



Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor

P. O. Box 200901

Helena, MT 59620-0901

(406) 444-2544

Website: www.deq.mt.gov

August 19, 2010

Mr. Chuck Forgey
Glacier Lake Sand and Gravel
P.O. Box 250
Big Arm, MT 59910

Dear Mr. Forgey:

Montana Air Quality Permit #3342-02 is deemed final as of August 19, 2010, by the Department of Environmental Quality (Department). This permit is for a portable crushing and screening facility. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-9741

Skye Hatten, P.E.
Environmental Engineer
Air Resources Management Bureau
(406) 444-5287

VW:sh
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #3342-02

Glacier Lake Sand and Gravel, LLC
P.O. Box 250
Big Arm, Montana 59910

August 19, 2010



MONTANA AIR QUALITY PERMIT

Issued to: Glacier Lake Sand and Gravel
P.O. Box 250
Big Arm, MT 59910

MAQP: #3342-02
Administrative Amendment (AA)
Request Received: 02/11/2010
Department Decision on AA: 08/03/2010
Permit Final: 08/19/2010
AFS #: 777-3342

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Glacier Lake Sand and Gravel, LLC (Glacier Lake), 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

Glacier Lake operates a portable crushing/screening facility at various locations throughout Montana. The initial "home pit" location is located at Township 10 North, Range 2 West, Section 22 in Lake County, Montana. However, MAQP #3342-02 applies while operating at any location in Montana, except those areas having a Department of Environmental Quality (Department)-approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* An addendum will be required for locations in or within 10 km of certain PM₁₀ nonattainment areas.

B. Current Permit Action

On February 11, 2010, the Department received a request from Glacier Lake for a company name change via administrative amendment from Jim Phillips Contracting, Inc. (Phillips) to Glacier Lake and also a request to change via administrative amendment their identified "home pit" location. In addition to accounting for these changes, the permit updates the rule references, permit format, and the emissions inventory. The previous version of this permit, including the emissions inventory, inadvertently omitted a portion of the total capacity of the generators utilized at the facility. The correction has been included within this version; modifying the total engine/generator capacity from the 3 engines/generators from 1,200 kW (2,298 hp) to 1,500 kW (2,914 hp). Permit limitations have been adjusted accordingly to remain below Title V operating permit thresholds.

SECTION II: Limitations and Conditions

A. Operational Limitations and Conditions

1. All visible emissions from any Standards of Performance for New Stationary Source (NSPS)-affected crusher shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR Part 60, Subpart OOO)
 - For crushers that commence construction, modification, or reconstruction on or after April 22, 2008: 12% opacity

- For crushers that commence construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008: 15% opacity
2. All visible emissions from any other NSPS-affected equipment, other than a crusher (such as screens or conveyors), shall not exhibit opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR, Subpart OOO).
 - For equipment that commences construction, modification, or reconstruction on or after April 22, 2008: 7% opacity
 - For equipment that commences construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008: 10% opacity
 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, and II.A.3 (ARM 17.8.749).
 5. Glacier Lake 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. Glacier Lake shall treat all unpaved portions of the haul roads, access roads, parking lots, or the 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 17.8.749).
 7. Glacier Lake shall not operate more than four crushers at any given time and the maximum combined rated design capacity of the crushers shall not exceed 1,200 tons per hour (TPH) (ARM 17.8.749).
 8. Total combined crusher production from the facility shall be limited to 2,580,000 tons during any rolling 12-month time period (ARM 17.8.749).
 9. Glacier Lake shall not operate more than four screens at any given time and the maximum combined rated design capacity of the four screens shall not exceed 1,200 TPH (ARM 17.8.749).
 10. Total combined screen production from the facility shall be limited to 2,580,000 tons during any rolling 12-month time period (ARM 17.8.749).
 11. Glacier Lake shall not operate more than one wash plant screening unit at any given time and the maximum rated design capacity of the screen shall not exceed 200 TPH (ARM 17.8.749).
 12. Total wash plant screening production shall be limited to 430,000 tons during any rolling 12-month time period (ARM 17.8.749).
 13. Glacier Lake shall not operate more than three diesel engines/generators at any given time and the maximum combined rated design capacity of the diesel engines/generators shall not exceed 1,500-Kilowatts (kW) and 2,914 horsepower (hp) (ARM 17.8.749).

14. Operation of the three diesel engines/generators shall not exceed 2,150 hours during any rolling 12-month time period (ARM 17.8.1204).
15. If the permitted equipment is used in conjunction with any other equipment owned or operated by Glacier Lake, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons during any rolling 12-month period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).
16. Glacier Lake shall comply with all applicable standards and limitations, and the reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants* (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
17. Glacier Lake 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 Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.340; 40 CFR 60, Subpart IIII; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. Within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup, an 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 any NSPS affected equipment to demonstrate compliance with the emissions limitations contained in Sections II.A.1 and II.A.2 (ARM 17.8.340, 40 CFR Part 60, Subpart A and Subpart OOO).
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 may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. If this crushing/screening plant is moved to another location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).
2. Glacier Lake 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 not be 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 for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

