



Brian Schweitzer, Governor

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May 30, 2012

Todd Rush
Basic Energy Services Company
24 Union Chapel Road
Gillette, WY 82718

Dear Mr. Rush:

Montana Air Quality Permit #2901-03 is deemed final as of May 30, 2012, by the Department of Environmental Quality (Department). This permit is for a non-metallic mineral processing plant and associated equipment. 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

Doug Kuenzli
Environmental Science Specialist
Air Resources Management Bureau
(406) 444-4267

VW:DCK
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #2901-03

Basic Energy Services Company
24 Union Chapel Road
Gillette, WY 82718

May 30, 2012



MONTANA AIR QUALITY PERMIT

Issued To: Basic Energy Services Company
24 Union Chapel Road
Gillette, WY 82718

MAQP: #2901-03
Application Complete: 03/05/2012
Preliminary Decision: 04/11/2012
Department's Decision: 05/14/2012
Permit Final: 05/30/2012
AFS#: 777-2901

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Basic Energy Services Company (Basic Energy), pursuant to Sections 75-2-204 and 211 of the 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

Basic Energy owns and operates a non-metallic mineral processing plant initially located in the Northwest ¼ of Northeast ¼ of Section 23, Township 8 South, and Range 39 East in Big Horn County, Montana. However, MAQP #2901-03 applies while operating at any location in Montana, except within those areas having a Montana 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 will be required for locations within Missoula County, Montana.* Basic Energy will be required to obtain an addendum to this air quality permit to operate at locations in or within 10 km of certain PM₁₀ nonattainment areas. A complete list of the permitted equipment is contained in Section I.A of the Permit Analysis.

B. Current Permit Action

On March 05, 2012, the Department received a complete application to modify Basic Energy's air quality permit to allow the operation of additional mineral processing equipment and the inclusion of one additional diesel-fired generator set. In addition to the proposed changes the current permit action incorporates a recent facility name change and change of address notification, as well as, updates the emission inventory and rule references used by the Department.

SECTION II: Conditions and Limitations

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 a 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 (such as screens and conveyors) shall not exhibit an opacity in excess of the following averaged over six 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 and water 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 and ARM 17.8.752).
5. Basic Energy 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. Basic Energy shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant, as necessary, to maintain compliance with the reasonable precautions limitation in Section II.A.5 (ARM 17.8.308).
7. Basic Energy shall not operate more than three (3) crushers at any given time and the total combined maximum rated design capacity of the crushers shall not exceed 1,100 tons per hour (TPH) (ARM 17.8.749).
8. Basic Energy shall not operate more than three (3) screens at any given time and the combined maximum rated design capacity of the screen shall not exceed 1,100 TPH (ARM 17.8.749).
9. Basic Energy shall not operate or have on site more than two (2) diesel-fired generators at any given time and the maximum rated design capacity of the generator engines shall not exceed 1,210 brake-horsepower (bhp) (ARM 17.8.1204).
10. Operation of the diesel-fired engine(s) driving the generator(s) shall not exceed 4,200 hours each during any rolling 12-month time period (ARM 17.8.1204).
11. If the permitted equipment is used in conjunction with any other equipment owned or operated by Basic Energy, 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).
12. Basic Energy shall comply with all applicable standards and limitations, and the reporting, recordkeeping, testing, and notification requirements contained in 40 Code of Federal Regulations (CFR) 60, Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants* (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

13. Basic Energy shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart III, *Standards of Performance for Stationary Compression Ignition Internal 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 III; ARM 17.8.342; and 40 CFR, 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 all 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). 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. Reporting Requirements

1. If this portable 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. Basic Energy shall supply the Department with annual production information for all emission points, as required, by the Department in the annual Emission Inventory request. The request will include, but is not limited to, all sources of emissions identified in the most recent emission inventory report and sources identified 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 units as 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. Basic Energy 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 emission 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 start-up 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(1)(d) (ARM 17.8.745).

4. Basic Energy 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 Basic Energy 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).
5. Basic Energy shall document, by month, the total hours of operation of the diesel engine(s)/generator(s). By the 25th day of each month, Basic Energy shall calculate the hours of operation for the diesel engine(s)/generator(s) for the previous 12 months to verify compliance with the 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).
6. Basic Energy shall annually certify that its emissions are less than those that would require the facility to obtain an air quality operating permit as require by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emissions inventory information (ARM17.8.749 and ARM 17.8.1204).

