August 18, 2023

John Rae, General Manager
Potentate Mining, LLC.
Yellow Dog Mine
P.O. Box 1110
Phillipsburg, MT 59858

Sent via email: johnrae@magma.ca

RE: Final permit issuance for MAQP #5291-00

Dear Mr. Rae:

Montana Air Quality Permit (MAQP) #5291-00 is deemed final as of August 15, 2023, by DEQ. This permit is for Potentate Mining, LLC., a Metallic and Nonmetallic Mineral Mine. All conditions of the Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For DEQ,

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

John P. Proulx
Air Quality Engineer
Air Quality Bureau
(406) 444-5391

Montana Department of Environmental Quality
Air, Energy & Mining Division
Air Quality Bureau

Montana Air Quality Permit #5291-00

Potentate Mining, LLC
Yellow Dog Mine
P.O. Box 1110
Phillipsburg, MT 59858

August 15, 2023

MONTANA AIR QUALITY PERMIT

Issued To: Potentate Mining, LLC
Yellow Dog Mine
P.O. Box 1110
Philipsburg, MT 59858

MAQP: #5291-00
Application Complete: 06/26/2023
Preliminary Determination (PD) Issued: 07/10/2023
Departments Decision (DD) Issued: 07/28/2023
Permit Final: 8/15/2023

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Potentate Mining, LLC. – Yellow Dog Mine (Potentate), 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. Permitted Equipment

Potentate Mining, LLC. (Potentate) operates the following equipment,

- Two (2) diesel fired generators
- one (1) grizzly feeder
- three (3) screens
- four (4) jigs
- two (2) separators
- three (3) conveyors
- associated mining equipment

B. Plant Location

Potentate is located approximately 24 miles west of Phillipsburg along Highway 1 at latitude 46.25353, longitude -113.61688. The legal description of the mine site is Section 21, Township 6 North, Range 16 West in Granite County.

Section II: Conditions and Limitations

A. Emission Limitations

1. Potentate shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 Code of Federal Regulations (CFR), Chapter 60, Subchapter LL - Standards of Performance for Metallic Mineral Processing Plants (ARM 17.8.340, ARM 17.8.749 and 40 CFR 60, Subpart LL).

2. Potentate shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subchapter OOO - Standards of Performance for Nonmetallic Mineral

Processing Plants (ARM 17.8.340, ARM 17.8.749 and 40 CFR 60, Subpart OOO).

3. All visible emissions from any non-NSPS affected equipment shall not exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

4. Water and spray bars shall be available on-site at all times and operated as necessary to maintain compliance with the opacity limitations in Sections II.A.1, II.A.2, II.A.3 (ARM 17.8.752).

5. Potentate 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).

6. Potentate 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.5 (ARM 17.8.752).

7. Potentate shall not operate more than 3 screens at any given time and the total combined maximum rated design capacity of the screens shall not exceed 252 tons per hour (tph) (ARM 17.8.749).

8. Potentate shall not operate or have on-site more than 2 diesel engine/generator(s). The maximum combined capacity of the engine(s) that drive the generator(s) shall not exceed 750 horsepower (hp) (ARM 17.8.749).

9. Potentate shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Engines and 40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocation Internal Combustion Engines, for any applicable diesel or gasoline engine (ARM 17.8.340, 40 CFR 60, Subpart IIII; ARM 17.8.342; and 40 CFR 63, Subpart ZZZZ).

10. Potentate 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).

B. Testing Requirements

1. Within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup, and Environmental Protection Agency (EPA) Method 9 opacity test and/or other methods and procedures, as specified in 40 CFR Part 60.675 must be performed on all NSPS-affected equipment to demonstrate compliance with the emissions limitations contained in Section II.A.1 (ARM 17.8.340, 40 CFR 60, Subpart A and Subpart OOO).

2. Within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup, and Environmental Protection Agency (EPA) Method 9 opacity test and/or other methods and procedures, as specified in 40 CFR Part 60.675 must be performed on all NSPS-affected equipment to demonstrate compliance with the emissions limitations contained in Section II.A.2 (ARM 17.8.340, 40 CFR 60, Subpart A and Subpart LL).

3. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

4. The Department of Environmental Quality (DEQ) may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. Potentate shall supply DEQ with annual production information for all emission points, as required by DEQ 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 DEQ by the date required in the emission inventory request. Information shall be in the units required by DEQ. 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).

2. Potentate shall notify DEQ 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 DEQ, 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 Potentate 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 DEQ, and must be submitted to DEQ upon request. These records may be stored at a location other than the plant site upon approval by DEQ (ARM 17.8.749).

SECTION III: General Conditions

A. Inspection – Potentate shall allow DEQ'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 Potentate fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Potentate 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 DEQ's decision may request, within 15 days after DEQ 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 DEQ'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 DEQ'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, DEQ's decision on the application is final 16 days after DEQ'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 DEQ at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Potentate 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
Potentate Mining, LLC. – Yellow Dog Mine
MAQP #5291-00

I. Introduction/Process Description

Potentate Mining, LLC., (Potentate) owns and operates a nonmetallic and metallic metal mining facility. The facility is located in Section 21, Township 6 North, Range 16 West, and is known as the Yellow Dog Mine.

A. Permitted Equipment

- Two (2) diesel fired generators
- one (1) grizzly feeder
- three (3) screens
- four (4) jigs
- two (2) separators
- three (3) conveyors
- associated mining equipment

B. Source Description

The Yellow Dog Mine contains sapphire and gold bearing ore. The process starts by mining and loading the ore from stockpiles into a grizzly feeder where large rocks and debris are separated. The ore flows through the grizzly feeder onto conveyor belts and heads to the trommel wash plant. Once the ore reaches the trommel, it is washed with high pressure water to separate the fine material. As the ore travels down the trommel, the material passes over a vibratory screen deck and jigs for concentrating the sapphires. Additional screens separate material larger than ¾" (¾" plus) and smaller than ¾" (¾"minus). The ¾"- material falls into a slurry pump and is pumped into a slurry distributer where is passes through high pressure jigs to separate the materials again with 1/8"minus material falls into a secondary jig. At this point, all the material is considered saturated and with no emissions. The material flows from the primary jig into a centrifugal bowl separator that rotates continuously to separate materials of differing densities.

The ¾" plus material leaves the trommel and passes through a double vibratory deck and screen. After passing through the screen, the 1¼"plus material is transported via conveyer to stockpiles. The ¾" to 1 ¼" materials are slurried to a duplex jig where it is combined with material from the primary jig and centrifugal bowl and flows into an addition double deck vibratory screen for final separation. After final separation, the waste material is dewatered and stockpiled for later use in mine site reclamation.

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 DEQ of Environmental Quality (DEQ).

Upon request, DEQ 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 DEQ, 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 DEQ.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by DEQ, 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).

   Potentate 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 DEQ upon request.

4. ARM 17.8.110 Malfunctions. (2) DEQ 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_{10}
11. ARM 17.8.230 Fluoride in Forage

Potentate 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, Potentate 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 17.8.316 Incinerators. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Further, no person shall cause or authorize to be discharged into the outdoor atmosphere from any incinerator emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes.

6. 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.

7. 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.

8. 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). Potentate 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. This subpart applies to because it commenced construction after August 24, 1982, meets the definition of metallic minerals, and operates equipment listed in the subpart and is not located underground and does not process uranium ore.

   c. 40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. In order for a processing plant to be subject to this subpart, the facility must meet the definition of an affected facility and the affected equipment must have been constructed, reconstructed, or modified after August 31, 1983. Potentate operates equipment subject to this subpart because it meets the definition of an affected facility and has been constructed or modified after August 31, 1983.

   d. 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE). 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 after July 11, 2005, are subject to this subpart. Potentate operates CI ICE that may be subject to this subpart because they meet the definition of an affected facility if operated as a stationary source.

