



TECHNICAL SUPPORT DOCUMENT

**Air Discharge Permit / Nonroad Engine Permit 25-3682
Air Discharge Permit / Nonroad Engine Permit Application CL-3230**

Issued: January 22, 2025

Wallace Brothers

SWCAA ID – 2780

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Southwest Clean Air Agency

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ABBREVIATIONS

List of Acronyms

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

List of Units and Measures

acfm	Actual cubic foot per minute	MMBtu	Million British thermal unit
bhp	Brake horsepower	MMcf.....	Million cubic feet
dscfm.....	Dry Standard cubic foot per minute	ppm	Parts per million
g/dscm.....	Grams per dry Standard cubic meter	ppmv	Parts per million by volume
gpm	Gallon per minute	ppmvd.....	Parts per million by volume, dry
gr/dscf	Grain per dry standard cubic foot	ppmw	Parts per million by weight
hp	Horsepower	scfm	Standard cubic foot per minute
hp-hr.....	Horsepower-hour	tph	Ton per hour
kW.....	Kilowatt	tpy	Tons per year

List of Chemical Symbols, Formulas, and Pollutants

CO.....	Carbon monoxide	PM ₁₀	PM with an aerodynamic diameter 10 µm or less
CO ₂	Carbon dioxide	PM _{2.5}	PM with an aerodynamic diameter 2.5 µm or less
CO _{2e}	Carbon dioxide equivalent	SO ₂	Sulfur dioxide
HAP	Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act	SO _x	Sulfur oxides
NO ₂	Nitrogen dioxide	TAP.....	Toxic air pollutant pursuant to Chapter 173-460 WAC
NO _x	Nitrogen oxides	TSP	Total Suspended Particulate
O ₂	Oxygen	VOC.....	Volatile organic compound
PM.....	Particulate Matter with an aerodynamic diameter 100 µm or less		

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: Wallace Brothers Inc.
Applicant Address: 580 Mandy Road, Toledo, WA 98591

Facility Name: Wallace Brothers Inc.
Facility Address: 580 Mandy Road, Toledo, WA 98591

SWCAA Identification: 2780

Contact Person: Jon Wallace

Primary Process: Aggregate Crushing and Handling
SIC/NAICS Code: 1429 / Crushed and Broken Stone
212319 / Other Crushed and Broken Stone Mining and Quarrying

Facility Latitude and Longitude: 46°24'9.23" N
122°55'40.96" W

Facility Classification: Natural Minor

2. FACILITY DESCRIPTION

Wallace Brothers operates an aggregate handling operation that primarily processes rock mined on site and reclaimed aggregate. Operations currently occur in Lewis county on the bank of the Cowlitz River.

3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit (ADP) / Nonroad Engine Permit (NEP) application number CL-3230 dated March 30, 2023. Wallace Brothers Inc. submitted ADP/NEP application CL-3230 requesting approval to operate the following equipment:

- TRIO Engineering model 324 Jaw Crusher
- Symons Cone Crusher
- Pioneer model 5240 Rolls Crusher
- CEC Vertical Shaft Impact Crusher
- Cedarapids model FSG5143-26 Screen
- JCI model 5163 Flat Wash Screen
- Eagle model 110BS Screen
- CEC Inclined Scalper
- Warrior model 1800 Powerscreen
- Nonroad Cummins K19 Deisel Engine
- Nonroad Cummins NT855GS3 Deisel Engine

- Nonroad Caterpillar C15 Diesel Engine
- Nonroad Volvo TWD1672GE Diesel Engine

This is the initial permitting action for this facility.

4. PROCESS DESCRIPTION

- 4.a. Aggregate Crushing and Handling. This facility crushes, screens, and stores rock, recycled asphalt, and reclaimed concrete. Material is handled in bulk using trucks, front end loaders, and excavators. The site is separated into two main plants, the wash plant and the crushing plant. Aggregate first goes through the wash plant where it is washed and sorted. Selected material proceeds to the crushing plant to be broken down. High pressure water spray is 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.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

- 5.a. Nonroad Cummins Deisel Engine – Crushing Plant. This engine powers the crushing plant. The equipment details are provided below.

