Montana Department of
ENVIRONMENTAL QUALITY
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March 17, 2014

Josh Letcher
Kootenai Sand and Gravel
P.O. Box 915
Eureka, MT 59917

Dear Mr. Letcher

Montana Air Quality Permit #3802-02 is deemed final as of March 15, 2014, by the Department of Environmental Quality (Department). This permit is for a non-metallic mineral/crushing operation. 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,

Julie A. Merkel
Air Permitting Supervisor
Air Resources Management Bureau
(406) 444-3626

Craig Henrikson
Environmental Engineer
Air Resources Management Bureau
(406) 444-6711

JM:CH
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #3802-02

Josh Letcher
Kootenai Sand and Gravel
P.O. Box 915
Eureka, MT 59917

March 15, 2014

MONTANA AIR QUALITY PERMIT

Issued To: Kootenai Sand and Gravel, Inc.
P.O. Box 915
Eureka, MT 59917

MAQP: #3802-02
Administrative Amendment (AA) Request Received: 2/11/14
Department's Decision On AA: 2/27/2014
Permit Final: 3/15/2014
AFS #777-3802

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

Section I: Permitted Facilities

A. Plant Location

Kootenai operates a portable crushing/screening operation. The legal description of the facility's home pit is in Section 11, Township 36 North, Range 27 West, Lincoln County, Montana. However, MAQP #3802-02 applies while operating at any location in Montana, except those areas having a Montana 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*.

Addendum #1 and MAQP #3802-02 apply while operating at any location in or within 10 km of certain PM_{10} nonattainment areas during the summer season (April 1 – September 30) and at approved locations in or within 10 km of certain PM10 nonattainment areas during the winter season (October 1 – March 31).

B. Current Permit Action

On February 11, 2014, the Department received a request from Kootenai for approval to operate the equipment associated with this permit in the USFS pit located in Section 01, Township 29 North, Range 31 West in Lincoln County. This pit is within the Libby PM_{10} nonattainment area. The current permit action is an administrative permit action in accordance with ARM 17.8.764 that adds an addendum with summer and winter season operating conditions and establishes the USFS Pit as an approved location for the summer and winter season operation. The action also updates the list of permitted equipment and the associated emission inventory.

Section II: Limitations and Conditions

A. Emission Limitations

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 Code of Federal Regulations (CFR) 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 (such as screens and conveyors) shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart OOO):

    - For equipment that commence construction, modification, or reconstruction on or after April 22, 2008: 7% opacity

    - For equipment that commence 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 spray bars, water, and/or chemical dust suppressant 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 and ARM 17.8.752).

5. Kootenai 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. Kootenai 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. Kootenai shall not operate more than two screen plants at any given time and the rated material throughput design capacity of the screen plants shall not exceed 150 tons per hour (TPH) (ARM 17.8.749).

8. Kootenai shall not operate more than two crushers at any given time and the combined maximum rated material throughput design capacity of the crushers shall not exceed 250 TPH (ARM 17.8.749).

9. Kootenai shall not operate more than two diesel engines/generators at any given time and the combined maximum rated design capacity of the diesel-fired engines/generators shall not exceed 470 brake horsepower (bhp) (ARM 17.8.749).

10. If the permitted equipment is used in conjunction with any other equipment owned or operated by Kootenai, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons of emissions during any rolling 12-month time period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).

11. Kootenai shall comply with all applicable standards and limitations, and the reporting, recordkeeping, monitoring, and notification requirements contained in 40 CFR 60, Subpart OOO (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

B. Testing Requirements

1. Within 60 days after achieving maximum production, but no later than 180 days after initial start-up, an Environmental Protection Agency (EPA) Method 9 opacity test and/or other methods and procedures as specified in 40 CFR 60.675 must be performed on all NSPS affected equipment to demonstrate compliance with the emission limitations contained in Section II.A.1 and II.A.2 (ARM 17.8.340 and 40 CFR 60, General Provisions and Subpart OOO). Additional testing may be required by 40 CFR 60, Subpart OOO (ARM 17.8.340 and 40 CFR 60, 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. In addition, 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 Intent to Transfer form and 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. Kootenai 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.

3. Kootenai 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 or the addition of a new emission unit. 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. Kootenai shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. All records compiled in accordance with this permit shall be maintained by Kootenai as a permanent business record for at least 5 years following the date of the measurement, must be submitted to the Department upon request, and must be available at the plant site for inspection by the Department (ARM 17.8.749).

Section III: General Conditions

A. Inspection – Kootenai 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 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 Kootenai fails to appeal as indicated below.

C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving Kootenai 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. Air Quality Operation Fees – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Kootenai 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).

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. Kootenai 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
Kootenai Sand & Gravel, Inc.
MAQP #3802-02

I. Introduction/Process Description

Kootenai Sand and Gravel Inc. owns and operates a portable non-metallic mineral processing plant.

A. Permitted Equipment

Kootenai Sand & Gravel, Inc. (Kootenai), owns and operates a portable non-metallic mineral processing plant (crushing/screening plant) consisting of a Lippman 3618 Jaw Crusher (100 tons per hour (TPH)) a CEC 450 cone crusher and screen plant (150 TPH); a CEC Roadrunner Screen-It plant (150 TPH); a wash plant and sand screw (150 tph); a 350-horsepower (hp) diesel-fired power plant; a 120-hp diesel-fired power plant; and associated material handling equipment including conveyors.

B. Source Description

For a typical operational set-up, material is fed into the feed hopper with the loaders. Material is transferred via conveyors to screens and crushers for crushing, sorting and stockpiling.

C. Permit History

On April 29, 2006, Kootenai was issued a final MAQP for the operation of a portable crushing/screening facility consisting of a Kolman Feeder with Grizzly Screen (45 TPH); a Cedarapids roll crusher with a 2-deck screen (35 TPH); a 120-hp diesel power plant; a 20-hp gasoline-fired power plant; and associated equipment. The permit was assigned **MAQP #3802-00**.