9. 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 a NESHAP Subpart as listed below:

   b. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). 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. Garnet operates RICE equipment subject to this subpart when operated as a stationary source.

D. 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 DEQ. Potentate submitted the appropriate permit application fee for the current permit action.

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 DEQ by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by DEQ. 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. DEQ 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.

E. 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. Potentate has a PTE greater than 25 tons per year of Particulate Matter (PM), Particulate Matter with an aerodynamic diameter of 10 microns (PM_{10}) and Oxides of Nitrogen (NO_X); 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.

1. 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. Potentate submitted the required permit application for the current permit action.

(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. Potentate submitted an affidavit of publication of public notice for the June 1, 2023, issue of the *Philipsburg Mail*, a newspaper of general circulation in the Town of Phillipsburg in Granite County, as proof of compliance with the public notice requirements.

2. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by DEQ 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.

3. 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.

4. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by DEQ at the location of the source.

5. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Potentate 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*.

6. ARM 17.8.759 Review of Permit Applications. This rule describes DEQ'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.

7. ARM 17.8.760 Additional Review of Permit Applications. This rule describes DEQ's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.

8. 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.

9. 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).

10. 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.

11. 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 DEQ.

12. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to DEQ for incineration facilities subject to 75-2-215, Montana Code Annotated (MCA).

13. ARM 17.8.771 Mercury Emission Standards for Mercury-Emitting Generating Units. This rule identifies mercury emission limitation requirements, mercury control strategy requirements, and application requirements for mercury-emitting generating units.

F. 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).

G. 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 DEQ may establish by rule; or

c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) in a serious PM_{10} 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 #5291-00 for Potentate, the following conclusions were made:

a. The facility's PTE is less than 100 tons/year for any pollutant.

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_{10} nonattainment area.

d. This facility is subject to current NSPS (Subpart(s) A, LL, OOO, and IIII).

e. This facility is subject to current NESHAP (Subpart(s) A and ZZZZ).

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, DEQ determined that Potentate will be a minor source of emissions as defined under Title V. Based on these facts, DEQ determined that Potentate will be a minor source of emissions as defined under Title V based on a requested federally enforceable permit limit.

III. BACT Determination

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

A BACT analysis was submitted by Potentate in permit application #5291-00, addressing some available methods of controlling particulate emissions from the screens, conveyers, and diesel engines. DEQ reviewed these methods, as well as previous BACT determinations. The following control options have been reviewed by DEQ in order to make the following BACT determination.

A. Diesel Engines

Non-Selective Catalytic Reduction (NSCR)
Non-selective catalytic reduction is generally the most widely accepted method for NOX-reduction technologies, as well as the most economically feasible. The exhaust from the engine is routed through a metallic catalyst, which supports the reduction/oxidation reaction of NO_X and CO into N_2 and CO_2, respectively. The efficiency of the reaction is directly related to the oxygen content in the exhaust gas, and thus related to the air to fuel (A/F) ratio of the combustion. Therefore, this control technology is ideal for rich-burn combustion scenarios. The two engines at the facility are diesel fired, which are inherently lean burn, and cannot operate in a rich burn scenario. NSCR is a technically infeasible control technology for use at the facility since it is designed for rich-burn engines.

Selective Catalytic Reduction (SCR)
Selective catalytic reduction (SCR) is a technology applicable to diesel fired and other lean burn engines, that utilizes injected ammonia or urea into the engine exhaust. The ammonia then acts as the reducing agent for the conversion of NO_X into N_2. A metallic catalyst is also required for SCR to keep the exhaust properties at suitable conditions to support the reduction reactions. Potentate considers SCR control technology to have a negative energy impact. Additional tankage and pump capacity would be necessary for ammonia/urea injection. The injection pumps would require additional electrical power at the facility, which would require adding additional generators or replacing an existing generator for a larger size model.

Lean NOx Catalyst (LNC)
Lean NOx Catalyst (LNC) technology uses additional diesel fuel (or another hydrocarbon reducing agent) injected into the exhaust of a rich or lean burn engine, to support the reduction of NO_X to N_2. It is also possible to passively reduce the NO_X emissions, without the need of additional diesel fuel (or hydrocarbon), but the observed conversion rate is much lower. This technology also requires a precious metal catalyst, as well as a porous zeolite structure. The zeolite structure provides conversion sites on its surface area for the hydrocarbons to support the reduction of NOX to N2.

Good Combustion Practices
Any new diesel-fired engine would likely be required to comply with the federal engine emission limitations including, for example, EPA Tier emission standards for non-road engines (40 CFR Part 89 or 1039), New Source Performance Standard emission limitations for stationary compression ignition engines (40 CFR 60, Subpart IIII) and stationary spark ignition engines (40 CFR 60, Subpart JJJJ), or National Emission Standards for Hazardous Air Pollutant Sources for Reciprocation Internal Combustion Engines (40 CFR 63, Subpart ZZZZ).

B. Process and Fugitive Emissions

Two types of emission controls are readily available and used for dust suppression of fugitive emissions at the site. These two control methods are water and/or chemical dust suppressant. Chemical dust suppressant could be used on the area surrounding the crushing/screening operation, and for emissions from the crushing/screening operation itself. However, because water is more readily available, is more cost effective, is often equally effective as chemical dust suppressant, and is more environmentally friendly, water has been identified as the most appropriate method of pollution control of particulate emissions.

Potentate proposed to utilize good combustion practices as the BACT for the two diesel-fired internal combustion engines and generator sets as any additional add-on technology would be technically and financially infeasible. In addition to good combustion practices, the two diesel-fired internal combustion engines were manufactured after promulgation of the 2006 engine emission standards. These engines meet the Tier 3 and Tier 4 emission standards, respectively with lower NO_X emission rates than older engines manufactured prior to 2006. The particulate matter and generator emissions estimates provided are based on emission factors from the Environmental Protection Agency's (EPAs) AP-42, Compilation of Pollutant Emissions Factors and EPA's Tier 3 and Tier 4 non-road engine emission standards. The estimated values are conservative and present a worst-case estimate of emissions for the mining operation.

To limit estimated fugitive emissions, Potentate proposes to utilize good material handling practices as the BACT for the portions of the wash plant used for dry ore handling, transfer, and screening operations.

Based on the above analysis and information, DEQ agrees with Potentate that compliance with applicable federal standards and proper operation and maintenance of the engines, good combustion practices, and water and/or chemical dust suppressants constitutes BACT.

The control options selected have controls and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

Emission Source	PM	PM10	PM2.5	NOX	CO	VOC	SO2
Cold Aggregate Storage Piles	5.73	2.71	0.41	--	--	--	--
Cold Aggregate Handling/Conveyors	1.03	0.34	0.10	--	--	--	--
TPH Screen	2.44	0.82	0.06	--	--	--	--
Haul Roads / Vehicle Traffic	93.08	16.00	2.85	--	--	--	--
John Deere Diesel Generator	6.47	0.18	1.20	70.54	13.20	11.11	1.20
Caterpillar C15 Generator	0.02	0.02	0.02	0.39	4.82	0.18	1.20
Total Emissions	**108.76**	**20.07**	**4.63**	**70.92**	**18.02**	**11.29**	**2.41**