3. Glacier Lake 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).
4. Glacier Lake shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. The records compiled in accordance with this permit shall be maintained by Glacier Lake 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 (ARM 17.8.749).
5. Glacier Lake shall document, by month, the crushing production from the facility. By the 25th day of each month, Glacier Lake shall calculate the crushing production from the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.8. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
6. Glacier Lake shall document, by month, the screening production from the facility. By the 25th day of each month, Glacier Lake shall calculate the screening production from the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.10. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
7. Glacier Lake shall document, by month, the wash plant screening production for the facility. By the 25th day of each month, Glacier Lake shall calculate the wash plant screening production from the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.12. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
8. Glacier Lake shall document, by month, the hours of operation of the diesel engines/generators. By the 25th day of each month, Glacier Lake shall calculate the hours of operation of the diesel engines/generators for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.14. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

SECTION III: General Conditions

- A. Inspection - Glacier Lake 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 (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver - The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Glacier Lake fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving Glacier Lake 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 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 therefore, 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 Department personnel at the location of the permitted source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Glacier Lake may be grounds for revocation of this permit, as required by that section and rules adopted there under 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).
- I. The Department may modify the conditions of this permit based on local conditions of any future site. These factors may include, but are not limited to, local terrain, meteorological conditions, proximity to residences, etc.
- J. Glacier Lake shall comply with the conditions contained in this permit while operating in any location in Montana, except within those areas that have a Department-approved permitting program or areas considered tribal lands.

Montana Air Quality Permit (MAQP) Analysis
Glacier Lake Sand and Gravel, LLC
MAQP #3342-02

I. Introduction/Process Description

A. Permitted Equipment

Glacier Lake Sand and Gravel, LLC (Glacier Lake) owns and operates a portable crushing/screening facility consisting of four crushers (up to 1,200 tons per hour (TPH)), four screens (up to 1,200 TPH), one wash plant (up to 200 TPH), three diesel engines/generators (up to 1,500 kilowatts (kW) and 2,914 horsepower (hp)), and associated equipment.

B. Source Description

Glacier Lake proposes to use this crushing/screening plant and associated equipment to crush sand and gravel materials for use in various construction operations. For a typical operational setup, materials are loaded into the crushing/screening plant by a hopper, transferred by conveyor, and passed through the crushers. Materials are crushed by the crusher and sent to the three screens. Materials are screened, separated, and sent to stockpile for sale and use in construction operations.

C. Permit History

On June 10, 2004, Jim Phillips Contracting, Inc. (Phillips) submitted a complete permit application for the operation of a portable crushing/screening facility consisting of a portable 2004 Trio Jaw Crusher (up to 400 TPH), a Telesmith Cone Crusher (up to 400 TPH), a 1988 Spomatic Dozer Feeder (up to 400 TPH), a 2004 Trio Vibrating Grizzly Feeder (up to 400 TPH), a 1985 EL-Jay 3-deck screen (up to 400 TPH), a diesel generator (up to 300 kW), and associated equipment. The proposed original location for the facility is the SE ¼ of Section 20, Township 9 North, Range 17 West, in Granite County, Montana. Montana Air Quality Permit (MAQP) #3342-00 applied to the source while operating at any location in Montana, except within those areas having a Department of Environmental Quality (Department) approved permitting program, those areas considered tribal lands, or those areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas. *A Missoula County air quality permit would be required for locations within Missoula County, Montana.* An addendum to this air quality permit was also required for locations in or within 10 km of certain PM₁₀ nonattainment areas. **MAQP #3342-00** was issued final on August 5, 2004.

On April 24, 2006, the Department received a request from Phillips for a modification to MAQP #3342-00. The modification requested the addition of seven pieces of equipment: two crushers, two screens, one wash plant, and two diesel generators (800 kW and 400 kW). The modification also requested to add an Addendum (Addendum #1) to MAQP #3342-00. MAQP #3342-01 was written to include Addendum #1 that would allow Phillips Lake to operate at any location in or within 10 km of certain PM₁₀ nonattainment areas during the summer months (April 1 – September 30) and at sites approved by the Department during the winter months (October 1 – March 31). Also, the permit was updated to reflect the current permit language and rule references used by the Department. **MAQP #3342-01** replaced MAQP #3342-00.

D. Current Permit Action

On February 11, 2010, the Department received a request from Glacier Lake for a company name change via administrative amendment from Phillips to Glacier Lake and also a request to change via administrative amendment their identified “home pit” location. In addition to accounting for these changes, the permit updates the rule references, permit format, and the emissions inventory. The previous version of this permit, including the emissions inventory, inadvertently omitted a portion of the total capacity of the generators utilized at the facility. The correction has been included within this version; modifying the total engine/generator capacity from the three engines/generators from 1,200 kW (2,298 hp) to 1,500 kW (2,914 hp). Permit limitations have been adjusted accordingly to remain below Title V operating permit thresholds. **MAQP #3342-02** replaces MAQP #3342-01.

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 locations 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 is 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).

Glacier Lake shall comply with all 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 which, without resulting in reduction in 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:

1. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
4. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
5. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

Glacier Lake 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, Glacier Lake 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 or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.
4. ARM 17.8.310 Particulate Matter, Industrial Processes. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.
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 section.
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 truck or trailer is equipped with a vapor loss control device as described in (1) of this rule.

