



SWCAA
Southwest Clean Air Agency

TECHNICAL SUPPORT DOCUMENT

Air Discharge Permit / Nonroad Engine Permit 18-3263

ADP/NEP Application CL-3034

Rotschy, Inc.
SWCAA ID - 2435

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Abbreviations

ADP	Air Discharge Permit
AP-42	<u>Compilation of Emission Factors, AP-42, Fifth Edition, Volume 1, Stationary Point and Area Sources</u> – published by the US Environmental Protection Agency
BACT	Best Available Control Technology
BART	Best Available Retrofit Technology
Btu	British thermal units
CFR	Code of Federal Regulations
CO	Carbon monoxide
CO ₂ e	Carbon dioxide equivalent as defined in 40 CFR 98
EPA	U.S. Environmental Protection Agency
gal	U.S. Gallon
HAP	Hazardous Air Pollutant listed pursuant to Section 112 of the Federal Clean Air Act
LAER	Lowest Achievable Emission Rate
lb/hp-hr	Pounds per horsepower per hour
lb/hr	Pounds per hour
lb/yr	Pounds per year
MMBtu	Millions of British thermal units
NO _x	Nitrogen oxides
PM	Particulate matter with an aerodynamic diameter less than 100 micrometers (includes both filterable particulate matter measured by EPA Method 5 and condensable particulate matter measured by EPA Method 202)
PM ₁₀	Particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (includes both filterable particulate matter measured by EPA Method 201 or 201A and condensable particulate matter measured by EPA Method 202)
PM _{2.5}	Particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers (includes both filterable particulate matter measured by EPA Method 201 or 201A and condensable particulate matter measured by EPA Method 202)
PSD	Prevention of Significant Deterioration
psig	Pounds per square inch, gage
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
RCW	Revised Code of Washington
rpm	Rotations per minute
SQER	Small Quantity Emission Rate listed in WAC 173-460
SO ₂	Sulfur dioxide
SO _x	Sulfur oxides
SWCAA	Southwest Clean Air Agency
TAP	Toxic Air Pollutant pursuant to Chapter 173-460 WAC
T-BACT	Best Available Control Technology for toxic air pollutants
tpy	Tons per year
VOC	Volatile organic compound
WAC	Washington Administrative Code

1. FACILITY IDENTIFICATION

Applicant Name: Rotschy, Inc.
Applicant Address: 9210 NE 62nd Ave., Vancouver, WA 98665

Facility Name: Rotschy, Inc.
Facility Address: 913 NE 172nd Avenue, Vancouver, WA 98665
Contact Person: Sven Larsson, Project Engineer
SWCAA Identification: 2435

Primary Process: Crushed and Broken Stone / Other Crushed and Broken Stone Mining and Quarrying
SIC/NAICS Code: 1429 / 212319
Facility Designation: Natural minor

2. FACILITY DESCRIPTION

Rotschy, Inc. (Rotschy) operates an aggregate handling operation that screens top soil and crushes reclaimed aggregate (recycled asphalt, concrete, etc.). Primary operations occur in the Friberg and Mahre reclamation pit in Vancouver, Washington.

3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit / Nonroad Engine Permit application number CL-3034 (ADP/NEP Application CL-3034) dated December 29, 2017. Rotschy, Inc. submitted ADP/NEP Application CL-3034 requesting approval to operate the equipment listed below at its existing facility. Rotschy did not request an increase in previously approved material throughput at the facility.

- One Komatsu impact crusher with integral diesel engine.
- Two McCloskey aggregate screens with integral diesel engines.
- One MGL stacking conveyor with integral diesel engine.

The current permitting action provides approval to operate the equipment proposed in ADP/NEP application CL-3034. ADP/NEP 16-3183 will be superseded in its entirety by this permitting action.

4. PROCESS DESCRIPTION

4.a Rock Crushing. The proposed rock crushing equipment will be used to crush raw and reclaimed aggregate. Crushing equipment will be arranged in sequence for primary and secondary crushing. Aggregate will be fed into the crushing equipment using front-end loaders and excavators. Crushed aggregate will be transferred via conveyor belt from the rock crushers and screen to storage piles. High pressure waster sprays will be used to control fugitive dust emissions at the entrance of each crusher. Other emission points will be watered as necessary to control fugitive dust emissions. Wet suppression systems will be used to control fugitive emissions from associated haul roads and storage piles.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

- 5.a Parker Jaw Crusher (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 tph
NSPS Applicable: Subpart OOO applicable

- 5.b Komatsu Impact Crusher #30-16 (new). This unit is a track-mounted impact 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: Komatsu / BR480-RG-1 (s/n KIW 6022)
Year Built: 2004
Capacity: ~120 tph
NSPS Applicable: Subpart OOO applicable

- 5.c 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 tph
NSPS Applicable: Subpart OOO if operated in conjunction with an affected crusher. Not subject when used as a stand-alone plant.