Cold Aggregate Storage Piles

Maximum Process Rate = 84 ton/hr (Maximum plant process rate)	84.2	**ton/hr**
Maximum Hours of Operation = 8,760 hrs/yr	8760	**hrs/yr**
Number of Piles = 1 piles	1	**piles**
PM Emissions:		
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.		
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00388 lb/ton	0.0039	**lb/ton**
Where: k = particle size multiplier = 0.74 (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)	0.74	
U = mean wind speed = 9.3 mph (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)	9.3	**mph**
M = material moisture content = 2.5% (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)	2.5	**%**
Calculation: (84 ton/hr) * (8760 hrs/yr) * (1 piles) * (ton/2000 lb) * (0.00388216962566822 lb/ton) = 1.43 ton/yr	1.43	**ton/yr**
PM10 Emissions:		
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.		
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00184 lb/ton	0.00184	**lb/ton**
Where: k = particle size multiplier = 0.35 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06)	0.35	
U = mean wind speed = 9.3 mph (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)	9.3	**mph**
M = material moisture content = 2.5% (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)	2.5	**%**
Calculation: (84 ton/hr) * (8760 hrs/yr) * (1 piles) * (ton/2000 lb) * (0.0018361613094376 7 lb/ton) = 0.68 ton/yr	0.68	**ton/yr**
PM2.5 Emissions:		
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.		
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00028 lb/ton	0.000278	**lb/ton**
Where: k = particle size multiplier = 0.053 (Value for PM < 2.5 microns per AP 42, Sec. 13.2.4.3, 11/06)	0.053	
U = mean wind speed = 9.3 mph (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)	9.3	**mph**
M = material moisture content = 2.5% (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)	2.5	**%**
Calculation: (84 ton/hr) * (8760 hrs/yr) * (1 piles) * (ton/2000 lb) * (0.000278047284000562 lb/ton) = 0.10 ton/yr	0.10	**ton/yr**

Conveyor Transfer Point (SCC 3-05-020-06)

Maximum Process Rate = 84 ton/hr (Maximum plant process rate)	84.2	**ton/hr**
Maximum Hours of Operation = 8,760 hrs/yr	8760	**hrs/yr**
Number of Transfers = 20 transfer (Company Information)	20	**transfer**
Total PM Emissions:		
Emission Factor = 0.00014 lb/ton (0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)	0.00014	**lb/ton**
Calculation: (84 ton/hr) * (8760 hrs/yr) * (20 transfer) * (ton/2000 lb) * (0.00014 lb/ton) = 1.03 ton/yr	1.03	**ton/yr**
Total PM10 Emissions:		
Emission Factor = 0.000046 lb/ton (0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)	0.000046	**lb/ton**
Calculation: (84 ton/hr) * (8760 hrs/yr) * (20 transfer) * (ton/2000 lb) * (0.00014 lb/ton) = 0.34 ton/yr	0.34	**ton/yr**
Total PM2.5 Emissions		
Emission Factor = 0.000013 lb/ton (0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)	0.000013	**lb/ton**
Calculation: (84 ton/hr) * (8760 hrs/yr) * (20 transfer) * (ton/2000 lb) * (0.00014 lb/ton) = 0.10 ton/yr	0.10	**ton/yr**

Screening (SCC 3-05-020-02, 03)

Maximum Process Rate = 84 ton/hr (Maximum plant process rate)	84.2	**ton/hr**
Maximum Hours of Operation = 8,760 hrs/yr 2212776 tons/year	8760	**hrs/yr**
Number of Screens = 3 screen(s) (Company Information)	3	**screen(s)**
Total PM Emissions:		
Emission Factor = 0.0022 lb/ton (0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)	0.0022	**lb/ton**
Calculation: (84 ton/hr) * (8760 hrs/yr) * (3 screen(s)) * (ton/2000 lb) * (0.0022 lb/ton) = 2.43 ton/yr	2.43	**ton/yr**
Total PM10 Emissions:		
Emission Factor = 0.00074 lb/ton (0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)	0.00074	**lb/ton**
Calculation: (84 ton/hr) * (8760 hrs/yr) * (3 screen(s)) * (ton/2000 lb) * (0.0022 lb/ton) = 0.82 ton/yr	0.82	**ton/yr**
Total PM2.5 Emissions		
Emission Factor = 0.00005 lb/ton (0.000050 controlled, AP 42, Table 11.19.2-2, 8/04)	0.00005	**lb/ton**
Calculation: (84 ton/hr) * (8760 hrs/yr) * (3 screen(s)) * (ton/2000 lb) * (0.0022 lb/ton) = 0.06 ton/yr	0.06	**ton/yr**

Haul Roads

Vehicle Miles Traveled (VMT) per Day = 117 VMT/day (Estimate)	117	**VMT/day**
VMT per hour = (116.88 VMT/day) * (day/24 hrs) = 4.87 VMT/hr	4.87	**VMT/hr**
Hours of Operation = 8,760 hrs/yr	8760	**hrs/yr**
	0.5	**Controll Efficiency**
PM Emissions: Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.		
Emission Factor = k * (s / 12)^a * (W / 3)^b = 8.73 lb/VMT	8.73	**lb/VMT**
Where: k = constant = 4.9 lbs/VMT (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	4.9	**lbs/VMT**
s = surface silt content = 4.8 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)	4.8	**%**
W = mean vehicle weight = 45 tons (1994 average loaded/unloaded or a 40 ton truck)	45	**tons**
a = constant = 0.7 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	0.7	
b = constant = 0.45 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	0.45	
Calculation: (8760 hrs/yr) * (4.87 VMT/hr) * (8.73 lb/VMT) * (ton/2000 lb) * (0.50 Controll Efficiency) = 93.08 tons/yr (Controlled Emissions)	93.08	**tons/yr**
PM10 Emissions: Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.		
Emission Factor = k * (s / 12)^a * (W / 3)^b = 2.22 lb/VMT	2.22	**lb/VMT**
Where: k = constant = 1.5 lbs/VMT (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	1.5	**lbs/VMT**
s = surface silt content = 4.8 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)	4.8	**%**
W = mean vehicle weight = 45 tons (1994 average loaded/unloaded or a 40 ton truck)	45	**tons**
a = constant = 0.9 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.9	
b = constant = 0.45 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.45	
Calculation: (8760 hrs/yr) * (4.87 VMT/hr) * (2.22 lb/VMT) * (ton/2000 lb) * (0.50 Controll Efficiency) = 23.72 tons/yr (Controlled Emissions)	23.72	**tons/yr**
PM2.5 Emissions Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.		

Emission Factor = k * (s / 12)^a * (W / 3)^b = 0.27 lb/VMT	0.27	**lb/VMT**
Where: k = constant = 0.15 lbs/VMT (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)	0.15	**lbs/VMT**
s = surface silt content = 4.8 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)	4.8	**%**
W = mean vehicle weight = 45 tons (1994 average loaded/unloaded or a 40 ton truck)	45	**tons**
a = constant = 0.7 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)	0.7	
b = constant = 0.45 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)	0.45	
Calculation: (8760 hrs/yr) * (4.87 VMT/hr) * (0.27 lb/VMT) * (ton/2000 lb) * (0.50 Controll Efficiency) = 2.85 tons/yr (Controlled Emissions)	2.85	**tons/yr**

