TECHNICAL SUPPORT DOCUMENT

Air Discharge Permit / Nonroad Engine Permit 24-3649
ADP/NEP Application CL-3270

Issued: July 10, 2024

Rotschy, Inc.

SWCAA ID - 2435

Prepared By: Wess Safford
Air Quality Engineer
Southwest Clean Air Agency

TABLE OF CONTENTS

ABBREVIATIONS

List of Acronyms

ADP	Air Discharge Permit
AP-42	Compilation of Emission Factors, AP-42, 5th Edition, Volume 1, Stationary Point and Area Sources – published by EPA
ASIL	Acceptable Source Impact Level
BACT	Best available control technology
CAM	Compliance Assurance Monitoring
CAS#	Chemical Abstracts Service registry number
CFR	Code of Federal Regulations
EPA	U.S. Environmental Protection Agency
EU	Emission Unit
MACT	Maximum Achievable Control Technologies
mfr	Manufacturer
NEP	Nonroad Engine Permit
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOV	Notice of Violation/
NSPS	New Source Performance Standard
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RCW	Revised Code of Washington
SCC	Source Classification Code
SDS	Safety Data Sheet
SQER	Small Quantity Emission Rate listed in WAC 173-460
Standard	Standard conditions at a temperature of 68°F (20°C) and a pressure of 29.92 in Hg (760 mm Hg)
SWCAA	Southwest Clean Air Agency
T-BACT	Best Available Control Technology for toxic air pollutants
WAC	Washington Administrative Code

List of Units and Measures

µg/m³	Micrograms per cubic meter
µm	Micrometer (10^{-6} meter)
acfm	Actual cubic foot per minute
bhp	Brake horsepower
dscfm	Dry Standard cubic foot per minute
gpm	Gallon per minute
hp	Horsepower
hp-hr	Horsepower-hour
kW	Kilowatt
MMBtu	Million British thermal unit
ppm	Parts per million
ppmv	Parts per million by volume
ppmvd	Parts per million by volume, dry
ppmw	Parts per million by weight
scfm	Standard cubic foot per minute
tph	Ton per hour
tpy	Tons per year

List of Chemical Symbols, Formulas, and Pollutants

CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
HAP	Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act
NO_X	Nitrogen oxides
O_2	Oxygen
PM	Particulate Matter with an aerodynamic diameter 100 µm or less
PM_{10}	PM with an aerodynamic diameter 10 µm or less
$PM_{2.5}$	PM with an aerodynamic diameter 2.5 µm or less
SO_2	Sulfur dioxide
SO_x	Sulfur oxides
TAP	Toxic air pollutant pursuant to Chapter 173-460 WAC
VOC	Volatile organic compound

Terms not otherwise defined have the meaning assigned to them in the referenced regulations or the dictionary definition, as appropriate.

1. FACILITY IDENTIFICATION

Applicant Name:	Rotschy, Inc.
Applicant Address:	7408 NE 133rd Circle, Vancouver, Washington 98662
Facility Name:	Rotschy, Inc.
Facility Address:	913 NE 172nd Ave, Vancouver, Washington 98684
SWCAA Identification:	2435
Contact Person:	Nick Massie, Project Manager
Primary Process:	Aggregate Crushing and Handling
SIC/NAICS Code:	1429 / Crushed and Broken Stone 212319 / Other Crushed and Broken Stone Mining and Quarrying
Facility Classification:	Natural Minor; Nonroad Engine

2. FACILITY DESCRIPTION

Rotschy, Inc. (Rotschy) operates an aggregate handling operation that primarily screens topsoil and crushes reclaimed aggregate (recycled asphalt, concrete, etc.). Operations occur at various locations in Clark County.

3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit / Nonroad Engine Permit (ADP/NEP) application number CL-3270 dated May 14, 2024. Rotschy, Inc. submitted ADP/NEP Application CL-3270 requesting approval for the following:

- (1) MGL stacking conveyor (#30-18) and associated nonroad engine;
- (1) Lippmann 6x22 screen (#30-22) and associated nonroad engine;
- (1) McCloskey C44 cone crusher (#30-23) and associated nonroad engine; and
- (1) McCloskey stacking conveyor (#30-24) and associated nonroad engine.

The current permitting action provides approval to add the above equipment to the applicant's existing permit. ADP/NEP 24-3649 will supersede ADP/NEP 22-3512 in its entirety.

4. PROCESS DESCRIPTION

4.a. Aggregate Crushing and Handling (*existing*). This facility crushes, screens, and stores rock, construction debris, recycled asphalt, and reclaimed concrete. Material is handled in bulk using trucks, front-end loaders, and excavators. High pressure water sprays are used to control fugitive dust at the infeed of the crushers and screens. General wet suppression is used as necessary to control fugitive dust from conveyor transfer points, storage piles and haul roads. Screens may be used to screen soil. Screened soil may be stacked with a separate stacker conveyor.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

5.a. Parker Jaw Crusher #30-11 (*existing*). This unit is a track-mounted jaw crusher. Wet suppression is used to control dust emissions at the inlet of the crusher and as necessary at the finished product delivery belt.

Make / Model:	Parker / RT1163DH (s/n X11771/01)
Year Built:	2001
Capacity:	~350 tons per hour
NSPS Applicable:	Subpart OOO applicable

5.b. Metso Cone Crusher #30-19 (*existing*). This unit is a track-mounted cone crusher. Wet suppression is used to control dust emissions at the inlet of the crusher and as necessary at the finished product delivery belt.

Make / Model:	Metso / Lokotrack LT300HP
Year Built:	June 2016
Capacity:	~550 tons per hour
NSPS Applicable:	Subpart OOO applicable

5.c. Nordtrack Jaw Crusher #30-21 (*existing*). This unit is a track-mounted jaw crusher. Wet suppression is used to control dust emissions at the inlet of the crusher and as necessary at the finished product delivery belt.

Make / Model:	Nordtrack / J127 (s/n 1900426)
Year Built:	2021
Capacity:	~250 tons per hour
NSPS Applicable:	Subpart OOO applicable

5.d. KPI Impact Crusher #30-17 (*existing*). This unit is a track-mounted impact crusher with integral screening driven by a diesel engine. Wet suppression is used to control dust emissions at the inlet of the crusher and as necessary at transfer points.

Make / Model:	KPI-JCI / FT4250CC (s/n 417412)
Year Built:	2018
Size:	42" x 50" crusher
Capacity:	~400 tons per hour
NSPS Applicable:	Subpart OOO applicable

5.e. McCloskey Cone Crusher #30-23 (*new*). This unit is a track-mounted cone crusher. Wet suppression is used to control dust emissions at the inlet of the crusher and as necessary at the finished product delivery belt.

Make / Model:	Telsmith / Gyrasphere 44 SBS (s/n 44130)
Year Built:	2013
Capacity:	200 tons per hour
NSPS Applicable:	Subpart OOO applicable

ADP/NEP Application CL-3270. Rotschy proposes to add this unit to its existing operations.

5.f. McCloskey Screen #30-10 (*existing*). This unit is a track-mounted, two deck aggregate screen. Wet suppression is used to control dust emissions as necessary at each of the finished product delivery belts.

Make / Model:	McCloskey / R155 (s/n 71602)
Year Built:	2012
Size / Configuration:	5' x 16' / 2-deck
Capacity:	~150 tons per hour
NSPS Applicable:	Subpart OOO if operated in conjunction with an affected crusher. Not subject when used as a stand-alone plant.

