

August 10, 2020

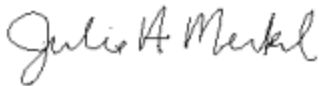
Tintina Montana Inc.  
P.O. Box 431  
White Sulphur Springs, MT 59645

Dear Mr. Zieg:

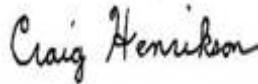
Montana Air Quality Permit #5200-01 is deemed final as of August 8, 2020, by the Department of Environmental Quality (Department). All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

Conditions: See attached.

For the Department,



Julie A. Merkel  
Permitting Services Section Supervisor  
Air Quality Bureau  
(406) 444-3626



Craig Henrikson, P.E.  
Environmental Engineer  
Air Quality Bureau  
(406) 444-6711

JM:CH  
Enclosure

Montana Department of Environmental Quality  
Air, Energy & Mining Division

Montana Air Quality Permit #5200-01

Tintina Montana Inc.  
P.O. Box 431  
White Sulphur Springs, MT 59645

August 8, 2020



## MONTANA AIR QUALITY PERMIT

Issued to: Tintina Montana Inc.  
P.O. Box 431  
White Sulphur Springs, MT 59645

MAQP: #5200-01  
Administrative Amendment (AA): Request  
Received: July 10, 2020  
Department's Decision on AA: July 23, 2020  
Permit Final: August 8, 2020

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Tintina Montana Inc. (Tintina), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

### Section I: Permitted Facilities

#### A. Plant Location

Tintina is developing an underground copper mine approximately 15 miles north of White Sulphur Springs in Meagher County, Montana. The mine permit area resides in Sections 24, 25, and 36 in Township 12N, Range 6E, and Sections 19, 29, 30, 31, and 32 in Township 12N, Range 7E, Meagher County, Montana.

#### B. Current Permit Action

On July 10, 2020, the Montana Department of Environmental Quality (Department) received an Administrative Amendment (AA) request from Tintina to allow the use of an emulsion-based explosive as an additional option to ammonium nitrate fuel oil which was previously permitted. The emulsion-based explosive provides for a lower emission rate of oxides of nitrogen (NOx).

### Section II: Conditions and Limitations

#### A. Emission Limitations

1. Tintina shall be limited to a maximum of 2.19 million tons of waste rock as measured by the total material processed by the Portal Crusher (P1) during any rolling 12-month period (ARM 17.8.749).
2. Tintina shall be limited to a maximum of 1.46 million tons of ore as measured by the material processed by the weight meter following the coarse ore bin and prior to entering the mill during any rolling 12-month period (ARM 17.8.749).
3. Tintina shall be limited to a maximum usage of 1,552 tons combined of ammonium nitrate fuel oil (ANFO) and/or emulsion explosives during any rolling 12-month period (ARM 17.8.749).
4. Tintina shall be limited to a maximum total usage of 4,180,000 gallons of propane for the Upper Copper Zone Propane Heater (P10A) and the Lower

Copper Zone Heater (P10B) during any rolling 12-month period (ARM 17.8.749).

5. Tintina shall be limited to diesel-fired generator sets for surface mine equipment including P2, P4, P5, P6, P17, P18 and F26 of a maximum rated design capacity of the generator engine(s) not exceeding 2,735 brake-horsepower (bhp). This condition does not include the ratings from the four emergency diesel generators P7A, P7B, P8 and P9 (ARM 17.8.749).
6. Tintina shall be limited to a maximum total usage of 806,384 gallons of diesel fuel for mobile equipment, stationary and portable equipment for both surface and underground operations during any rolling 12-month period (ARM 17.8.749).
7. Tintina shall not cause or authorize to be discharged into the atmosphere any fugitive emissions from process equipment not covered under 40 CFR 60, Subpart LL that exhibit 20% opacity or greater averaged over 6 consecutive minutes (ARM 17.8.308).
8. Tintina shall limit process fugitive emissions for any affected facility as identified in 40 CFR 60, Subpart LL, from the date of the performance test (as required by Section II.C.1) forward, to a maximum opacity of 10%. Stack emissions from any affected facility are limited to a maximum of 7% opacity unless using a wet scrubber (40 CFR Part 60, Subpart LL, ARM 17.8.308 and ARM 17.8.340).
9. Tintina shall formalize a Fugitive Dust Control Plan from the elements approved in the BACT analysis to control fugitive dust and comply with ARM 17.8.308 - Airborne Particulate Matter (Reasonable Precautions). This plan shall include all mine areas including roads utilized within the mine permit boundary as defined by the Montana DEQ Hardrock Operating Permit. The plan should include four elements common with best management practices. 1) Staff titles responsible for carrying out the Fugitive Dust Control Plan. 2) Identification of dust control problems. 3) Recommended strategy or strategies for resolution. 4) Documentation of corrective action.