671 Brakehorse Power Diesel Generator

Note: Emissions are based on the power output of the engine (671 hp).		
Operational Capacity of Engine = 671 hp	671	**hp**
Hours of Operation = 8,760 hours	8760	**hours**
PM Emissions:		
PM Emissions = 6.47 ton/yr ton/yr	6.47	**ton/yr**
PM-10 Emissions:		
Emission Factor = 0.0022 lbs/hp-hr lbs/hp-hr	0.0022	**lbs/hp-hr**
Calculation: (0) * (0) * (0.0022 lbs/hp-hr) * (ton/2000 lb) = 6.47 ton/yr ton/yr	6.47	**ton/yr**
PM2.5 Emissions		
Emission Factor = 0.0022 lbs/hp-hr lbs/hp-hr	0.0022	**lbs/hp-hr**
Calculation: (0.0022 lbs/hp-hr) * (671 hp) * (8,760 hours) * (ton/2000 lb) = 6.47 ton/yr ton/yr	6.47	**ton/yr**
NOx Emissions:		
Emission Factor = 0.024 lbs/hp-hr lbs/hp-hr	0.024	**lbs/hp-hr**
Calculation: (0.0240 lbs/hp-hr) * (671 hp) * (8,760 hours) * (ton/2000 lb) = 70.54 ton/yr ton/yr	70.54	**ton/yr**
CO Emissions:		
Emission Factor = 0.00449 lbs/hp-hr lbs/hp-hr	0.00449	**lbs/hp-hr**
Calculation: (0.00449 lbs/hp-hr) * (671 hp) * (8,760 hours) * (ton/2000 lb) = 13.20 ton/yr ton/yr	13.20	**ton/yr**
VOC Emissions:		
Emission Factor = 0.00378 lbs/hp-hr lbs/hp-hr	0.00378	**lbs/hp-hr**
Calculation: (0.00378 lbs/hp-hr) * (671 hp) * (8,760 hours) * (ton/2000 lb) = 11.11 ton/yr ton/yr	11.11	**ton/yr**
SOx Emissions:		
Emission Factor = 0.00205 lbs/hp-hr lbs/hp-hr	0.00205	**lbs/hp-hr**
Calculation: (0.00205 lbs/hp-hr) * (671 hp) * (8,760 hours) * (ton/2000 lb) = 6.02 ton/yr ton/yr	6.02	**ton/yr**

134 Brakehorse Power Diesel Generator

Note: Emissions are based on the power output of the engine (134 hp).		
Operational Capacity of Engine = 134 hp	134	**hp**
Hours of Operation = 8,760 hours	8760	**hours**
PM Emissions:		
PM Emissions = 0.02 ton/yr (Assume all PM < 1.0 um)	0.02	**ton/yr**

PM-10 Emissions:		
Emission Factor = 0.0000329 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)	0.000032 9	**lbs/hp-hr**
Calculation: (0.00003 lbs/hp-hr) * (0 hp) * (8,760 hours) * (ton/2000 lb) = 0.02 ton/yr	0.02	**ton/yr**
PM2.5 Emissions		
Emission Factor = 0.0000329 lbs/hp-hr (Assume all PM < 1.0 um)	0.000032 9	**lbs/hp-hr**
Calculation: (0.00003 lbs/hp-hr) * (671 hp) * (8,760 hours) * (ton/2000 lb) = 0.02 ton/yr (Assume all PM < 1.0 um)	0.02	**ton/yr**
NOx Emissions:		
Emission Factor = 0.000658 lbs/hp-hr Tier 4 EPA Emissions Limit 56 ≤ kW ≤ 130	0.000658	**lbs/hp-hr**
Calculation: (0.00066 lbs/hp-hr) * (134 hp) * (8,760 hours) * (ton/2000 lb) = 0.39 ton/yr	0.39	**ton/yr**
CO Emissions:		
Emission Factor = 0.00822 lbs/hp-hr Tier 4 EPA Emissions Limit 56 ≤ kW ≤ 130	0.00822	**lbs/hp-hr**
Calculation: (0.00822 lbs/hp-hr) * (671 hp) * (8,760 hours) * (ton/2000 lb) = 4.82 ton/yr	4.82	**ton/yr**
VOC Emissions:		
Emission Factor = 0.000312 lbs/hp-hr Tier 4 EPA Emissions Limit 56 ≤ kW ≤ 130	0.00031	**lbs/hp-hr**
Calculation: (0.00205 lbs/hp-hr) * (134 hp) * (8,760 hours) * (ton/2000 lb) = 0.18 ton/yr	0.18	**ton/yr**
SOx Emissions:		
Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)	0.00205	**lbs/hp-hr**
Calculation: (0.00205 lbs/hp-hr) * (134 hp) * (8,760 hours) * (ton/2000 lb) = 1.20 ton/yr	1.20	**ton/yr**

V. Existing Air Quality

This permit is for a metallic and nonmetallic mineral processing plant which will be located at Section 21, Township 6 North, Range 16 West, in Granite County, Montana, and in those areas for which this facility is permitted to operate, have been designated unclassified/attainment with all ambient air quality standards, and where there are no major air pollution sources in the surrounding area. The location of the mine has been designated as unclassified/attainment with all ambient air quality standards.

The limitations and conditions in MAQP #5291-00 ensure the facility would not cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS).

VI. Ambient Air Impact Analysis

DEQ determined, based on the information provided by Potentate, and the attached Environmental Assessment, that the impacts from this permitting action will be minor. DEQ believes it 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, DEQ conducted a private property taking and damaging assessment which is located in the attached environmental assessment.

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

Potentate Mining, LLC. – Yellow Dog Mine

DRAFT Environmental Assessment for the

Preliminary Montana Air Quality Permit #5291-00

Montana Department of Environmental Quality
Air Quality Bureau
Air Permitting Services Section
ENVIRONMENTAL ASSESSMENT

APPLICANT: Potentate Mining, LLC.		
SITE NAME: Yellow Dog Mine		
PROPOSED PERMIT NUMBER: Montana Air Quality Permit Number 5291-00		
APPLICATION DATE: May 24, 2023, incompleteness letter sent on 6/22/2023		
APPLICATION COMPLETE DATE:		
LOCATION: Section 21, Township 6 North, Range 16 West		**COUNTY: Granite**
PROPERTY OWNERSHIP:	**FEDERAL ____ STATE ____ PRIVATE _X___**	
EA PREPARER:	**John P. Proulx – Environmental Scientist 2**	
EA Draft Date	**EA Final Date**	**Permit Final Date**
July 10, 2023	**July 28, 2023**	**August 15, 2023**

COMPLIANCE WITH THE MONTANA ENVIRONMENTAL POLICY ACT

The Montana Department of Environmental Quality (DEQ) prepared this Environmental Assessment (EA) in accordance with requirements of the Montana Environmental Policy Act (MEPA). An EA functions to determine the need to prepare an EIS through an initial evaluation and determination of the significance of impacts associated with the proposed action. However, an agency is required to prepare an EA whenever statutory requirements do not allow sufficient time for the agency to prepare an EIS. This document may disclose impacts over which DEQ has no regulatory authority.

COMPLIANCE WITH THE CLEAN AIR ACT OF MONTANA

The state law that regulates air quality permitting in Montana is the Clean Air Act of Montana (§ 75-2-201, et seq., Montana Code Annotated (MCA). DEQ may not approve a proposed project contained in an application for an air quality permit unless the project complies with the requirements set forth in the Clean Air Act of Montana and the administrative rules adopted thereunder. DEQ's approval of an air quality permit application does not relieve Potentate Mining, LLC. (Potentate) – Yellow Dog Mine facility from complying with any other applicable federal, state, or county laws, regulations, or ordinances. Potentate is responsible for obtaining any other permits, licenses, approvals, that are required for any part of the proposed project. DEQ will decide whether to approve the permit in accordance with the requirements of the Clean Air Act of Montana. DEQ may not withhold, deny, or impose conditions on the permit based on the information contained in this Environmental Assessment. § 75-1-201(4), MCA.

SUMMARY OF THE PROPOSED ACTION: Potentate has applied for a new Montana Air Quality Permit under the Clean Air Act of Montana for the installation of two (2) diesel fired compression ignition rotating internal combustion engines, one (1) grizzly feeder, three (3) materials screens, four (4) jigs, two (2) separators, three (3) conveyors, and associated mining equipment. The proposed action would be located in Section 21, Township 6 North, Range 16 West, in Granite County. The proposed area where the mine will be located is owned by Meadow Holdings, LLC., a subsidiary of Potentate Mining, LLC. All information included in the EA is derived from the permit application, discussions with the applicant, analysis of aerial photography, topographic maps, and other research tools.