Engine Make:	Cummins
Engine Model:	KT19
Engine Serial Number:	OBL
Engine Output Rating:	755 bhp at 1800 rpm
Manufacture Date:	1999
Certification:	Manufactured prior to EPA Tier Standards
Fuel Consumption:	34 gal/hr at full standby load
Generator Rating:	500 kW
Generator Make:	Cummins
Generator Model:	DFED
Generator Serial Number:	C990880028
Exhaust Flow Rate:	1261 dscfm @ 3% O ₂
Stack Height:	10' from ground
Stack Diameter:	6"
Stack Temperature:	939°F
Regulations of Note:	40 CFR 1039

- 5.b. Nonroad Cummins Deisel Engine – Wash Plant. This engine powers the wash plant. The equipment details are provided below.

Engine Make:	Cummins
Engine Model:	NT855GS3
Engine Serial Number:	11524484
Engine Output Rating:	390 bhp at 1800 rpm
Manufacture Date:	1989
Certification:	Manufactured prior to EPA Tier Standards
Fuel Consumption:	24.5 gal/hr at full standby load
Generator Rating:	250 kW
Generator Make:	Cummins
Generator Model:	NT855GS3
Generator Serial Number:	C892199837
Exhaust Flow Rate:	1190 dscfm @ 3% O ₂
Stack Height:	9' from ground
Stack Diameter:	5"
Stack Temperature:	830°F
Regulations of Note:	40 CFR 1039

- 5.c. Nonroad Caterpillar Deisel Engine – Portable Plant. This engine drives the portable plant which includes the vertical shaft impact crusher. The equipment details are provided below.

Engine Make:	Caterpillar
Engine Model:	C15
Engine Serial Number:	FSE01207
Engine Output Rating:	717 bhp at 1800 rpm
Manufacture Date:	2007
Certification:	EPA Tier 3
Fuel Consumption:	34.2 gal/hr at full standby load
Generator Rating:	535 kW
Generator Make:	Caterpillar
Generator Model:	C15
Generator Serial Number:	G6B11362
Exhaust Flow Rate:	945 dscfm @ 3% O ₂
Stack Height:	9' from ground
Stack Diameter:	5"
Stack Temperature:	952°F
Regulations of Note:	40 CFR 1039

- 5.d. Nonroad Volvo Deisel Engine – Crushing Plant. This engine drives the crushing plant. The equipment details are provided below.

Engine Make:	Volvo
Engine Model:	TWD1672GE
Engine Serial Number:	2016132325
Engine Output Rating:	724 bhp at 1800 rpm
Manufacture Date:	December 2019
Certification:	EPA Tier 4
Fuel Consumption:	33.54 gal/hr at full standby load
Generator Rating:	500 kW
Generator Make:	Atlas Copco
Generator Model:	QAS 625 FT4 EB
Generator Serial Number:	HOP902428
Exhaust Flow Rate:	1512 dscfm @ 3% O ₂
Stack Height:	10' from ground
Stack Diameter:	5"
Stack Temperature:	831°F
Regulations of Note:	40 CFR 1039

- 5.e. Jaw Crusher.

Make:	Trio Engineering Products
Model:	3254
Type:	Jaw
Serial Number:	280
Date Built:	2014
Capacity:	300 tph
NSPS:	40 CFR 60 Subpart OOO

- 5.f. Cone Crusher.

Make:	Symons
Type:	Cone 4 ¼"
Serial Number:	C-42245
Date Built:	1970s
Capacity:	200 tph
NSPS:	40 CFR 60 Subpart OOO

- 5.g. Roll Crusher.

Make:	Pioneer
Model:	5424
Type:	Roll
Serial Number:	54-H-295
Date Built:	1962
Capacity:	87 tph
NSPS:	40 CFR 60 Subpart OOO

5.h. Vertical Shaft Impact Crusher.

Make: CEC
Model: T70
Type: Impact
Serial Number: 11312
Capacity: 150 tph
NSPS: 40 CFR 60 Subpart OOO

5.i. Cedarapids Flat Screen.