Prior to the commencement of operation, Tintina shall submit the Fugitive Dust Control Plan to the Department for review and input. Tintina may develop separate plans based on the current phase of the mine; development, production and reclamation (ARM 17.8.749 and ARM 17.8.752).

10. Tintina shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
11. Tintina shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

12. Tintina shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.9 and Section II.A.11 (ARM 17.8.749 and ARM 17.8.752).
13. Tintina shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR 60, Subpart A and 40 CFR 60, Subpart LL (ARM 17.8.340, 40 CFR 60 Subpart A and 40 CFR 60 Subpart LL).
14. Emissions from the dust collectors controlling emitting points P12, P13A, P13B, P14 and P15 (Jaw Crusher Building, Mill Building Areas, Surge Bin Discharge, and Water Treatment Area) and shall be limited to a maximum of 0.01 grains per dry standard cubic foot (gr/dscf) (ARM 17.8.340, 40 CFR Part 60, Subpart LL and ARM 17.8.752).
15. Tintina shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR 60 Subpart IIII for the four units identified as emergency generators. These are identified as P7A, P7B, P8 and P9 (ARM 17.8.340 and 40 CFR 60 Subpart IIII).
16. Tintina shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR 63 Subpart ZZZZ for the four units identified as emergency generators. These are identified as P7A, P7B, P8 and P9 (ARM 17.8.342 and 40 CFR 63 Subpart ZZZZ).
17. The four emergency generators shall be used for emergency or back-up operations only and shall each be limited to 500 hours of operation during any rolling 12-month time period. Preventative maintenance activities shall be included in the 500 hours of operation during any rolling 12-month time period (ARM 17.8.749).
18. Tintina shall use diesel engine/generators which satisfy 40 CFR Part 89 and/or 1039 for non-road engines (ARM 17.8.752, ARM 17.8.340 and 40 CFR 60 Subpart IIII).
19. Diesel-fired engines P2, P4, P5, P6, P7A, P7B, P8, P9, P17, P18, and F26 shall be a minimum of EPA Tier 3-rated engines (ARM 17.8.749).

B. Emission Control Practice and Requirements

1. Underground Blasting – Industry Best Operating Practices (BOPs) shall be used for minimizing blasting emissions, including hole size optimization, placement optimization, optimizing the quantity of explosive, and mine planning to prevent overshooting (ARM 17.8.752).

2. Ore transferred from the jaw crusher to the mill building shall be done in an enclosed conveyor (ARM 17.8.752).
3. Portable Crusher (P1) and two Screens (P3) shall use reasonable precautions including water spray suppression for particulate control (ARM 17.8.752).
4. Diesel-fired engines P2, P4, P5, P6, P17, P18, and F26 meet 40 CFR 60, Subpart IIII (ARM 17.8.340, 40 CFR 60, Subpart IIII and ARM 17.8.752).
5. Propane Heaters P10A and P10B shall be rated for a maximum of 75 MMBtu/hr total and shall utilize clean burning fuel (propane or equivalent) and utilize good combustion practices (ARM 17.8.752).
6. Temporary Diesel-fired Portal Heaters (P11-Up to 3 diesel-fired engines with a 1.2 MMBtu/hr total)) shall use diesel fuel or equivalent and utilize good combustion practices (ARM 17.8.752).
7. Temporary Portable Propane-fired Heaters (F28-Up to 9 units with a 37.8 MMBtu/hr total) shall use propane or equivalent and utilize good combustion practices (ARM 17.8.752).
8. Emitting Units P12, P13A, P13B, P14, and P15 (Jaw Crusher Building, Mill Building Lime and Lime Silo Areas, Surge Bin Discharge, and Water Treatment) shall use dust collectors for particulate control (ARM 17.8.752).
9. Backfill Plant Cement Operations including Fly Ash Hopper and Fly Ash Silo (P16A and P16B) shall use dust filters/collectors for particulate control (ARM 17.8.752).
10. All road sections and all stockpiles (ore, waste rock, excavated bedrock, topsoil, subsoil and temporary construction material etc.) shall utilize reasonable precautions for particulate control. For stockpiles, this may include wind-fencing and/or treatment with water or chemical dust suppressant (ARM 17.8.752).
11. Soil and subsoil stockpiles saved for mine reclamation will be revegetated in place within two growing seasons following their completion (ARM 17.8.752).
12. If water and/or chemical dust suppressant are not effective for controlling fugitive dust, Tintina shall also require vehicle restrictions including the use of vehicle speed limits to further reduce fugitive dust (ARM 17.8.752).