7. ARM 17.8.340 Standards of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS).
 - 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 OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. In order for a crushing 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. Based on the information submitted by Glacier Lake, the portable crushing equipment to be used under MAQP #3342-02 is subject to this subpart because it meets the definition of an affected facility and has been constructed or modified after August 31, 1983.
 - c. 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 that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart. Based on the information submitted by Glacier Lake, the CI ICE equipment to be used under MAQP #3342-02 is not subject to this subpart because they were manufactured before April 1, 2006. Since the permit is written in a de minimis-friendly manner, this subpart may apply to the facility's CI ICE equipment in the future.
 8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This rule incorporates, by reference, 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories. This facility is considered an area source of hazardous air pollutants (HAP); therefore, the following national emissions standards for hazardous air pollutants (NESHAP) apply:
 - a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a NESHAPs 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. Therefore, Glacier Lake is subject to this subpart.
- 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 the Department. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.

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. This 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 pro-rate 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 asphalt plant, crusher, or screen that has the potential to emit (PTE) greater than 15 tons per year of any pollutant. Glacier Lake has a PTE greater than 15 tons per year of total particulate matter (PM), oxides of nitrogen (NO_x), and carbon monoxide (CO); 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 Glacier Lake 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 17.8.762 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.
12. 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).
13. 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.
14. ARM 17.8.765 Transfer of Permit. (1) This rule states that an air quality permit may be transferred from one location to another if the Department receives a complete notice of intent to transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) 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.

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 it is not a listed source and the facility's PTE is less than 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 stationary 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 PM₁₀ in a serious PM₁₀ nonattainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (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 #3342-02 for Glacier Lake, 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 ton/year of all HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is subject to current NSPS. (40 CFR 60, Subpart A, General Provisions, and Subpart OOO, Non-Metallic Mineral Processing Plants).
 - e. This facility is subject to area source provisions of a current NESHAP standard (40 CFR 63, Subpart ZZZZ).
 - f. This source is not a Title IV affected source.
 - g. This source is not a solid waste combustion unit.

h. This source is not an EPA designated Title V source. Based on these facts, the Department has determined that Glacier Lake will be a minor source of emissions as defined under Title V because Glacier Lake accepted federally enforceable limitations to stay below the Title V threshold. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, Glacier Lake will be required to obtain a Title V Operating Permit.

III. BACT Analysis

A BACT determination is required for each new or modified source. Glacier Lake 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 determination was not required for the current permit action because the permit change is considered an administrative permit change.

IV. Emission Inventory

| Emission Source | TPY | | | | | | |
|--|--------------|------------------|-------------------|-----------------|--------------|-------------|-----------------|
| | PM | PM ₁₀ | PM _{2.5} | NO _x | CO | VOC | SO ₂ |
| Crushers (up to 1,200 tons/hr) | 3.48 | 1.55 | 0.52 | -- | -- | -- | -- |
| Screens (up to 1,200 tons/hr) | 2.84 | 0.95 | 0.43 | -- | -- | -- | -- |
| Truck Unloading | 0.02 | 0.01 | 0.00 | -- | -- | -- | -- |
| Conveyors (17 Transfers) | 3.07 | 1.01 | 0.00 | -- | -- | -- | -- |
| Piles | 2.13 | 1.01 | 0.15 | -- | -- | -- | -- |
| Pug Mill | 1.97 | 0.93 | 0.59 | -- | -- | -- | -- |
| Wash Plant | 0.01 | 0.00 | 0.00 | -- | -- | -- | -- |
| Diesel Engines/Generators (up to 2,914 hp) | 6.89 | 6.89 | 6.89 | 97.11 | 20.93 | 7.88 | 6.42 |
| Haul Roads | 1.40 | 0.38 | 0.04 | -- | -- | -- | -- |
| Total Emissions | 21.81 | 12.74 | 8.63 | 97.11 | 20.93 | 7.88 | 6.42 |

a. A limitation of 2,150 hours of operation per year was placed upon the facility to keep NO_x emissions below the 100 ton/year threshold that would require Glacier Lake to obtain a Title V operating permit under ARM 17.8, Subchapter 12.

PM = particulate matter
 PM₁₀ = particulate matter with an aerodynamic diameter of 10 microns or less
 PM_{2.5} = particulate matter with an aerodynamic diameter of 2.5 microns or less
 NO_x = oxides of nitrogen
 VOC = volatile organic compounds
 CO = carbon monoxide
 SO_x = oxides of sulfur
 TPY = tons per year
 hp = horsepower

General:

Maximum Process Rate = 1,200 ton/hr (Maximum plant process rate) 1,200 ton/hr
 Maximum Hours of Operation = 2,150 hrs/yr 2,150 hrs/yr

Crushing (SCC 3-05-020-05)

Total PM Emissions:

Emission Factor = 0.0054 lb/ton (0.0054 uncontrolled, 0.0012 controlled, AP 42, Table 11.19.2-2, 8/04) 0.0054 lb/ton
 Control Efficiency = 50% 50 %
 Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0.0054 lb/ton) * (ton/2000 lb) = 3.48 ton/yr **3.48 ton/yr**

Total PM10 Emissions:

| | | |
|--|-------------|--------|
| Emission Factor = 0.0024 lb/ton (0.0024 uncontrolled, 0.00054 controlled, AP 42, Table 11.19.2-2, 8/04) | 0.0024 | lb/ton |
| Control Efficiency = 50% | 50 | % |
| Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0.0024 lb/ton) * (ton/2000 lb) * (1 - 50/100) = 1.55 ton/yr | 1.55 | ton/yr |