On March 20, 2007, the Department received a complete application for a permit modification from Kootenai. Specifically, Kootenai proposed the addition of a Kolberg feeder and screen plant (150 TPH); a CEC 450 cone crusher and screen plant (150 TPH); a wash plant and sand screw (150 TPH); a CEC Roadrunner Screen-It plant (150 TPH); a 350-hp diesel-fired power plant; a 76-hp turbo-charged diesel engine; a 45-hp gasoline-fired power plant; and associated material handling conveyors. **MAQP #3802-01** replaced MAQP #3802-00.

D. Current Permit Action

On February 11, 2014, the Department received a request from Kootenai for approval to operate the equipment associated with this permit in the USFS pit located in Section 01, Township 29 North, Range 31 West in Lincoln County. This pit is within the Libby particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment area. The current permit action is an administrative permit action in accordance with ARM 17.8.764 that adds an addendum with summer and winter season operating conditions and establishes the USFS Pit as an approved location for summer and winter season operation. It also updates the permitted equipment list and associated emission inventory. **MAQP #3802-02** replaces MAQP #3802-01 and establishes **Addendum #1**.

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 subchapter, 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).

   Kootenai 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 that a public nuisance is created.

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 (SO_2)
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide (CO)
4. ARM 17.8.213 Ambient Air Quality Standards for Ozone
5. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter (PM)
6. ARM 17.8.221 Ambient Air Quality Standard for Visibility
7. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}

Kootenai must comply 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 (PM). (2) Under this rule, Kootenai 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 rule.

4. ARM 17.8.310 Particulate Matter, Industrial Processes. This rule requires that no person shall cause or allow to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.

6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank truck or trailer is equipped with a vapor loss control device as described in (1) of this rule.

7. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 Code of Federal Regulations (CFR) 60, Standards of Performance for New Stationary Sources (NSPS). The owner or operator of any stationary source or modification, as defined and applied in 40 CFR 60, NSPS, shall comply with the standards and provisions of 40 CFR 60.

    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 Kootenai, the portable crushing equipment to be used under MAQP #3802-02 is subject to this subpart because the date of manufacture of the equipment was 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 Kootenai, the CI ICE equipment to be used under MAQP #3802-02 is potentially subject to his subpart.

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. The owner or operator of any stationary source or modification, as defined and applied in 40 CFR Part 63, NESHAPS, shall comply with the standards and provisions of 40 CFR 63

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. A RICE is considered stationary if it remains or will remain at the permitted location for more than 12 months, or a shorter period of time for an engine located at a seasonal source. A seasonal source remains at a single location on a permanent basis (at least 2 years) and operates 3 months or more each year. Based on the information submitted by Kootenai the RICE equipment to be used under this permit may be potentially 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 Kootenai 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 amendment.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department. This 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 facility to obtain an air quality permit or permit alteration 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. Kootenai has a PTE greater than 15 tons per year of 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.

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. Kootenai 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. 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 Kootenai 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 accordance with Section III.H of the permit is 3 years after MAQP #3802-02 is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of Kootenai, 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 does not have a PTE greater than 250 tons per year (excluding fugitive emissions) of any air pollutant.

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.

   c. PTE > 70 tons/year of PM_{10} in a serious PM_{10} 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 #3802-02 for the Kootenai facility, the following conclusions were made:

   a. The facility's allowable 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 of all HAPs.

   c. This source is not located in a serious PM_{10} nonattainment area.

   d. This facility is potentially subject to the area source provisions of a current NESHAP standard (40 CFR 63, Subpart ZZZZ).

   e. The facility is subject to NSPS standards (40 CFR 60, Subpart A, General Provisions, and Subpart OOO, Non-Metallic Mineral Processing Plants).

   f. This source is not a Title IV affected source nor a solid waste combustion unit.

   g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that Kootenai is not subject to the Title V Operating Permit Program. However, in the event that the EPA makes minor sources that are subject to NSPS obtain a Title V Operating Permit, Kootenai may be subject to the Title V Operating Permit Program.

III. BACT Determination

A BACT determination is required for each new or modified source. Kooentai 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

	Emissions Tons/Year [PTE]							
Emission Source	PM	PM_{10}	$PM_{2.5}$	$PM_{Cond.}$	CO	NO_x	SOx	VOC
Two Crushers	1.31	0.59	0.11					
Truck Unloading (Assume all material is unloaded that can be processed in crusher)	0.02	0.02	--					
Screens (Two Vibrating)	1.45	0.49	0.03					
Transfer Points (Assume 5 Transfer Points)	0.77	0.25	0.07					
Pile Formation	3.54	1.67	0.25					
Truck Loading (Assume all material is eventually loaded)	0.15	0.05	0.05					
Diesel Generators (Total 470 hp)	4.53	4.53	4.53	0.68	13.75	63.82	4.22	5.17
Unpaved Roadways (Haul Roads)	5.39	1.49	0.15					
EMISSIONS (Excluding Haul Roads)	11.77	7.60	5.05	0.68	13.75	63.82	4.22	5.17

Kootenai Sand and Gravel

Crusher Capacity

Process Rate:	250	ton/hr	(Two Crushers)
Operating Hours	8760	hours/year	

PM Emissions:

Emission Factor	0.0012	lbs/ton	[AP-42 Table 11.19.2-2 8/04]