Make: Cedarapids
Model: FSG5143-26
Type: 5'x14', 3 decks
Serial Number: 46703
Date Built: 1977
Capacity: 200 tph
NSPS: 40 CFR 60 Subpart OOO if operated in conjunction with an affected crusher

5.j. Inclined Scalper Screen.

Make: CEC
Type: 5'x12' 2-deck
Serial Number: 9609326
Date Built: 1996
Capacity: 270 tph
NSPS: 40 CFR 60 Subpart OOO if operated in conjunction with an affected crusher

5.k. Eagle Deck Screen.

Make: Eagle
Model: 110BS
Type: 5'x16', 2 decks
Serial Number: 6495
Date Built: 2008
Capacity: 230 tph
NSPS: 40 CFR 60 Subpart OOO if operated in conjunction with an affected crusher

5.l. Flat Wash Screen.

Make: JCI
Model: 5163
Type: 5'x16', 3 decks
Serial Number: 97H05I26
Date Built: 1997
Capacity: 210 tph
NSPS: 40 CFR 60 Subpart OOO if operated in conjunction with an affected crusher

5.m. Powerscreen.

Make: Warrior
 Model: 1800
 Serial Number: PID00123VDGA40548
 Date Built: 2010
 Capacity: 600 tph
 NSPS: 40 CFR 60 Subpart OOO if operated in conjunction with an affected crusher

5.n. Haul Roads. Dump trucks or other equipment may be used to transport material to, from, or within a work area.

5.o. Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Nonroad Cummins Engine, KT19, s/n OBL	Ultralow Sulfur (≤ 15 ppm) Liquid Fuel
2	Nonroad Cummins Engine, NT855GS3, s/n 11524484	Ultralow Sulfur (≤ 15 ppm) Liquid Fuel
3	Nonroad Caterpillar Engine, C15, s/n FSE01207	Ultralow Sulfur (≤ 15 ppm) Liquid Fuel
4	Nonroad Volvo Engine, TWD1672GE, s/n 2016132325	Ultralow Sulfur (≤ 15 ppm) Liquid Fuel
5	Jaw Crusher, Trio 3254, s/n 280	High Pressure Wet Suppression
6	Cone Crusher, Symons, s/n C-42245	High Pressure Wet Suppression
7	Roll Crusher, Pioneer 5424, s/n 54-H-295	High Pressure Wet Suppression
8	Vertical Shaft Impact Crusher, CEC, s/n 11312	High Pressure Wet Suppression
9	Flat Screen, Cedarapids FSG5143-26, s/n 46703	High Pressure Wet Suppression
10	Inclined Scalper Screen, CEC 5'x12', s/n 9609326	High Pressure Wet Suppression
11	Eagle Deck Screen, 110BS, s/n 6495	High Pressure Wet Suppression
12	Flat Wash Screen, JCI 5163, s/n 97H05I26	High Pressure Wet Suppression
13	Powerscreen, Warrior 1800, s/n PID00123VDGA40548	High Pressure Wet Suppression
14	Haul Roads	Wet suppression as necessary

6. EMISSIONS DETERMINATION

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. Nonroad Cummins K19 Engine – Crushing Plant. Potential annual emissions from the combustion of ultra-low sulfur diesel (<0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 1,500 hours per year.

Cummins KT19 - Crushing Plant						
Hours of Operation =	1,500 hours					
Power Output =	755 horsepower					
Diesel Density =	7.206 pounds per gallon					
Fuel Sulfur Content =	0.0015 % by weight					
Fuel Consumption Rate =	34.00 gallons per hour					
Fuel Heat Content =	0.138 MMBtu/gal (for use with GHG factors from 40 CFR 98)					
Annual Fuel Consumption =	51,000 gallons					
Pollutant	Emission Factor lb/hp-hr	Emission Factor lb/hr	Emissions tpy	Emission Factor Source		
NO _x	1.80E-02	13.59	10.19	AP-42 Table 3.4-1		
CO	0.00750	5.66	4.25	AP-42 Table 3.4-1		
VOC	0.000705	0.53	0.40	AP-42 Table 3.4-1		
SO _x as SO ₂	0.000010	0.0074	0.0055	Mass Balance		
PM/PM ₁₀ /PM _{2.5}	0.0007	0.529	0.40	AP-42 Table 3.4-1		
Greenhouse Gases	kg/MMBtu	GWP	CO ₂ e lb/MMBtu	CO ₂ e lb/gallon	tpy, CO ₂ e	Emission Factor Source
CO ₂	73.96	1	163.05	23	574	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.58	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	1.39	40 CFR 98
Total GHG - CO₂e			163.613	23	576	