Total PM2.5 Emissions:

| | | |
|---|-------------|--------|
| Emission Factor = 0.00081 lb/ton (15% * PM uncontrolled, AP-42, Appendix B-2.2 Cat. 3, 9/90) | 0.00081 | lb/ton |
| Control Efficiency = 50% | 50 | % |
| Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0.00081 lb/ton) * (ton/2000 lb) * (1 - 50/100) = 0.52 ton/yr | 0.52 | ton/yr |

Screening (SCC 3-05-020-02, 03)**Total PM Emissions:**

| | | |
|--|-------------|--------|
| Emission Factor = 0.0022 lb/ton (0.025 uncontrolled, 0.0022 controlled, AP 42, Table 11.19.2-2, 8/04) | 0.0022 | lb/ton |
| Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0.0022 lb/ton) * (ton/2000 lb) = 2.84 ton/yr (no control) | 2.84 | ton/yr |

Total PM10 Emissions:

| | | |
|---|-------------|--------|
| Emission Factor = 0.00074 lb/ton (0.0087 uncontrolled, 0.00074 controlled, AP 42, Table 11.19.2-2, 8/04) | 0.00074 | lb/ton |
| Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0.00074 lb/ton) * (ton/2000 lb) = 0.95 ton/yr (no control) | 0.95 | ton/yr |

Total PM2.5 Emissions:

| | | |
|---|-------------|--------|
| Emission Factor = 0.00033 lb/ton (15% * PM uncontrolled, AP-42, Appendix B-2.2 Cat. 3, 9/90) | 0.00033 | lb/ton |
| Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0.00033 lb/ton) * (ton/2000 lb) = 0.43 ton/yr (no control) | 0.43 | ton/yr |

Truck Unloading (SCC 3-05-020-31)**Total PM Emissions:**

| | | |
|--|-------------|--------|
| Emission Factor = 0.000016 lb/ton (AP 42, Table 11.19.2-2, 8/04) | 0.000016 | lb/ton |
| Control Efficiency = 0% | 0 | % |
| Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0.000016 lb/ton) * (ton/2000 lb) = 0.02 ton/yr (no control) | 0.02 | ton/yr |

Total PM10 Emissions:

| | | |
|--|-------------|--------|
| Emission Factor = 0.00000816 lb/ton (51% * PM uncontrolled, AP-42, Appendix B-2.2 Cat. 3, 9/90) | 0.000008 | |
| | 16 | lb/ton |
| Control Efficiency = 0% | 0 | % |
| Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0.00000816 lb/ton) * (ton/2000 lb) = 0.01 ton/yr (no control) | 0.01 | ton/yr |

Total PM2.5 Emissions:

| | | |
|---|-------------|--------|
| Emission Factor = 0.0000024 lb/ton (15% * PM uncontrolled, AP-42, Appendix B-2.2 Cat. 3, 9/90) | 0.000002 | |
| | 4 | lb/ton |
| Control Efficiency = 0% | 0 | % |
| Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0.0000024 lb/ton) * (ton/2000 lb) = 0.00 ton/yr (no control) | 0.00 | ton/yr |

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

Number of Transfers = 17 transfers

Filterable 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: (1,200 ton/hr) * (2150 hrs/yr) * (0.00014 lb/ton) * (ton/2000 lb) * (17 transfer) = 3.07 ton/yr | 3.07 | ton/yr |

Filterable 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: (1,200 ton/hr) * (2150 hrs/yr) * (0.000046 lb/ton) * (ton/2000 lb) * (17 transfer) = 1.01 ton/yr **1.01** ton/yr

Filterable PM2.5 Emissions:

Emission Factor = 0.000021 lb/ton (15% * PM uncontrolled (controlled value used), AP-42, Appendix B-2.2 Cat. 3, 9/90) 0.000021 lb/ton
 Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0.000021 lb/ton) * (ton/2000 lb) * (17 transfer) = 0.46 ton/yr **0.46** ton/yr

Condensable PM2.5 Emissions:

Emission Factor = 0 lb/ton (non-combustion source; therefore, no CPM) 0 lb/ton
 Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0 lb/ton) * (ton/2000 lb) * (17 transfer) = 0.00 ton/yr **0.00** ton/yr

Storage Piles**Filterable PM Emissions:**

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
 Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00331$ lb/ton 0.00331 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 = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06) 10 mph
 M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06) 3.0 %
 Control Efficiency = 50% (Water or chemical spray) 50 %
 Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0.00331 lb/ton) * (ton/2000 lb) * (1 piles) * (1 - 50/100) = 2.13 ton/yr (Total) **2.13** ton/yr

Filterable PM10 Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
 Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00156$ lb/ton 0.00156 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 = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06) 10 mph
 M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06) 3.0 %
 Control Efficiency = 50% (Water or chemical spray) 50 %
 Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0.00156 lb/ton) * (ton/2000 lb) * (1 piles) * (1 - 50/100) = 1.01 ton/yr (Total) **1.01** ton/yr

Filterable PM2.5 Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
 Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00024$ lb/ton 0.00024 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 = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06) 10 mph
 M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06) 3.0 %
 Control Efficiency = 50% (Water or chemical spray) 50 %
 Calculation: (1,200 ton/hr) * (2150 hrs/yr) * (0.00024 lb/ton) * (ton/2000 lb) * (1 piles) * (1 - 50/100) = 0.15 ton/yr **0.15** ton/yr