C. Testing Requirements

1. The affected facilities under 40 CFR 60, Subpart LL shall be tested and demonstrate compliance with the emission limitations contained in Section II.A.8 within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial

startup of the affected equipment (ARM 17.8.105, ARM 17.8.340, 40 CFR 60.8 and 40 CFR 60, Subpart LL).

2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
3. The Department of Environmental Quality (Department) may require further testing (ARM 17.8.105).

D. Operational Reporting Requirements

1. Tintina shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505). Tintina shall submit the following information annually to the Department by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

- a. Amount of ore produced as measured by the weight meter downstream of the coarse ore bin.
  - b. Total gallons of diesel fuel used by underground equipment and above-ground equipment.
  - c. Gallons of propane used by P10A and P10B.
  - d. Tons of ANFO and emulsion explosive used.
  - e. Hours of operation of each of the four emergency diesel-fired generators.
  - f. An estimate of company vehicle miles traveled on the main mine roads.
  - g. Amount of disturbed acreage by stockpile and material type.
2. Tintina shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit***, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).

3. All records compiled in accordance with this permit must be maintained by Tintina as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request. These records may be stored at a location other than the plant site upon approval by the Department (ARM 17.8.749).
4. Tintina shall document, by day, the waste rock production levels as measured by the number of trucks transported from the portal. An estimated density per truckload should be applied for the calculation either based on an expected density or actual determination. By the 25th day of each month, Tintina shall document the total tons of ore processed for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation Section II.A.1. The information for each of the previous twelve months shall be submitted along with the annual emission inventory (ARM 17.8.749).
5. Tintina shall document, by month, the ore production levels as measured by the weight meter downstream of the coarse ore bin. By the 25th day of each month, Tintina shall document the total tons of ore processed for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.2. The information for each of the previous twelve months shall be submitted along with the annual emission inventory (ARM 17.8.749).
6. Tintina shall document, by month, the tons of ANFO and emulsion explosive used at the site. By the 25th day of each month, Tintina shall document the total tons of ANFO and emulsion explosive used for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.3. The information for each of the previous twelve months shall be submitted along with the annual emission inventory (ARM 17.8.749).
7. Tintina shall document, by month, the gallons of propane used by P10A and P10B. By the 25th day of each month, Tintina shall document the total gallons of propane used for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.4. The information for each of the previous twelve months shall be submitted along with the annual emission inventory (ARM 17.8.749).
8. Tintina shall document, by month, the diesel fuel consumption of all the underground equipment and above-ground equipment. By the 25th day of each month, Tintina shall calculate the total diesel fuel consumption for diesel-fired equipment for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.6. The information for each of the previous twelve months shall be submitted along with the annual emission inventory (ARM 17.8.749).



9. Tintina shall document, by month, the hours of operation of each emergency diesel-fired generator (P7A, P7B, P8 and P9). By the 25th day of each month, Tintina shall document the total hours of operation of the diesel engine/generator for the previous month. The information for each of the previous twelve months shall be submitted along with the annual emission inventory (ARM 17.8.749).
10. Tintina shall provide documentation that the equipment installed at the site which relied on specific dispersion characteristics for ambient air quality modeling, is consistent with the modeled assumptions. These parameters are primarily exhaust flow, engine size (bhp), stack height and stack diameter. Alternatively, Tintina shall provide a demonstration that any significant differences in dispersion characteristics from those used in the modeling demonstration, do not result in increases in modeled concentrations and risk the determination that the project does not cause or contribute to a violation of an ambient air quality standard. Tintina shall provide this information within 90 days following start-up of the milling and flotation operation (ARM 17.8.749).

E. Notification

1. Tintina shall supply the Department the following notifications (ARM 17.8.749 and 40 CFR 60, Subpart A and 40 CFR 63, Subpart A):
  - a. Date when Aboveground Ore Processing commences construction, postmarked no later than 30 days after such date.
  - b. Date when Aboveground Ore Processing including milling and flotation begins operation, postmarked no later than 15 days after such date.
2. Tintina shall provide notification and any documentation, as necessary, from Section II.D.10 within 90 days of start-up of the milling and flotation operation (ARM 17.8.749).

SECTION III: General Conditions

- A. Inspection – Tintina shall allow the Department’s representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment such as Continuous Emission Monitoring Systems (CEMS) or Continuous Emission Rate Monitoring Systems (CERMS), or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if Tintina fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Tintina of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).

- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department’s decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department’s decision on the application is final 16 days after the Department’s decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Tintina may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

Montana Air Quality Permit Analysis  
Tintina Montana Inc.  
MAQP #5200-01

I. Introduction/Process Description

Tintina Montana Inc. (Tintina) owns and operates an underground copper mine and mill facility. The facility is known as the Black Butte Copper Project (BBCP).