- 5.d McCloskey Screen #30-12 (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: McCloskey / R155 (s/n MO6670539)
Year Built: 2009
Size / Configuration: 5' x 16' / 2-deck
Capacity: ~150 tph
NSPS Applicable: Subpart OOO if operated in conjunction with an affected crusher. Not subject when used as a stand-alone plant.

- 5.e McCloskey Screen #30-13 (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: McCloskey / R155 (s/n MO6670179)
Year Built: 2010
Size / Configuration: 5' x 16' / 2-deck
Capacity: ~150 tph
NSPS Applicable: Subpart OOO if operated in conjunction with an affected crusher. Not subject when used as a stand-alone plant.

- 5.f MGL Stacking Conveyor #30-15 (new). 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 at each of the finished product delivery belts.

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.g 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
Stack Description: ~5" diameter exhausting vertically at ~6' above grade.
NSPS/MACT Applicable: 40 CFR 63 Subpart ZZZZ.
Generator Set Make / Model: MQ Power - Whisperwatt / DCA-125USJ
Generator Set Capacity: 125 kVA (110 kW) prime, 110 kW standby

- 5.h Diesel Engine - Parker Jaw Crusher (existing). This unit is a diesel engine integral to the 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
NSPS/MACT Applicable: No

- 5.i Diesel Engine - Komatsu Impact Crusher #30-16 (new). This unit is a diesel engine integral to the Komatsu 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: Komatsu / SAA6D125E-2 (s/n 211383)
Engine Power Rating: 322 hp
Fuel: Diesel
Engine Built: 2004
Engine Certification: EPA Tier 2
Stack Description: 4.5" diameter exhausting horizontally 10' above grade
NSPS/MACT Applicable: No

- 5.j Diesel Engine - McCloskey Screen #30-10 (existing). This unit is a diesel engine integral to McCloskey Screen #30-10. 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
NSPS/MACT Applicable: No

- 5.k Diesel Engine - McCloskey Screen #30-12 (new). This unit is a diesel engine integral to McCloskey Screen #30-12. 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
NSPS/MACT Applicable: No

- 5.l Diesel Engine - McCloskey Screen #30-13 (new). This unit is a diesel engine integral to McCloskey Screen #30-13. 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
NSPS/MACT Applicable: No

- 5.m Diesel Engine - MGL Stacking Conveyor #30-15 (new). Power unit for 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
NSPS/MACT Applicable: No

5.n Equipment/Activity Summary.

ID No.	Generating Equipment/Activity	# of Units	Control Measure/Equipment	# of Units
1	Parker Jaw Crusher	1	High pressure wet suppression at crusher entrance	N/A
2	Komatsu Impact Crusher #30-16	1	High pressure wet suppression at crusher entrance	N/A
3	McCloskey Screen #30-10	1	High pressure wet suppression at screen deck	N/A
4	McCloskey Screen #30-12	1	High pressure wet suppression at screen deck	N/A
5	McCloskey Screen #30-13	1	High pressure wet suppression at screen deck	N/A
6	MGL Stacking Conveyor #30-15	1	Wet suppression	N/A
7	Haul Roads and Conveyors	1	Wet suppression	N/A
8	Engine - Whisperwatt Generator (stationary) (John Deere - 150 hp)	1	Ultra-low sulfur diesel, EPA Tier 2 Certification	N/A
9	Engine - Parker Jaw Crusher (nonroad) (Caterpillar - 362 hp)	1	Ultra-low sulfur diesel, EPA Tier 1 Certification	N/A
10	Engine - Komatsu Impact Crusher (nonroad) (Komatsu - 322 hp)	1	Ultra-low sulfur diesel, EPA Tier 2 Certification	N/A
11	Engine - McCloskey Screen #30-10 (nonroad) (Caterpillar - 127 hp)	1	Ultra-low sulfur diesel, EPA Tier 4 Certification	N/A
12	Engine - McCloskey Screen #30-12 (nonroad) (Caterpillar - 129 hp)	1	Ultra-low sulfur diesel, EPA Tier 3 Certification	N/A
13	Engine - McCloskey Screen #30-13 (nonroad) (Caterpillar - 129 hp)	1	Ultra-low sulfur diesel, EPA Tier 3 Certification	N/A
14	Engine - MGL Stacking Conveyor (nonroad) (Caterpillar - 73 hp)	1	Ultra-low sulfur diesel, EPA Tier 4 Certification	N/A