Condensable PM2.5 Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00000 \text{ lb/ton}$ 0.00000 lb/ton

Where: $k = \text{particle size multiplier} = 0$ (**non-combustion source; therefore, no CPM**) 0

$U = \text{mean wind speed} = 10 \text{ mph}$ (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06) 10 mph

$M = \text{material moisture content} = 3\%$ (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06) 3.0 %

Control Efficiency = % (Water or chemical spray) %

Calculation: $(1,200 \text{ ton/hr}) * (2150 \text{ hrs/yr}) * (0.00000 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (1 - /100) = 0.00 \text{ ton/yr}$ **0.00** ton/yr

Pug Mill (used as a mixer to add water to product (suppression))**Filterable PM Emissions:**

Emission Factor = 0.0051 lb/ton (AP 42, Table 11.12.2-2, 6/06 (Weigh Hopper Loading)) 0.0051 lb/ton

Control Efficiency = 70% (70% wet material) 70 %

Calculation: $(1200 \text{ ton/hr}) * (2150 \text{ hrs/yr}) * (0.0051 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 70/100) = 1.97 \text{ ton/yr}$ **1.97** ton/yr

Filterable PM10 Emissions:

Emission Factor = 0.0024 lb/ton (AP 42, Table 11.12.2-2, 6/06 (Weigh Hopper Loading)) 0.0024 lb/ton

Control Efficiency = 70% (70% wet material) 70 %

Calculation: $(1200 \text{ ton/hr}) * (2150 \text{ hrs/yr}) * (0.0024 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 70/100) = 0.93 \text{ ton/yr}$ **0.93** ton/yr

Filterable PM2.5 Emissions:

Emission Factor = 0.00153 lb/ton (Assume PM2.5 = 30% of PM, AP-42, Appendix B-2, Category 4) 0.00153 lb/ton

Control Efficiency = 70% 70 %

Calculation: $(1200 \text{ ton/hr}) * (2150 \text{ hrs/yr}) * (0.00153 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 70/100) = 0.59 \text{ ton/yr}$ **0.59** ton/yr

Condensable PM2.5 Emissions:

Emission Factor = 0 gr/dscf (**non-combustion source; therefore, no CPM**) 0 gr/dscf

0.00 ton/yr

Wash Plant

Maximum Process Rate = 200 ton/hr (Maximum plant process rate) 200 ton/hr

Maximum Process Rate = 430,000 ton/yr (Maximum annual plant process rate) 430,000 ton/yr

Number of Wash Plants = 1 plant(s) (Company Information) 1 plant(s)

Total PM Emissions:

Emission Factor = 0.0022 lb/ton (0.025 uncontrolled, 0.0022 controlled, AP 42, Table 11.19.2-2, 8/04) 0.0022 lb/ton

Control Efficiency = 0% 0 %

Calculation: $(200 \text{ ton/hr}) * (2150 \text{ hrs/yr}) * (0.0022 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.01 \text{ ton/yr}$ (no control) **0.01** ton/yr

Total PM10 Emissions:

Emission Factor = 0.00074 lb/ton (0.0087 uncontrolled, 0.00074 controlled, AP 42, Table 11.19.2-2, 8/04) 0.00074 lb/ton

Control Efficiency = 0% 0 %

Calculation: $(200 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.00074 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.00 \text{ ton/yr}$ (no control) **0.00** ton/yr

PM2.5 Emissions:

Emission Factor = 0.00005 lb/ton (ND uncontrolled, 0.000050 controlled, AP 42, Table 11.19.2-2, 8/04) 0.00005 lb/ton

Control Efficiency = 0% 0 %

Calculation: $(200 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.00005 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.00 \text{ ton/yr}$ (no control) **0.00** ton/yr

Diesel Engine Generators

1,500 kw total (3 generators [400kw, 300kw, 800kw])*
 Operational Capacity of Engine = 2,914 hp* 2,914 hp
 Hours of Operation = 2,150.00 hours 2,150 hours

*Conversion of kW to hp:

Generator output = 1,500 kW

Generator input = 1,500 kW/0.7 = 2,143 kW (70% efficiency factor applied)

kW/hp conversion: 2,143 kW = 2,914 hp

Total PM/PM10/PM2.5 Emissions:

Emission Factor = 0.0022 lbs/hp-hr (All PM < 1 mm, AP-42, Sec. 3.3, Table 3.3-1, 10/96) 2.20E-03 lbs/hp-hr

Calculation: (2,150 hours) * (2,914 hp) * (0.0022 lbs/hp-hr) * (ton/2000 lb) = 6.89 ton/yr **6.89** ton/yr

NOx Emissions:

Emission Factor = 0.031 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96) 0.031 lbs/hp-hr

Calculation: (2,150 hours) * (2,914 hp) * (0.031 lbs/hp-hr) * (ton/2000 lb) = 97.11 ton/yr **97.11** ton/yr

CO Emissions:

Emission Factor = 0.00668 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96) 6.68E-03 lbs/hp-hr

Calculation: (2,150 hours) * (2,914 hp) * (0.00668 lbs/hp-hr) * (ton/2000 lb) = 20.93 ton/yr **20.93** ton/yr