6.b. Nonroad Cummins NT855GS3 Engine – Wash Plant. Potential annual emissions from the combustion of ultra-low sulfur diesel (<0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 1,500 hours per year.

Cummins NT855GS3 - Wash Plant						
Hours of Operation =	1,500 hours					
Power Output =	390 horsepower					
Diesel Density =	7.206 pounds per gallon					
Fuel Sulfur Content =	0.0015 % by weight					
Fuel Consumption Rate =	24.50 gallons per hour					
Fuel Heat Content =	0.138 MMBtu/gal (for use with GHG factors from 40 CFR 98)					
Annual Fuel Consumption =	36,750 gallons					
Pollutant	Emission Factor lb/hp-hr	Emission Factor lb/hr	Emissions tpy	Emission Factor Source		
NO _x	3.10E-02	12.09	9.07	AP-42 Table 3.3-1		
CO	0.00668	2.61	1.95	AP-42 Table 3.3-1		
VOC	0.00247	0.96	0.72	AP-42 Table 3.3-1 (10/96)		
SO _x as SO ₂	0.000014	0.0053	0.0040	Mass Balance		
PM/PM ₁₀ /PM _{2.5}	0.0022	0.858	0.64	AP-42 Table 3.3-1		
Greenhouse Gases	kg/MMBtu	GWP	CO ₂ e lb/MMBtu	CO ₂ e lb/gallon	tpy, CO ₂ e	Emission Factor Source
CO ₂	73.96	1	163.05	23	413	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.42	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	1.00	40 CFR 98
Total GHG - CO₂e			163.613	23	415	

6.c. Nonroad Caterpillar C15 Engine – Portable Plant. Potential annual emissions from the combustion of ultra-low sulfur diesel (<0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 1,500 hours per year.

Caterpillar C15 - Portable Plant						
Hours of Operation =	1,500 hours					
Power Output =	717 horsepower					
Diesel Density =	7.206 pounds per gallon					
Fuel Sulfur Content =	0.0015 % by weight					
Fuel Consumption Rate =	34.20 gallons per hour					
Fuel Heat Content =	0.138 MMBtu/gal (for use with GHG factors from 40 CFR 98)					
Annual Fuel Consumption =	51,300 gallons					
	Emission Factor	Emission Factor	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO _x	7.70E-03	5.52	4.14	Manufacturer		
CO	0.00132	0.95	0.71	Manufacturer		
VOC	0.000705	0.51	0.38	AP-42 Table 3.4-1		
SO _x as SO ₂	0.000010	0.0074	0.0055	Mass Balance		
PM/PM ₁₀ /PM _{2.5}	0.0007	0.502	0.38	AP-42 Table 3.4-1		
			CO ₂ e	CO ₂ e	Emission Factor	
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO ₂ e	Source
CO ₂	73.96	1	163.05	23	577	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.59	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	1.40	40 CFR 98
Total GHG - CO ₂ e			163.613	23	579	

6.d. Nonroad Volvo TWD1672GE Engine – Crushing Plant. Potential annual emissions from the combustion of ultra-low sulfur diesel (<0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 1,500 hours per year.

