



STATEMENT OF BASIS
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 BAQ Air Permitting Division

Company Name:	Haile Gold Mine Inc	Permit Writer:	Mareesa Singleton
Permit Number:	1460-0070-CC	Date:	April 29, 2022

DATE APPLICATION RECEIVED: August 26, 2021

FACILITY DESCRIPTION (SIC CODES/NAICS CODES): Gold Mine that includes open pit mining of gold containing ore and an ore processing plant (1041/212221; 1044/212222).

PROJECT DESCRIPTION: The facility submitted an expedited construction permit application for a 180 m³/hr (235 yd³/hr) central mix concrete batch plant (PT-20). The concrete batch plant will initially be used to make shotcrete and will eventually be part of the cement rock fill plant required to produce material to backfill stopes if the underground mining operations are approved. The application included the control device as inherent to the process for the concrete batch plant. However, the Department has determined that for concrete batch plants that these are control devices and not inherent process equipment as mixers and their associated loadouts are understood to be capable of operating without the dust collection unit.

The Department requested that the application be updated to include the portable crusher (PT-18) and that the application be processed under normal review due to public concern with the facility. Haile previously permitted a portable crusher PT-18 which was removed from the site. The facility is requesting that the new portable crusher have the same equipment ID as the previous unit.

The facility subsequently submitted updated information from the manufacturer for the concrete batch plant. The original permit application max rated capacity of 180 m³/hr was for all the SIMEM plant options. The facility contacted SIMEM and asked for a calculation specific to the max rated capacity for the Cement Rock Fill (CFR) plant which would be on HGM's site. The "Eagle 7000 Capacity CRF" technical document provides the max rated capacity for Haile's specific CRF plant as 124.6 m³/hr.

Although there is no regulatory requirement to notice this permit, due to public interest in the facility, the construction permit will be placed on public notice. See the Public Notice Section below for more details.

SOURCE TEST REQUIREMENTS: The portable crusher is subject to source testing in accordance with 40 CFR 60 Subpart OOO.

PROJECT EMISSIONS - CONCRETE BATCH PLANT						
Pollutant	Uncontrolled		Controlled		PTE	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM	28.977	126.92	3.453	15.12	28.977	126.92
PM ₁₀	8.423	36.89	1.484	6.50	8.423	36.89
PM _{2.5}	1.053	4.61	0.264	1.16	1.053	4.61
Arsenic	3.92E-04	1.72E-03	1.98E-05	8.67E-05	3.92E-04	1.72E-03
Beryllium	5.59E-07	2.45E-06	--	--	5.59E-07	2.45E-06
Cadmium	5.45E-07	2.36E-06	3.39E-08	1.49E-07	5.45E-07	2.36E-06
Total Chrome	7.39E-05	3.24E-04	1.43E-05	6.26E-05	7.39E-05	3.24E-04
Lead	2.12E-05	9.26E-05	5.23E-06	2.29E-05	2.12E-05	9.26E-05
Manganese	2.83E-03	1.24E-02	1.81E-04	7.91E-04	2.83E-03	1.24E-02
Nickel	1.67E-04	7.29E-04	2.67E-05	1.17E-04	1.67E-04	7.29E-04
Total Phosphorus	9.52E-04	4.17E-03	7.65E-05	3.35E-04	9.52E-04	4.17E-03



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PROJECT EMISSIONS - CONCRETE BATCH PLANT						
Pollutant	Uncontrolled		Controlled		PTE	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Selenium	4.32E-07	1.86E-06	--	--	4.32E-07	1.86E-06

PROJECT EMISSIONS - PORTABLE CRUSHER						
Pollutant	Uncontrolled		Controlled		PTE	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM	3.408	14.93	1.745	7.644	1.745	7.644
PM ₁₀	1.612	6.624	0.8682	3.803	0.8682	3.803
PM _{2.5}	0.3282	1.003	0.2219	0.9719	0.2219	0.9719
SO ₂	0.6150	2.694	--	--	0.6150	2.694
NO _x	0.1984	0.8690	--	--	0.1984	0.8690
VOC	0.0926	0.4056	--	--	0.0926	0.4056
CO	1.720	7.532	--	--	1.720	7.532