6. EMISSIONS DETERMINATION

Emissions to the ambient atmosphere from rock crushing and aggregate screening operations proposed in ADP/NEP Application CL-3034 consist of nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), particulate matter (PM), and sulfur dioxide (SO₂).

6.a Rock Crushing and Screening (existing). Potential Emissions from rock crushing operations are calculated based on a maximum material throughput of 200,000 tpy, a control efficiency of 80% (wet suppression), and applicable emission factors. Except for primary crushing, all emission factors for rock crushing are 'controlled' factors from the 8/04 version of EPA AP-42, Table 11.19.2-2. Emission factors for tertiary crushing have been used as an upper limit for secondary crushing as suggested in the 8/04 version of the table.

Emission factors for primary crushing are derived from the 1/95 version of EPA AP-42, Table 11.19.2-2 which only provided an 'uncontrolled' PM factor for primary crushing. An 'uncontrolled' PM₁₀ factor was calculated

using a PM to PM₁₀ ratio of 2.1:1 as specified in the 1/95 table footnotes. An ‘uncontrolled’ PM_{2.5} factor was calculated using a PM to PM_{2.5} ratio of 12:1 as cited for tertiary crushing in the 8/04 table.

Annual emissions shall be calculated from actual material throughput using the emission factors below.

Activity	Throughput (tpy)	Pollutant	Emission Factor - Controlled (lb/ton)	Turn Points	Emissions (tpy)
Primary crushing	200,000	PM	0.00014		0.014
		PM ₁₀	0.000067		0.007
		PM _{2.5}	0.000012		0.001
Secondary crushing	200,000	PM	0.0012		0.120
		PM ₁₀	0.00054		0.054
		PM _{2.5}	0.0001		0.010
Tertiary crushing	200,000	PM	0.0012		0.120
		PM ₁₀	0.00054		0.054
		PM _{2.5}	0.0001		0.010
Screening	200,000	PM	0.0022		0.220
		PM ₁₀	0.00074		0.074
		PM _{2.5}	0.00005		0.005
Loading/conveying	200,000	PM	0.00014	7	0.098
		PM ₁₀	0.000046		0.032
		PM _{2.5}	0.000013		0.009

Total Crushing/Screening Emissions: PM 0.57 tpy
 PM₁₀ 0.22 tpy
 PM_{2.5} 0.04 tpy

6.b Haul Roads (existing). Potential emissions from haul road traffic are calculated using default emission calculations from EPA AP-42, Section 13.2.2 (12/03), an average load weight of 20 tons, and an average trip distance of 0.5 miles. The use of wet suppression is expected to provide an overall control efficiency of 80% for haul road emissions. Annual emissions shall be calculated from actual miles travelled using the emission factors below.

Activity	Mileage (miles/yr)	Pollutant	Emission Factor - Uncontrolled (lb/mile)	Control Efficiency	Emissions (tpy)
Haul Road	5,000	PM	6.94	80	3.470
		PM ₁₀	1.77		0.885
		PM _{2.5}	0.27		0.135

6.c Engine - Whisperwatt Generator (existing). Potential 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 2,000 hours per year. Annual emissions shall be calculated from actual operation using the emission factors identified above unless new emission factors are provided by the manufacturer or developed through source testing.

Engine - Whisperwatt Generator				
	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)		
Pollutant	Emission Factor lb/hp-hr	Emission Factor lb/hr	Emissions tpy	Emission Factor 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	0.00	0.002	Mass Balance
PM/PM ₁₀ /PM _{2.5}	3.95E-04	0.06	0.06	CARB Certification

6.d Engine - Parker Jaw Crusher (existing). 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 2,000 hours per year. Annual emissions shall be calculated from actual operation using the emission factors identified below unless new emission factors are provided by the manufacturer or developed through source testing.