Volvo TWD1672GE - Crushing Plant						
Hours of Operation =	1,500 hours					
Power Output =	724 horsepower					
Diesel Density =	7.206 pounds per gallon					
Fuel Sulfur Content =	0.0015 % by weight					
Fuel Consumption Rate =	33.54 gallons per hour					
Fuel Heat Content =	0.138 MMBtu/gal (for use with GHG factors from 40 CFR 98)					
Annual Fuel Consumption =	50,310 gallons					
	Emission Factor	Emission Factor	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO _x	7.00E-04	0.51	0.38	SCAQMD		
CO	0.00022	0.16	0.12	SCAQMD		
VOC	7.05E-04	0.51	0.38	AP-42 Table 3.4-1		
SO _x as SO ₂	0.000010	0.0072	0.0054	Mass Balance		
PM/PM ₁₀ /PM _{2.5}	4.409E-05	0.032	0.02	SCAQMD		
			CO ₂ e	CO ₂ e	Emission Factor	
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO ₂ e	Source
CO ₂	73.96	1	163.05	23	566	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.57	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	1.37	40 CFR 98
Total GHG - CO ₂ e			163.613	23	568	

- 6.e. Crushing and Screening Operations (new). Potential emissions from crushing, screening, and material transfer are calculated from 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 PM₁₀ was calculated using the 2.1:1 ratio of PM to PM₁₀ 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.

Activity	Throughput (tpy)	Pollutant	Emission Factor - Controlled (lb/ton)	Transfer Points	Emissions (lb/yr)
Primary crushing (3" - 12")	200,000	PM	0.00014		28
		PM ₁₀	0.000067		13
		PM _{2.5}	0.000012		2
Secondary crushing (1" - 4")	200,000	PM	0.0012		240
		PM ₁₀	0.00054		108
		PM _{2.5}	0.0001		20
Tertiary crushing (3/16" - 1")	200,000	PM	0.0012		240
		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	11	308
		PM ₁₀	0.000046		101
		PM _{2.5}	0.000013		29
Blasting	0	PM	0.0015		0
		PM ₁₀	0.00079		0
		PM _{2.5}	0.000046		0

6.f. Haul Roads. 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 nonroad equipment. The use of wet suppression is expected to provide an overall control efficiency of 80% for haul road emissions.

$$E = k \left(\frac{s}{12} \right)^a \left(\frac{w}{3} \right)^b$$

Where: w = average truck weight in tons;
 s = road surface silt content (%); and

The constants k, a, and b are given in the table below:

Constant	PM _{2.5}	PM ₁₀	PM ₃₀ (assumed to represent PM)
k (lb/vehicle mile traveled)	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%			
	Uncontrolled	Controlled	Emissions	
Pollutant	EF lb/mile	EF lb/mile	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.g. Emissions Summary

Air Pollutant	Potential to Emit (tpy)	Project Impact (tpy)
NO _x	23.8	+23.8
CO	7.03	+7.03
VOC	1.88	+1.88
SO ₂	0.02	+0.02
Lead	0.00	+0.00
PM	5.54	+5.54
PM ₁₀	2.56	+2.56
PM _{2.5}	1.62	+1.62
TAP	0.00	+0.00
HAP	0.00	+0.00
CO ₂ /CO _{2e}	2140	+2140

7. REGULATIONS AND EMISSION STANDARDS

Regulations have been established for the control of emissions of air pollutants to the ambient air. Regulations applicable to the proposed facility 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 following regulations, codes, or requirements. These items establish maximum emissions limits that could be allowed and are not to be exceeded for new or existing facilities. More stringent limits are established in this Permit consistent with implementation of Best Available Control Technology (BACT):

- 7.a. Title 40 Code of Federal Regulations (40 CFR) Part 60.670 et seq. (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. This regulation is applicable to the rock crushers proposed in ADP/NEP Application CL-3230. This regulation is applicable to accessory equipment (e.g., screens or conveyors) whenever they are operated in conjunction with an affected crushing unit.
- 7.b. 40 CFR Part 1039 includes requirements for all nonroad engines. In accordance with Appendix A to Subpart A of Part 1074, 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 regulations such as hours of usage, daily mass emission limits, and sulfur limits on fuel.

The definition of nonroad engines in 40 CFR 1068 includes any internal combustion engine in (1)(i) "It is (or will be) used in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers)."