Calculations

(0.0012 lbs/ton) * (250.00 ton/hour) = 0.30 lbs/hr

(0.30 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) = 1.31 TPY

PM_{10} Emissions:					
Emission Factor	0.00054	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.00054 lbs/ton) * (250.00 ton/hour) =			0.14	lbs/hr
	(0.14 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.59	TPY
$PM_{2.5}$ Emissions:					
Emission Factor	0.0001	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.0001 lbs/ton) * (250.00 ton/hour) =			0.03	lbs/hr
	(0.03 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.11	TPY
Truck Unloading (Assume all material is unloaded that can be processed in the crusher)					
Process Rate:	250.0	ton/hr (Assumes each crusher operates independently)			
Operating Hours	8760	hours/year			
PM_{10} Emissions:					
Emission Factor	0.000016	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.000016 lbs/ton) * (250.00 ton/hour) =			0.00	lbs/hr
	(0.00 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.02	TPY
Screening					
Process Rate:	150	ton/hr	(Two Screens)		
Operating Hours	8760	hours/year			
PM Emissions:			(Screening controlled)		
Emission Factor	0.00220	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.0022 lbs/ton) * (150.00 ton/hour) =			0.33	lbs/hr
	(0.33 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			1.45	TPY
PM_{10} Emissions:					
Emission Factor	0.00074	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.00074 lbs/ton) * (150.00 ton/hour) =			0.11	lbs/hr
	(0.11 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.49	TPY

$PM_{2.5}$ Emissions:

Emission Factor	0.00005	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.00005 lbs/ton) * (150.00 ton/hour) =			0.01	lbs/hr
	(0.01 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.03	TPY

Transfer Points (Assume 5 Transfer Point that are Controlled)

Process Rate:	1250	ton/hr (total of conveyors each handling 250 tph)			
Operating Hours	8760	hours/year			
PM Emissions:			(Conveyor Transfer Points)		
Emission Factor	0.00014	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.00014 lbs/ton) * (1,250.00 ton/hour) =			0.18	lbs/hr
	(0.18 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.77	TPY

PM_{10} Emissions:

Emission Factor	0.000046	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.000046 lbs/ton) * (1,250.00 ton/hour) =			0.06	lbs/hr
	(0.06 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.25	TPY

$PM_{2.5}$ Emissions:

Emission Factor	0.000013	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.000013 lbs/ton) * (1,250.00 ton/hour) =			0.02	lbs/hr
	(0.02 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.07	TPY

Pile Formation (Assume equipment thru- put is crusher total capacity)

Process Rate:	250	ton/hr	Equation 1 from AP-42 Sec 13.2.4.3 11/06		
Operating Hours	8760	hrs/year	U = wind speed miles per hour	8.15	(Typical Value)
			k = particle size multiplier	0.74	AP-42 Sec 13.2.4-3 11/06
			M = Moisture content %	2.52	(Typical Value)

PM Emissions:							
Emission Factor	0.003233753	lbs/ton	E=k*(0.0032)*(U/5)^1.3/(M/2)^1.4				
Calculations	(0.00323 lbs/ton) * (250.00 ton/hour) =				0.81	lbs/hr	
	(0.81 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =				3.54	TPY	
			Equation 1 from AP-42 Sec 13.2.4.3 11/06				
			U = wind speed miles per hour	8.15		8.15	(Typical Value)
			k = particle size multiplier	0.35		0.35	AP-42 Sec 13.2.4-3 11/06
PM_{10} Emissions:			M = Moisture content %	2.52		2.52	(Typical Value)
Emission Factor	0.001529478	lbs/ton	E=k*(0.0032)*(U/5)^1.3/(M/2)^1.4				
Calculations	(0.00153 lbs/ton) * (250.00 ton/hour) =				0.38	lbs/hr	
	(0.38 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =				1.67	TPY	
$PM_{2.5}$ Emissions:			Equation 1 from AP-42 Sec 13.2.4.3 11/06				
			U = wind speed miles per hour	8.15		8.15	(Typical Value)
			k = particle size multiplier	0.053		0.35	AP-42 Sec 13.2.4-3 11/06
			M = Moisture content %	2.52		2.52	(Typical Value)
Emission Factor	0.000231607	lbs/ton	E=k*(0.0032)*(U/5)^1.3/(M/2)^1.4				
Calculations	(0.00023 lbs/ton) * (250.00 ton/hour) =				0.06	lbs/hr	
	(0.06 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =				0.25	TPY	

Truck Loading (Assume all material is eventually loaded)

Modeled as Truck Loading Conveyor

Process Rate:	250	ton/hr	
Operating Hours	8760	hours/year	
PM Emissions:			
Emission Factor	0.00014	lbs/ton	[AP-42 Table 11.19.2-2 8/04]
Calculations	(0.00014 lbs/ton) * (250.00 ton/hour) =	0.04	lbs/hr
	(0.04 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =	0.15	TPY
PM_{10} Emissions:			
Emission Factor	0.000046	lbs/ton	[AP-42 Table 11.19.2-2 8/04]

Calculations	(0.000046 lbs/ton) * (250.00 ton/hour) =		0.01	lbs/hr
	(0.01 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =		0.05	TPY

Diesel Generators (Total 470 hp)

Engine Rating:	470	hp	
Operating Hours:	8760	hrs/yr	
Fuel Input	3.29	MMbtu/hr	BSFC = 7,000 BTU/hp-hr (AP42 Table 3.3-1 10/96)
	24.015	gallons/hr (137,000 BTU/gal)	

Particulate Emissions:

PM Emissions:

Emission Factor	0.0022	lb/hp-hr	[AP-42 3.3-1, 10/96]		
Calculations	(0.0022 lb/hp-hr) * (470 hp) =			1.03	lbs/hr
	(1.03 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =			4.53	TPY

PM_{10} Emissions:

Emission Factor	0.002200	lb/hp-hr	[AP-42 3.3-1, 10/96]		
Calculations	(0.0022 lb/hp-hr) * (470 hp) =			1.03	lbs/hr
	(1.03 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =			4.53	TPY

$PM_{2.5}$ Emissions (filterable):

Emission Factor	0.0022000	lb/hp-hr	[AP-42 3.3-1, 10/96]		
Calculations	(0.0022 lb/hp-hr) * (470 hp) =			1.03	lbs/hr
	(1.03 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =			4.53	TPY

$PM_{2.5}$ Emissions (condensable):