Engine - Parker Jaw Crusher				
	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 (mfg data)		
Pollutant	Emission Factor lb/hp-hr	Emission Factor lb/hr	Emissions tpy	Emission Factor Source
NO _x	1.21E-02	4.38	4.38	EPA certification data
CO	3.53E-03	1.28	1.28	EPA certification data
VOC	3.53E-04	0.13	0.13	EPA certification data
SO _x as SO ₂	9.02E-06	0.003	0.003	Mass Balance
PM/PM ₁₀ /PM _{2.5}	3.09E-04	0.11	0.11	EPA certification data

6.e Engine - Komatsu Impact Crusher (new). 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 2,000 hours per year. Annual emissions shall be calculated from actual operation using the emission factors identified above unless new emission factors are provided by the manufacturer or developed through source testing.

Engine - Komatsu Impact Crusher				
Hours of Operation =	2,000 hours			
Power Output =	322 horsepower			
Diesel Density =	7.206 pounds per gallon			
Fuel Sulfur Content =	0.0015 % by weight			
Fuel Consumption Rate =	16.20 gallons per hour (est'd)			
Pollutant	Emission Factor g/kW-hr	Emission Factor lb/hr	Emissions tpy	Emission Factor Source
NO _x	5.84	3.08	3.08	EPA certification data
CO	0.87	0.46	0.46	EPA certification data
VOC	--	0.23	0.23	EPA AP-42, Table 3.4-1
SO _x as SO ₂	--	0.004	0.004	Mass Balance
PM/PM ₁₀ /PM _{2.5}	0.15	0.08	0.08	EPA certification data

6.f Engine - McCloskey Screen #30-10 (existing). 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 2,000 hours per year. Annual emissions shall be calculated from actual operation using the emission factors identified above unless new emission factors are provided by the manufacturer or developed through source testing.

Engine - McCloskey Screen #30-10				
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)			
Pollutant	Emission Factor lb/hp-hr	Emission Factor lb/hr	Emissions tpy	Emission Factor 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	0.001	0.001	Mass Balance
PM/PM ₁₀ /PM _{2.5}	3.29E-04	0.04	0.04	EPA Tier 4 Limit

6.g Engine - McCloskey Screen #30-12 (new). 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 2,000 hours per year. Annual emissions shall be calculated from actual operation using the emission factors identified above unless new emission factors are provided by the manufacturer or developed through source testing.

Engine - McCloskey Screen #30-12				
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 (mfg)			
Pollutant	Emission Factor g/kW-hr	Emission Factor lb/hr	Emissions tpy	Emission Factor 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	0.04	EPA certification data
SO _x as SO ₂	--	0.002	0.002	Mass Balance
PM/PM ₁₀ /PM _{2.5}	0.17	0.04	0.04	EPA certification data

6.h Engine - McCloskey Screen #30-13 (new). 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 2,000 hours per year. Annual emissions shall be calculated from actual operation using the emission factors identified above unless new emission factors are provided by the manufacturer or developed through source testing.

Engine - McCloskey Screen #30-13				
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 =	6.86 gallons per hour (mfg)			
Pollutant	Emission Factor g/kW-hr	Emission Factor lb/hr	Emissions tpy	Emission Factor Source
NO _x	3.70	0.79	0.79	EPA certification data
CO	1.58	0.34	0.34	EPA certification data
VOC	0.13	0.03	0.03	EPA certification data
SO _x as SO ₂	--	0.001	0.001	Mass Balance
PM/PM ₁₀ /PM _{2.5}	0.16	0.03	0.03	EPA certification data

- 6.i Engine - MGL Stacking Conveyor (new). 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 2,000 hours per year. Annual emissions shall be calculated from actual operation using the emission factors identified above unless new emission factors are provided by the manufacturer or developed through source testing.

Engine - MGL Stacking Conveyor				
	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 =	3.75 gallons per hour (mfg)		
Pollutant	Emission Factor g/kW-hr	Emission Factor lb/hr	Emissions tpy	Emission Factor Source
NO _x	2.60	0.31	0.31	EPA certification data
CO	0.01	0.001	0.001	EPA certification data
VOC	0.01	0.001	0.001	EPA certification data
SO _x as SO ₂	--	0.001	0.001	Mass Balance
PM/PM ₁₀ /PM _{2.5}	0.02	0.002	0.002	EPA certification data

- 6.j Emissions Summary/Facilitywide Potential to Emit.