A. Permitted Equipment

**Point Source Identification at Tintina**

Point #	Emitting Unit Name
P1	250 ton per hour (TPH) Portable Conical Crusher
P2	325-horsepower (hp) Portable Diesel Engine/generator
P3	2 Portable Screens (400 TPH each)
P4	131-hp Portable Diesel Engine/generator
P5	545-kilowatt (kW) /914-hp Diesel Engine/generator
P6	320-kW /536-hp Diesel Engine/generator
P7A & P7B	1000-kW /1675-hp Diesel Engine/generators (2) - Emergency
P8	100-hp Diesel Engine/generator - Emergency evac hoists
P9	50-hp Diesel Fire Pump - Emergency
P10A	23 million British thermal unit per hour (MMBtu/hr) Propane-fired heater @ Intake Vent for Upper Copper Zone
P10B	52 MMBtu/hr Propane-fired heater @ Intake Vent for Lower Copper Zone
P11	3 Temporary diesel heaters at Portal - (1.2 MMBtu/hr total)
P12	Jaw Crusher (3640 TPD), Building/Dust Collector
P13A	Mill Building (mill, lime storage, etc.) Dust Collector
P13B	Mill Building (lime area/slurry mix tank) Dust Collector
P14	Surge Bin Discharge Dust Collector
P15	Water Treatment Plant Lime Area Dust Collector
P16A	Backfill Plant Cement/Fly Ash Hopper Dust Filter/Collector
P16B	Backfill Plant Cement/Fly Ash Silo Dust Filter/Collector
P17	Portable diesel engine/generators (total of 400 hp, 4 units)
P18	Air Compressor - Diesel Engine (275 hp)
F26	Diesel-powered Light plants - 11 - 14 hp each, 154 hp total
F27	Gasoline storage tank (double-walled 500 gallon (gal))
F28	9 Temporary portable propane heaters (37.8 MMBtu/hr total)
UG	ANFO

The Point Source table identifies each point source for which an emission inventory was developed and used within the air modeling analysis. Tintina identified the highest emitting rates which occur at each of the emitting units (point sources) over the course of the proposed mine life, and modeled those as if they were occurring at the same time. This approach over-estimated the actual emissions for nearly any given period but also ensures the highest possible rate was used in the modeling demonstration.

It was also necessary to model certain fugitive emissions such as those from haul roads. And while mobile sources are not regulated, underground emissions from blasting and engine emissions are modeled as point sources from the three planned exhaust portals. Fugitive emission sources are shown in the table below.

### Fugitive Sources

F1	Road Dust, Mine Operating Year (MOY) 0 to 1
F2	Road Dust, MOY 1 to 2
F3	Road Dust, MOY 2 to 15, Annual Average
F4	Road Dust, MOY 16 and 17, Annual Average
F5	Road Dust, MOY 18
F6	Material Transfer to Temporary Stockpile, MOY 0 to 1.5
F7	Temporary Construction Stockpile
F8	Embankment Construction, MOY 0 to 1.5
F9	Backfill, (NCWR) Embankment Material to Facility CTF MOY 16 to 18
F10	Material Transfer to South Stockpile, MOY 0 to 1
F11	Excess Reclamation Stockpile (South)
F12	Material Transfer from South Stockpile, MOY 16 to 17
F13	Material Transfer to North Stockpile, MOY 0 to 1
F14	Excess Reclamation Stockpile (North)
F15	Material Transfer from North Stockpile, MOY 16 to 18
F16	Soil Removal and Stockpiling, MOY 0 to 1
F17	Topsoil Pile
F18	Subsoil Pile
F19	Soil Return, MOY 16 to 18
F20	Copper-enriched Rock Drop to Stockpile, MOY 2 to 3
F21	Copper-enriched Rock Stockpile (Mill Feed)
F22	Waste Rock Drop at WRS Pad, MOY 0 to 1.5, at CTF, MOY 1.5 to 4 and 8
F23	Temporary WRS
F24	Waste Rock Transfer from WRS to CTF, MOY 2 to 3
F25	Waste Rock Storage Pad Reclamation, MOY 3
F26	11 - 14-hp Portable Diesel-powered Light Plants (only 4 units will be used in Production Phase)
F27	500-gal Gasoline Storage Tank (double-walled)
F28	9 -Temporary Portable Propane-fired Heaters (37.8 MMBtu/hr total) (only 3 will be used in Production Phase)
F29	Road Dust, Construction Access Road, Year 0-2 Avg.
F30	Road Dust, Main Access Road, Year 2-15 Avg.
IEU1	Diesel Storage Tanks (250-gal, 500-gal, 10,000- gal)