PURPOSE AND BENEFIT FOR PROPOSED ACTION: DEQ's purpose in conducting this environmental review is to act upon Potentate air quality permit application to authorize two (2) diesel fired engines, one (1) grizzly feeder, three (3) materials screens, four (4) jigs, two (2) separators, three (3) conveyors, and associated mining equipment. DEQ's action on the permit application is governed by the Clean Air Act of Montana, § 75-2-201, et seq., MCA and the Administrative Rules of Montana (ARM) 17.8.740, *et seq.*

The benefits of the proposed action include: The proposed permit action will separate sapphires and gold from stockpiled ore.

REGULATORY RESPONSIBILITIES: In accordance with ARM 17.4.609(3)(c), DEQ must list any federal, state, or local authorities that have concurrent or additional jurisdiction or environmental review responsibility for the proposed action and the permits, licenses, and other authorizations required.

Potentate must conduct its operations according to the terms of its permit. Potentate further agrees to be legally bound by the permit, The Clean Air Act of§ 75-2-201, et seq., MCA and ARM 17.8.740, *et seq*.

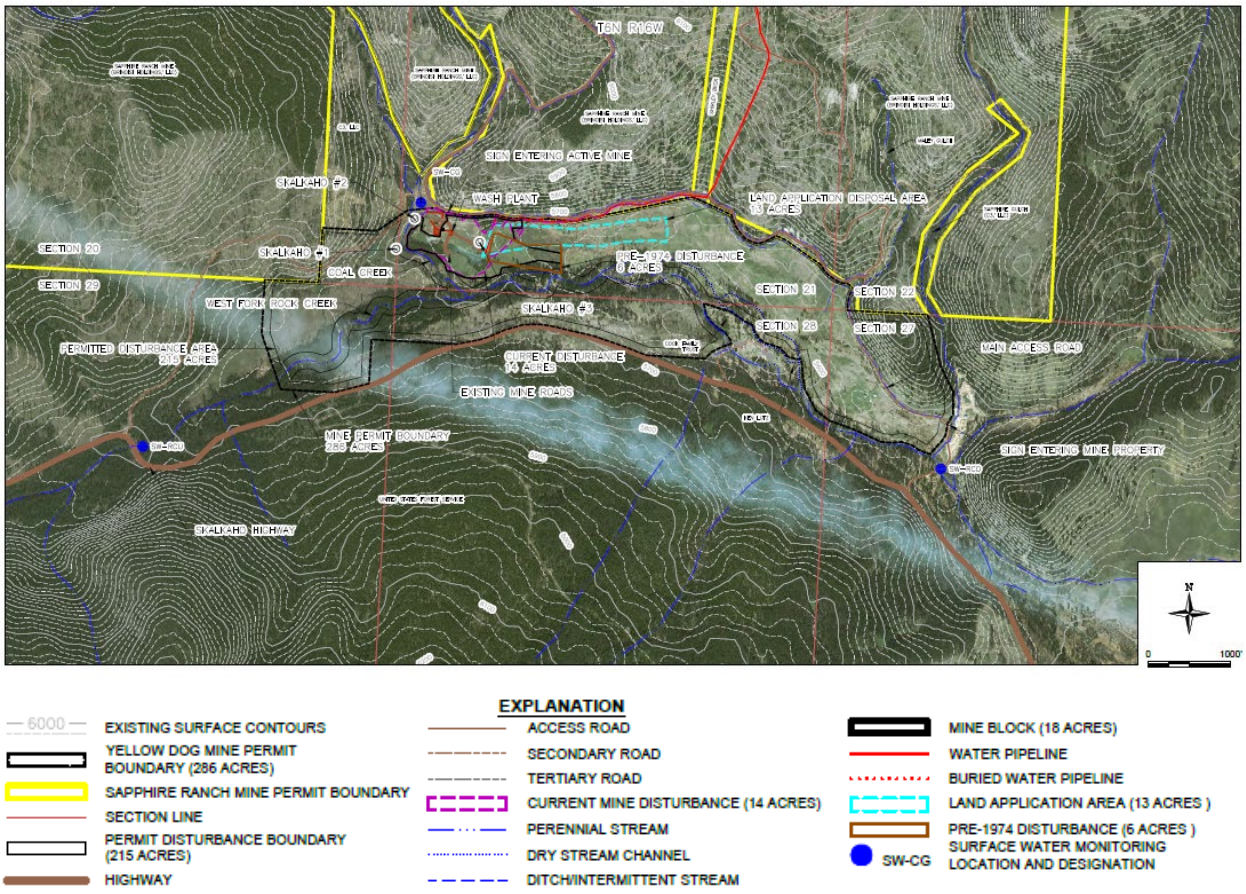
Potentate must cooperate fully with, and follow the directives of any federal, state, or local entity that may have authority over Potentates' generating operations. These permits, licenses, and other authorizations may include: Granite County, DEQ Air Quality Bureau (AQB), DEQ Open Cut Mining, and DEQ Water Quality Division. The air quality permit being issued is a true minor, therefore Montana DEQ has jurisdiction to issue this permit.

Table 1: Proposed Action Details

Summary of Proposed Action	
General Overview	The Potentate air quality permit application consists of the following equipment: • two (2) diesel fired generators • one (1) grizzly feeder • three (3) material screens • four (4) jigs • two (2) separators • three (3) conveyors • associated mining equipment The facility would be permitted to operate until Potentate requested permit revocation or until the permit were revoked by DEQ due to gross non-compliance with the permit conditions.
Proposed Action Estimated Disturbance	
Disturbance	The project requires the construction of a small pad to support the proposed equipment. The disturbance is within a parcel currently owned by Meadow Holdings, LLC. The disturbance area is considered minimal.
Proposed Action	
Duration	**Construction:** Construction or commencement would start within three years of issuance of the final air quality permit. **Construction Period:** The construction period could begin as soon as the air quality permit (and any other permits identified in this EA) were in place. **Operation Life:** Until permit is either revoked at the request of the permittee or DEQ has determined the need for revocation.
Construction Equipment	Cranes, delivery trucks, various other types of smaller equipment
Personnel Onsite	**Construction:** Various number of installation personnel depending on which piece of equipment is being installed. **Operations:** Approximately 20 employees when fully operational
Location and Analysis Area	**Location**: The new processing equipment would be located in Section 21, Township 6 North and Range 16 West. The proposed boundaries of the property include small portions of sections 22, 27, 28, and 29.

	Analysis Area: The area being analyzed as part of this environmental review includes the immediate project area (Figure 1), as well as neighboring lands surrounding the analysis area, as reasonably appropriate for the impacts being considered.
Air Quality	This EA will be attached to the Air Quality Permit which would include all enforceable conditions for operation of the emitting units
Conditions incorporated into the Proposed Action	The conditions developed in the Preliminary Determination of the Montana Air Quality Permit dated May 24, 2023, set forth in Sections II.A-D, and updated in the Decision Air Quality Permit if needed.

Figure 1: Map of general location of the proposed project.



EVALUATION AND SUMMARY OF POTENTIAL IMPACTS TO THE PHYSICAL AND HUMAN ENVIRONMENT IN THE AREA AFFECTED BY THE PROPOSED PROJECT:

The impact analysis will identify and evaluate direct and secondary impacts. Direct impacts are those that occur at the same time and place as the action that triggers the effect. Secondary impacts means "a further impact to the human environment that may be stimulated or induced by or otherwise result from a direct impact of the action." ARM 17.4.603(18). Where impacts are expected to occur, the impacts analysis estimates the duration and intensity of the impact.