<u>Pollutant</u>	<u>Total Emissions</u>	<u>Nonroad Emissions</u>	<u>Project Increase</u>
NO _x	11.71 tpy	10.16 tpy	4.94 tpy
CO	3.32 tpy	3.05 tpy	1.04 tpy
VOC	0.98 tpy	0.61 tpy	0.17 tpy
SO ₂	0.014 tpy	0.01 tpy	0.004 tpy
Lead	0.00 tpy	0.00 tpy	0.00 tpy
PM	4.40 tpy	0.30 tpy	0.15 tpy
PM ₁₀	1.46 tpy	0.30 tpy	0.15 tpy
PM _{2.5}	0.53 tpy	0.30 tpy	0.15 tpy
TAP	0.00 tpy	0.00 tpy	0.00 tpy
HAP	0.00 tpy	0.00 tpy	0.00 tpy

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 Code of Federal Regulations - Title 40, Chapter 60 (40 CFR 60) Subpart OOO (60.670 et seq.) "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 Parker and Komatsu crushers. As noted in Section 5 of this document, this regulation is applicable to accessory equipment whenever it is operated in conjunction with an affected crushing unit.

- 7.b 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 Whisperwatt generator engine is not subject to this regulation because the unit was manufactured prior to 2005. Nonroad engines are 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. The Whisperwatt Generator Engine is subject to this regulation. For area sources, an engine is "existing" if construction was commenced before June 12, 2006. The Whisperwatt Generator Engine was built in 2004 and therefore is considered an existing engine at an area source. Nonroad engines are not subject to this regulation.

Enforcement of this regulation has not been delegated from EPA to SWCAA and the requirements from this regulation have not been included in the Air Discharge Permit.

- 7.d 40 CFR 89 includes requirements for all nonroad engines other than specific categories of nonroad engines such as engines subject to 40 CFR 1039 (Tier 4 engines). The definition of nonroad engines in 40 CFR 89.2 includes any internal combustion engine described in (1)(i) "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)." The Track Screen H-24 Engine, and the Peterson 5710 Engine both drive the tracks on which the units are mounted and therefore are always nonroad engines. The Track Screen H-24 Engine was manufactured in 2006 and is Tier 1 certified in accordance with the small volume allowance provisions (other engines of this size and year of manufacture must meet Tier 2 standards).

The definition of nonroad engines in 40 CFR 89.2 includes any internal combustion engine in (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." The diesel engine powered equipment at this facility is portable and does not remain stationary for more than 12 consecutive months. In accordance with Part 89, the associated diesel engines must meet the appropriate EPA Tier certification standards based on engine size and year of manufacture.

In accordance with Appendix A of Subpart 89, 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.

- 7.e 40 CFR 1039 contains standards for new non-road engines beginning with the 2008 model year for certain categories. The applicable year varies by engine category. 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 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." In accordance with the relevant subpart, nonroad engines must meet the appropriate EPA Tier certification standards based on engine size and year of manufacture. In accordance with Appendix A of Subpart 89, 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.f Revised Code of Washington (RCW) 70.94.141 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 70.94] 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.g RCW 70.94.152 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.h 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. SWCAA implements WAC 173-460 as in effect on August 21, 1998.
- 7.i WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM₁₀, PM_{2.5}, lead, sulfur dioxide, nitrogen dioxide, ozone, and carbon monoxide in the ambient air, which shall not be exceeded.
- 7.j 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.k SWCAA 400-040(1) "Visible Emissions" requires that no emission of an air contaminant from any emissions unit shall 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.
- 7.l 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.
- 7.m SWCAA 400-040(3) "Fugitive Emissions" requires that reasonable precautions be taken to prevent the fugitive release of air contaminants to the atmosphere.
- 7.n SWCAA 400-040(4) "Odors" requires that any person who shall cause or allow the generation of any odor from any source, which may unreasonably interfere with any other property owner's use and enjoyment of their property use recognized good practices and procedures to reduce these odors to a reasonable minimum.
- 7.o SWCAA 400-040(6) "Sulfur Dioxide" requires that no person shall emit a gas containing in excess of one thousand 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.p SWCAA 400-040(8) "Fugitive Dust Sources" requires that reasonable precautions be taken to prevent fugitive dust from becoming airborne, and minimize emissions.
- 7.q 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 89. This regulation is applicable to the nonroad engines proposed for use by the permittee for exploratory natural gas well drilling.