B. Source Description

The BBCP will mine approximately 15.3 million tons of copper-enriched rock (CER) and waste rock. This includes 14.5 million tons of CER with an average grade of 3.04% copper and 0.8 million tons of waste rock. Mining will occur at a rate of approximately 1.3 million tons/year or roughly 3,562 tons of CER per day. Ore production permit limits were set to match the highest predicted production level occurring in Year 11 of the mine life. The expected life of the mine is approximately 19 years including: a two-year development phase consisting of construction and pre-production mining, approximately 13 years of active mine production and milling, and four years of reclamation and closure.

The mine permit boundary area is divided into three main property areas near the Sheep Creek Road and Butte Creek Road intersections. The northwest sector contains the mine ventilation raises, while the northeast portion contains an access to a proposed public water supply water well utilized by Tintina. The southern property sector contains all mining operations including the mine portal, milling and material processing facilities, two emergency backup reciprocating internal combustion engine (RICE) gensets, a cemented paste tailings facility, material stockpiles, and various water containment ponds.

A drift and fill method will be used where finely ground mill tailings will be mixed with cement and binder to form a paste used to backfill production workings. This will allow mining to proceed without the need to leave pillars for structural support. Mined rock will be brought to the surface via haul trucks and processed by vibrating screens and a Portal Crusher located within a crusher building. Material is then conveyed in an enclosed conveyor to the mill building for regrinding and flotation.

C. Permit History

On April 28, 2020, Tintina was issued **MAQP #5200-00** for the construction and operation of an underground copper mine.

D. Current Permit Action

On July 10, 2020, the Montana Department of Environmental Quality (Department) received an Administrative Amendment (AA) request from Tintina to allow the use of an emulsion-based explosive as an additional option to ammonium nitrate fuel oil which was previously permitted. The emulsion-based explosive provides for a lower release rate of oxides of nitrogen (NO<sub>x</sub>). It is also expected that the lower release of emissions of NO<sub>x</sub> will also result in a lower concentration of nitrates in water associated with mining. **MAQP #5200-01** replaces MAQP #5200-00.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

## II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

### A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Tintina shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

### B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide

4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM<sub>10</sub>
11. ARM 17.8.230 Fluoride in Forage

Tintina must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Tintina shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Tintina is considered an NSPS affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts.

- a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
  - b. 40 CFR 60, Subpart LL – Standard of Performance for Metallic Mineral Processing Plants.
  - c. 40 CFR 60, Subpart IIII – Standard of Performance for Stationary Compression Ignition Internal Combustion Engines. Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, and owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart. Based on the information submitted by Tintina, the CI ICE equipment to be used under MAQP #5200-00 may be subject to this subpart because the proposed engines are manufactured after the applicable date.
10. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:
- a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to an NESHAP Subpart as listed below:
  - b. 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An area source of HAP emissions is a source that is not a major source. Based on the information submitted by Tintina, the RICE equipment to be used under MAQP #5200-00 may be subject to this subpart if Tintina remains in the same location for more than 12 months.
  - c. 40 CFR 63, Subpart CCCCCC – National Emissions Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities.
- D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:
- 1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.
  - 2. ARM 17.8.402 Requirements. Tintina must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP). The proposed height of all stacks for Tintina is below the allowable 65-meter GEP stack height.



E. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Tintina was not required to submit a fee as this was an administrative amendment.
2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

F. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. Tintina has a PTE greater than 25 tons per year of particulate matter (PM), particulate matter with an aerodynamic diameter less than or equal to ten microns (PM10), oxides of nitrogen (NOx), carbon monoxide (CO) and volatile organic compounds (VOCs), and therefore, an air quality permit is required.
3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted

prior to installation, modification, or use of a source. A permit application was not required for the current permit action because the permit change is considered an administrative permit change. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. An affidavit of publication of public notice was not required for the current permit action because the permit change is considered an administrative permit change.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Tintina of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.
12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
15. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

G. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications-Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

H. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
  - a. PTE > 100 tons/year of any pollutant;

- b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
- c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) in a serious PM<sub>10</sub> nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #5200-00 for Tintina, the following conclusions were made:

- a. The facility's PTE is greater 100 tons/year for CO and NO<sub>x</sub> during the development phase when the use of temporary equipment would be needed.
- b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.
- c. This source is not located in a serious PM<sub>10</sub> nonattainment area.
- d. This facility is subject to NSPS 40 CFR 60, Subpart LL and Subpart III.
- e. This facility is subject to NESHAP 40 CFR 63, Subpart ZZZZ and Subpart CCCCCC.
- f. This source is not a Title IV affected source, or a solid waste combustion unit.
- g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that Tintina is subject to the Title V operating permit program. Tintina has indicated they will apply for a Title V operating permit as required unless they prepare an updated MAQP application during the development phase to reduce their emissions below Title V thresholds.