D. Notification

Basic Energy shall provide the Department with written notification of the actual start-up date of the equipment within 15 days after the actual start-up date (ARM 17.8.749).

Section III: General Conditions

- A. Inspection - Basic Energy 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 (Continuous Emission Monitoring Systems (CEMS)/Continuous Emission Rate Monitoring Systems CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver - The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Basic Energy fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving Basic Energy 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 it's 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 Portable Inc. 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. Basic Energy shall comply with the conditions contained in this permit while operating at any location in Montana, except within those areas having a Department approved permitting program or areas considered tribal l

Montana Air Quality Permit (MAQP) Analysis
Basic Energy Services Company
MAQP #2901-03

I. Introduction/Process Description

Basic Energy Services Company (Basic Energy) owns and operates a non-metallic mineral processing plant with a maximum rated design capacity of 1,100 tons per hour (TPH) crushing production and 1,100 TPH screening production.

A. Permitted Equipment

The following list of permitted equipment is provide for reference and is based on information provided by Basic Energy. MAQP #2901-03 is written de minimis friendly, whereby operational flexibility is provided so that alternate equipment may be utilized as long as maximum capacities are not exceeded. See Section II of the MAQP for specific equipment limitations and/or conditions. Equipment permitted under this action consists of the following:

- 1994 Cedarapids Cone Crusher with attached Screen Plant [300 TPH]
- 2006 Cedarapids CSC 4511 Cone Crusher with attached Screen Plant [400 TPH]
- 2006 Cedarapids 2248 Jaw Crusher with attached Screen Plant [400 TPH]
- 2006 Caterpillar C-18DITA 837 brake-horsepower (bhp) diesel-fired generator
- 1991 Caterpillar Generator 275 Kilowatt (kW) or 368.78 bhp [calculated] diesel-fired generator
- Associated material handling equipment; dozer trap, feeders, conveyors, stackers, etc.

B. Source Description

Basic Energy proposes to use this crusher plant and associated equipment to crush and sort sand and gravel materials that will be used in various construction operations. For a typical operational setup, materials are loaded into a trap that feeds a conveyor. The material is transferred from the conveyor to a screen. Oversized materials from the screen are conveyed to the Cedarapids cone crusher and then returned to the screen. When the material is small enough to pass through the screen, it is conveyed out to a stockpile for use.

The initial location proposed for this facility, identified as the Spring Creek Mine, shall serve as the plants designated home pit while operating in Montana. The Spring Creek Mine is located within the Northwest ¼ of Northeast ¼ of Section 23, Township 8 South, and Range 39 East in Big Horn County, Montana.

C. Permit History

On November 18, 1995, K & H Construction Limited Liability Co. (K & H) was issued **MAQP #2901-00** to operate a portable 1994 Cedarapids cone crusher (300 TPH) and associated equipment. The facility was permitted to operate at various locations throughout Montana.

On January 19, 2001, K & H requested that Permit #2901-00 be transferred to Schmidt Oilfield Services, Inc. (Schmidt). The permit was also updated to reflect the current permit language and rule references used by the Department of Environmental Quality (Department). **MAQP #2901-01** replaced MAQP #2901-00.

On May 1, 2002, Schmidt Oil Field Services, Inc. (Schmidt) requested that Permit #2901-01 be transferred to First Energy Services Company (First Energy). The permit was updated to reflect the transfer of ownership and current permit language and rule references used by the Department. **MAQP #2901-02** replaced MAQP #2091-01

D. Current Permit Action

On March 05, 2012, The Department received a complete application to modify First Energy's air quality permit to allow the operation of additional mineral processing equipment and the inclusion of one additional diesel-fired generator set. In addition to the proposed changes the current permit action incorporates a recent facility name change to Basic Energy Services (Basic Energy). Additionally, this permit action updates the emission inventory and rule references used by the Department. **MAQP #2901-03** replaces MAQP #2091-02

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

Basic Energy 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 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide (SO₂)
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide (NO₂)
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide (CO)
5. ARM 17.8.213 Ambient Air Quality Standards for Ozone (O₃)
6. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate (PM)
7. ARM 17.8.223 Ambient Air Quality Standard for Particulate Matter with an Aerodynamic Diameter of Ten Microns or Less (PM₁₀)

Basic Energy 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 to an 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 20% for all fugitive emission sources and that reasonable precautions are taken to control emissions of airborne particulate matter. (2) Under this rule, Basic Energy 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 allow to be discharged into the atmosphere PM 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 Standards 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). Based on the information submitted by Basic Energy the portable crushing/screening operation and associated equipment are applicable to NSPS (40 CFR 60), as follows:

- 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 Basic Energy, the portable crushing equipment to be used under MAQP #2901-03 is subject to this subpart as it meets the definition of an affected facility constructed 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. As the permit is written de minimis friendly, Basic Energy may substitute compression ignition internal combustion engine(s), therefore applicability to this subpart shall be dependent upon the date of construction and/or manufacture of the diesel engine utilized.
1. 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. Based on the information submitted by Basic Energy the associated diesel engines are applicable to NESHAP (40 CFR 63), as follows:
 - 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. As Basic Energy is considered an area source of HAP emissions and operates RICE equipment the engine(s) are 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. Basic Energy shall 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. Basic Energy submitted the appropriate permit application fee for the current permit action.
 2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to 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 which 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 (tpy) of any pollutant. Basic Energy has a PTE greater than 15 tpy of PM, PM₁₀, NO_x, and CO; therefore, a 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. Basic Energy 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. Basic Energy submitted an Affidavit of Publication of Public Notice for the January 31, 2012 issue of the *Billings Gazette*, a newspaper of general circulation in the City of Billings, in Yellowstone County, as proof of compliance with the public notice requirements.
 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 Best Available Control Technology (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 Basic Energy 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 altered 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 Basic Energy, 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 Federal Clean Air Act (FCAA) that it would emit, except as this sub-chapter would otherwise allow.

This facility is not a major stationary source because it is not listed and does not have the potential to emit more 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. Potential to Emit (PTE) > 100 tpy of any pollutant.
 - b. Potential To Emit (PTE) > 10 tpy of any single Hazardous Air Pollutant (HAP), PTE > 25 tpy of any combination of all HAPs, or a lesser quantity as the Department may establish by rule.
 - c. Sources with the PTE > 70 tpy of PM₁₀ in a serious PM₁₀ nonattainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. 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 Air Quality Permit #2901-03 for Basic Energy, the following conclusions were made:
 - a. Basic Energy has requested federally-enforceable permit operating limits be established to maintain the facility's PTE below 100 tpy and 80 tpy.
 - b. The facility's PTE is less than 10 tpy of any single HAP and less than 25 tpy of combined HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is subject to a current NSPS (40 CFR 60, Subpart OOO and potentially Subpart IIII).
 - e. This facility is potentially subject to a current NESHAP standard (40 CFR 63, Subpart ZZZZ)
 - 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.

Basic Energy has requested federally-enforceable permit limitations to remain a minor source of emissions with respect to Title V. Based on these limitations, the Department determined that this facility 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, this source will be subject to the Title V Operating Permit Program.

- h. ARM 17.8.1204(3). The Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.
 - i. In applying for an exemption under this section the owner or operator of the facility shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.
 - ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal required by ARM 17.8.1204(3) shall contain a certification of truth, accuracy, and completeness by a responsible official. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

III. BACT Determination

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

A BACT analysis accompanied the permit application submitted by Basic Energy, addressing available methods of controlling emissions from operation of the crushing and screening operation. The Department has reviewed these methods, as well as previous BACT determinations. The following control options have been reviewed by the Department in order to make the following BACT determinations.

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

A. Crushing & Screening Particulate Emissions

Two types of emission controls are readily available and used for dust suppression of fugitive emissions that result from the operation of crushing/screening equipment and associated activities. These two control methods are water and chemical dust suppressant. Chemical dust suppressant could be used on the area surrounding the crushing/screening operation, and for emissions from the crushing/screening operation itself. However, in view of the fact that water is more readily available, more cost effective, is equally effective as chemical dust suppressant, while presenting less potential environmental quality degradation, water has been identified as the most appropriate method of pollution control of particulate emissions. In addition, water suppression has been required of recently permitted similar sources. However, Basic Energy may use chemical dust suppressant to assist in controlling particulate emissions.