- 7.r 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.s 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.t 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.u SWCAA 400-110 "New Source Review" requires that an Air Discharge Permit Application be filed with SWCAA, and an Air Discharge Permit be issued by SWCAA, prior to establishment of the new source, emission unit, or modification.
- 7.v 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 BACT Determination – 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.b 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.
- 8.c Nonroad Engines. The nonroad engines equipment affected by this permitting action comply with applicable EPA certification requirements, but are not subject to BACT.

Other Determinations

- 8.d 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.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 permit.

9. AMBIENT IMPACT ANALYSIS

- 9.a TAP Small Quantity Review. The new equipment and modifications proposed in ADP/NEP Application CL-3034 will not affect the type or quantity of TAP emissions from the existing rock crushing operations.

Conclusions

- 9.b Operation of new aggregate proposing and handling equipment, as proposed in ADP/NEP Application CL-3034, 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.c Operation of new aggregate proposing and handling equipment, as proposed in ADP/NEP Application CL-3034, will not cause the requirements of WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" (as in effect 8/21/98) or WAC 173-476 "Ambient Air Quality Standards" to be violated.
- 9.d Operation of new aggregate proposing and handling equipment, as proposed in ADP/NEP Application CL-3034, 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 18-3263 in response to ADP/NEP Application CL-3034. ADP/NEP 18-3263 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 18-3263 supersedes ADP/NEP 16-3183 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-3034. Permit requirements established by this action are intended to implement BACT, minimize emissions, and assure compliance with applicable requirements on a continuous basis.
- 10.c Monitoring and Recordkeeping Requirements. ADP/NEP 18-3263 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 recordkeeping requirements are established for hours of operation, material throughput, equipment relocation, and fuel sulfur content.
- 10.d Reporting Requirements. ADP/NEP 18-3263 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 annually.
- 10.e 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. Based on information provided with the permit

application, it is SWCAA's understanding that the emission limits established in the permit will not constrain future operation.

Visible emissions from the stationary and nonroad engines were limited to 5% opacity. Visible emissions should not exceed this level if the engines are 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 89). For the nonroad engines, this restriction is appropriate because if the engines are 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.f Operational Limits. A visible emission limit (not to exceed 0% opacity for more than three minutes in any one hour) for the crushing, screening and conveying equipment has been established consistent with proper operation of the proposed wet suppression systems and the requirements of 40 CFR 60, Subpart OOO. High pressure spray systems (≥ 80 psig) or equivalent have been determined to be a minimum BACT requirement for individual pieces of rock crushing and aggregate screening equipment.

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. Visible emissions from diesel engines associated with rock crushing operations may exhibit excess opacity upon startup even when in proper working order. Accordingly, the visual emissions limits listed in the permit for these units are not applicable during the startup period defined in the permit. The general opacity standard from SWCAA 400-040 of 20% continues to apply during startup and shutdown.

- 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 Rotschy's facility in Vancouver, Washington:

<u>Date</u>	<u>Application Number</u>	<u>Permit Number</u>	<u>Purpose</u>
5/19/2016	CL-2077	16-3183	Operation of Parker jaw crusher and associated non-road diesel engine.
7/19/2013	CL-2003	13-3062	Operation of Pegson impact crusher, McCloskey screen, and associated diesel engines. Engines integral to the crusher and screen classified as nonroad engines.

13.b Compliance History. A search of source records on file at SWCAA identified two recent compliance issues at this facility.

<u>Date</u>	<u>NOV Number</u>	<u>Violation</u>
11/21/2017	6343	Failure to conduct and/or report initial emissions testing on Parker Jaw Crusher in violation of ADP/NEP 16-3183, Requirement #22.
11/21/2017	6342	Installation and operation of crushing equipment and associated non-road engines in violation of ADP/NEP 16-3183.

14. PUBLIC INVOLMENT OPPORTUNITY

14.a Public Notice for ADP/NEP Application CL-3034. Public notice for ADP/NEP Application CL-3034 was published on the SWCAA internet website for a minimum of (15) days beginning on January 10, 2018.

14.b Public/Applicant Comment for ADP/NEP Application CL-3034. SWCAA did not receive specific comments, a comment period request or any other inquiry from the public regarding this permit application. Therefore no public comment period was provided for this permitting action.

14.c State Environmental Policy Act. A complete SEPA checklist was submitted by Rotschy in conjunction with ADP/NEP Application CL-3034. After reviewing the checklist, SWCAA has made a Determination of Non Significance (DNS) concurrent with issuance of ADP/NEP 18-3263.