- 7.c. 40 CFR 60 Subpart IIII (60.4200 et seq.) "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 diesel engines powering the rock crushing equipment are not subject to this regulation because they are nonroad engines.
- 7.d. 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 (RCW 70A.15) 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. This law applies to the facility.
- 7.e. 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 ADP/NEP for installation and establishment of an air contaminant source. This law applies to the facility.
- 7.f. Washington Administrative Code (WAC) 173-460 "Controls for New Sources of Toxic Air Pollutants" requires BACT 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 only sources of TAPs at this facility are the nonroad engines, however nonroad engines are not subject to WAC 173-460.

- 7.g. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM₁₀, PM_{2.5}, lead, SO₂, NO_x, ozone, and CO in the ambient air, which must not be exceeded. The facility emits PM₁₀, PM_{2.5}, SO_x, NO_x, and CO; therefore, certain sections of this regulation apply. The facility does not emit lead; therefore, the lead regulation section does not apply.
- 7.h. 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, SO₂, concealment and masking, and fugitive dust. This regulation applies to the facility.

- 7.i. SWCAA 400-040(1) "Visible Emissions" requires that emissions of an air contaminant from any emissions unit must not exceed twenty percent opacity for more than three minutes in any one hour at the emission point, or within a reasonable distance of the emission point. This regulation applies to the facility.
- 7.j. SWCAA 400-040(2) "Fallout" requires that no emission of particulate matter from any source shall be deposited beyond the property under direct control of the owner(s) or operator(s) of the source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited. This regulation applies to the facility.
- 7.k. SWCAA 400-040(3) "Fugitive Emissions" requires that reasonable precautions be taken to prevent the fugitive release of air contaminants to the atmosphere. This regulation applies to the facility.
- 7.l. SWCAA 400-040(4) "Odors" requires any source which generates odors that may unreasonably interfere with any other property owner's use and enjoyment of their property to use recognized good practice and procedures to reduce these odors to a reasonable minimum. This regulation applies to this facility.
- 7.m. SWCAA 400-040(5) "Emissions Detrimental to Persons or Property" prohibits the emission of any air contaminant from any "source" if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business. This regulation applies to this facility.
- 7.n. SWCAA 400-040(6) "Sulfur Dioxide" requires that no person shall emit a gas containing in excess of 1,000 ppm of sulfur dioxide on a dry basis, corrected to 7% O₂ or 12% CO₂ as required by the applicable emission standard for combustion sources.
- 7.o. 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.p. 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.q. SWCAA 400-109 "Air Discharge Permit Applications" requires that an ADP 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 ADP application to request such changes. An ADP 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. This regulation applies to the facility.

- 7.r. SWCAA 400-110 "New Source Review" requires that SWCAA issue an ADP in response to an ADP application prior to establishment of the new source, emission unit, or modification. The new units meet the definition of a new source; therefore, this regulation applies to the facility.
- 7.s. SWCAA 400-113 "Requirements for New Sources in Attainment or Nonclassifiable Areas" requires that no approval to construct or alter an air contaminant source will 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) BACT will be employed for all air contaminants to be emitted by the proposed equipment;
 - (3) The proposed equipment will not cause any ambient air quality standard to be exceeded; and
 - (4) 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.

The facility is located in an area that is in attainment or nonclassifiable for all pollutants, therefore, this regulation applies to the facility.

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

The proposed equipment and control systems incorporate 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.

Other Determinations

- 8.d. Prevention of Significant Deterioration (PSD) Applicability Determination. 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.e. 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 (Title V) permit.

9. AMBIENT IMPACT ANALYSIS

- 9.a. Criteria Air Pollutant Review. Emissions of NO_x, CO, PM, VOC (as a precursor to O₃), and SO₂ are emitted at levels where no adverse ambient air quality impact is anticipated.
- 9.b. Toxic Air Pollutant Review. This facility does not emit quantifiable amounts of TAPs. Toxic air pollutant impacts are presumed to be below regulatory significance.