Basic Energy shall not cause or authorize to be discharged into the atmosphere from any NSPS-affected crusher any visible emissions that exhibit an opacity of 12% or greater averaged over 6 consecutive minutes for crushers that commenced construction, modification, or reconstruction on or after April 22, 2008. Additionally, Basic Energy shall not cause or authorize to be discharged into the atmosphere from any other associated NSPS-affected equipment, such as screens and material conveyors, any visible emissions that exhibit an opacity of 7% or greater averaged over 6 consecutive minutes for equipment that commences construction, modification, or reconstruction after April 22, 2008, and 10% for equipment that commences construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008. Finally, Basic Energy shall not cause or authorize to be discharged into the atmosphere from any crusher, screen, or associated equipment, not subject to NSPS, any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

Basic Energy is required to have water spray bars and water available on site (at all times) and to apply the water, as necessary, to maintain compliance with the opacity restrictions and reasonable precautions limitations. Basic Energy may also use chemical dust suppressant to

maintain compliance with emissions limitations in Section II.A. of MAQP #2901-03. The Department determined that using water spray bars, water, and/or chemical dust suppressant to maintain compliance with the opacity requirements and reasonable precaution limitations constitutes BACT for the operation for the additional equipment.

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

B. Diesel-Fired Engine(s)

Due to the limited amount of emissions produced by the diesel-fired engine(s) used in association with MAQP #2901-03 and the lack of cost effective add-on controls, add-on controls would be cost prohibitive. Therefore, the Department determined that proper operation and maintenance with no add-on controls would constitute BACT for the diesel-fired engine(s).

In addition, any new diesel-fired engine would likely be required to comply with the federal engine emission limitations including, for example, EPA Tier emission standards for non-road engines (40 CFR Part 1039), New Source Performance Standard emission limitations for stationary compression ignition engines (40 CFR 60, Subpart IIII), or National Emissions Standards for Hazardous Air Pollutant Sources for Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ). Therefore, the Department has determined that compliance with applicable federal standards and proper operation and maintenance of the engines constitutes BACT for these engines.

IV. Emission Inventory

Emission Source	Emissions Tons/Year [PTE] <i>(a)(b)</i>							
	PM	PM ₁₀	PM _{2.5}	PM _{cond}	CO	NO _x	SO ₂	VOC
Aggregate Crushers [1,100 TPH]	5.78	2.60	0.48	--	--	--	--	--
Aggregate Deck Screens [1,100 TPH]	10.60	3.57	0.24	--	--	--	--	--
Material Handling	45.96	20.48	3.49	--	--	--	--	--
Diesel-Fired Generator(s) [1,210 bhp]	5.59	5.59	0.99	0.14	16.97	78.77	5.21	6.39
Unpaved Roadways (Haul Roads)	5.49	1.51	0.15	--	--	--	--	--
TOTAL EMISSIONS ►	73.43	33.75	5.35	0.14	16.97	78.77	5.21	6.39
<p><i>(a) Emission Inventory reflects enforceable limits on hours of operation of the diesel-fired generator engine to keep allowable NO_x emissions below the Title V threshold [100 tpy] and the State CMS SM Source threshold [80 tpy].</i></p> <p><i>(b) PM emissions presented in the table represent the sum of the filterable and condensable particulate matter (CPM) fractions. All CPM is considered to be PM_{2.5}.</i></p> <p>CMS, Compliance Monitoring Strategy CO, carbon monoxide hp, horsepower MMBtu, million British Thermal Units NO_x, oxides of nitrogen PTE, Potential To Emit PM, particulate matter PM_{COND}, condensable 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 [Sum of condensable and filterable] SM, synthetic minor (with respect to Title V criteria pollutants) SO₂, sulfur dioxide TPH, tons per hour TPY, tons per year VOC, volatile organic compounds</p>								

Portable Non-metallic Mineral Processing Plant

Production Rate:

Crushers (3) 1,100 tons/hour (Maximum) 9,636,000 tons/year (Maximum)

Deck Screen (3) 1,100 tons/hour (Maximum) 9,636,000 tons/year (Maximum)

Allowable Hours of Operation: 8760 hours/year [Material Processing]

4200 hours/year [Diesel-Fire Engine Generator Set]

Power Source: (2) Diesel-Fire Generators up to 1,210 hp

Material Processing:

Aggregate Crushers [SCC 3-05-020-01]

Process Rate: 1,100 tons/hour

Operating Hours: 8760 hours/year

Particulate Emissions (controlled):

PM Emissions:

Emission Factor 0.0012 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]
Calculations (0.0012 lbs/ton) * (1100 tons/hr) = 1.32 lbs/hr
(1.32 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 5.78 TPY

PM₁₀ Emissions:

Emission Factor 0.00054 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]
Calculations (0.00054 lbs/ton) * (1100 tons/hr) = 0.59 lbs/hr
(0.594 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 2.60 TPY

PM_{2.5} Emissions:

Emission Factor 0.0001 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]
Calculations (0.0001 lbs/ton) * (1100 tons/hr) = 0.11 lbs/hr
(0.11 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 0.48 TPY