VOC Emissions:

Emission Factor = 0.0025141 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, TOC, Exhaust & Crankcase, 10/96) 2.51E-03 lbs/hp-hr

Calculation: (2,150 hours) * (2,914 hp) * (0.0025141 lbs/hp-hr) * (ton/2000 lb) = 7.88 ton/yr **7.88** ton/yr

SOx Emissions:

Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96) 2.05E-03 lbs/hp-hr

Calculation: (2,150 hours) * (2,914 hp) * (0.00205 lbs/hp-hr) * (ton/2000 lb) = 6.422 ton/yr **6.42** ton/yr

CO2 Emissions:

Emission Factor = 1.15 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96) 1.15 lbs/hp-hr

Calculation: (2,150 hours) * (2,914 hp) * (1.15 lbs/hp-hr) * (ton/2000 lb) = 3,602.43 ton/yr **3602.43** ton/yr

Haul Roads

Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate) 5 VMT/day

VMT per hour = (5 VMT/day) * (day/24 hrs) = 0.21 VMT/hr 0.21 VMT/hr

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 = $k * (s / 12)^a * (W / 3)^b = 12.46$ lb/VMT 12.46 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 = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06) 7.1 %

W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck) 54 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

Control Efficiency = 50% (Water spray or chemical dust suppressant) 50 %

Calculation: (2150 hrs/yr) * (0.21 VMT/hr) * (12.46 lb/VMT) * (ton/2000 lb) * (1-50/100) = 1.40 tons/yr **1.40** 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 = $k * (s / 12)^a * (W / 3)^b = 3.43 \text{ lb/VMT}$ | 3.43 | 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 = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06) | 7.1 | % |
| W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck) | 54 | 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 | |
| Control Efficiency = 50% (Water spray or chemical dust suppressant) | 50 | % |
| Calculation: $(2150 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (3.43 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) * (1-50/100) = 0.38 \text{ tons/yr}$ | 0.38 | 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 = $k * (s / 12)^a * (W / 3)^b = 0.34 \text{ lb/VMT}$ | 0.34 | 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 = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06) | 7.1 | % |
| W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck) | 54 | tons |
| a = constant = 0.9 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06) | 0.9 | |
| b = constant = 0.45 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06) | 0.45 | |
| Control Efficiency = 50% (Water spray or chemical dust suppressant) | 50 | % |
| Calculation: $(2150 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (0.34 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) * (1-50/100) = 0.04 \text{ tons/yr}$ | 0.04 | tons/yr |

V. Existing Air Quality

The original location of this portable operation is a location which is classified as attainment/unclassifiable for all criteria pollutants for which this operation emits. Operation in certain PM₁₀ nonattainment areas is permitted under the operating conditions of Addendum 1 to this permit.

VI. Air Quality Impacts

Based on the information provided and the conditions established in MAQP #3342-02, the amount of controlled emissions generated by this facility will not exceed any set ambient air quality standards. The conditions in MAQP #3342-02 will be protective of air quality while Glacier Lake is operating at locations not located in or within 10 km of certain PM₁₀ nonattainment areas. In addition, the limitations and conditions established in Addendum #1 would further reduce emissions in the nonattainment areas and would be protective of the ambient air quality standards. Also, this facility is a portable source that would operate on an intermittent and temporary basis, so any effects to air quality will be minor and short-lived.

VII. Ambient Air Impact Analysis

The Department determined that the impact from this permitting action will be minor because it is an administrative action. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VIII. 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.

IX. 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.

Permit Analysis Prepared by: Skye Hatten

Date: July 12, 2010

Addendum #1
Glacier Lake Sand and Gravel, LLC
Montana Air Quality Permit (MAQP) #3342-02

An addendum to Montana Air Quality Permit (MAQP) #3342-02 is hereby granted to Glacier Lake Sand and Gravel, LLC (Glacier Lake), pursuant to Sections 75-2-204 and 75-2-211 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.765, as amended, for the following:

I. Permitted Equipment

Glacier Lake owns a portable crushing/screening facility that may operate four crushers (up to 1,200 tons per hour (TPH)), four screens (up to 1,200 TPH), one wash plant (up to 200 TPH), three diesel engines/generators (up to 1,500 kilowatts (kW) and 2,914 horsepower (hp)), and associated equipment within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas.

II. Seasonal and Site Restrictions – **Winter and Summer Seasons**

Addendum #1 applies to the Glacier Lake facility while operating at any location in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas. Additionally, seasonal and site restrictions apply to the facility as follows:

- A. During the winter season (October 1-March 31) – The only location(s) in or within 10 km of certain PM₁₀ nonattainment area where Glacier Lake may operate is:
- Any site that may be approved, in writing, by the Department of Environmental Quality (Department).
- B. During the summer season (April 1-September 30) – Glacier Lake may operate at any location in or within 10 km of the Butte, Columbia Falls, Libby, Kalispell, Thompson Falls, and Whitefish PM₁₀ nonattainment areas.
- C. Glacier Lake shall comply with the limitations and conditions contained in Addendum #1 to MAQP #3342-02 while operating in or within 10 km of any of the previously identified PM₁₀ nonattainment areas. Addendum 1 shall be valid until revoked or modified. The Department reserves the authority to modify Addendum 1 at any time based on local conditions of any future site. These conditions may include, but are not limited to, local terrain, meteorological conditions, proximity to residences or other businesses, etc.