### III. BACT Determination

A BACT determination is required for each new or modified source. Tintina shall install on the new or modified source the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be used.

A BACT determination was not required for the current permit action because the permit change is considered an administrative permit change.

#### IV. Emission Inventory

This project was modeled by finding the highest emissions for any activity during the proposed mine life, and assuming those activities all occur at the same time and in the same year. This provided a worst-case analysis to demonstrate there will be no violations of either NAAQS or MAAQS. The emitting units below include not only individual emitting units but also activities which generate emissions and were modeled. For example, underground blasting emissions are assigned as an emitting unit ID as are each of the various road sections for particulate matter emissions.

EMITTING UNIT ID	NAME
P1	250 TPH Portable Conical Crusher
P2	325-hp Portable Diesel Eng/Gen
P3	2 – Portable Screens (400 TPH each)
P4	131-hp Portable Diesel Eng/Gen
P5	545-kW/914-hp Portable Diesel Eng/Gen
P6	320-kW/536-hp Portable Diesel Eng/Gen
P7A & P7B	2- 1000-kW/1675-hp Diesel Eng/Gen - Emergency backup
P8	100-hp Diesel Eng/Gen – Emergency evac hoists
P9	50-hp Diesel Fire Pump – Emergency
P10A	23 MMBtu/hr Propane-fired Heater – Intake Vent for Upper Copper Zone
P10B	52 MMBtu/hr Propane-fired Heater – Intake Vent for Lower Copper Zone
P11	3 Temporary diesel heaters at Portal - (1.2 MMBtu/hr total)
P12	3640 TPD Jaw Crusher
P13A	Mill Building (mill, lime storage, etc.)
P13B	Mill Building (lime area/slurry mix tank)
P14	Surge Bin Discharge
P15	Water Treatment Plant Lime Area
P16A	Backfill Plant Cement/Fly Ash Hopper
P16B	Backfill Plant Cement/Fly Ash Silo
P17	4- Portable Diesel Eng/Gen (400-hp total)
P18	Air Compressor - 275-hp Diesel Engine
UG	ANFO and Emulsion Explosive
F1	Road Dust, Mine Operating Year (MOY) 0 to 1
F2	Road Dust, MOY 1 to 2
F3	Road Dust, MOY 2 to 15, Annual Average
F4	Road Dust, MOY 16 and 17, Annual Average
F5	Road Dust, MOY 18
F6	Material Transfer to Temporary Stockpile, MOY 0 to 1.5
F7	Temporary Construction Stockpile
F8	Embankment Construction, MOY 0 to 1.5
F9	Backfill, NCWR Embankment Material to CTF, MOY 16 to 18
F10	Material Transfer to South Stockpile, MOY 0 to 1

EMITTING UNIT ID	NAME
F11	Excess Reclamation Stockpile (South)
F12	Material Transfer from South Stockpile, MOY 16 to 17
F13	Material Transfer to North Stockpile, MOY 0 to 1
F14	Excess Reclamation Stockpile (North)
F15	Material Transfer from North Stockpile, MOY 16 to 18
F16	Soil Removal and Stockpiling, MOY 0 to 1
F17	Topsoil Pile
F18	Subsoil Pile
F19	Soil Return, MOY 16 to 18
F20	Copper-enriched Rock Drop to Stockpile, MOY 2 to 3
F21	Copper-enriched Rock Stockpile (Mill Feed)
F22	Waste Rock Drop at WRS Pad, MOY 0 to 1.5, at CTF, MOY 1.5 to 4 and 8
F23	Temporary WRS
F24	Waste Rock Transfer from WRS to CTF, MOY 2 to 3
F25	Waste Rock Storage Pad Reclamation, MOY 3
F26	11 - 14-hp Portable Diesel-powered Light Plants (only 4 units will be used in Production Phase)
F27	500-gal Gasoline Storage Tank
F28	9 -Temporary Portable Propane-fired Heaters (37.8 MMBtu/hr total) (only 3 will be used in Production Phase)
F29	Road Dust, Construction Access Road, Year 0-2 Avg.
F30	Road Dust, Main Access Road, Year 2-15 Avg.
IEU1	Diesel Storage Tanks (250-gal, 500-gal, 10,000- gal)

The point source and fugitive emission inventory totals prepared for the modeling demonstration in the ambient air quality analysis against the MAAQS and NAAQS is summarized in the below table.