5.g. McCloskey Screen #30-12 (*existing*). This unit is a track-mounted, two deck aggregate screen. Wet suppression is used to control dust emissions as necessary at each of the finished product delivery belts.

Make / Model:	McCloskey / R155 (s/n MO179)
Year Built:	2009
Size / Configuration:	5' x 16' / 2-deck
Capacity:	~150 tons per hour
NSPS Applicable:	Subpart OOO if operated in conjunction with an affected crusher. Not subject when used as a stand-alone plant.

5.h. McCloskey Screen #30-13 (removed). This unit is a track-mounted, two deck aggregate screen. Wet suppression is used to control dust emissions as necessary at each of the finished product delivery belts.

Make / Model:	*McCloskey / R155 (s/n MO6670539)*
Year Built:	*2010*
Size / Configuration:	*5' x 16' / 2-deck*
Capacity:	*~150 tons per hour*
NSPS Applicable:	*Subpart OOO if operated in conjunction with an affected crusher. Not subject when used as a stand-alone plant.*

ADP/NEP Application CL-3270. Rotschy sold this unit and removed it from service.

5.i. Lippmann Screen #30-22 (*new*). This unit is a track-mounted, two deck aggregate screen. Wet suppression is used to control dust emissions as necessary at each of the finished product delivery belts.

Make / Model:	Lippmann / LS-6222 (s/n 92353)
Year Built:	2023
Size / Configuration:	6' x 22' / 2-deck
Capacity:	~150 tons per hour
NSPS Applicable:	Subpart OOO if operated in conjunction with an affected crusher. Not subject when used as a stand-alone plant.

ADP/NEP Application CL-3270. Rotschy proposes to add this unit to its existing operations.

5.j. MGL Stacking Conveyor #30-15 (*existing*). This unit is a track mounted conveyor used to stack aggregate in outdoor storage piles. Wet suppression is used to control dust emissions as necessary.

Make / Model:	MGL / 7436 (s/n 77436441)
Year Built:	2004
NSPS Applicable:	Subpart OOO if operated in conjunction with an affected crusher. Not subject when used as a stand-alone plant.

5.k. MGL Stacking Conveyor #30-18 (*new*). This unit is a portable conveyor used to stack aggregate in outdoor storage piles. Wet suppression is used to control dust emissions as necessary.

Make / Model:	MGL (s/n 836X150)
Year Built:	2020
NSPS Applicable:	Subpart OOO if operated in conjunction with an affected crusher. Not subject when used as a stand-alone plant.

ADP/NEP Application CL-3270. Rotschy proposes to add this unit to its existing operations.

5.l. McCloskey Stacking Conveyor #30-24 (*new*). This unit is a portable conveyor used to stack aggregate in outdoor storage piles. Wet suppression is used to control dust emissions as necessary.

Make / Model:	McCloskey / ST800H (s/n 90042)
Year Built:	2019
NSPS Applicable:	Subpart OOO if operated in conjunction with an affected crusher. Not subject when used as a stand-alone plant.

ADP/NEP Application CL-3270. Rotschy proposes to add this unit to its existing operations.

5.m. Haul Roads and Aggregate Handling (*existing*). Vehicle traffic and material handling operations generate fugitive dust emissions. Haul roads may be paved and/or unpaved depending on the location at which the facility is operating. Fugitive emissions from storage piles and haul roads are minimized with the use of low pressure wet suppression.

5.n. Diesel Engine - Whisperwatt Generator (*existing*). This unit is a portable engine driven generator used to provide electrical power to auxiliary equipment. This unit is classified as a stationary engine.

Engine Make / Model:	John Deere / 6068TF275 (s/n unknown)
Engine Power Rating:	165 hp gross, 150 hp @ 1,800 rpm
Fuel:	Diesel
Engine Built:	2004
Engine Certification:	EPA Tier 2
Generator Set Make / Model:	MQ Power - Whisperwatt / DCA-125USJ
Generator Set Capacity:	125 kVA (110 kW) prime, 110 kW standby
Stack Description:	~5" diameter exhausting vertically at ~6' above grade
NSPS/MACT Applicable:	40 CFR 63 Subpart ZZZZ

5.o. Nonroad Diesel Engine - Parker Jaw Crusher #30-11 (*existing*). This unit is a diesel engine integral to a Parker crusher. The engine powers the crusher and the tracks on which it is mounted. This unit is classified as a nonroad engine.

Engine Make / Model:	Caterpillar / 3306 (s/n 64Z31446)
Engine Power Rating:	362 hp
Fuel:	Diesel
Engine Built:	2000
Engine Certification:	EPA Tier 1
Stack Description:	~5" diameter exhausting horizontally ~6' above grade
Federal Regulations:	40 CFR 1039

5.p. Nonroad Diesel Engine - Metso Cone Crusher #30-19 (*existing*). This unit is a diesel engine integral to a Metso crusher. The engine powers the crusher and the tracks on which it is mounted. This unit is classified as a nonroad engine.

Engine Make / Model:	Caterpillar / C-15 (s/n TBD)
Engine Power Rating:	540 hp
Fuel:	Diesel
Engine Built:	June 2016
Engine Certification:	EPA Tier 3
Stack Description:	~5" diameter exhausting horizontally ~6' above grade
Federal Regulations:	40 CFR 1039

5.q. Nonroad Diesel Engine – Nordtrack Jaw Crusher #30-21 (*existing*). This unit is a diesel engine integral to a Nordtrack crusher. The engine powers the crusher and the tracks on which it is mounted. This unit is classified as a nonroad engine.

Engine Make / Model:	Caterpillar / C9.3B (s/n NGH01749)
Engine Power Rating:	350 hp
Fuel:	Diesel
Engine Built:	2021
Engine Certification:	EPA Tier 4
Stack Description:	Exhausts horizontally ~6' above grade
Federal Regulations:	40 CFR 1039

5.r. Nonroad Diesel Engine – KPI Impact Crusher #30-17 (*existing*). This unit is a diesel engine integral to a KPI impact crusher. The engine powers the crusher and the tracks on which it is mounted. This unit is classified as a nonroad engine.

Engine Make / Model:	Caterpillar / C13 (s/n JR900511)
Engine Power Rating:	440 hp
Fuel:	Diesel
Engine Built:	November 20, 2017
Engine Certification:	EPA Tier 4
Stack Description:	4" diameter exhausting horizontally 8' above grade
Federal Regulations:	40 CFR 1039

5.s. Nonroad Diesel Engine - McCloskey Screen #30-10 (*existing*). This unit is a diesel engine integral to a McCloskey screen. The engine powers the screen and the tracks on which it is mounted. This unit is classified as a nonroad engine.

Engine Make / Model:	Caterpillar / C4.4 (s/n 44418615)
Engine Power Rating:	127 hp
Fuel:	Diesel
Engine Built:	2012
Engine Certification:	EPA Tier 4
Stack Description:	~4" diameter exhausting horizontally ~6' above grade
Federal Regulations:	40 CFR 1039

5.t. Nonroad Diesel Engine - McCloskey Screen #30-12 (*existing*). This unit is a diesel engine integral to a McCloskey screen. The engine powers the screen and the tracks on which it is mounted. This unit is classified as a nonroad engine.

Engine Make / Model:	Caterpillar / C 4.4 (s/n 44405831)
Engine Power Rating:	129 hp
Fuel:	Diesel
Engine Built:	2008
Engine Certification:	EPA Tier 3
Stack Description:	3.5" diameter exhausting horizontally 7' above grade
Federal Regulations:	40 CFR 1039

5.u. Nonroad Diesel Engine - McCloskey Screen #30-13 (removed). This unit is a diesel engine integral to a McCloskey Screen. The engine powers the screen and the tracks on which it is mounted. This unit is classified as a nonroad engine.