The duration of an impact is quantified as follows:

- **Short-term**: Short-term impacts are defined as those impacts that would not last longer than the proposed operation of the site.
- **Long-term**: Long-term impacts are defined as impacts that would remain or occur following shutdown of the proposed facility.

The severity of an impact is measured using the following:

- **No impact**: There would be no change from current conditions.
- **Negligible**: An adverse or beneficial effect would occur but would be at the lowest levels of

detection.

- **Minor**: The effect would be noticeable but would be relatively small and would not affect the function or integrity of the resource.
- **Moderate**: The effect would be easily identifiable and would change the function or integrity of the resource.
- **Major**: The effect would alter the resource.

1. TOPOGRAPHY, GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

The site is located in the valley floor at an elevation of approximately 5,657 ft about sea level. The West Fork Creek is located along the northern boundary of the mine. The climatology of the mine area has a mild climate with warm summers and cold winters. Average temperatures in the summer range from 55-85°F, while winter temperatures range from 20-40°F. Precipitation is relatively light throughout the year, averaging around 18 inches annually. The project will take place on privately owned land that is already developed for use as a placer mine. Construction activities would involve vehicle travel, some grading, and construction of small buildings for housing equipment.

Topsoil cover is found across most of the site, ranging from a few inches to up to 3 feet. In the wash plant area, tailings from previous mining operations are on the surface. The mining operation is similar to a typical sand and gravel operation where the topsoil is stripped, soils are excavated, screened, and washed. The difference from a sand and gravel mine is that once the target resource is recovered, the remaining soil is returned to the excavation area, regraded, topsoil replaced, and reseeded. Potentate will use a system in their wash plant that will gravity concentrate the soils to separate and recover the sapphires and gold. A small volume of the target resource is recovered from the soils compared to a typical sand and gravel operation, where a depression is left in the ground, so the final reclaimed surface will closely mimic the pre-mining ground surface. During mining, topsoil will be stripped and stockpiled for reclamation during the development of each mining block. The topsoil will be protected from erosion and temporarily seeded with a native seed mix if it will sit for a year or longer. The topsoil will be replaced over the backfilled and re-graded excavation area and then seeded when mining is concluded each fall. Topsoil stockpiles will be graded to minimize material loss caused by wind and runoff. Topsoil stockpiles will have a v-ditch, straw wattles, silt fences, or a berm constructed around the perimeter to prevent sediment transport from the pile. Since the topsoil will be stockpiled for a short period of time, (less than 1 year as the mining blocks are reclaimed as mining progresses) soil amendments to compensate for loss of organic constituents are not anticipated to be necessary.

Direct Impacts:
Proposed Action: The information provided above is based on the information that DEQ had available to it at the time of completing this EA and provided by the applicant (TriHydro, 2023). Available information includes the permit application, analysis of aerial photography, topographic maps, and other research tools. Impacts to topography would be minor and long-term.

Secondary Impacts:
Proposed Action: No secondary impacts to topography, geology, stability, and moisture are anticipated with the proposed action.

2. WATER QUALITY, QUANTITY, AND DISTRIBUTION:

Potentate is applying for an Industrial Stormwater Permit with the Montana Department of Environmental Quality – Water Quality Bureau under the Montana Pollutant Discharge Elimination System (MPDES). Potentate has prepared an Industrial Stormwater Pollution and Prevention Plan (SWPPP) which outlines outfalls for the Yellow Dog Mine. Discharges into surface water are not expected at the Yellow Dog Mine, as the wash plant area is separated from streams by topographic barriers and mine blocks will be protected by erosion best management practices. The design of the mine is to collect or divert stormwater runoff in the workings in order to protect adjacent streams. Ditches and berms were also constructed by previous landowners and mine operators that also protect West Fork Rock Creek to the south and Coal Creek to the west.

Direct Impacts:

Proposed Action: Minor impacts to water quality, quantity, and distribution would be expected because the mine uses water for operations. Settling ponds will be constructed on the mine site and refreshed periodically due to evaporation and ground infiltration. Water will be potentially used for fugitive dust suppression along the mine roads.

Secondary Impacts:

Proposed Action: No secondary impacts are anticipated with the proposed action.

3. AIR QUALITY:

Direct Impacts:

Proposed Action: The Yellow Dog Mine is located in an area that has been designated unclassified/attainment with all ambient air quality standards.

The installation of the proposed equipment will primarily emit fugitive emissions from mine trucks hauling the ore from the excavation site to the grizzly feeder. Water and/or chemical dust suppressants will be administered as needed, reducing fugitive emissions created from the transport of the ore.

Additional emissions will be created from the transport of the ore from the ore stockpile to the trommel via the conveyor belt. After the ore passes through the trommel, it is washed under high pressure and is considered "saturated" with little to no fugitive emissions. Possible emissions may result after the ore has been processed through the trommel but is unlikely.

Additional emissions will be emitted from the diesel fired generators on site. Since there is no direct power to the site, the diesel generators are the most feasible option for supplying power to the facility. The 671-horsepower engine is US EPA Tier 4 rated, while the 140-horsepower engine is US EPA Tier 3 rated. Emissions from these engines are lower than engines built prior to 2006. Any additional "bolt on" technologies are technically and financially infeasible because of the size of the engines. A full Best Available Control Technology (BACT) analysis was included with the application and is included in Section III of the permit analysis.

A detailed emission inventory is included in Section IV of the permit. Regulated emissions from Potentate include CO, PM_{Tot}, PM_{10}, $PM_{2.5}$, NO_X, SO_2 and VOCs.

Secondary Impacts:

Proposed Action: No secondary impacts are anticipated with the proposed action.

4. VEGETATION COVER, QUANTITY AND QUALITY:

During the life of the mine, topsoil will be stripped and stockpiled for reclamation. The underlying ore will be removed, stockpiled, and eventually processed through the trommel, screens, jigs, and finally separated by size and stockpiled to be used as fill for reclamation. The areas where ore is removed will be stripped of vegetative cover in order to access the underlying sapphire and gold containing ore. Once mining operations are finished, the stockpiled tailings will be placed back into the stripped areas and the stockpiled topsoil will be spread over it. Native seeds will be spread over the reclamation, creating new vegetative cover.

Direct Impacts:

Proposed Action: Minor primary impacts to vegetative cover, quantity, and quality would be expected because the proposed project would temporarily remove topsoil and underlaying layers which could spread any weeds that are growing in the area.

Secondary Impacts:

Proposed Action: Negligible impacts to land disturbance at the site may result in propagation of noxious weeds.

5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

The mine site may have occasional terrestrial and avian life. The process of stripping topsoil and underlaying material will have an impact on terrestrial habitats. Avian habitat may be affected with the removal of trees and bushes located in the mining areas. Aquatic life will be protected from any impacts through the use of berms and best mining practices. Water and/or chemical suppressants will be utilized during mining operations to limit fugitive dust.

Direct Impacts:

Proposed Action: Minor impacts to terrestrial, avian, and aquatic habitats would be expected because the proposed project will remove topsoil, trees, and bushes in the impacted area. Upon completion, the stockpiled washed rock and topsoil will be replaced and native seed will be spread over the impacted area.

Secondary Impacts:

Proposed Action: No secondary impacts to terrestrial, avian and aquatic life and habitats stimulated or induced by the direct impacts analyzed above would be anticipated for the proposed action.

6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

According to a Montana Natural Heritage Program, there are seventeen (17) species of concern;

Bird – Cassin's Finch, Clark's Nutcracker, Evening Grosbeak, Brown Creeper, Pileated Woodpecker, Pacific Wren, Veery, and the Great Blue Heron

Fish – Bull Trout and the Westslope Cutthroat Trout

Mammals – Long-eared Myotis, Wolverine, and the Fisher

Vascular Plants – Cadystick, Dense-leaf Draba, Whitebark Pine, and the Keeled Bladderpod

Mining operations are unlikely to have an impact on any of the species listed in this section. There is the possibility of the listed species being present on the site during hours of non-operation and would likely leave the area immediately as soon as the mine began daily operations.