III. Limitations and Conditions

- A. Operational Limitations and Conditions – **Winter Season (October 1 – March 31)**
1. Water spray bars must be available and operated, as necessary, on the crushers, screens, and all transfer points whenever the crushing/screening plant is operating (ARM 17.8.749).
 2. Glacier Lake shall not cause or authorize to be discharged into the atmosphere from any equipment, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749). For NSPS-affected equipment constructed after April 22, 2008, for which an opacity limitation of 7% applies (such as screens and conveyors), that 7% limit shall

3. apply to the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart 000).
Glacier Lake shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit an opacity of 10% or greater (ARM 17.8.749).
4. Glacier Lake shall treat all unpaved portions of the access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 10% opacity limitation (ARM 17.8.749).
5. Glacier Lake shall not operate, or have on-site, more than four crushers at any one time. Total crusher production shall not exceed 6,600 tons per day (ARM 17.8.749).
6. Glacier Lake shall not operate, or have on-site, more than four screens at any one time. Total screen production shall not exceed 6,600 tons per day (ARM 17.8.749).
7. Glacier Lake shall not operate, or have onsite, more than one wash plant at any one time. Total screen production from the wash plant shall not exceed 1,100 tons per day (ARM 17.8.749).
8. Glacier Lake shall not operate or have on-site more than three diesel engine(s)/generator(s). The maximum combined capacity of the engine(s) that drives the generator(s) shall not exceed 2,914 hp (ARM 17.8.749).
9. Operation of the diesel engines driving the generators shall not exceed 5.5 hours per day (ARM 17.8.749).

B. Operational Limitations and Conditions – Summer Season (April 1 – September 30)

1. Water spray bars must be available and operated, as necessary, on the crushers, screens, and all transfer points whenever the crushing/screening plant is in operation (ARM 17.8.749).
2. Glacier Lake shall not cause or authorize to be discharged into the atmosphere from any equipment, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749). For NSPS-affected equipment constructed after April 22, 2008 for which an opacity limitation of 7% applies (such as screens and conveyors), that 7% limit shall apply to the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart 000).
3. Glacier Lake shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit an opacity of 10% or greater (ARM 17.8.749).
4. Glacier Lake shall treat all unpaved portions of the access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 10% opacity limitation (ARM 17.8.749).
5. Glacier Lake shall not operate, or have on-site, more than four crushers at any one time. Total crusher production shall not exceed 28,800 tons per day (ARM

- 17.8.749).
6. Glacier Lake shall not operate, or have onsite, more than four screens at any one time. Total screen production shall not exceed 28,800 tons per day (ARM 17.8.749).
 7. Glacier Lake shall not operate, or have onsite, more than one wash plant at any one time. Total screen production from the wash plant shall not exceed 4,800 tons per day (ARM 17.8.749).
 8. Glacier Lake shall not operate or have on-site more than three diesel engines/generators. The maximum combined capacity of the engines that drive the generators shall not exceed 2,914 hp (ARM 17.8.749).
 9. Operation of the diesel engines driving the generators shall not exceed 24 hours per day (ARM 17.8.749).

C. Operational Reporting Requirements

1. If this crushing/screening plant is moved to another nonattainment location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).
2. Production information for the sites covered by this addendum must be maintained for five years and submitted to the Department upon request. The information must include (ARM 17.8.749):
 - a. Daily tons of material crushed by each crusher at each site (including amount of recirculated/rerun material). Glacier Lake shall document, by day, the total crushing production. Glacier Lake shall sum the total crushing production for the previous day to demonstrate compliance with the limitations in Sections III.A.5 and III.B.5.
 - b. Daily tons of material screened by each screen at each site (including amount of recirculated/rerun material). Glacier Lake shall document, by day, the total screening production. Glacier Lake shall sum the total screening production for the previous day to demonstrate compliance with the limitations in Sections III.A.6 and III.B.6.
 - c. Daily tons of material screened by the wash plant at each site. Glacier Lake shall document, by day, the total screening production at the wash plant. Glacier Lake shall sum the total screening production for the previous day to demonstrate compliance with the limitations in Sections III.A.7 and II.B.7.
 - d. Daily tons of bulk material loaded at each site (production).
 - e. Daily hours of operation at each site.
 - f. Daily hours of operation and the hp for each engine at each site.
 - g. Fugitive dust information consisting of the daily total miles driven on

unpaved roads within the operating site for all plant vehicles.

Addendum #1 Analysis
Glacier Lake Sand and Gravel, LLC
Montana Air Quality Permit (MAQP) #3342-02

I. Permitted Equipment

Glacier Lake Sand and Gravel, LLC (Glacier Lake) owns and operates a portable crushing/screening facility consisting of four crushers (up to 1,200 tons per hour (TPH)), four screens (up to 1,200 TPH), one wash plant (up to 200 TPH), three diesel engines/generators (up to 1,500 kilowatts (kW) and 2,914 horsepower (hp)), and associated equipment.