Engine Make / Model:	*Caterpillar / C 4.4 (s/n 44408082)*
Engine Power Rating:	*129 hp*
Fuel:	*Diesel*
Engine Built:	*2010*
Engine Certification:	*EPA Tier 3*
Stack Description:	*3.5" diameter exhausting horizontally 7' above grade*
Federal Regulations:	*40 CFR 1039*

ADP/NEP Application CL-3270. Rotschy sold this unit and removed it from service.

5.v. Nonroad Diesel Engine - MGL Stacking Conveyor #30-15 (*existing*). This unit is a diesel engine integral to an MGL stacking conveyor. The engine powers the conveyor and the tracks on which it is mounted. This unit is classified as a nonroad engine.

Engine Make / Model:	Deutz / TCD 3.6L4 (s/n 1147164)
Engine Power Rating:	73 hp
Fuel:	Diesel
Engine Built:	2013
Engine Certification:	EPA Tier 4 Interim
Stack Description:	2.5" diameter exhausting horizontally 4' above grade
Federal Regulations:	40 CFR 1039

5.w. Nonroad Diesel Engine - MGL Stacking Conveyor #30-18 (*new*). This unit is a diesel engine integral to a portable MGL stacking conveyor. This unit is classified as a nonroad engine.

Engine Make / Model:	Cummins / QSF2.8t4TC74 (s/n 76168699)
Engine Power Rating:	74 hp (55 kW)
Fuel:	Diesel
Engine Built:	2019
Engine Certification:	EPA Tier 4
Stack Description:	5" diameter exhausting horizontally 10' 4" above grade
Federal Regulations:	40 CFR 1039

ADP/NEP Application CL-3270. Rotschy proposes to add this unit to its existing operations.

5.x. Nonroad Diesel Engine – Lippmann Screen #30-22 (*new*). This unit is a diesel engine integral to a Lippmann screen. The engine powers the screen and the tracks on which it is mounted. This unit is classified as a nonroad engine.

Engine Make / Model:	Volvo / Penta (s/n 7005358916)
Engine Power Rating:	215 hp (160 kW)
Fuel:	Diesel
Engine Built:	2023
Engine Certification:	EPA Tier 4
Stack Description:	4" diameter exhausting horizontally 7' above grade
Federal Regulations:	40 CFR 1039

ADP/NEP Application CL-3270. Rotschy proposes to add this unit to its existing operations.

5.y. Nonroad Diesel Engine – McCloskey Cone Crusher #30-23 (*new*). This unit is a diesel engine integral to a McCloskey cone crusher. The engine powers the crusher and the tracks on which it is mounted. This unit is classified as a nonroad engine.

Engine Make / Model:	Caterpillar / C13 (s/n TBD)
Engine Power Rating:	440 hp
Fuel:	Diesel
Engine Built:	2013
Engine Certification:	EPA Tier 4 (interim)
Stack Description:	5" diameter exhausting horizontally 9' 9" above grade
Federal Regulations:	40 CFR 1039

ADP/NEP Application CL-3270. Rotschy proposes to add this unit to its existing operations.

5.z. Nonroad Diesel Engine - McCloskey Stacking Conveyor #30-24 (*new*). This unit is a diesel engine integral to a portable McCloskey stacking conveyor. This unit is classified as a nonroad engine.

Engine Make / Model:	Kubota / V2403-CR-TI-EF (s/n TBD)
Engine Power Rating:	74 hp (55 kW)
Fuel:	Diesel
Engine Built:	2017
Engine Certification:	EPA Tier 4
Stack Description:	2" diameter exhausting horizontally 4' 3" above grade
Federal Regulations:	40 CFR 1039

ADP/NEP Application CL-3270. Rotschy proposes to add this unit to its existing operations.

5.aa. Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Parker Jaw Crusher #30-11	High Pressure Wet Suppression
2	Metso Cone Crusher #30-19	High Pressure Wet Suppression
3	Nordtrack Jaw Crusher #30-20	High Pressure Wet Suppression
4	KPI Impact Crusher #30-17	High Pressure Wet Suppression

ID No.	Equipment/Activity	Control Equipment/Measure
5	McCloskey Cone Crusher #30-23	High Pressure Wet Suppression
6	McCloskey Screen #30-10	High Pressure Wet Suppression
7	McCloskey Screen #30-12	High Pressure Wet Suppression
8	Lippmann Screen #30-22	High Pressure Wet Suppression
9	MGL Stacking Conveyor #30-15	Wet suppression
10	MGL Stacking Conveyor #30-18	Wet suppression
11	McCloskey Stacking Conveyor #30-24	Wet suppression
12	Haul Roads and Conveyors	Wet suppression
13	Engine - Whisperwatt Generator (stationary) (John Deere - 150 hp)	Ultra-low sulfur diesel, EPA Tier 2 Certification
14	Nonroad Engine - Parker Jaw Crusher #30-11 (Caterpillar - 362 hp)	Ultra-low sulfur diesel, EPA Tier 1 Certification
15	Nonroad Engine - Metso Cone Crusher #30-19 (Komatsu - 540 hp)	Ultra-low sulfur diesel, EPA Tier 3 Certification
16	Nonroad Engine - Nordtrack Jaw Crusher #30-21 (Caterpillar – 350 hp)	Ultra-low sulfur diesel, EPA Tier 4 Certification
17	Nonroad Engine - KPI Impact Crusher #30-17 (Caterpillar – 440 hp)	Ultra-low sulfur diesel, EPA Tier 4 Certification
18	Nonroad Engine - McCloskey Screen #30-10 (Caterpillar - 127 hp)	Ultra-low sulfur diesel, EPA Tier 4 Certification
19	Nonroad Engine - McCloskey Screen #30-12 (Caterpillar - 129 hp)	Ultra-low sulfur diesel, EPA Tier 3 Certification
20	Nonroad Engine - MGL Stacking Conveyor #30-15 (Caterpillar - 73 hp)	Ultra-low sulfur diesel, EPA Tier 4 Certification
21	Nonroad Engine - MGL Stacking Conveyor #30-18 (Cummins - 74 hp)	Ultra-low sulfur diesel, EPA Tier 4 Certification
22	Nonroad Engine - MGL Stacking Conveyor #30-22 (Volvo - 215 hp)	Ultra-low sulfur diesel, EPA Tier 4 Certification
23	Nonroad Engine - MGL Stacking Conveyor #30-23 (Caterpillar - 440 hp)	Ultra-low sulfur diesel, EPA Tier 4 Certification
24	Nonroad Engine - MGL Stacking Conveyor #30-24 (Caterpillar - 74 hp)	Ultra-low sulfur diesel, EPA Tier 4 Certification

6. EMISSIONS DETERMINATION

Emissions to the ambient atmosphere from aggregate crushing and handling operations proposed in ADP/NEP Application CL-3270 consist of nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), particulate matter (PM), sulfur dioxide (SO_2), toxic air pollutants (TAPs), and hazardous air pollutants (HAPs).

Unless otherwise specified by SWCAA, actual emissions must be determined using the specified input parameter listed for each emission unit and the following hierarchy of methodologies:

(a) Continuous emissions monitoring system (CEMS) data;
(b) Source emissions test data (EPA reference method). When source emissions test data conflicts with CEMS data for the time period of a source test, source test data must be used;
(c) Source emissions test data (other test method); and
(d) Emission factors or methodology provided in this TSD.