FACILITY WIDE EMISSIONS*						
Pollutant	Prior to Construction**			Post Construction		
	Uncontrolled	Controlled	PTE	Uncontrolled	Controlled	PTE
	TPY	TPY	TPY	TPY	TPY	TPY
Total Lead	1.12E-04	--	1.12E-04	2.05E-04	1.19E-04	2.05E-04
Total Arsenic	6.73E-04	--	6.73E-04	2.39E-03	7.60E-04	2.39E-03
Total Mercury	3.23E-02	4.98E-03	<0.14 lb Hg/ton concentrate	3.23E-02	4.98E-03	<0.14 lb Hg/ton concentrate
Total HCN (Total of Process and Fugitive)	5.63	--	5.63	5.63	--	5.63
Total HAP	1.207	1.204	1.204	1.226	1.205	1.226
PM	97.5	19.7	97.5	239.35	42.47	239.35
PM ₁₀	37.3	10.9	37.3	80.82	21.20	80.82
PM _{2.5}	24.2	5.49	24.2	29.81	7.63	29.81
SO ₂	17.876	17.389	17.876	20.57	20.08	20.08
NO _x	69.37	62.087	69.37	64.84	62.96	62.96
CO	14.37	12.8048	14.37	21.90	20.34	20.34
VOC	3.34	2.66	3.34	3.746	3.066	3.066
Beryllium	--	--	--	2.45E-06	--	2.45E-06
Cadmium	--	--	--	2.36E-06	1.49E-07	2.36E-06
Total Chrome	--	--	--	3.24E-04	6.26E-05	3.24E-04
Manganese	--	--	--	1.24E-02	7.91E-04	1.24E-02
Nickel	--	--	--	7.29E-04	1.17E-04	7.29E-04



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FACILITY WIDE EMISSIONS*						
Pollutant	Prior to Construction**			Post Construction		
	Uncontrolled	Controlled	PTE	Uncontrolled	Controlled	PTE
	TPY	TPY	TPY	TPY	TPY	TPY
Total Phosphorus	--	--	--	4.17E-03	3.35E-04	4.17E-03
Selenium	--	--	--	1.86E-06	--	1.86E-06

*Includes emissions from exempt sources. **Emissions taken from 2021-06-01_1460-0070.0tv.sob.

OPERATING PERMIT STATUS

Operating Permit Type	Type of modification required	Issue Date	Expiration Date	Renewal Receive Date	Covered under an Application Shield?
Title V	--	June 1, 2021	June 30, 2026	December 31, 2025	Yes

REGULATORY APPLICABILITY REVIEW

Regulations	Comments/Periodic Monitoring Requirements
Section II(E) – Synthetic Minor	Not Applicable: The potential to emit for the project does not exceed any major source thresholds and with the addition of the project, the facility is still a true minor source.
Standard No. 7	Not Applicable: The facility is not one of the 28 source categories; therefore, its PSD major source threshold is 250.0 tpy. The facility does not have the potential to emit above 250.0 tpy for any applicable pollutants.

Standard No. 4 Allowable					
Process	Max Process Weight Rate (tons/hr)	PM Allowable at Max (lb/hr)	Uncontrolled Emissions PM (lb/hr)	Controlled Emissions PM (lb/hr)	Monitoring
PT-20	329	64.05	28.98	3.45	Not required for standard 4 because the uncontrolled are less than the allowable
PT-18	342	64.50	3.408	1.745	Not required for standard 4 because the uncontrolled are less than the allowable.

Regulations	Comments/Periodic Monitoring Requirements
Standard No. 4	Applicable: The concrete batch plant and portable crusher are also subject to section IX, 20% opacity and Section X.



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Regulations	Comments/Periodic Monitoring Requirements
Standard No. 3 (state only)	Not applicable: No waste combustion or reduction.
Standard No. 5	Not applicable: The project does not have the potential to emit VOC at the applicable levels.
Standard No. 5.2	Not applicable: The engine on the portable crusher meets exemption I(B)(3): Any source with total uncontrolled potential to emit less than 5 tons per year of NO _x .
61-62.6	Applicable: The facility shall minimize fugitive dust emissions in accordance with its dust control plan.
40 CFR 60 and 61-62.60	Applicable: The portable crusher is subject to Subpart 000. Applicable: The engine on the portable crusher is subject to Subpart IIII.
40 CFR 61 and 61-62.61	Not applicable: No applicable subparts.
40 CFR 63 and 61-62.63	Applicable: The engine on the portable crusher is subject to Subpart ZZZZ.
61-62.68	Not applicable. The facility does not use/store subject chemicals above threshold quantities.
40 CFR 64 (CAM)	Not applicable: The emissions for this process does not exceed Title V threshold limits.

AMBIENT AIR STANDARDS REVIEW	
Regulations	Comments/Periodic Monitoring Requirements
Standard No. 2	Modeling demonstrations are required on a case-by-case basis for concrete batch plants. A facility's emissions and the proximity and density of residences and population centers are the criteria for determination. A modeling demonstration is not required for this facility. The emissions for the portable crushers are below the exemption levels.
Standard No. 8 (state only)	Modeling demonstrations are required on a case-by-case basis for concrete batch plants. A facility's emissions and the proximity and density of residences and population centers are the criteria for determination. A modeling demonstration is not required for this facility. The engine of the portable crusher is exempt since it will burn only virgin fuel.

PUBLIC NOTICE

In accordance with SC Regulation 61-62.1, Section II(N), when determined to be appropriate by the Department, notice of permitting activity shall be provided to the public and other entities for their review and comments. Therefore, due to public interest in the facility, this construction permit will undergo a 30-day public notice period. The comment period was open from March 30, 2022, to April 28, 2022, and was placed on the BAQ website during that time period. No comments were received during the comment period.

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.