Emission Factor	0.0003	lb/hp-hr [AP-42 3.3-1, 10/96]	AP-42 Table 3.4.2 Reference		
Calculations	(0.00033 lb/hp-hr) * (470 hp) =			0.16	lbs/hr
	(0.16 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =			0.68	TPY

CO Emissions:

Emission Factor	0.00668	lb/hp-hr	[AP-42 3.3-1, 10/96]		
Calculations	(0.00668 lb/hp-hr) * (470 hp) =			3.14	lbs/hr
	(3.14 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =			13.75	TPY

NOx Emissions:

Emission Factor	0.0310	lb/hp-hr	[AP-42 3.3-1, 10/96]		
Calculations	(0.031 lb/hp-hr) * (470 hp) =			14.57	lbs/hr
	(14.57 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =			63.82	TPY

SO_x Emissions:

Emission Factor	0.00205	lb/hp-hr	[AP-42 3.3-1, 6/06]		
Calculations	(0.0021 lb/hp-hr) * (470 hp) =			0.96	lbs/hr
	(0.96 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =			4.22	TPY

VOC Emissions:

Emission Factor	0.00251	lb/hp-hr	[AP-42 3.3-1, 6/06]		
Calculations	(0.0025 lb/hp-hr) * (470 hp) =			1.18	lbs/hr
	(1.18 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =			5.17	TPY

Unpaved Roadways (Haul Roads)

Emission Factor: $EF = k(s/12)^{a} * (W/3)^{b}$ [AP-42 13.2.2.2, 11/06]

EF, Emission Factor = lbs Emitted Per Vehicle Mile Traveled (VMT)

k, Empirical Constant PM =	4.9	[AP-42 Table 13.2.2-2, 11/06]
k, Empirical Constant PM_{10} =	1.5	[AP-42 Table 13.2.2-2, 11/06]
k, Empirical Constant $PM_{2.5}$ =	0.15	[AP-42 Table 13.2.2-2, 11/06]
s, Surface Material Silt Content (%) =	7.1	[AP-42 Table 13.2.2-1, 11/06]
W, Mean Vehicle Weight (tons) =	48	[Estimated]
a, Empirical Constant PM =	0.7	[AP-42 Table 13.2.2-2, 11/06]
a, Empirical Constant PM_{10} and $PM_{2.5}$ =	0.9	[AP-42 Table 13.2.2-2, 11/06]
b, Empirical Constant PM , PM10 and $PM_{2.5}$ =	0.45	[AP-42 Table 13.2.2-2, 11/06]

PM Emissions(uncontrolled): PM30

Emission Factor	EF = 4.9 * (7.1/12)^0.7 * (48/3)^0.45 =	11.82	lbs/VMT	
Calculations	(11.82 lbs/VMT) * (5 miles/day) =		59.08	lbs/day
	(59.08 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =		10.78	TPY
	50% Control Efficiency		5.39	TPY

PM_{10} Emissions(uncontrolled):

Emission Factor	EF = 1.5 * (7.1/12)^0.9 * (48/3)^0.45 =	3.26	lbs/VMT	
Calculations	(3.26 lbs/VMT) * (5 miles/day) =		16.28	lbs/day
	(16.28 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =		2.97	TPY
	50% Control Efficiency		1.486	TPY

$PM_{2.5}$
Emissions(uncontrolled):

Emission Factor	EF = 0.15 * (7.1/12)^0.9 * (48/3)^0.45 =	0.33	lbs/VMT	
Calculations	(0.33 lbs/VMT) * (5 miles/day) =		1.63	lbs/day
	(1.63 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =		0.30	TPY
	50% Control Efficiency		0.15	TPY

V. Existing Air Quality

On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for PM_{10}. Due to exceedance of the national standards for PM_{10}, 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 PM_{10}. As a result of this designation, the EPA required the Department and the City-County Health Departments to submit PM_{10} 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 PM_{10} emissions.

MAQP #3802-02 and Addendum #1 are for a portable crushing/screening plant that will potentially operate at sites in or within 10 km of certain PM_{10} 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 operate on an intermittent and temporary basis and any effects on air quality will be minor and short-lived.

VI. Air Quality Impacts

MAQP #3802-02 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. Addendum #1 will cover the operations of this portable crushing/screening plant, while operating in or within 10 km of PM_{10} nonattainment areas. This permit and addendum contain conditions and limitations that would protect air quality for the site and surrounding area. Furthermore, 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 of limited duration.

VII. Ambient Air Impact Analysis

As per Department policy based on the Memo titled “Modeling for Portable Sources In or Near Nonattainment Areas” dated October 14, 2005, the Department conducted a screening level air dispersion modeling analysis on point source emissions to verify that the maximum combined 24-hour impact would be less than 5 micrograms per cubic meter ($\mu g/m^3$) while operating during winter months in PM_{10} nonattainment areas. The only point sources of emissions at the facility are the diesel generator engines. An EPA SCREEN3 screening air dispersion model was used with an input of 470 hp based on the information provided from the applicant.

VIII. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
		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: Craig Henrikson
Date: February 14, 2014

Addendum #1
Kootenai Sand and Gravel Inc.
Montana Air Quality Permit (MAQP) #3802-02

An addendum to MAQP #3802-02 is issued to Kootenai Sand and Gravel Inc. (Kootenai), 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:

I. Permitted Equipment

The facility is permitted to operate up to two crushers with a combined maximum material throughput capacity not to exceed 250 tons per hour (TPH), two screens with a combined maximum material throughput capacity not to exceed 150 TPH, up to two diesel-fired generator engines with a combined maximum rated capacity not to exceed 470 brake-horsepower (bhp), and multiple conveyors.

II. Seasonal and Site Restrictions

Addendum #1 applies to the Kootenai 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 (PM_{10}) nonattainment areas. Additionally, seasonal and site restrictions apply to the facility as follows:

A. During the summer season (April 1 – September 30), Kootenai may operate at any location in or within 10 km of the Butte, Columbia Falls, Kalispell, Libby, Thompson Falls, and Whitefish PM_{10} nonattainment areas.