6.a. Crushing and Screening Operations (*existing*). Potential emissions from crushing, screening, and material transfer are calculated from an aggregate throughput and emission factors from EPA AP-42, Table 11.19.2-2 (8/04). Emission factors for all stages except primary crushing are "controlled" factors from the 8/04 version of the table. Emission factors for primary crushing are taken from the 1/95 version of the table which only provided an "uncontrolled" PM factor for primary crushing. An 'uncontrolled' factor for PM_{10} was calculated using the 2.1:1 ratio of PM to PM_{10} specified in the table footnotes. An "uncontrolled" factor for $PM_{2.5}$ was calculated using a PM to $PM_{2.5}$ ratio of 12:1 which is based on the tested PM to $PM_{2.5}$ ratio for tertiary crushing in the 8/04 version of the table. A control efficiency of 80% was applied to the primary crushing factors to account for the use of wet suppression. The blasting emission factors come from AP-42, Table 11.9.1 assuming a blast area of 17,000 square feet, a blast depth of 20 feet, and a material density of 3,240 pounds per cubic yard.

Activity	Throughput (tpy)	Pollutant	Emission Factor - Controlled (lb/ton)	Transfer Points	Emissions (lb/yr)
Primary crushing	200,000	PM	0.00014		28
(3" - 12")		PM_{10}	0.000067		13
		$PM_{2.5}$	0.000012		2
Secondary crushing	200,000	PM	0.0012		240
(1" - 4")		PM_{10}	0.00054		108
		$PM_{2.5}$	0.0001		20
Tertiary crushing	200,000	PM	0.0012		240
(3/16" - 1")		PM_{10}	0.00054		108
		$PM_{2.5}$	0.0001		20
Screening	200,000	PM	0.0022		440
		PM_{10}	0.00074		148
		$PM_{2.5}$	0.00005		10
Loading/conveying	200,000	PM	0.00014	7	196
		PM_{10}	0.000046		64
		$PM_{2.5}$	0.000013		18
Blasting	200,000	PM	0.0015		304
		PM_{10}	0.00079		158
		$PM_{2.5}$	0.000046		9

6.b. Haul Roads (*existing*). Emissions from haul roads were calculated using default emission calculations from EPA AP-42, Section 13.2.2 (12/03), an average load weight of 20 tons, an average silt content of 4.8%, and an average round trip distance of 0.5 miles. This does not include in-pit activities by non-road equipment. The use of wet suppression is expected to provide an overall control efficiency of 80% for haul road emissions.

$$E = k\left(\frac{s}{12}\right)^{a}\left(\frac{w}{3}\right)^{b}$$ lb/vehicle mile travelled

Where: w = average truck weight in tons;
s = road surface silt content (%); and
k, a, and b are given in the table below:

Constant	$PM_{2.5}$	PM_{10}	PM_{30} (assumed as PM)
k	0.23	1.5	4.9
a	0.9	0.9	0.7
b	0.45	0.45	0.45

Maximum haul road emissions are estimated in the table below.

Haul Road Emissions

Average Truck Weight =	27	tons (assumes empty weight of 17 tons)
Average Round Trip Distance =	0.50	miles
Amount of Aggregate per Load =	20.0	tons
Total # of Trips =	10,000	loads
Total Miles Traveled =	5,000	miles
Assumed Silt Content =	4.8%	
Assumed Control (wet suppression) =	80%	

Pollutant	Uncontrolled EF lb/mile	Controlled EF lb/mile	Emissions tpy	EF Source
PM	6.94	1.39	3.47	AP-42 13.2.2 (11/06)
PM_{10}	1.77	0.35	0.88	AP-42 13.2.2 (11/06)
$PM_{2.5}$	0.27	0.054	0.14	AP-42 13.2.2 (11/06)

6.c. Engine - Whisperwatt Generator (*existing*). Potential emissions from engine operation are calculated based on the use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum rated power output, and 2,000 hr/yr of operation. Annual emissions will be calculated from actual hours of operation using the same methodology.

Whisterwatt Generator Engine

Hours of Operation =	2,000	hours
Power Output =	150	horsepower
Diesel Density =	7.206	pounds per gallon
Fuel Sulfur Content =	0.0015	% by weight
Fuel Consumption Rate =	7.70	gallons per hour (manufacturer)
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)
Annual Fuel Consumption =	15,400	gallons

	EF	Emissions		
Pollutant	lb/hp-hr	lb/hr	tpy	EF Source
NO_X	1.04E-02	1.55	1.55	CARB Certification
CO	1.81E-03	0.27	0.27	CARB Certification
VOC	2.47E-03	0.37	0.37	AP-42 Table 3.3-1 (10/96)
SO_X as SO_2	1.11E-05	0.0017	0.0017	Mass Balance
$PM/PM_{10}/PM_{2.5}$	3.95E-04	0.059	0.059	CARB Certification

			CO_2e	CO_2e		
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	EF Source
CO_2	73.96	1	163.05	22.501	173	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.18	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.42	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	22.579	174	

6.d. Nonroad Engine - Parker Jaw Crusher #30-11 (*existing*). Potential emissions from engine operation are calculated based on the use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum rated power output, and 2,000 hr/yr of operation. Annual emissions will be calculated from actual hours of operation using the same methodology.

Parker Jaw Crusher Engine

Hours of Operation =	2,000	hours
Power Output =	362	horsepower
Diesel Density =	7.206	pounds per gallon
Fuel Sulfur Content =	0.0015	% by weight
Fuel Consumption Rate =	15.10	gallons per hour (manufacturer data)
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)
Annual Fuel Consumption =	30,200	gallons

Pollutant	EF lb/hp-hr	EF lb/hr	Emissions tpy	EF Source
NO_X	0.0121	4.38	4.38	EPA Certification Data
CO	0.00353	1.28	1.28	EPA Certification Data
VOC	0.000353	0.13	0.13	EPA Certification Data
SO_X as SO_2	0.0000090	0.0033	0.0033	Mass Balance
$PM/PM_{10}/PM_{2.5}$	0.000309	0.11	0.11	EPA Certification Data

Greenhouse Gases	kg/MMBtu	GWP	CO_2e lb/MMBtu	CO_2e lb/gallon	tpy, CO_2e	EF Source
CO_2	73.96	1	163.05	23	340	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.34	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.82	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	341	

6.e. Nonroad Engine - Metso Cone Crusher #30-19 (*existing*). Potential emissions from engine operation are calculated based on the use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum rated power output, and 2,000 hr/yr of operation. Annual emissions will be calculated from actual hours of operation using the same methodology.

Metso Cone Crusher Engine

Hours of Operation =	2,000	hours
Power Output =	540	horsepower
Diesel Density =	7.206	pounds per gallon
Fuel Sulfur Content =	0.0015	% by weight
Fuel Consumption Rate =	36.20	gallons per hour (based on 7,000 Btu/hp-hr)
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)
Annual Fuel Consumption =	72,400	gallons

Pollutant	EF g/hp-hr	EF lb/hp-hr	Emissions lb/hr	Emissions tpy	EF Source
NO_X	2.62		3.12	3.12	SCAQMD
CO	2.03		2.42	2.42	SCAQMD
VOC	0.17		0.20	0.20	SCAQMD
SO_X as SO_2		1.45E-05	0.0078	0.0078	Mass Balance
$PM/PM_{10}/PM_{2.5}$	0.08		0.10	0.095	SCAQMD

Greenhouse Gases	kg/MMBtu	GWP	CO_2e lb/MMBtu	CO_2e lb/gallon	tpy, CO_2e	EF Source
CO_2	73.96	1	163.05	23	815	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.83	40 CFR 98
N_2O	0.0006	298	0.394	0.054	1.97	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	817	

6.f. Nonroad Engine - Nordtrack Jaw Crusher #30-21 (*existing*). Potential emissions from engine operation are calculated based on the use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum rated power output, and 2,000 hr/yr of operation. Annual emissions will be calculated from actual hours of operation using the same methodology.