Direct Impacts:
Proposed Action: No impacts are anticipated with the proposed action.

Secondary Impacts: No secondary impacts are anticipated with the proposed action.

7. HISTORICAL AND ARCHAEOLOGICAL SITES:

The Montana State Historic Preservation Office (SHPO) was notified of the application. SHPO conducted a file search and provided a letter dated June 22, 2023. According to SHPO records there has been one previously recorded site within the designated search locale. The site is owned by the US Forrest Service and is not on the National Register List. The absence of cultural properties in the area does not mean that they do not exist but rather may reflect the absence of any previous cultural resource inventory in the area, as our records indicated none.

Direct Impacts:
Proposed Action: It is SHPO's position that any structure over fifty years of age is considered historic and is potentially eligible for listing on the National Register of Historic Places. If any structures are within the Area of Potential Effect, and are over fifty years old, we would recommend that they be recorded, and a determination of their eligibility be made prior to any disturbance taking place. The Potentate facility is less than 50 years old and there is no disturbance outside the landfill property boundary or alteration to structures over fifty years of age.

Secondary Impacts: No secondary impacts to historical and archaeological sites are anticipated.

8. SAGE GROUSE EXECUTIVE ORDER:

The project would not be in core, general or connectivity sage grouse habitat, as designated by the Sage Grouse Habitat Conservation Program (Program) at: http://sagegrouse.mt.gov.

Direct Impacts:
Proposed Action: The proposed action is not located within Sage Grouse habitat; no direct impacts would occur.

Secondary Impacts:
Proposed Action: No secondary impacts to sage grouse or sage grouse habitat would be expected.

9. AESTHETICS:

The approximate mine footprint is approximately 286 acres. Permitted equipment will consist of a trommel, diesel engines, a grizzly feeder, jigs, screens, conveyer, and associated mining equipment. The equipment will be centrally located on the mine site with earth-moving trucks driving to and from the ore stockpile from the area being stripped. The area where the mine will be operating is located in a valley floor with an elevation of 5,685 feet above sea level. The areas to the north and south of the mine are higher in elevation while the areas to the east and west are the continuing valley floor. The total length of the mine within the boundaries identified on the prepared mine drawing is approximately 2.1 miles.

Direct Impacts:

Proposed Action: Minor impacts are expected with the operation of the proposed equipment. The mine will operate until all of the sapphire and gold yielding material has been stripped, washed, sized, and separated. The noise produced from the operation will be dissipated to the east and west through the valley floor and be filtered through the trees to the north and south. All of the mining equipment not used for reclamation will be removed after operations have ceased. Post reclamation, all equipment would be removed and the area would be put back the near original conditions with only ambient sounds present.

Secondary Impacts:

Proposed Action: No secondary impacts to aesthetics and noise are anticipated with the proposed action.

10. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

The approximate mine footprint is approximately 286 acres. Mining operations will include stripping topsoil, digging, stockpiling sub straight, and high pressure washing of ore as it passes through the trommel, jigs, and separators. Reclamation activities will include replacing washed ore from the mine site and regrading of topsoil.

Direct Impacts:

Proposed Action: Minor impacts on environmental resources of land, water, and air and energy are expected the current permit action. Topsoil and sub straight will be stripped and processed for sapphires and gold. Water from the nearby stream will be pumped into holding ponds and used in the trommel, jigs, and separators for washing and separating the ore. The water used in the trommel will flow into settling ponds and recycled while fresh water will be added as needed due to evaporation. Minor impacts to energy and air would be expected due to the use of diesel fuel in the generators and mine trucks and the emissions associated with them. After the mine has stopped operations, the topsoil and sub straight will be used to reclaim the affected areas.

Secondary Impacts:

Proposed Action: No secondary impacts to land, water, air or energy resources are anticipated with the proposed action.

11. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:

Direct Impacts:
Proposed Actions: No impacts on other environmental resources are expected with the proposed permit action.

Secondary Impacts:
Proposed Action: No secondary impacts to other environmental resources are anticipated as a result of the proposed action.

12. HUMAN HEALTH AND SAFETY:

The emissions associated with the proposed permit action will be mostly fugitive emissions (dust) from digging, hauling, conveyor transport, and stockpiling of ore. Additional emissions will be generated from the diesel engines powering the generators.

Direct Impacts:
Proposed Action: Impacts to human health and safety are anticipated to be short-term and minor as a result of this project. Water and/or chemical dust suppressants will be used during operations and the diesel fired generators are Tier 3 and Tier 4 US EPA rated. The proposed location of the mine is classified as unclassified/attainment for all National Ambient Air Quality Standards for criteria pollutants. DEQ believes the proposed permit action will not cause or contribute to a violation of any ambient air quality standard.

Secondary Impacts:
Proposed Action: No secondary impacts to human health and safety are anticipated as a result of the proposed action.

13. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:

The proposed permit action will be mining activities which include heavy equipment operation during all phases of the mine's life.

Direct Impacts:
Proposed Action: Minor impacts are expected with the proposed permit action and will be temporary. When mining operations are completed, the area will be reclaimed.

Secondary Impacts:
Proposed Action: No secondary impacts to industrial, commercial, water conveyance structures, and agricultural activities and production are anticipated as a result of the proposed action.

14. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Direct Impacts:
Once the facility is operational, up to 20 personnel are expected to operate the equipment.

Proposed Action: Minor impacts to quantity and distribution of employment are anticipated for the proposed action. Employees will either travel or live at the mine site during operations.

Secondary Impacts:
Proposed Action: No increases in distribution of employment are anticipated as a result of the proposed action.

15. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Direct Impacts:
Proposed Action: Local, state and federal governments would be responsible for appraising the property, setting tax rates, collecting taxes, from the companies, employees, or landowners benefiting from this operation.

Secondary Impacts:
Proposed Action: No secondary impacts to local and state tax base and tax revenues are anticipated as a result of the proposed action.

16. DEMAND FOR GOVERNMENT SERVICES:

Direct Impacts:
Proposed Action: Minor impacts are anticipated for demand for government services. The air quality permit and physical site associated with the current permit action would require inspections from state government representatives to ensure the facility is operating within the limits and conditions listed in the air quality permit. The facility would be available for inspection at the same time as they currently permitted through the DEQ – Mining Bureau Operating Permit #00044.

Secondary Impacts:
Proposed Action: No secondary impacts are anticipated with the proposed action.

17. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

Direct Impacts:
Proposed Action: No primary impacts to the locally adopted environmental plans and goals are anticipated as a result of the proposed action.

Secondary Impacts:
Proposed Action: No secondary impacts to the locally adopted environmental plans and goals are anticipated as a result of the proposed action.

18. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

The mine site has one road along the property boundary, Skalkaho Rd., with a connecting road the travels through Forest Service property. Additional roads are located to the north that are no connected to Skalkaho Rd. via the mine site.

Direct Impacts:

Proposed Action: No primary impacts to access and quality of recreational and wilderness activities are anticipated as a result of the proposed action. The Potentate facility has US Forest Service property to the south, private property the west, north, and east.

Secondary Impacts:

Proposed Action: No secondary impacts to access and quality of recreational and wilderness activities are anticipated as a result of the proposed action.

19. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Mine personnel may be living on the mine site in camper type trailers.

Direct Impacts:

Proposed Action: Minor impacts to density and distribution of population and housing may occur as a result of the current permit action.