Aggregate Cold Deck Screens [SCC 3-05-020-02]

Process Rate: 1,100 tons/hour

Operating Hours: 8760 hours/year

Particulate Emissions (controlled):

PM Emissions:

Emission Factor 0.0022 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]
Calculations (0.0022 lbs/ton) * (1100 tons/hr) = 2.42 lbs/hr
(2.42 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 10.60 TPY

PM₁₀ Emissions:

Emission Factor 0.00074 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]
Calculations (0.00074 lbs/ton) * (1100 tons/hr) = 0.81 lbs/hr
(0.814 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 3.57 TPY

PM_{2.5} Emissions:

Emission Factor 0.00005 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]
Calculations (0.00005 lbs/ton) * (1100 tons/hr) = 0.06 lbs/hr
(0.055 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 0.24 TPY

Material Handling:

Fragmented Stone Load-In ► Ground Storage [SCC 3-05-020-31]

Process Rate: 1100 tons/hour [Crusher Capacity]

Operating Hours: 8760 hours/year

Particulate Emissions (uncontrolled):

PM Emissions:

Emission Factor 0.000031 lbs/ton [PM = PM₁₀/0.51 ► AP-42 Appendix B.2 - Table B.2.2, Category 3, 1/95]
Calculations (0.000031 lbs/ton) * (1100 tons/hr) = 0.03 lbs/hr
(0.0341 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 0.15 TPY

PM₁₀ Emissions:

Emission Factor 0.000016 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]
Calculations (0.000016 lbs/ton) * (1100 tons/hr) = 0.02 lbs/hr
(0.0176 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 0.08 TPY

PM_{2.5} Emissions:

Emission Factor 0.000005 lbs/ton [PM = PM₁₀*0.15 ► AP-42 Appendix B.2 - Table B.2.2, Category 3, 1/95]
Calculations (0.000005 lbs/ton) * (1100 tons/hr) = 0.01 lbs/hr
(0.005115 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 0.02 TPY

Conveyor Transfer Points [SCC 3-05-020-06]

Process Rate: 1100 tons/hour [Maximum Facility Capacity]

Operating Hours: 8760 hours/year

Total Transfers: 13 Transfers [Based on Equipment List]

Particulate Emissions (controlled):

PM Emissions:

Emission Factor 0.00014 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]
Calculations (0.00014 lbs/ton) * (1100 tons/hr) * (13 Transfers) = 2.00 lbs/hr
(2.002 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 8.77 TPY

PM₁₀ Emissions:

Emission Factor 0.000046 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]
Calculations (0.000046 lbs/ton) * (1100 tons/hr) * (13 Transfers) = 0.66 lbs/hr
(0.658 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 2.88 TPY

PM_{2.5} Emissions:

Emission Factor 0.000013 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]
Calculations (0.000013 lbs/ton) * (1100 tons/hr) * (13 Transfers) = 0.19 lbs/hr
(0.186 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 0.81 TPY

Storage Pile Load-In & Load-Out

Process Rate: 1100 tons/hour [Maximum Facility Capacity]

Operating Hours: 8760 hours/year

Pile Transfers: 2 [Initial Pile Formation → Pile Load-Out to Trucks]

Particulate Emissions (uncontrolled):

Emission Factor $EF = k (0.0032) * [(U/5)^{1.3} / (M / 2)^{1.4}]$ [AP-42 13.2.4, 11/06]

where: EF, Emission Factor = lbs Emitted / ton Processed

k, Dimensionless Particle Size Multiplier PM = 0.74 [AP-42 13.2.4, 11/06]

k, Dimensionless Particle Size Multiplier PM₁₀ = 0.35 [AP-42 13.2.4, 11/06]

k, Dimensionless Particle Size Multiplier PM_{2.5} = 0.053 [AP-42 13.2.4, 11/06]

U, Mean Wind Speed (mph) = 9.3 [ASOS/AWOS AVE-MT 10 yr Ave.]