Nordtrack Jaw Crusher Engine

Hours of Operation =	2,000	hours
Power Output =	350	horsepower (261 KW)
Diesel Density =	7.206	pounds per gallon
Fuel Sulfur Content =	0.0015	% by weight
Fuel Consumption Rate =	19.10	gallons per hour (based on 7,000 Btu/hp-hr)
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)
Annual Fuel Consumption =	38,200	gallons

Pollutant	EF g/kw-hr	EF lb/hp-hr	Emissions lb/hr	Emissions tpy	EF Source
NO_X	0.19		0.11	0.11	EPA Certification Table
CO	0.10		0.06	0.058	EPA Certification Table
VOC	0.04		0.02	0.023	EPA Certification Table
SO_X as SO_2		1.18E-05	0.0041	0.0041	Mass Balance
$PM/PM_{10}/PM_{2.5}$	0.01		0.01	0.0058	EPA Certification Table

Greenhouse Gases	kg/MMBtu	GWP	CO_2e lb/MMBtu	CO_2e lb/gallon	tpy, CO_2e	EF Source
CO_2	73.96	1	163.05	23	430	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.44	40 CFR 98
N_2O	0.0006	298	0.394	0.054	1.04	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	431	

6.g. Nonroad Engine - KPI Impact Crusher #30-17 (*existing*). Potential emissions from engine operation are calculated based on the use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum rated power output, and 2,000 hr/yr of operation. Annual emissions will be calculated from actual hours of operation using the same methodology.

KPI Impact Crusher Engine

Hours of Operation =	2,000	hours
Power Output =	440	horsepower
Diesel Density =	7.206	pounds per gallon
Fuel Sulfur Content =	0.0015	% by weight
Fuel Consumption Rate =	22.085	gallons per hour (EPA CO_2 certification data)
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)
Annual Fuel Consumption =	44,171	gallons

Pollutant	EF g/kW-hr	EF lb/hp-hr	Emissions lb/hr	Emissions tpy	EF Source
NO_X	0.16		0.12	0.12	EPA Certification Data
CO	0.005		0.0036	0.0036	EPA Certification Data
VOC	0.04		0.0289	0.0289	EPA Certification Data
SO_X as SO_2		1.09E-05	0.00477	0.00477	Mass Balance
$PM/PM_{10}/PM_{2.5}$	0.01		0.0072	0.0072	EPA Certification Data

Greenhouse Gases	kg/MMBtu	GWP	CO_2e lb/MMBtu	CO_2e lb/gallon	tpy, CO_2e	EF Source
CO_2	73.96	1	163.05	23	497	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.50	40 CFR 98
N_2O	0.0006	298	0.394	0.054	1.20	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	499	

6.h. Nonroad Engine - McClosky Screen #30-10 (*existing*). Potential emissions from engine operation are calculated based on the use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum rated power output, and 2,000 hr/yr of operation. Annual emissions will be calculated from actual hours of operation using the same methodology.

McClosky Screen Engine

Hours of Operation =	2,000	hours
Power Output =	127	horsepower
Diesel Density =	7.206	pounds per gallon
Fuel Sulfur Content =	0.0015	% by weight
Fuel Consumption Rate =	6.44	gallons per hour (based on 7,000 Btu/hp-hr)
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)
Annual Fuel Consumption =	12,884	gallons

	EF	Emissions		
Pollutant	lb/hp-hr	lb/hr	tpy	EF Source
NO_X	6.58E-03	0.84	0.84	EPA Tier 4 Limit
CO	5.75E-03	0.73	0.73	EPA Tier 4 Limit
VOC	2.47E-03	0.31	0.31	AP-42 Table 3.3-1 (10/96)
SO_X as SO_2	1.10E-05	0.0014	0.0014	Mass Balance
$PM/PM_{10}/PM_{2.5}$	3.29E-04	0.04	0.04	EPA Tier 4 Limit

			CO_2e	CO_2e		
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	EF Source
CO_2	73.96	1	163.05	23	145	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.15	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.35	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	145	

6.i. Nonroad Engine - McClosky Screen #30-12. Potential emissions from engine operation are calculated based on the use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum rated power output, and 2,000 hr/yr of operation. Annual emissions will be calculated from actual hours of operation using the same methodology.

McCloskey Screen Engine

Hours of Operation =	2,000	hours
Power Output =	129	horsepower
Diesel Density =	7.206	pounds per gallon
Fuel Sulfur Content =	0.0015	% by weight
Fuel Consumption Rate =	6.98	gallons per hour (manufacturer data)
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)
Annual Fuel Consumption =	13,960	gallons

	EF	EF	Emissions		
Pollutant	g/kW-hr	lb/hp-hr	lb/hr	tpy	EF Source
NO_X	3.59		0.76	0.76	EPA Certification Data
CO	1.17		0.25	0.25	EPA Certification Data
VOC	0.19		0.04	0.040	EPA Certification Data
SO_X as SO_2		1.17E-05	0.0015	0.0015	Mass Balance
$PM/PM_{10}/PM_{2.5}$	0.1667		0.035	0.035	EPA Certification Data

			CO_2e	CO_2e		
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	EF Source
CO_2	73.96	1	163.05	23	157	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.16	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.38	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	158	

6.j. Nonroad Engine - MGL Stacking Conveyor #30-15 (*existing*). Potential emissions from engine operation are calculated based on the use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum rated power output, and 2,000 hr/yr of operation. Annual emissions will be calculated from actual hours of operation using the same methodology.

MGL Stacking Conveyor Engine

Hours of Operation =	2,000	hours
Power Output =	73	horsepower
Diesel Density =	7.206	pounds per gallon
Fuel Sulfur Content =	0.0015	% by weight
Fuel Consumption Rate =	3.748	gallons per hour (manufacturer data)
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)
Annual Fuel Consumption =	7,496	gallons

Pollutant	EF g/kW-hr	EF lb/hp-hr	Emissions lb/hr	Emissions tpy	EF Source
NO_X	2.60		0.31	0.31	EPA Certification Data
CO	0.01		0.0012	0.0012	EPA Certification Data
VOC	0.01		0.0012	0.0012	EPA Certification Data
SO_X as SO_2		1.11E-05	0.00081	0.00081	Mass Balance
$PM/PM_{10}/PM_{2.5}$	0.02		0.0024	0.0024	EPA Certification Data

Greenhouse Gases	kg/MMBtu	GWP	CO_2e lb/MMBtu	CO_2e lb/gallon	tpy, CO_2e	EF Source
CO_2	73.96	1	163.05	23	84	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.09	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.20	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	85	

6.k. Nonroad Engine - MGL Stacking Conveyor #30-18 (*new*). Potential emissions from engine operation are calculated based on the use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum rated power output, and 2,000 hr/yr of operation. Annual emissions will be calculated from actual hours of operation using the same methodology.