Source Cat.	Model Type	Modeled Emissions (Tons/Year)				
		PM <sub>10</sub>	PM <sub>2.5</sub>	CO	NO <sub>2</sub>	SO <sub>2</sub>
EVL	Point	1.020	1.000	28.090	19.460	0.630
EVU	Point	2.830	2.800	78.389	54.299	1.770
HEATER	Point	1.260	1.260	13.590	23.580	0.099
LIGHT	Point	1.480	1.480	4.510	20.900	0.008
P10A	Point	0.449	0.449	4.824	8.365	0.035
P10B	Point	1.021	1.021	10.908	18.912	0.079
P11	Point	0.050	0.050	0.190	0.750	0.080
P12	Point	3.190	3.190	n/a	n/a	n/a
P13A	Point	0.190	0.190	n/a	n/a	n/a
P13B	Point	1.240	1.240	n/a	n/a	n/a
P14	Point	1.880	1.880	n/a	n/a	n/a

Source Cat.	Model Type	Modeled Emissions (Tons/Year)				
		PM <sub>10</sub>	PM <sub>2.5</sub>	CO	NO <sub>2</sub>	SO <sub>2</sub>
P15	Point	1.240	1.240	n/a	n/a	n/a
P16A	Point	0.230	0.230	n/a	n/a	n/a
P16B	Point	0.450	0.450	n/a	n/a	n/a
P17	Point	1.150	1.150	14.400	13.540	0.210
P18	Point	0.400	0.400	6.930	7.920	0.150
P2	Point	0.470	0.470	8.190	9.360	0.170
P4	Point	0.280	0.280	4.720	3.770	0.070
P5	Point	1.320	1.320	23.020	42.101	0.490
P6	Point	0.770	0.770	13.520	15.450	0.030
PORTAL	Point	0.950	0.940	26.300	18.220	0.590
FUGITIVE	Volume	0.004	0.002	n/a	n/a	n/a
P1	Volume	0.591	0.109	n/a	n/a	n/a
P3A	Volume	1.296	0.088	n/a	n/a	n/a
P3B	Volume	1.296	0.088	n/a	n/a	n/a
ROAD	Volume	84.519	8.471	n/a	n/a	n/a
STOCKPILES	Volume	3.180	0.832	n/a	n/a	n/a
TRANSFERS	Volume	7.000	3.040	n/a	n/a	n/a
<b>Total</b>		<b>119.757</b>	<b>34.439</b>	<b>237.581</b>	<b>256.627</b>	<b>4.411</b>

Abbreviations:

EVL = Mine Ventilation Exhaust Lower Copper Zone  
 EVU = Mine Ventilation Exhaust Upper Copper Zone  
 Heater = Sum of Temporary Propane Heaters  
 Light = Sum of Diesel-fired Light Plants  
 Portal = Main Portal Exhaust  
 Road = Volume Sources for Roads  
 Stockpiles = Particulate Emissions from various stockpiles of material  
 Transfers = Particulate Emissions from material handling

PM<sub>10</sub> = particulate matter with an aerodynamic diameter of 10 microns or less  
 PM<sub>2.5</sub> = particulate matter with an aerodynamic diameter of 2.5 microns or less  
 CO = carbon monoxide  
 NO<sub>2</sub> = oxides of nitrogen  
 SO<sub>2</sub> = sulfur dioxide

The emission inventory reflects maximum allowable emissions for all pollutants based on maximum production and year-round operation for most operations (8,760 hours) with the following exceptions. Emergency generators are limited to 500 hours of operation per year and P10A and P10B are used on a seasonal basis for heating the interior of the mine. Road fugitive totals were averaged across the emissions during each year in the production phase.

VOC and PM emissions were also totaled for sources and do not have ambient air quality standards to compare to, but are shown here for completeness.