M, Material Moisture Content (%) = 2.53 [AP-42 13.2.4.3, 11/06]

PM Emissions:

Emission Factor $EF = 0.74 * (0.0032) * [(9.33/5)^{1.3} / (2.525/ 2)^{1.4}] =$ 0.0038 lbs/ton
 Calculations $(0.0038 \text{ lbs/ton}) * (1100 \text{ tons/hr}) * (2 \text{ pile transfers}) =$ 8.46 lbs/hr
 $(8.46 \text{ lbs/hr}) * (8760 \text{ hours/yr}) * (0.0005 \text{ tons/lb}) =$ 37.05 TPY

PM₁₀ Emissions:

Emission Factor $EF = 0.35 * (0.0032) * [(9.33/5)^{1.3} / (2.525/ 2)^{1.4}] =$ 0.0018 lbs/ton
 Calculations $(0.0018 \text{ lbs/ton}) * (1100 \text{ tons/hr}) * (2 \text{ piles}) =$ 4.00 lbs/hr
 $(4.00 \text{ lbs/hr}) * (8760 \text{ hours/yr}) * (0.0005 \text{ tons/lb}) =$ 17.52 TPY

PM_{2.5} Emissions:

Emission Factor $EF = 0.053 * (0.0032) * [(9.33/5)^{1.3} / (2.525/ 2)^{1.4}] =$ 0.00028 lbs/ton
 Calculations $(0.0003 \text{ lbs/ton}) * (1100 \text{ tons/hr}) * (2 \text{ piles}) =$ 0.61 lbs/hr
 $(0.61 \text{ lbs/hr}) * (8760 \text{ hours/yr}) * (0.0005 \text{ tons/lb}) =$ 2.65 TPY

Diesel Generator Engines:

Engine Rating: 1210 hp
 Fuel Input: 8.47 MMBtu/hr
 61.8 gallons/hour [Estimated]
 Operating Hours: 4200 hours/year

Particulate Emissions (uncontrolled):**PM Emissions:**

Emission Factor 0.0022 lb/hp-hr [AP-42 3.3-1, 10/96]
 Calculations $(0.0022 \text{ lb/hp-hr}) * (1210 \text{ hp}) =$ 2.66 lbs/hr
 $(2.66 \text{ lbs/hr}) * (4200 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$ 5.59 TPY

PM₁₀ Emissions:

Emission Factor 0.0022 lb/hp-hr [AP-42 3.3-1, 10/96]
 Calculations $(0.0022 \text{ lb/hp-hr}) * (1210 \text{ hp}) =$ 2.66 lbs/hr
 $(2.66 \text{ lbs/hr}) * (4200 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$ 5.59 TPY

PM_{2.5} Emissions (filterable):

Emission Factor 0.0479 lb/MMBtu [AP-42 3.4-2, 10/96]
 Calculations $(0.0479 \text{ lb/MMBtu}) * (8.47 \text{ MMBtu/hr}) =$ 0.41 lbs/hr
 $(0.41 \text{ lbs/hr}) * (4200 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$ 0.85 TPY

PM_{2.5} Emissions (condensable):

Emission Factor	0.0077 lb/MMBtu	[AP-42 3.4-2, 10/96]	
Calculations	(0.0077 lb/MMBtu) * (8.47 MMBtu/hr) =		0.07 lbs/hr
	(0.07 lbs/hr) * (4200 hrs/yr) * (0.0005 tons/lb) =		0.14 TPY

CO Emissions (uncontrolled):

Emission Factor	0.00668 lb/hp-hr	[AP-42 3.3-1, 10/96]	
Calculations	(0.00668 lb/hp-hr) * (1210 hp) =		8.08 lbs/hr
	(8.08 lbs/hr) * (4200 hrs/yr) * (0.0005 tons/lb) =		16.97 TPY

NO_x Emissions (uncontrolled):

Emission Factor	0.031 lb/hp-hr	[AP-42 3.3-1, 10/96]	
Calculations	(0.031 lb/hp-hr) * (1210 hp) =		37.51 lbs/hr
	(37.51 lbs/hr) * (4200 hrs/yr) * (0.0005 tons/lb) =		78.77 TPY

SO₂ Emissions (uncontrolled):

Emission Factor	0.00205 lb/hp-hr	[AP-42 3.3-1, 10/96]	
Calculations	(0.0021 lb/hp-hr) * (1210 hp) =		2.48 lbs/hr
	(2.48 lbs/hr) * (4200 hrs/yr) * (0.0005 tons/lb) =		5.21 TPY

VOC Emissions (uncontrolled):

Emission Factor	0.002514 lb/hp-hr	[AP-42 3.3-1, 10/96]	
Calculations	(0.0025 lb/hp-hr) * (1210 hp) =		3.04 lbs/hr
	(3.04 lbs/hr) * (4200 hrs/yr) * (0.0005 tons/lb) =		6.39 TPY

Unpaved Roadways (Haul Roads)