MGL Stacking Conveyor Engine

Hours of Operation =	2,000	hours
Power Output =	74	horsepower
Diesel Density =	7.206	pounds per gallon
Fuel Sulfur Content =	0.0015	% by weight
Fuel Consumption Rate =	3.700	gallons per hour (7,000 Btu/hp-hr, 140,000 Btu/gal)
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)
Annual Fuel Consumption =	7,400	gallons

Pollutant	EF g/kW-hr	EF lb/hp-hr	Emissions lb/hr	Emissions tpy	EF Source
NO_X	4.25		0.52	0.52	EPA Certification Data
CO	0.01		0.0012	0.0012	EPA Certification Data
VOC	0.02		0.0024	0.0024	EPA Certification Data
SO_X as SO_2		1.08E-05	0.00080	0.00080	Mass Balance
$PM/PM_{10}/PM_{2.5}$	0.02		0.0024	0.0024	EPA Certification Data

Greenhouse Gases	kg/MMBtu	GWP	CO_2e lb/MMBtu	CO_2e lb/gallon	tpy, CO_2e	EF Source
CO_2	73.96	1	163.05	23	83	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.08	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.20	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	84	

6.l. Nonroad Engine – Lippmann Screen #30-22 (*new*). Potential emissions from engine operation are calculated based on the use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum rated power output, and 2,000 hr/yr of operation. Annual emissions will be calculated from actual hours of operation using the same methodology.

Lippmann Screen Engine

Hours of Operation =	2,000	hours
Power Output =	215	horsepower
Diesel Density =	7.206	pounds per gallon
Fuel Sulfur Content =	0.0015	% by weight
Fuel Consumption Rate =	10.750	gallons per hour (7,000 Btu/hp-hr, 140,000 Btu/gal)
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)
Annual Fuel Consumption =	21,500	gallons

Pollutant	EF g/kW-hr	EF lb/hp-hr	Emissions lb/hr	Emissions tpy	EF Source
NO_X	0.11		0.04	0.039	EPA Certification Data
CO	0.10		0.0353	0.0353	EPA Certification Data
VOC	0.03		0.0106	0.0106	EPA Certification Data
SO_X as SO_2		1.08E-05	0.00232	0.00232	Mass Balance
$PM/PM_{10}/PM_{2.5}$	0.01		0.0035	0.0035	EPA Certification Data

Greenhouse Gases	kg/MMBtu	GWP	CO_2e lb/MMBtu	CO_2e lb/gallon	tpy, CO_2e	EF Source
CO_2	73.96	1	163.05	23	242	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.25	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.58	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	243	

6.m. Nonroad Engine – McCloskey Cone Crusher #30-23 (*new*). Potential emissions from engine operation are calculated based on the use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum rated power output, and 2,000 hr/yr of operation. Annual emissions will be calculated from actual hours of operation using the same methodology.

McCloskey Cone Crusher Engine

Hours of Operation =	2,000	hours
Power Output =	440	horsepower
Diesel Density =	7.206	pounds per gallon
Fuel Sulfur Content =	0.0015	% by weight
Fuel Consumption Rate =	22.000	gallons per hour (7,000 Btu/hp-hr, 140,000 Btu/gal)
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)
Annual Fuel Consumption =	44,000	gallons

Pollutant	EF g/kW-hr	EF lb/hp-hr	Emissions lb/hr	Emissions tpy	EF Source
NO_X	3.61		2.61	2.61	EPA Certification Data
CO	2.70		1.95	1.95	EPA Certification Data
VOC	0.11		0.080	0.080	EPA Certification Data
SO_X as SO_2		1.08E-05	0.0048	0.0048	Mass Balance
$PM/PM_{10}/PM_{2.5}$	0.16		0.1157	0.12	EPA Certification Data

Greenhouse Gases	kg/MMBtu	GWP	CO_2e lb/MMBtu	CO_2e lb/gallon	tpy, CO_2e	EF Source
CO_2	73.96	1	163.05	23	495	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.50	40 CFR 98
N_2O	0.0006	298	0.394	0.054	1.20	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	497	

6.n. Nonroad Engine - McCloskey Stacking Conveyor #30-24 (*new*). Potential emissions from engine operation are calculated based on the use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum rated power output, and 2,000 hr/yr of operation. Annual emissions will be calculated from actual hours of operation using the same methodology.

McCloskey Stacking Conveyor Engine

Hours of Operation =	2,000	hours
Power Output =	74	horsepower
Diesel Density =	7.206	pounds per gallon
Fuel Sulfur Content =	0.0015	% by weight
Fuel Consumption Rate =	3.700	gallons per hour (7,000 Btu/hp-hr, 140,000 Btu/gal)
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)
Annual Fuel Consumption =	7,400	gallons

Pollutant	EF g/kW-hr	EF lb/hp-hr	Emissions lb/hr	Emissions tpy	EF Source
NO_X	3.50		0.43	0.43	EPA Certification Data
CO	0.01		0.0012	0.0012	EPA Certification Data
VOC	0.01		0.0012	0.0012	EPA Certification Data
SO_X as SO_2		1.08E-05	0.00080	0.00080	Mass Balance
$PM/PM_{10}/PM_{2.5}$	0.01		0.0012	0.0012	EPA Certification Data

Greenhouse Gases	kg/MMBtu	GWP	CO_2e lb/MMBtu	CO_2e lb/gallon	tpy, CO_2e	EF Source
CO_2	73.96	1	163.05	23	83	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.08	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.20	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	84	

6.o. Emissions Summary/Facility-wide Potential to Emit. Facility-wide potential to emit as calculated in the sections above is summarized below.

Pollutant	Potential Emissions (tpy)	Project Increase (tpy)
NO_X	14.35	2.38
CO	7.00	1.66
VOC	1.20	0.06
SO_2	0.03	0.07
Lead	0.00	0.00
PM	4.67	0.09
PM_{10}	1.66	0.09
$PM_{2.5}$	0.66	0.09
TAP	0.00	0.00
HAP	0.00	0.00
CO_2e	3,473	668

7. REGULATIONS AND EMISSION STANDARDS

Regulations that have been used to evaluate the acceptability of the proposed facility and establish emission limits and control requirements include, but are not limited to, the regulations, codes, or requirements listed below.

7.a. Title 40 Code of Federal Regulations Part 60 (40 CFR 60) Subpart OOO "Standards of Performance for Nonmetallic Mineral Processing Plants" establishes opacity and particulate matter emission limits for stationary (fixed) plants with capacities greater than 25 tons per hour and portable plants greater than 150 tons per hour that were constructed, reconstructed or modified after August 31, 1983. More stringent requirements apply to affected facilities constructed, reconstructed or modified on or after April 22, 2008. This subpart is applicable to the rock crushing equipment proposed in ADP/NEP Application CL-3270.

7.b. 40 CFR 60 Subpart IIII "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" applies to each compression ignition (CI) internal combustion engine (ICE) that commences construction after July 11, 2005 and is manufactured after April 1, 2006, or that is modified or reconstructed after July 11, 2005. The Whisperwatt generator engine was manufactured in 2004 and is not subject to this regulation.

7.c. 40 CFR 63 Subpart ZZZZ (63.6580 et seq.) "National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines" establishes national emission limitations and operating limitations for HAP emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This regulation is applicable to the Whisperwatt generator engine.

7.d. 40 CFR 1039 "Control of Emissions from New and In-use Nonroad Compression Ignition Engines" establishes standards for new non-road engines beginning with the 2008 model year for certain categories. The applicable year varies by engine category. In accordance with the relevant subpart, nonroad engines must meet the appropriate EPA Tier certification standards based on engine size and year of manufacture. Emission standards formerly codified in 40 CFR 89 have been moved to 40 CFR 1039 Appendix I. This subpart is applicable to the nonroad engines at this facility.