<b>Potential Emissions Summary - PM and VOC</b>			
<b>Point #</b>	<b>Emitting Unit</b>	<b>PM tons per year</b>	<b>VOC tons per year</b>
<b>POINT SOURCES</b>			
P1	250 TPH Portable Conical Crusher	1.31	--
P2	325-hp Portable Diesel Engine/generator	0.47	3.52
P3	2 Portable Screens (400 TPH each)	7.71	--
P4	131-hp Portable Diesel Engine/generator	0.28	1.42
P5	545-kW /914-hp Diesel Engine/generator	1.32	9.88
P6	320-kW /536-hp Diesel Engine/generator	0.77	5.80
P7	1000-kW /1675-hp Diesel Engine/generators (2) - Emergency	0.28	2.07
P8	100-hp Diesel Engine/generator - Emergency evac hoists	0.02	0.06
P9	50-hp Diesel Fire Pump - Emergency	0.01	0.03
P10A	23 MMBtu/hr Propane-fired heater @ Intake Vent for Upper Copper Zone	0.45	0.64
P10B	52 MMBtu/hr Propane-fired heater @ Intake Vent for Lower Copper Zone	1.01	1.45
P11	3 Temporary diesel heaters at Portal - (1.2 MMBtu/hr total)	0.05	0.02
P12	Jaw Crusher (3640 TPD), Building/Dust Collector	3.19	--
P13A	Mill Building (mill, lime storage, etc.) Dust Collector	0.19	--
P13B	Mill Building (lime area/slurry mix tank) Dust Collector	1.24	--
P14	Surge Bin Discharge Dust Collector	1.88	--
P15	Water Trtmt Plant Lime Area Dust Collector	1.24	--
P16A	Backfill Plant Cement/Fly Ash Hopper Dust Filter/Collector	0.23	--
P16B	Backfill Plant Cement/Fly Ash Silo Dust Filter/Collector	0.45	--
P17	Portable diesel engine/generators (total of 400 hp, 4 units)	1.15	4.33
P18	Air Compressor - Diesel Engine (275 hp)	0.40	2.98
F26	Diesel-powered Light plants - 11 - 14 hp each	1.48	1.67
F27	Gasoline storage tank (double-walled 500 gal)		0.07
F28	Temporary portable propane heaters (37.8 MMBtu/hr total) - 9	1.27	1.81
UG	ANFO	0.11	--
<b>TOTAL POINT SOURCES</b>		<b>26.49</b>	<b>35.74</b>
UG - EVU	Mine Ventilation Exhaust Upper Copper Zone - EVU		17.36
UG - EVL	Mine Ventilation Exhaust Lower Copper Zone - EVL		6.22
UG - P	Mine Ventilation Exhaust - Mine Portal		5.82
ANFO (included in UG sources)			



<b>Fugitive ID and Year of Emissions</b>		<b>PM Tons Per Year</b>
F1	Road Dust, Mine Operating Year 0 to 1	152.7
F2	Road Dust, Mine Operating Year 1 to 2	56.42
F3	Road Dust, Mine Operating Year 2 to 15, annual average	17.79
F4	Road Dust, Mine Operating Years 16 and 17, annual average	73.8
F5	Road Dust, Mine Operating Year 18	11.68
F6	Material transfer to Temporary Stockpile, MOY 0 to 1.5	3.13
F7	Temporary construction stockpile	0.36
F8	Embankment Construction, Mine Operating Year 0 to 1.5	3.13
F9	Backfill, NWCR Embankment Material to CTF, MOY 16 to 18	1.78
F10	Material transfer to South Stockpile, MOY 0 to 1	1.49
F11	Excess reclamation stockpile (South)	0.08
F12	Material transfer from South Stockpile, MOY 16 to 17	1.49
F13	Material transfer to North Stockpile, MOY 0 to 1	2.13
F14	Excess reclamation stockpile (North)	0.17
F15	Material transfer from North Stockpile, MOY 16 to 18	0.82
F16	Soil Removal and Stockpiling, Mine Operating Year 0 to 1	4.99
F17	Topsoil pile	0.08
F18	Subsoil pile	0.44
F19	Soil Return, Mine Operating Year 16 to 18	4.17
F20	Copper-enriched rock drop to stockpile, MOY 2 to 3	0.16
F21	Copper-enriched rock stockpile (mill feed)	0
F22	Waste Rock Drop -at WRS Pad, MOY 0 to 1.5, at CTF, MOY 1.5 to 4 and 8	0.87
F23	Temporary waste rock storage (WRS)	0.019
F24	Waste Rock Transfer from WRS to CTF, MOY 2 to 3	1.39
F25	Waste Rock Storage Pad Reclamation, MOY 3	1.65
F29	Road Dust, Construction Access Road, Year 0 - 2 Avg.	0.9
F30	Road Dust, Main Access Road, Year 2 - 15 Avg.	102.19
	Emissions are shown by Mine Operating Year (MOY)	

#### V. Existing Air Quality

This permit is for an underground copper mine and surface mill buildings in Meagher County, Montana. Meagher County has been designated unclassified/attainment with all ambient air quality standards.

#### VI. Ambient Air Impact Analysis

The Department determined that there will be no impact from this permitting action as no new emissions will result with implementation of this permitting action. The Department believes the permitting action will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

VIII. Environmental Assessment

This permitting action will not result in an increase of emissions from the facility and is considered an administrative action; therefore, an environmental assessment is not required.

Analysis Prepared By: Craig Henrikson  
Date: July 20, 2020