Secondary Impacts:

Proposed Action: No secondary impacts to density and distribution of population and housing are anticipated as a result of the proposed action.

20. SOCIAL STRUCTURES AND MORES:

Direct Impacts:

Proposed Action: No primary impacts anticipated to social structures and mores are anticipated as a result of the current permit action.

Secondary Impacts:

Proposed Action: No secondary impacts to social structures and mores are anticipated as a result of the proposed action.

21. CULTURAL UNIQUENESS AND DIVERSITY:

Direct Impacts:

Proposed Action: No primary impacts anticipated to cultural uniqueness and diversity are anticipated from the current permit action.

Secondary Impacts:

Proposed Action: No secondary impacts to cultural uniqueness and diversity are anticipated as a result of the proposed action.

22. PRIVATE PROPERTY IMPACTS:

The proposed processing equipment would be located in Section 21, Township 6 North, and Range 16 West. The proposed action would take place on privately-owned land. The analysis below in response to the Private Property Assessment Act indicates no impact. DEQ does not plan to deny the application or impose conditions that would restrict the regulated person's use of private property so as to constitute a taking. Further, if the application is complete, DEQ must take action on the permit pursuant to § 75-2-218(2), MCA. Therefore, DEQ does not have discretion to take the action in another way that would have less impact on private property—its action is bound by a statute.

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)

23. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Due to the nature of the proposed action, no further direct or secondary impacts are anticipated from this project.

ADDITIONAL ALTERNATIVES CONSIDERED:

No Action Alternative: In addition to the proposed action, DEQ is considering a "no action" alternative. The "no action" alternative would deny the approval of the proposed action. The applicant would lack the authority to conduct the proposed activity. Any potential impacts that would result from the proposed action would not occur. The no action alternative forms the baseline from which the impacts of the proposed action can be measured.

If the applicant demonstrates compliance with all applicable rules and regulations as required for approval, the "no action" alternative would not be appropriate. Pursuant to, § 75-1-201(4)(a), (MCA) DEQ "may not withhold, deny, or impose conditions on any permit or other authority to act based on" an environmental assessment.

CUMULATIVE IMPACTS:

Cumulative impacts are the collective impacts on the human environment within the borders of Montana of the proposed action when considered in conjunction with other past and present actions related to the proposed action by location and generic type. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through preimpact statement studies, separate impact statement evaluation, or permit processing procedures.

This environmental review analyzes the proposed action submitted by Potentate.

DEQ considered potential impacts related to this project and potential secondary impacts. Due to the limited activities in the analysis area, cumulative impacts related to this project would be minor and short-term.

PUBLIC INVOLVEMENT:

Scoping for this proposed action consisted of internal efforts to identify substantive issues and/or concerns related to the proposed operation. Internal scoping consisted of internal review of the environmental assessment document by DEQ Air Permitting staff.

Internal efforts also included queries to the following websites/ databases/ personnel:
- Montana State Historic Preservation Office
- Montana Department of Environmental Quality (DEQ), Mining Bureau
- Montana Natural Heritage Program
- Missoula County Air Quality Division

OTHER GOVERNMENTAL AGENCIES WITH JURSIDICTION:

The proposed project would be fully located on privately-owned land. All applicable local, state, and federal rules must be adhered to, which, at some level, may also include other local, state, federal, or tribal agency jurisdiction. Other governmental agencies which may have overlapping or sole jurisdiction include, but may not be limited to: Missoula County, OSHA (worker safety), DEQ AQB (air quality) and Water Protection Bureau (groundwater and surface water discharge; stormwater), DNRC (water rights), and MDT (road access).

NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS

Under ARM 17.4.608, DEQ is required to determine the significance of impacts associated with the proposed action. This determination is the basis for the agency's decision concerning the need to prepare an environmental impact statement and also refers to DEQ's evaluation of individual and cumulative impacts. DEQ is required to consider the following criteria in determining the significance of each impact on the quality of the human environment:

1. The severity, duration, geographic extent, and frequency of the occurrence of the impact;

   "Severity" is analyzed as the density of the potential impact while "extent" is described as the area where the impact is likely to occur. An example could be that a project may propagate ten noxious weeds on a surface area of 1 square foot. In this case, the impact may be a high severity over a low extent. If those ten noxious weeds were located over ten acres there may be a low severity over a larger extent.

   "Duration" is analyzed as the time period in which the impact may occur while "frequency" is analyzed as how often the impact may occur. For example, an operation that occurs throughout the night may have impacts associated with lighting that occur every night (frequency) over the course of the one season project (duration).

2. The probability that the impact will occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur;

3. Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts;

4. The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values;

5. The importance to the state and to society of each environmental resource or value that would be affected;

6. Any precedent that would be set as a result of an impact of the proposed action that would commit the department to future actions with significant impacts or a decision in principle about such future actions; and

7. Potential conflict with local, state, or federal laws, requirements, or formal plans.

The significance determination is made by giving weight to these criteria in their totality. For example, impacts with moderate or major severity may be determined to be not significant if the duration of the impacts is considered to be short-term. As another example, however, moderate or major impacts of short-term duration may be considered to be significant if the quantity and quality of the resource is limited and/or the resource is considered to be unique or fragile.

As a final example, moderate or major impacts to a resource may be determined to be not significant if the quantity of that resource is high or the quality of the resource is not unique or fragile.

Pursuant to ARM 17.4.607, preparation of an environmental assessment is the appropriate level of environmental review under MEPA if statutory requirements do not allow sufficient time for an agency to prepare an environmental impact statement. An agency determines whether sufficient time is available to prepare an environmental impact statement by comparing statutory requirements that establish when the agency must make its decision on the proposed action with the time required to obtain public review of an environmental impact statement plus a reasonable period to prepare a draft environmental review and, if required, a final environmental impact statement.

SIGNIFICANCE DETERMINATION

The severity, duration, geographic extent and frequency of the occurrence of the impacts associated with the proposed action would be limited. Potentate proposes to construct and operate the proposed action on private land located in Section 21 Township 6 North, Range 16 West, in Granite County**,** Montana.

DEQ has not identified any significant impacts associated with the proposed action for any environmental resource. Approving Potentate' Air Quality Application would not set precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions. If Potentate submits another permit application, DEQ is not committed to approve those applications. DEQ would conduct a new environmental review for any subsequent air quality permit applications sought by Potentate. DEQ would make a decision on Potentate' subsequent application based on the criteria set forth in the Clean Air Act of Montana.

DEQ's issuance of an Air Quality Permit to Potentate for this proposed operation does not set a precedent for DEQ's review of other applications, including the level of environmental review. The level of environmental review decision is made based on a case-specific consideration of the criteria set forth in ARM 17.4.608.

DEQ does not believe that the proposed action has any growth-inducing or growth-inhibiting aspects or that it conflicts with any local, state, or federal laws, requirements, or formal plans. Based on a consideration of the criteria set forth in ARM 17.4.608, the proposed state action is not predicted to significantly impact the quality of the human environment. Therefore, at this time, preparation of an environmental assessment is determined to be the appropriate level of environmental review under the Montana Environmental Protection Act.

Environmental Assessment and Significance Determination Prepared By:

John P. Proulx	**Air Quality Engineer**
Name	**Title**

EA Reviewed By:

Julie Merkel	**Air Permitting Section Supervisor**
Name	**Title**

References

Montana Air Quality Permit Application 5291-00_2023_05_24_APP
Montana Air Quality Permit Application – Additional Information, 5291-00_2023_06_26_APP_AFIDAVIT

State Historical Preservation Office (SHPO)

Montana Natural Heritage Program, https://mtnhp.org/mapviewer/?t=4

AP-42, https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors

Montana Cadastral - http://svc.mt.gov/msl/mtcadastral