The definition of "nonroad engine" for this subpart is found in 40 CFR 1068.30 and includes any internal combustion engine that (1)(iii) "That, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another…" "An internal combustion engine is not a nonroad engine if:… (iii) the engine otherwise included in Paragraph 1(iii) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source…A location is any single site at a building, structure, facility or installation."

States are precluded from requiring retrofitting of nonroad engines except that states are permitted to adopt and enforce any such retrofitting requirements identical to California requirements which have been authorized by EPA under section 209 of the Clean Air Act. States may enforce limitations on hours of usage, daily mass emission limits, and sulfur limits on fuel as necessary.

7.e. Revised Code of Washington (RCW) 70A.15.2040 empowers any activated air pollution control authority to prepare and develop a comprehensive plan or plans for the prevention, abatement and control of air pollution within its jurisdiction. An air pollution control authority may issue such orders as may be necessary to effectuate the purposes of the Washington Clean Air Act and enforce the same by all appropriate administrative and judicial proceedings subject to the rights of appeal as provided in Chapter 62, Laws of 1970 ex. sess.

7.f. RCW 70A.15.2210 provides for the inclusion of conditions of operation as are reasonably necessary to assure the maintenance of compliance with the applicable ordinances, resolutions, rules and regulations when issuing an Air Discharge Permit for installation and establishment of an air contaminant source.

7.g. WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" requires Best Available Control Technology for toxic air pollutants (T-BACT), identification and quantification of emissions of toxic air pollutants and

demonstration of protection of human health and safety. The nonroad engines at this facility are not subject to this regulation.

7.h. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM_{10}, $PM_{2.5}$, lead, sulfur dioxide, nitrogen dioxide, ozone, and carbon monoxide in the ambient air, which shall not be exceeded.

7.i. SWCAA 400-040 "General Standards for Maximum Emissions" requires all new and existing sources and emission units to meet certain performance standards with respect to Reasonably Available Control Technology (RACT), visible emissions, fallout, fugitive emissions, odors, emissions detrimental to persons or property, sulfur dioxide, concealment and masking, and fugitive dust.

7.j. SWCAA 400-045 "Permit Applications for Nonroad Engines" requires, with a few exceptions, submittal of a permit application for installation of nonroad engines as defined in 40 CFR 1039. This regulation is applicable to the nonroad engines proposed for use by the permittee.

7.k. SWCAA 400-046 "Application Review Process for Nonroad Engines" requires that a nonroad engine permit be issued by the agency prior to the installation, replacement or alteration of any nonroad engine subject to the requirements of SWCAA 400-045. Each application must demonstrate that the installation will not cause an exceedance of any national or state ambient air quality standard.

7.l. SWCAA 400-050 "Emission Standards for Combustion and Incineration Units" requires that all provisions of SWCAA 400-040 be met and that no person shall cause or permit the emission of particulate matter from any combustion or incineration unit in excess of 0.23 grams per dry cubic meter (0.1 grains per dry standard cubic foot) of exhaust gas at standard conditions.

7.m. SWCAA 400-060 "Emission Standards for General Process Units" prohibits particulate matter emissions from all new and existing process units in excess of 0.1 grains per dry standard cubic foot of exhaust gas.

7.n. SWCAA 400-109 "Air Discharge Permit Applications" requires that an Air Discharge Permit application be submitted for all new installations, modifications, changes, or alterations to process and emission control equipment consistent with the definition of "new source". Sources wishing to modify existing permit terms may submit an Air Discharge Permit application to request such changes. An Air Discharge Permit must be issued, or written confirmation of exempt status must be received, before beginning any actual construction, or implementing any other modification, change, or alteration of existing equipment, processes, or permits.

7.o. SWCAA 400-110 "New Source Review" requires that SWCAA issue an Air Discharge Permit in response to an Air Discharge Permit application prior to establishment of the new source, emission unit, or modification.

7.p. SWCAA 400-111 "Requirements for Sources in a Maintenance Plan Area" requires that no approval to construct or alter an air contaminant source shall be granted unless it is evidenced that:

(1) The equipment or technology is designed and will be installed to operate without causing a violation of the applicable emission standards;
(2) Emissions will be minimized to the extent that the new source will not exceed emission levels or other requirements provided in the maintenance plan;
(3) Best Available Control Technology will be employed for all air contaminants to be emitted by the proposed equipment;
(4) The proposed equipment will not cause any ambient air quality standard to be exceeded; and
(5) If the proposed equipment or facility will emit any toxic air pollutant regulated under WAC 173-460, the proposed equipment and control measures will meet all the requirements of that Chapter.

8. RACT/BACT/BART/LAER/PSD/CAM DETERMINATIONS

The proposed equipment and control systems incorporate Best Available Control Technology (BACT) for the types and amounts of air contaminants emitted by the processes as described below:

8.a. Nonroad Engine Tier Certification. The nonroad engines proposed in this permitting action comply with applicable EPA certification requirements, but are not subject to BACT.

New BACT Determinations

8.b. BACT Determination – Aggregate Crushing and Screening. The proposed use of high pressure wet suppression systems, including spray or fog nozzles operating at a minimum pressure of 80 psig, has been determined to meet the requirements of BACT for the proposed crushing and screening equipment. Because there are other wet suppression systems (e.g., sonic fogging systems) that utilize a lower water pressure but provide equivalent or superior levels of emission control, the permit will allow for wet suppression systems reviewed and approved by SWCAA that provide equivalent or superior control of particulate matter emissions.

8.c. BACT Determination – Fugitive Dust Emissions. The use of low-pressure wet suppression systems has been determined to meet the requirements of BACT for fugitive dust emissions from storage piles, material transfer points, and haul roads at this facility.

Previous BACT Determinations

8.d. BACT Determination – Crushing and Screening (*ADP/NEP 22-3512*). The proposed use of high pressure wet suppression systems, including spray or fog nozzles operating at a minimum pressure of 80 psig, has been determined to meet the requirements of BACT for the proposed crushing and screening equipment. Because there are other wet suppression systems (e.g., sonic fogging systems) that utilize a lower water pressure but provide equivalent or superior levels of emission control, the permit will allow for wet suppression systems reviewed and approved by SWCAA that provide equivalent or superior control of particulate matter emissions.

8.e. BACT Determination – Fugitive Dust Emissions (*ADP/NEP 22-3512*). The use of low-pressure wet suppression systems has been determined to meet the requirements of BACT for fugitive dust emissions from storage piles, material transfer points, and haul roads at this facility.

Other Determinations

8.f. Prevention of Significant Deterioration (PSD) Applicability Determination. The potential to emit of this facility is less than applicable PSD applicability thresholds. Likewise, this permitting action will not result in a potential increase in emissions equal to or greater than the PSD thresholds. Therefore, PSD review is not applicable to this action.

8.g. Compliance Assurance Monitoring (CAM) Applicability Determination. CAM is not applicable to any emission unit at this facility because it is not a major source and is not required to obtain a Part 70 permit.

9. AMBIENT IMPACT ANALYSIS

9.a. Criteria Air Pollutant Review. Criteria pollutant emissions from approved operations are not expected to cause an adverse impact on ambient air quality.

9.b. Toxic Air Pollutant Review. The new equipment and modifications proposed in ADP/NEP Application CL-3270 will not affect the type or quantity of TAP emissions from approved operations.

Conclusions

9.c. Operation of aggregate crushing and handling equipment, as proposed in ADP/NEP Application CL-3270, will not cause the ambient air quality requirements of Title 40 Code of Federal Regulations (CFR) Part 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.

