Requirements
General requirements are laid out in this section and defined within the permit conditions themselves. 40 CFR 49.155(a)(1) requires that each minor NSR permit authorizing construction or modification of a source contain the following permit content including: the effective date of the permit; the emissions units subject to the permit and their associated emission limitations; and monitoring, recordkeeping, and reporting requirements to assure compliance with the emission limitations. The permit includes these requirements.

Severability Clause
40 CFR 49.155(a)(6) requires that each minor NSR permit authorizing construction or modification of a source contain a severability clause to ensure the continued validity of the other portions of the permit in the event of a challenge to a portion of the permit. The permit includes a severability clause based on 40 CFR 49.155(a)(6), Condition 4.

Additional Provisions
40 CFR 49.155(a)(7)(i) requires that each minor NSR permit authorizing construction or modification of a source contain provisions stating the requirements in paragraphs (a)(7)(i) through (vii) of that section. Although this permit does not authorize construction or modification, the permit does contain provisions from 49.155(a)(7) listed below that are appropriate for a synthetic minor permit. Also listed below is an explanation for those provisions of 49.155(a)(7) not included in the permit.

- 49.155(a)(7)(i) – Condition 5 of permit.
- 49.155(a)(7)(ii) – requirement for Source to not cause or contribute to NAAQS or PSD increment violations is not in the permit. Requirement is only appropriate for minor NSR permits authorizing an emission increase, and this permit does not do that.
- 49.155(a)(7)(iii) – Condition 6 of permit.
- 49.155(a)(7)(iv) – Condition 12 of permit.
- 49.155(a)(7)(v) – Condition 7 of permit.
- 49.155(a)(7)(vi) – Condition 10 of permit.
- 49.155(a)(7)(vii) – Condition 3 of permit.

Section 2 – Source Wide Emission Limitations and Standards

The Permittee has requested a limit on NOx emissions. Because the only emission units that emit NOx are EU 01 and EU 02, the two stationary compression ignition engines, the emission limit is in Section 3.

Section 2 contains two general work practice standards. Condition 14 requires equipment subject to the permit to be operated at all times in a manner consistent with good air pollution control practices for minimizing emissions. Condition 15 requires the Permittee to operate equipment subject to the permit according to the manufacturer's instructions.

Section 2.1 – Source Wide Monitoring and Testing Requirements
40 CFR 49.155(a)(3) requires that the permit include monitoring sufficient to assure compliance with the emissions limitations found in Conditions 14 and 15.

Conditions 16-17 requires the permittee to submit a test protocol in advance of testing and that the testing be carried out consistent with protocol.

Section 2.2 – Source Wide Recordkeeping Requirements
40 CFR 49.155(a)(4) requires that the permit include recordkeeping sufficient to assure compliance with the emission limitations and monitoring requirements, including the requirements of 40 CFR 49.155(a)(4)(i) and (ii).

Conditions 18-21 define the types of records that must be maintained and require records be retained for a period of no less than 5 years and that they be readily accessible onsite.

Section 2.3 – Source Wide Notification and Reporting Requirements
40 CFR 49.155(a)(5) requires that the permit include the reporting requirements listed in 40 CFR 49.155(a)(5)(i) and (ii) related to annual reports and reporting of deviations.

Conditions 22-23 require notification to the EPA of change in ownership/operator or if the facility is planning to close.

Conditions 24 requires submittal of an annual report documenting compliance status and summarizing monitoring performed and deviations reported.

Conditions 25 requires prompt reporting of deviations to the EPA and defines what a deviation is.

Condition 26 requires submittal of test reports if any testing is required.

Condition 27 requires electronic submittal of reports to the EPA and that a hardcopy be sent to the Tribal environmental office.

Conditions 28 requires all reports be certified by a responsible official and explains who qualifies to be a responsible official.

Section 3 – Emission Units 01 and 02 Limitations

Condition 29 establishes an emission limit for NOx. Because EU 01 and 02 are the only stationary sources of NOx at the facility, this functions as a facility-wide emission limitation.

To be enforceable as a practical matter, emission limits must specify:

- A technically accurate limitation that identifies the portions of the source subject to the limitation;
- The time period for the limitation (hourly, daily, monthly, and annual limits such as 12-month rolling limits); and
- The method to determine compliance, including appropriate monitoring, recordkeeping and reporting.

See "Reclassification of Major Sources as Area Sources Under Section 112 of the Clean Air Act," 84 FR 36304 (July 26, 2019).

In this case, the limitation is a rolling 12-month NOx limit of 90 tpy that applies to EU 01 and 02. Compliance is determined by monitoring fuel consumption in each engine, which is multiplied by the heating value of diesel fuel and an empirical emission factor, determined separately for each engine.

Condition 30 establishes a diesel fuel combustion limit that applies whenever a hot mix asphalt plant subject to the general permit is collocated in the pit. This is a precondition for approval of the hot mix asphalt plant general permit and applies to both the hot mix asphalt plant and a collocated stone quarrying, crushing, and screening operation.

Section 3.1 – Monitoring and Testing Requirements for EU 01 and 02

Condition 31 requires the Permittee to install non-resettable fuel meters operated, calibrated, and maintained according to the manufacturer's recommendations.