B. During the winter season (October 1 – March 31), the only locations in or within 10 km of a PM_{10} nonattainment area where Kootenai may operate are:

1. Libby – USFS pit located in Section 01, Township 29 North, Range 31 West in Lincoln county; and

2. Any other site that may be approved, in writing, by the Montana Department of Environmental Quality (Department).

C. Kootenai shall comply with the limitations and conditions contained in Addendum #1 to MAQP #3802-02 while operating in or within 10 km of any of the previously identified PM_{10} 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 – **Summer Season**

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 and ARM 17.8.752).

2. Kootenai shall not cause or authorize to be discharged into the atmosphere from any equipment, such as screens or transfer points, 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 (ARM17.8.340 and 40 CFR 60, Subpart OOO).

3. Kootenai 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. Kootenai 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 and ARM 17.8.752).

5. Kootenai shall not operate, or have on-site, more than two (2) crushers at any one time. Total combined crusher production shall not exceed 6,000 tons per day (ARM 17.8.749).

6. Kootenai shall not operate, or have on-site, more than two (2) screens at any one time. Total combined screen production shall not exceed 3,600 tons per day (ARM 17.8.749).

7. Kootenai shall not operate, or have on-site more than two (2) diesel-fired generator engines. The combined maximum capacity of the engines that drive the generators shall not exceed 470 bhp (ARM 17.8.749).

B. Operational Limitations and Conditions – **Winter Season**

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 and ARM 17.8.752).

2. Kootenai shall not cause or authorize to be discharged into the atmosphere from any equipment, such as screens or transfer points, 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 (ARM17.8.340 and 40 CFR 60, Subpart OOO).

3. Kootenai 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. Kootenai 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 and ARM 17.8.752).

5. Kootenai shall not operate, or have on-site, more than two (2) crushers at any one time. Total combined crusher production shall not exceed 6,000 tons per day (ARM 17.8.749).

6. Kootenai shall not operate, or have on-site, more than two (2) screens at any one time. Total combined screen production shall not exceed 3,600 tons per day (ARM 17.8.749).

7. Kootenai shall not operate, or have on-site more than two (2) diesel-fired generator engines. The combined maximum capacity of the engines that drive the generators shall not exceed 470 bhp (ARM 17.8.749).

8. The diesel-fired generator engines shall not be operated for more than a combined 11,280 horsepower-hours (hp-hr) during any rolling 24-hour period (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 re-circulated/rerun material). Kootenai shall document, by day, the total crushing production. Kootenai 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 re-circulated/rerun material). Kootenai shall document, by day, the total screening production. Kootenai 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 hours of operation at each site.

   d. Daily hours of operation and the hp for each engine at each site.

   e. Daily tons of bulk material loaded at each site (production).

   f. Fugitive dust information consisting of the daily total miles driven on unpaved roads within the operating site for all plant vehicles.

Addendum #1 Analysis
Kootenai Sand and Gravel Inc.
Montana Air Quality Permit (MAQP) #3802-02

I. Permitted Equipment

Kootenai Sand and Gravel Inc. (Kootenai) owns and operates a portable non-metallic mineral processing operation consisting of up to two (2) crushers with a maximum combined capacity of 250 tons per hour (TPH) combined, up to two (2) screens with a maximum combined capacity of 150 TPH combined, up to two (2) diesel-fired generator engines with a combined maximum capacity rating of 470 brake-horsepower (bhp), multiple conveyors and handling equipment.

II. Source Description

Kootenai proposes to use this crushing/screening plant to crush, screen, and sort sand and gravel materials for use in various construction operations. For a typical operational setup, unprocessed materials are loaded into the crushing/screening plant via a hopper and transferred by conveyor to the crushers. From the crusher, materials are sent to the screen, where they are separated and conveyed to stockpiles.

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 Montana 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

	Emissions in lb/day [PTE]							
Emission Source Summer Operation	PM	PM_{10}	$PM_{2.5}$	$PM_{Cond.}$	CO	NO_x	SOx	VOC
Two Crushers	7.20	3.24	0.60					
Truck Unloading (Assume all material is unloaded that can be processed in crusher)	0.10	0.10	--					
Screens (Two Vibrating)	7.92	2.66	0.18					
Transfer Points (Assume 5 Transfer Points)	4.20	1.38	0.39					
Pile Formation	19.40	9.18	1.39					
Truck Loading (Assume all material is eventually loaded)	0.84	0.28	0.28					
Diesel Generators (Total 470 hp)	24.82	24.82	24.82	4.53	75.35	64.63	23.12	28.32
Unpaved Roadways (Haul Roads)	29.54	8.14	0.81					
EMISSIONS (Excluding Haul Roads)	64.47	41.65	27.65	4.53	75.35	64.63	23.12	28.32

NOTE: Summer Season operation reflects restrictions on daily operating hours or daily production, if necessary, to maintain facility PM_{10} emissions to less than 547 lbs/day as per Department policy. Due to the small size of the production equipment, no further hourly restrictions were necessary to operate in the non-attainment area during the summer months.