II. Source Description

Glacier Lake uses this crushing/screening plant and associated equipment to crush sand and gravel materials for use in various construction operations. For a typical operational setup, materials are loaded into the crushing/screening plant by a hopper and transferred by conveyor and passed through the crusher. Materials are crushed, by the crusher and sent to the screens. Materials are screened, separated, and sent to stockpile for sale and use in construction operations.

III. Applicable Rules and Regulations

The following are partial quotations 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 of Environmental Quality (Department). Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

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

- A. ARM 17.8.749 Conditions for Issuance 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.
- B. 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. A source may not increase its emissions beyond those found in its permit unless the source applies for and receives another permit.
- C. ARM 17.8.765 Transfer of Permit. An air quality permit may be transferred from one location to another if:
 - 1. Written notice of intent to transfer location and proof of public notice are sent to the Department;
 - 2. The source will operate in the new location for a period of less than 1 year; and
 - 3. The source will not have any significant impact on any nonattainment area or any

Class I area.

IV. Emission Inventory

| Emission Source | pounds/day | | | | | | |
|--|---------------|--------------|--------------|---------------|---------------|--------------|--------------|
| | PM | PM10 | PM2.5 | NOx | CO | VOC | SOx |
| Crushers (up to 1,200 tons/hr) | 35.64 | 7.92 | 2.67 | -- | -- | -- | -- |
| Screens (up to 1,200 tons/hr) | 14.52 | 4.88 | 2.18 | -- | -- | -- | -- |
| Truck Unloading | 0.11 | 0.05 | 0.02 | -- | -- | -- | -- |
| Conveyors (17 Transfers) | 0.92 | 0.30 | 0.14 | -- | -- | -- | -- |
| Piles | 47.59 | 22.51 | 3.41 | -- | -- | -- | -- |
| Pug Mill | 10.10 | 4.75 | 3.03 | -- | -- | -- | -- |
| Wash Plant (up to 200 tons/hr) | 2.42 | 0.81 | 0.06 | -- | -- | -- | -- |
| Diesel Engines/Generators (up to 2,914 hp) | 35.26 | 35.26 | 35.26 | 496.84 | 107.06 | 40.29 | 32.86 |
| Haul Roads | 7.14 | 1.97 | 0.20 | -- | -- | -- | -- |
| Total Emissions | 153.70 | 78.47 | 46.95 | 496.84 | 107.06 | 40.29 | 32.86 |

Note: Emission inventory for winter season.

| Emission Source | pounds/day | | | | | | |
|--|---------------|---------------|---------------|----------------|---------------|---------------|---------------|
| | PM | PM10 | PM2.5 | NOx | CO | VOC | SOx |
| Crushers (up to 1,200 tons/hr) | 155.52 | 34.56 | 11.66 | -- | -- | -- | -- |
| Screens (up to 1,200 tons/hr) | 63.36 | 21.31 | 9.50 | -- | -- | -- | -- |
| Truck Unloading | 0.46 | 0.24 | 0.00 | -- | -- | -- | -- |
| Conveyors (17 Transfers) | 4.03 | 1.32 | 0.00 | -- | -- | -- | -- |
| Piles | 92.33 | 43.67 | 6.61 | -- | -- | -- | -- |
| Pug Mill | 44.06 | 20.74 | 13.22 | -- | -- | -- | -- |
| Wash Plant (up to 200 tons/hr) | 10.56 | 3.55 | 0.24 | -- | -- | -- | -- |
| Diesel Engines/Generators (up to 2,914 hp) | 153.86 | 153.86 | 153.86 | 2168.02 | 467.17 | 175.83 | 143.37 |
| Haul Roads | 31.15 | 8.59 | 0.86 | -- | -- | -- | -- |
| Total Emissions | 555.34 | 287.84 | 195.96 | 2168.02 | 467.17 | 175.83 | 143.37 |

Note: Emission inventory for summer season.

V. Existing Air Quality

On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀). Due to exceedances of the national standards for PM₁₀, the cities of Kalispell (and the nearby Evergreen area), Columbia Falls, Butte, Whitefish, Libby, Missoula, and Thompson Falls were designated by EPA as nonattainment for PM₁₀. As a result of this designation, the EPA required the Department and the City-County Health Departments to submit PM₁₀ State Implementation Plans (SIP). The SIPs consisted of emission control plans that controlled fugitive dust emissions from roads, parking lots, construction, and demolition, since technical studies identified these sources to be the major contributors to PM₁₀ emissions.

MAQP #3342-02 and Addendum #1 are for a portable crushing/screening plant that will locate at sites in or within 10 kilometers (km) of certain PM₁₀ nonattainment areas. The more stringent operating conditions contained in the addendum will minimize any potential impact on the nonattainment areas and will protect the national ambient air quality standards. Also, this facility is a portable source that would be expected to operate on an intermittent and temporary basis and any effects on air quality would be expected to be minor and short-lived.

VI. Air Quality Impacts

MAQP #3342-02 and Addendum #1 will cover the operations of this portable crushing/screening plant while operating at any location within Montana, excluding those counties that have a Department approved permitting program and those areas that are tribal lands.

Addendum #1 will cover the operations of this portable crushing/screening plant, while operating in or within 10 km of a PM₁₀ nonattainment area during the winter months (October 1 through March 31) as well as during the summer months (April 1 through September 30).

VII. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

| 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? |
| | | 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.

Addendum Analysis Prepared by: Skye Hatten
Date: July 12, 2010