9.d. Operation of aggregate crushing and handling equipment, as proposed in ADP/NEP Application CL-3270, will not cause the requirements of WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" or WAC 173-476 "Ambient Air Quality Standards" to be violated.

9.e. Operation of aggregate crushing and handling equipment, as proposed in ADP/NEP Application CL-3270, will not cause a violation of emission standards for sources as established under SWCAA General Regulations Sections 400-040 "General Standards for Maximum Emissions," 400-050 "Emission Standards for Combustion and Incineration Units," and 400-060 "Emission Standards for General Process Units."

10. DISCUSSION OF APPROVAL CONDITIONS

SWCAA has made a determination to issue ADP/NEP 24-3649 in response to ADP/NEP Application CL-3270. ADP/NEP 24-3649 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

10.a. Supersession of Previous Permits. ADP/NEP 24-3649 supersedes ADP/NEP 22-3512 in its entirety.

10.b. General Basis. Permit requirements for equipment affected by this permitting action incorporate the operating schemes proposed by the applicant in ADP/NEP Application CL-3270. Permit requirements established by this action are intended to implement BACT, minimize emissions, and assure compliance with applicable requirements on a continuous basis. Emission limits for approved equipment are based on the maximum potential emissions calculated in Section 6 of this Technical Support Document.

10.c. Monitoring and Recordkeeping Requirements. ADP/NEP 24-3649 establishes monitoring and recordkeeping requirements sufficient to document compliance with applicable emission limits, ensure proper operation of approved equipment and provide for compliance with generally applicable requirements. Specific monitoring requirements are established for hours of operation and material throughput.

10.d. Reporting Requirements. ADP/NEP 24-3649 establishes general reporting requirements for annual air emissions, upset conditions and excess emissions. Specific reporting requirements are established for hours of operation and material throughput. Reports are to be submitted on an annual basis.

10.e. Aggregate Crushing and Handling. Permit requirements for aggregate crushing and handling operations are consistent with the operating scheme and material data submitted by the applicant. Visible emission limits have been established consistent with proper operation of the proposed equipment and associated wet suppression systems. High pressure spray systems (≥80 psig) have been determined to be a minimum BACT requirement for individual pieces of aggregate crushing and screening equipment. The visual emissions limit for haul roads is 10% consistent with RACT and determinations for similar facilities.

10.f. Diesel Engines – Visible Emission Limits. Visible emissions from diesel engines are limited to 5% opacity. Visible emissions should not exceed this level if the engines are operating properly. For nonroad engines, SWCAA uses this as a surrogate indicator that the engines are in good repair (rather than a tailpipe emission standard otherwise precluded by 40 CFR 1039). This restriction is appropriate because if the engine is not maintained in good repair, emissions are likely to greatly exceed expected emission levels and could cause an exceedance of a state or federal ambient air quality standard.

10.g. Diesel Engines – Fuel Limitation. The use of ultra-low-sulfur diesel (≤0.0015% by weight) is a reasonable control measure that reduces SO_X and PM emissions relative to fuels with a higher sulfur content. The permit allows the use of "#2 diesel or better." In this case, "or better" includes road-grade diesel fuel with a lower sulfur content, biodiesel, and mixtures of biodiesel and road-grade diesel that meet the definition of "diesel" and contain no more than 0.0015% sulfur by weight.

10.h. Requirements for Unmodified Emission Units. Permit requirements for existing emission units not affected by ADP/NEP Application CL-3270 are carried forward unchanged from ADP/NEP 22-3512.

11. START-UP AND SHUTDOWN/ALTERNATIVE OPERATING SCENARIOS/POLLUTION PREVENTION

11.a. Start-up and Shutdown Provisions. Pursuant to SWCAA 400-081 "Start-up and Shutdown", technology based emission standards and control technology determinations shall take into consideration the physical and operational ability of a source to comply with the applicable standards during start-up or shutdown. Where it is determined that a source is not capable of achieving continuous compliance with an emission standard during start-up or shutdown, SWCAA shall include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

Diesel Engines. Diesel engines may exhibit higher than normal opacity during startup. Accordingly, the visual emissions limit for the diesel engine power unit is not applicable during the startup period defined in the permit. General opacity standards continue to apply.

11.b. Alternate Operating Scenarios. SWCAA conducted a review of alternate operating scenarios applicable to equipment affected by this permitting action. The permittee did not propose or identify any applicable alternate operating scenarios. Therefore, none were included in the permit requirements.

11.c. Pollution Prevention Measures. SWCAA conducted a review of possible pollution prevention measures for the facility. No pollution prevention measures were identified by either the permittee or SWCAA separate or in addition to those measures required under BACT considerations. Therefore, none were included in the permit requirements.

12. EMISSION MONITORING AND TESTING

12.a. Emission Testing Requirements – Rock Crushing Equipment. Affected rock crushers and associated screening equipment and belt conveyors are required to perform one-time opacity observations as required by 40 CFR 60 Subpart OOO. All of the crushing and screening equipment addressed by this permitting action is subject to the initial testing requirements of 40 CFR 60 Subpart OOO.

13. FACILITY HISTORY

13.a. Previous Permitting Actions. SWCAA has previously issued the following Permits for this facility:

Permit Number	Application Number	Date	Purpose
22-3512	CL-3188	5/25/2022	Approval to operate a new cone crusher and jaw crusher with associated nonroad diesel engines.
20-3414	CL-3118	5/29/2020	Approval to operate a KPI Impact Crusher and associated nonroad diesel engine.

Permit Number	Application Number	Date	Purpose
18-3263	CL-3034	1/30/2018	Approval to operate Komatsu Impact Crusher #30-16, McCloskey Screen #30-12, McCloskey Screen #30-13, MGL Stacking Conveyor #30-15, and associated nonroad diesel engines.
16-3183	CL-2077	5/18/2016	Approval to operate Parker jaw crusher and associated nonroad diesel engine.
13-3062	CL-2003	7/19/2013	Approval to operate Pegson impact crusher, McCloskey screen, and associated nonroad diesel engines.

13.b. Compliance History. The following notices of violation have been issued to Rotschy in the last 5 years:

Date	NOV Number	Violation
11/15/2023	11105	Installation and operation of rock crushing equipment without prior approval.
11/15/2023	11104	Failure to conduct initial emission testing for Mesto Cone Crusher #30-19.
11/15/2023	11103	Failure to maintain visual inspection and maintenance records of spray/fog nozzles.
7/10/2023	10932	Excess visible emissions from impact crusher and missing pressure gauge on water spray system.
7/13/2023	10887	Excessive fugitive dust while grinding vegetation.
7/13/2023	10886	Excessive fugitive dust while grading/moving dirt.
7/13/2023	10885	Excessive fugitive dust while grinding vegetation.

14. PUBLIC INVOLVEMENT OPPORTUNITY

14.a. Public Notice for ADP/NEP Application CL-3270. Public notice for ADP/NEP Application CL-3270 was published on the SWCAA internet website for a minimum of 15 days beginning on May 22, 2024.

14.b. Public/Applicant Comment for ADP/NEP Application CL-3270. SWCAA did not receive specific comments, a comment period request, or any other inquiry from the public regarding this ADP/NEP application. Therefore, no public comment period was provided for this permitting action.

14.c. State Environmental Policy Act. This project is exempt from SEPA requirements pursuant to WAC 197-11-800(3) since it only involves replacement and addition of operating equipment, and does not involve material expansions or changes in use. SWCAA issued a Determination of SEPA Exempt (SWCAA 24-023) concurrent with issuance of ADP/NEP 24-3649.