Miles Travelled: 5 Miles/Day [Estimate]
Vehicle Weight: 50 Tons [Mean Vehicle Weight Empty/Full]
Control Method: Water Application
Control Efficiency (C_e): 50%

Particulate Emissions (controlled):

Emission Factor	EF = k(s/12) ^a * (W/3) ^b	[AP-42 13.2.2.2, 11/06]	
	where: 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) =	50 [Applicant Provided Data]	
	a, Empirical Constant PM =	0.7 [AP-42 Table 13.2.2-2, 11/06]	
	a, Empirical Constant PM ₁₀ /PM _{2.5} =	0.9 [AP-42 Table 13.2.2-2, 11/06]	
	b, Empirical Constant PM - PM _{2.5} =	0.45 [AP-42 Table 13.2.2-2, 11/06]	

PM Emissions:

Emission Factor	EF = 4.9 * (7.1/12) ^{0.7} * (50/3) ^{0.45} =	12.04	lbs/VMT
Calculations	(12.04 lbs/VMT) * (5 miles/day) * (1 - 0.5 C _e) =		30.09 lbs/day
	(30.09 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =		5.49 TPY

PM₁₀ Emissions:

Emission Factor	EF = 1.5 * (7.1/12) ^{0.9} * (50/3) ^{0.45} =	3.32	lbs/VMT
Calculations	(3.32 lbs/VMT) * (5 miles/day) * (1 - 0.5 C _e) =		8.29 lbs/day
	(8.29 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =		1.51 TPY

PM_{2.5} Emissions:

Emission Factor	EF = 0.15 * (7.1/12) ^{0.9} * (50/3) ^{0.45} =	0.33	lbs/VMT
Calculations	(0.33 lbs/VMT) * (5 miles/day) * (1 - 0.5 Ce) =		0.83 lbs/day
	(0.83 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =		0.15 TPY

V. Existing Air Quality

The initial location of this portable source is to be located in the Northwest ¼ of the Northeast ¼ of Section 23, Township 8 South, and Range 39 East in Big Horn County, Montana. The initial location and those areas for which this facility is permitted to operate under MAQP #2901-03 has been designated unclassified/attainment with all ambient air quality standards and there are no major air pollution sources in the surrounding area.

VI. Air Quality Impacts

MAQP #2901-03 will cover the plant while operating at any location within Montana, excluding 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 PM₁₀ nonattainment areas.

Emissions generated from the operation of this source are to be well control and limited, furthermore, the portable unit would be expected to be operated on an intermittent and seasonal basis and any air quality impacts would be minimal and temporary. Therefore, the Department determined that the impact from this permitting action will be minor and is not expected to cause or contribute to a violation of any ambient air quality standard.

VII. Ambient Air Impact Analysis

The Department determined that the impact from this permitting action will be minor. The Department believes it will not cause or contribute to a violation on 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?

YES	NO	
	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)

IX. Environmental Assessment

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

Analysis Prepared by: D. Kuenzli
Date: March 20, 2012

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, MT 59620
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Basic Energy Services Company
24 Union Chapel Road
Gillette, WY 82718

Montana Air Quality Permit Number (MAQP): 2901-03

Preliminary Determination Issued: 04/11/2012

Department Decision Issued: 05/14/2012

Permit Final: 05/30/2012

1. *Legal Description of Site:* Basic Energy Services Company (Basic Energy) owns and operates a portable non-metallic mineral crushing, screening and wash plant, which will initially be located in Section 23, Township 8 South, and Range 39 East in Big Horn County, Montana. However, MAQP #2901-03 applies while operating at any location in Montana, except those areas having a Department-approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain PM₁₀ nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana. An addendum would be required for locations in or within 10 km of certain PM₁₀ nonattainment areas.*
2. *Description of Project:* The Department received an application to modify Basic Energy's air quality permit to allow an increase in the rated design capacity of equipment operated under MAQP #2901-03. Specifically, Basic Energy requested authorization to add two crusher/screen packages and the ability to operate two diesel-fired generator sets with a combined maximum capacity of 1,210 brake-horsepower (bhp). Basic Energy utilizes the portable generator sets to supply power to the electrically driven crushing/screen plants.
3. *Objectives of Project:* The object of the project would be to produce business and revenue for the company through the sale and use of aggregate. The issuance of MAQP #2901-03 would allow Basic Energy to operate the permitted equipment at various locations throughout Montana (as described above), including the proposed initial site location.
4. *Alternatives Considered:* In addition to the proposed action, the Department considered the "no-action" alternative. The "no-action" alternative would deny issuance of the MAQP to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because Basic Energy demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A listing of the enforceable permit conditions and a permit analysis, including a BACT analysis, would be contained in MAQP #2901-03.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined the permit conditions would be reasonably necessary to ensure compliance with applicable requirements and to demonstrate compliance with those requirements and would not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The “no action alternative” was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites				X		Yes
J	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