Condition 32 establishes requirements for performance testing on EU 01 and 02 to establish site-specific emission factors. Testing is required once calculated NOx emissions from EU 01 and 02 exceed 50 tpy using the initial (AP 42) emission factors or may be initiated voluntarily by the Permittee. Condition 32 establishes the timing for required testing, the test methods that may be used, and the engine loads during the test. Once initiated, testing must be repeated at least every five years.

Condition 33 requires the permittee to calculate monthly and rolling 12-month NOx emissions from EU 01 and 02 within 10 days after the end of each calendar month.

Section 3.2 – Recordkeeping Requirements for EU 01 and 02

Condition 34 requires the permittee to keep records of fuel combustion during each calendar month.

Section 3.3 Reporting Requirements for EU 01 and 02

Condition 35 requires the Permittee to include calculations of monthly and rolling 12-month fuel combustion and NOx emissions in the annual report.

Condition 36 requires the Permittee to inform the EPA that the requirement to conduct a performance test has been triggered and when the performance test must be conducted. This notification is required by the end of the month in which the requirement was triggered.

Appendix A

Emissions Calculation for EU 01 and EU 02

Crusher engine
EU 01

EF	in lb/MMBtu, from AP 42, 3.4
NOx	3.2
PM	0.1
PM10	0.0573
PM2.5	0.0556
CO	0.233
VOC	0.09
SO2	0.001515

Wash plant engine
EU 02

EF	in lb/MMBtu, from AP 42, 3.3	
NOx	4.41	
PM	0.31	
PM10	0.31	
PM2.5	0.31	
CO	0.425	
VOC	0.42875	as propane
SO2	0.001515	use mass balance for large engines

CO emission factors from oxidation catalyst guarantee, see application

Pre-Control Emissions

Crusher engine	lb/hr	tpy
NOx	37.7024	165.1365
PM	1.1782	5.160516
PM10	0.675109	2.956976
PM2.5	0.655079	2.869247
CO	2.745206	12.024
VOC	1.06038	4.644464
SO2	0.01785	0.078182

Wash plant engine	lb/hr	tpy
NOx	14.50008	63.51035
PM	1.01928	4.464446
PM10	1.01928	4.464446
PM2.5	1.01928	4.464446
CO	1.3974	6.120612
VOC	1.40973	6.174617
SO2	0.004981	0.021818

	total tpy
NOx	228.6469
PM	9.624962
PM10	7.421422
PM2.5	7.333693
CO	18.14461
VOC	10.81908
SO2	0.1

PTE – post control, using GP limit

fuel usage	219300	gal/yr	assuming Merrill uses entire allotment
Crusher	0.77		actual ratio of fuel throughput (approx. equal to ratio of engine capacities)
Wash	0.23		

	crusher	wash	total	reduction
NOx	37.1488	15.05155	52.20035	176.4465
PM	1.1609	1.058045	2.218945	7.406017
PM10	0.665196	1.058045	1.723241	5.698181
PM2.5	0.64546	1.058045	1.703506	5.630188
CO	2.704897	1.450546	4.155443	13.98917
VOC	1.04481	1.463345	2.508155	8.310927
SO2	0.017588	0.005171	0.022758	0.077242

PTE - post control, 90 TPY NOx

	crusher	wash	total	reduction
NOx	65.00105	24.99895	90	138.6469
PM	2.031283	1.757296	3.788579	5.836384
PM10	1.163925	1.757296	2.921221	4.500201
PM2.5	1.129393	1.757296	2.886689	4.447004
CO	4.732889	2.409196	7.142085	11.00253
VOC	1.828155	2.430453	4.258608	6.560474
SO2	0.030774	0.008588	0.039362	0.060638

Appendix B

2019 Actual Emissions for Calculation for EU 01 and EU 02

Crusher engine

EF	in lb/MMBtu, from AP 42, 3.4
NOx	3.2
PM	0.1
PM10	0.0573
PM2.5	0.0556
CO	0.233
VOC	0.09
SO2	0.001515

Wash plant engine

EF	in lb/MMBtu, from AP 42, 3.3	
NOx	4.41	
PM	0.31	
PM10	0.31	
PM2.5	0.31	
CO	0.425	
VOC	0.42875	as propane
SO2	0.001515	use mass balance for large engines

CO emission factors from oxidation catalyst guarantee, see application

Pre-control emissions

Crusher engine

	lb/hr	tpy
NOx	37.7024	6.3679792
PM	1.1782	0.19899935
PM10	0.675109	0.11402663
PM2.5	0.655079	0.11064364
CO	2.745206	0.46366849
VOC	1.06038	0.17909942
SO2	0.01785	0.00301484

Wash plant engine

	lb/hr	tpy
NOx	14.50008	1.872187
PM	1.01928	0.058506
PM10	1.01928	0.033524
PM2.5	1.01928	0.032529
CO	1.3974	0.136319
VOC	1.40973	0.052655
SO2	0.004981	0.000886

	total tpy
NOx	8.240166
PM	0.257505
PM10	0.14755
PM2.5	0.143173
CO	0.599987
VOC	0.231755
SO2	0.003901