	Emissions in lb/day [PTE]							
Emission Source Summer Operation	PM	PM_{10}	$PM_{2.5}$	$PM_{Cond.}$	CO	NO_x	SOx	VOC
Two Crushers	7.20	3.24	0.60					
Truck Unloading (Assume all material is unloaded that can be processed in crusher)	0.10	0.10	--					
Screens (Two Vibrating)	7.92	2.66	0.18					
Transfer Points (Assume 5 Transfer Points)	4.20	1.38	0.39					
Pile Formation	19.40	9.18	1.39					
Truck Loading (Assume all material is eventually loaded)	0.84	0.28	0.28					
Diesel Generators (Total 470 hp)	24.82	24.82	24.82	4.53	75.35	64.63	23.12	28.32
Unpaved Roadways (Haul Roads)	29.54	8.14	0.81					
EMISSIONS (Excluding Haul Roads)	64.47	41.65	27.65	4.53	75.35	64.63	23.12	28.32

NOTE: Winter Season operation reflects restrictions on daily operating hours or daily production, if necessary, to maintain facility PM_{10} emissions to less than 82 lbs/day as per Department policy. In addition, point source emissions are analyzed with air dispersion modeling software (EPA SCREEN3) to verify that ambient impacts do not

exceed 5 micrograms per cubic meter ($\mu g/m^3$) of PM_{10} on a 24-hr basis. Due to the small size of the production equipment, no further hourly restrictions were necessary to operate in the non-attainment area during the winter months.

Kootenai Sand and Gravel

Crusher Capacity					
Process Rate:	250	ton/hr	(Two Crushers)		
Operating Hours	8760	hours/year			
PM Emissions:					
Emission Factor	0.0012	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.0012 lbs/ton) * (250.00 ton/hour) =			0.30	lbs/hr
	(0.30 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			1.31	TPY
	Summer and Winter Daily Calculation			7.2	lb/day
PM_{10} Emissions:					
Emission Factor	0.00054	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.00054 lbs/ton) * (250.00 ton/hour) =			0.14	lbs/hr
	(0.14 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.59	TPY
	Summer and Winter Daily Calculation			3.24	lb/day
$PM_{2.5}$ Emissions:					
Emission Factor	0.0001	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.0001 lbs/ton) * (250.00 ton/hour) =			0.03	lbs/hr
	(0.03 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.11	TPY
	Summer and Winter Daily Calculation			0.60	lb/day
Truck Unloading (Assume all material is unloaded that can be processed in the crusher)					
Process Rate:	250.0	ton/hr (Assumes each crusher operates independently)			
Operating Hours	8760	hours/year			
PM_{10} Emissions:					
Emission Factor	0.000016	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.000016 lbs/ton) * (250.00 ton/hour) =			0.00	lbs/hr
	(0.00 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.02	TPY
	Summer and Winter Daily Calculation			0.096	lb/day

Screening

Process Rate:	150	ton/hr	(Two Screens)		
Operating Hours	8760	hours/year			
PM Emissions:			(Screening controlled)		
Emission Factor	0.00220	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.0022 lbs/ton) * (150.00 ton/hour) =			0.33	lbs/hr
	(0.33 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			1.45	TPY
	Summer and Winter Daily Calculation			7.92	lb/day
PM_{10} Emissions:					
Emission Factor	0.00074	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.00074 lbs/ton) * (150.00 ton/hour) =			0.11	lbs/hr
	(0.11 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.49	TPY
	Summer and Winter Daily Calculation			2.66	lb/day
$PM_{2.5}$ Emissions:					
Emission Factor	0.00005	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.00005 lbs/ton) * (150.00 ton/hour) =			0.01	lbs/hr
	(0.01 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.03	TPY
	Summer and Winter Daily Calculation			0.18	lb/day

Transfer Points (Assume 5 Transfer Point that are Controlled)

Process Rate:	1250	ton/hr (total of conveyors each handling 250 tph)			
Operating Hours	8760	hours/year			
PM Emissions:			(Conveyor Transfer Points)		
Emission Factor	0.00014	lbs/ton	[AP-42 Table 11.19.2-2 8/04]		
Calculations	(0.00014 lbs/ton) * (1,250.00 ton/hour) =			0.18	lbs/hr
	(0.18 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.77	TPY
	Summer and Winter Daily Calculation			4.2	lb/day
PM_{10} Emissions:					
Emission Factor	0.000046	lbs/ton [AP-42 Table 11.19.2-2 8/04]			

Calculations	(0.000046 lbs/ton) * (1,250.00 ton/hour) =			0.06	lbs/hr
	(0.06 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.25	TPY
	Summer and Winter Daily Calculation			1.38	lb/day

$PM_{2.5}$ Emissions:

Emission Factor	0.000013	lbs/ton	[AP-42 Table 11.19.2-2 8/04]

Calculations	(0.000013 lbs/ton) * (1,250.00 ton/hour) =			0.02	lbs/hr
	(0.02 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			0.07	TPY
	Summer and Winter Daily Calculation			0.39	lb/day

Pile Formation (Assume equipment thru- put is crusher total capacity)

Process Rate:	250	ton/hr	Equation 1 from AP-42 Sec 13.2.4.3 11/06		
Operating Hours	8760	hrs/year	U = wind speed miles per hour	8.15	(Typical Value)
			k = particle size multiplier	0.74	AP-42 Sec 13.2.4-3 11/06
PM Emissions:			M = Moisture content %	2.52	(Typical Value)

Emission Factor	0.003233753	lbs/ton	E=k*(0.0032)*(U/5)^1.3/(M/2)^1.4

Calculations	(0.00323 lbs/ton) * (250.00 ton/hour) =			0.81	lbs/hr
	(0.81 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			3.54	TPY
				19.40	lb/day

			Equation 1 from AP-42 Sec 13.2.4.3 11/06		
			U = wind speed miles per hour	8.15	8.15 (Typical Value)
			k = particle size multiplier	0.35	0.35 AP-42 Sec 13.2.4-3 11/06
PM_{10} Emissions:			M = Moisture content %	2.52	2.52 (Typical Value)

Emission Factor	0.001529478	lbs/ton	E=k*(0.0032)*(U/5)^1.3/(M/2)^1.4

Calculations	(0.00153 lbs/ton) * (250.00 ton/hour) =			0.38	lbs/hr
	(0.38 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =			1.67	TPY
	Summer and Winter Daily Calculation			9.18	lb/day