Conclusions

- 9.c. Operation of rock crushing equipment, as proposed in ADP/NEP application CL-3230, will not cause the ambient air quality requirements of 40 CFR 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.
- 9.d. Operation of rock crushing equipment, as proposed in ADP/NEP application CL-3230, 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 rock crushing equipment, as proposed in ADP/NEP application CL-3230, will not violate 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 25-3682 in response to ADP/NEP application CL-3230. ADP/NEP 25-3682 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

- 10.a. Supersession of Previous Permits. This is the initial permitting action for the facility.
- 10.b. Emission Limits. Annual emission limitations for the equipment addressed in this permitting action were established equal to the potential to emit identified in Section 6. The potential to emit was based on a process throughput of 200,000 tons per year. Based

on the information provided in the application, emission limits based on this throughput will not constrain operations. As discussed in Section 8, these emission limits meet the requirements of BACT. The nonroad engines that drive crushing operations are not subject to BACT or other emission limitations due to their status as nonroad engines.

Visible emissions from the nonroad engine were limited to 5% opacity. Visible emissions should not exceed this level if the engine is operating properly. For the nonroad engines, SWCAA uses this as a surrogate indicator that the engine is in good repair (rather than a tailpipe emission standard otherwise precluded by 40 CFR 1074). For the nonroad engines, this restriction is appropriate because if the engine is not maintained in good repair, emissions are likely to greatly exceed the expected emission level and could cause an exceedance of a state or federal ambient air quality standard.

- 10.c. Operational Limits and Requirements. Most of the requirements in this section are related to the use of wet suppression systems for the control of fugitive dust.

The permit allows the use of "#2 diesel or better" by the engines. 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.

Operation of the nonroad engines will not result in a violation of the ambient air quality standards when operated in accordance with the permit, therefore no additional operating limits (e.g., location or hours restrictions) were established for the nonroad engines.

- 10.d. Monitoring and Recordkeeping Requirements. Sufficient monitoring and recordkeeping were established to document compliance with the annual emission limits and provide for general requirements (e.g., excess emission reporting, annual emission inventory submission).

- 10.e. Emission Monitoring and Testing Requirements. See Section 12.

- 10.f. Reporting Requirements. The permit requires reporting of the annual air emissions inventory and reporting of the data necessary to develop the inventory. Excess emissions must be reported immediately in order to qualify for relief from monetary penalty in accordance with SWCAA 400-107. In addition, prompt reporting was required because it allows for accurate investigation into the cause of the event and prevention of similar future incidents.

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 must 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 will include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

To SWCAA's knowledge, this facility can comply with all applicable standards during startup and shutdown.

Deisel Engines. The opacity of visual emissions from the engines may be higher than normal during start-up. Accordingly, the opacity limit for the engines is not applicable during the start-up period defined in the permit.

- 11.b. Alternate Operating Scenarios. SWCAA conducted a review of alternate operating scenarios applicable to equipment affected by this permitting action. Neither SWCAA nor the permittee identified or proposed any applicable alternate operating scenarios. Therefore, none were included in the approval conditions.
- 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 approval conditions.

12. EMISSION MONITORING AND TESTING

- 12.a. Emission Testing Requirements – Rock Crushing Equipment. Affected rock crushers, 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. General History. The facility has not been permitted in the past.

14. PUBLIC INVOLVEMENT OPPORTUNITY

- 14.a. Public Notice for ADP/NEP Application CL-3230. Public notice for ADP/NEP application CL-3230 was published on the SWCAA website for a minimum of fifteen (15) days beginning on April 7, 2023.
- 14.b. Public/Applicant Comment for ADP/NEP Application CL-3230. SWCAA did not receive specific comments, a comment period request, or any other inquiry from the public or the applicant regarding ADP/NEP application CL-3230. Therefore no public comment period was provided for this permitting action.

- 14.c. State Environmental Policy Act. After review of the SEPA Checklist for this project, SWCAA has determined that the project does not have a probable significant impact on the environment and has issued Determination of Non-Significance 25-002. An Environmental Impact Statement is not required under RCW 43.21C.030(2)(c).