$PM_{2.5}$ Emissions:			Equation 1 from AP-42 Sec 13.2.4.3 11/06		
			U = wind speed miles per hour	8.15	8.15 (Typical Value)
			k = particle size multiplier	0.053	0.35 AP-42 Sec 13.2.4-3 11/06
			M = Moisture content %	2.52	2.52 (Typical Value)

Emission Factor	0.000231607	lbs/ton	E=k*(0.0032)*(U/5)^1.3/(M/2)^1.4

Calculations	(0.00023 lbs/ton) * (250.00 ton/hour) =		0.06	lbs/hr
	(0.06 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =		0.25	TPY
	Summer and Winter Daily Calculation		1.38964	lb/day

Truck Loading (Assume all material is eventually loaded)

Modeled as Truck Loading Conveyor

Process Rate:	250	ton/hr	
Operating Hours	8760	hours/year	
PM Emissions:			
Emission Factor	0.00014	lbs/ton	[AP-42 Table 11.19.2-2 8/04]

Calculations	(0.00014 lbs/ton) * (250.00 ton/hour) =	0.04	lbs/hr
	(0.04 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =	0.15	TPY
	Summer and Winter Daily Calculation	0.84	lb/day

PM_{10} Emissions:			
Emission Factor	0.000046	lbs/ton	[AP-42 Table 11.19.2-2 8/04]

Calculations	(0.000046 lbs/ton) * (250.00 ton/hour) =	0.01	lbs/hr
	(0.01 lbs/hr) * (8760 hrs/yr) *(0.0005 tons/lb) =	0.05	TPY
	Summer and Winter Daily Calculation	0.276	lb/day

Diesel Generators (Total 470 hp)

Engine Rating:	470	hp	
Operating Hours:	8760	hrs/yr	
Fuel Input	3.29	MMbtu/hr	BSFC = 7,000 BTU/hp-hr (AP42 Table 3.3-1 10/96)
	24.015	gallons/hr (137,000 BTU/gal)	

Particulate Emissions:

PM Emissions:			
Emission Factor	0.0022	lb/hp-hr	[CAT Spec Sheet]

Calculations	(0.0022 lb/hp-hr) * (470 hp) =	1.03	lbs/hr
	(1.03 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	4.53	TPY
	Summer and Winter Daily Calculation	24.816	lb/day

PM_{10} Emissions:			
Emission Factor	0.002200	lb/hp-hr	[Cat Spec Sheet]

Calculations	(0.0022 lb/hp-hr) * (470 hp) =	1.03	lbs/hr
	(1.03 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	4.53	TPY
	Summer and Winter Daily Calculation	24.816	lb/day

$PM_{2.5}$ Emissions (filterable):

Emission Factor	0.0022000	lb/hp-hr	[Cat Spec Sheet]		
Calculations	(0.0022 lb/hp-hr) * (470 hp) =			1.03	lbs/hr
	(1.03 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =			4.53	TPY
	Summer and Winter Daily Calculation			24.82	lb/day

CO Emissions:

Emission Factor	0.00668	lb/hp-hr	[Cat Spec Sheet]		
Calculations	(0.00668 lb/hp-hr) * (470 hp) =			3.14	lbs/hr
	(3.14 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =			13.75	TPY
	Summer and Winter Daily Calculation			75.35	lb/day

NOx Emissions:

Emission Factor	0.0057	lb/hp-hr	[Cat Spec Sheet]		
Calculations	(0.00573 lb/hp-hr) * (470 hp) =			2.69	lbs/hr
	(2.69 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =			11.80	TPY
	Summer and Winter Daily Calculation			64.63	lb/day

SO_x Emissions:

Emission Factor	0.00205	lb/hp-hr	[AP-42 3.3-1, 6/06]		
Calculations	(0.0021 lb/hp-hr) * (470 hp) =			0.96	lbs/hr
	(0.96 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =			4.22	TPY
	Summer and Winter Daily Calculation			23.12	lb/day

VOC Emissions:

Emission Factor	0.00251	lb/hp-hr	[AP-42 3.3-1, 6/06]		
Calculations	(0.0025 lb/hp-hr) * (470 hp) =			1.18	lbs/hr
	(1.18 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =			5.17	TPY
	Summer and Winter Daily Calculation			28.3241	lb/day

Unpaved Roadways (Haul Roads)

Emission Factor	EF = k(s/12)^a * (W/3)^b		[AP-42 13.2.2.2, 11/06]
	EF, Emission Factor = lbs Emitted Per Vehicle Mile Traveled (VMT)		
	k, Empirical Constant PM =	4.9	[AP-42 Table 13.2.2-2, 11/06]
	k, Empirical Constant PM_{10} =	1.5	[AP-42 Table 13.2.2-2, 11/06]
	k, Empirical Constant $PM_{2.5}$ =	0.15	[AP-42 Table 13.2.2-2, 11/06]
	s, Surface Material Silt Content (%) =	7.1	[AP-42 Table 13.2.2-1, 11/06]
	W, Mean Vehicle Weight (tons) =	48	[Estimated]

a,	Empirical Constant PM =	0.7	[AP-42 Table 13.2.2-2, 11/06]
a,	Empirical Constant PM_{10} and $PM_{2.5}$ =	0.9	[AP-42 Table 13.2.2-2, 11/06]
b,	Empirical Constant PM , PM10 and $PM_{2.5}$ =	0.45	[AP-42 Table 13.2.2-2, 11/06]

PM Emissions(uncontrolled): PM30

Emission Factor	EF = 4.9 * (7.1/12)^0.7 * (48/3)^0.45 =	11.82	lbs/VMT		
Calculations	(11.82 lbs/VMT) * (5 miles/day) =			59.08	lbs/day
	(59.08 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =			10.78	TPY
	50% Control Efficiency			5.39	TPY
PM_{10} Emissions(uncontrolled):	Summer and Winter Daily Calculation			29.542	lb/day

Emission Factor	EF = 1.5 * (7.1/12)^0.9 * (48/3)^0.45 =	3.26	lbs/VMT		
Calculations	(3.26 lbs/VMT) * (5 miles/day) =			16.28	lbs/day
	(16.28 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =			2.97	TPY
	50% Control Efficiency			1.486	TPY
$PM_{2.5}$ Emissions(uncontrolled):	Summer and Winter Daily Calculation			8.1424	lb/day

Emission Factor	EF = 0.15 * (7.1/12)^0.9 * (48/3)^0.45 =	0.33	lbs/VMT		
Calculations	(0.33 lbs/VMT) * (5 miles/day) =			1.63	lbs/day
	(1.63 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =			0.30	TPY
	50% Control Efficiency			0.15	TPY
	Summer and Winter Daily Calculation			0.8142	lb/day

V. Existing Air Quality

On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for PM_{10}. Due to exceedance of the national standards for PM_{10}, 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 PM_{10}. As a result of this designation, the EPA required the Department and the City-County Health Departments to submit PM_{10} 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 PM_{10} emissions.

MAQP #3802-02 and Addendum #1 are for a portable crushing/screening plant that will potentially operate at sites in or within 10 km of certain PM_{10} 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 operate on an intermittent and temporary basis and any effects on air quality will be minor and short-lived.

II. Air Quality Impacts

MAQP #3802-02 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. Addendum #1 will cover the operations of this portable

crushing/screening plant, while operating in or within 10 km of PM_{10} nonattainment areas. This permit and addendum contain conditions and limitations that would protect air quality for the site and surrounding area. Furthermore, 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 of limited duration.

III. Ambient Air Impact Analysis

As per Department policy based on the Memo titled "Modeling for Portable Sources In or Near Nonattainment Areas" dated October 14, 2005, the Department conducted a screening level air dispersion modeling analysis on point source emissions to verify that the maximum combined 24-hour impact would be less than 5 micrograms per cubic meter ($\mu g/m^3$) while operating during winter months in PM_{10} nonattainment areas. The only point sources of emissions at the facility are the two diesel engines with a total of 470 bhp. An EPA SCREEN3 screening air dispersion model was used with the following inputs for a total of 470 bhp based on the information provided by the applicant and typical exhaust rates based on horsepower.

```
12:52:12
  ***  SCREEN3 MODEL RUN  ***
  *** VERSION DATED 96043 ***

 C:\Lakes\Screen View\Kootenai.scr


 SIMPLE TERRAIN INPUTS:
    SOURCE TYPE            =        POINT
    EMISSION RATE (G/S)    =     0.130000
    STACK HEIGHT (M)       =       3.0480
    STK INSIDE DIAM (M)    =       0.1524
    STK EXIT VELOCITY (M/S)=      51.7444
    STK GAS EXIT TEMP (K)  =     778.0000
    AMBIENT AIR TEMP (K)   =     293.0000
    RECEPTOR HEIGHT (M)    =       0.0000
    URBAN/RURAL OPTION     =        RURAL
    BUILDING HEIGHT (M)    =       0.0000
    MIN HORIZ BLDG DIM (M) =       0.0000
    MAX HORIZ BLDG DIM (M) =       0.0000

 THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS
ENTERED.

    STACK EXIT VELOCITY WAS CALCULATED FROM
    VOLUME FLOW RATE =  0.94389403     (M**3/S)

 BUOY. FLUX =    1.837 M**4/S**3;  MOM. FLUX =    5.855 M**4/S**2.

 *** FULL METEOROLOGY ***

 **********************************
 *** SCREEN AUTOMATED DISTANCES ***
 **********************************

 *** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING
DISTANCES ***
```

```
   DIST     CONC              U10M   USTK  MIX HT   PLUME   SIGMA
SIGMA
    (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   Y (M)   Z
(M)  DWASH
 -------  ----------  ----  -----  -----  ------  ------  ------  ----
--  -----
      5.   0.000        1     1.0    1.0   320.0   36.85    3.11
2.67    NO
    100.   42.23        4    10.0   10.0  3200.0    6.43    8.26
4.75    NO
    200.   32.32        4     4.5    4.5  1440.0   10.56   15.71
8.77    NO
    300.   25.09        4     3.0    3.0   960.0   14.32   22.84
12.51    NO
    400.   20.34        4     2.5    2.5   800.0   16.57   29.71
15.75    NO
    500.   17.20        4     2.0    2.0   640.0   19.95   36.47
18.92    NO

 MAXIMUM 1-HR CONCENTRATION AT OR BEYOND     5. M:
     57.   44.75        3    10.0   10.0  3200.0    6.43    7.57
4.60    NO

  DWASH=   MEANS NO CALC MADE (CONC = 0.0)
  DWASH=NO MEANS NO BUILDING DOWNWASH USED
  DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
  DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
  DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

      ***************************************
      *** SUMMARY OF SCREEN MODEL RESULTS ***
      ***************************************

  CALCULATION        MAX CONC    DIST TO   TERRAIN
   PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
 --------------    -----------   -------   -------
 SIMPLE TERRAIN      44.75          57.        0.
```

The model result was a maximum 1-hr impact of 44.75 $\mu g/m^3$ at a distance of 57 meters. In accordance with 40 CFR 51 Appendix S, this 1-hr maximum impact is multiplied by 0.1 for an estimate of a corresponding maximum 24-hr impact concentration. In this instance the estimated maximum 24-hr impact is 4.475 $\mu g/m^3$, which is less than 5 $\mu g/m^3$. Based on this result and in accordance with Department policy, the operation of the point sources at the facility is not expected to cause or contribute to further degradation of the ambient concentrations of PM_{10}

VII. Taking or Damaging Analysis

As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment (see Section VIII of the Permit Analysis for MAQP #3802-02) and determined there are no taking or damaging implications.

VIII. Environmental Assessment

The current permit action is an administrative amendment and does not constitute a state action; therefore, an environmental assessment is not required for the proposed project.

Addendum Analysis Prepared By: Craig Henrikson
Date: February 14, 2014