This permitting action would be expected to have a minor effect on terrestrial and aquatic life and habitats, as the proposed plant would operate within an existing open cut mine. Furthermore, the air emissions would likely have only minor effects on terrestrial and aquatic life because facility emissions would be well dispersed in the area of the operations (see Section 7.F of this EA) and would have intermittent and seasonal operations. Therefore, only minor and temporary effects to terrestrial and aquatic life and habitat would be expected from the proposed project.

B. Water Quality, Quantity, and Distribution

Water would be required for dust suppression on the mineral processing equipment and surrounding facility area, including haul roads. This water use would be expected to only cause minor, if any, impacts to water resources because the facility is small and only a small volume of water would be required to be used. In addition, the facility would emit air pollutants, and corresponding deposition of pollutants would occur, as described in Section 7.F. of this EA. The site is in an existing open-cut mine where water runoff would be more readily controlled. However, the Department determined that, due to dispersion characteristics of pollutants and conditions that would be placed in MAQP #2901-03, any impacts from deposition of pollutants on water quality, quantity, and distribution expected would be minor.

C. Geology and Soil Quality, Stability, and Moisture

Only minor impacts from deposition of air pollutants on soils would likely result (as described in Section 7.F of this EA) and only minor amounts of water would be used for pollution control, and only as necessary, in controlling particulate emissions. Thus, only minimal water runoff would likely occur. Since only minor amounts of pollution would be

expected and corresponding emissions would be widely dispersed before settling upon surrounding soils and vegetation (as described in Section 7.D of this EA), impacts would be minor. Therefore, any effects upon geology and soil quality, stability, and moisture from air pollutant emissions from equipment operations would likely be minor and short-lived.

D. Vegetation Cover, Quantity, and Quality

Only minor impacts would be expected to occur on vegetative cover, quality, and quantity because the facility would operate in an area where vegetation has been previously disturbed. During operations, the facility would likely be a relatively minor source of emissions and the pollutants widely dispersed (as described in Section 7.F of this EA); therefore, deposition on vegetation from the proposed project would expect to be minor. Also, due to limited water usage (as described in Section 7.B of this EA) and minimal associated soil disturbance from the application of water and water runoff (as described in Section 7.C of this EA), corresponding vegetative impacts would likely be minor.

E. Aesthetics

The crushing and screening facility would be visible and would create noise while operating at the proposed site. However, activity will occur within an existing active open cut mine. Further, MAQP #2901-03 would include conditions to control emissions, including visible emissions, from the plant. The facility would operate on an intermittent and seasonal basis, and would be a small industrial source. Therefore, any visual aesthetic impacts would be short-lived and are expected to be minor.

F. Air Quality

Air quality impacts from the proposed project would likely be minor because the facility would be relatively small and operate on an intermittent and temporary basis. MAQP #2901-03 includes conditions limiting the facility's opacity; require water and water spray bars be available on site and used to ensure compliance with opacity standards; and limit the facility's crushing production.

Further, the Department determined that this facility would be a minor source of emissions as defined under the Title V Operating Permit Program because the source's potential to emit is limited to below the major source threshold level of 100 tons per year (tpy). Potential emissions are further restricted to below Departments state Compliance Monitoring Strategy threshold of 80 tpy. Pollutant deposition from the facility would expect to be minimal because the pollutants emitted are widely dispersed (from factors such as wind speed and wind direction) and exhibit minimal deposition on the surrounding area. Therefore, air quality impacts from operating the crushing facility in this area would be expected to be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The Department, in an effort to assess any potential impacts to any unique endangered, fragile, or limited environmental resources in the initial proposed area of operation (Section 23, Township 8 South, Range 39 East, in Big Horn County, Montana), contacted the Natural Resource Information System – Montana Natural Heritage Program. Search results concluded there are two species of concern within the area. The search area, in this case, is defined by the section, township, and range of the proposed site, with an additional one (1) mile buffer. The search resulted in 57 species occurrence report for 15 known species of concern. Known species of concern within the search area included the following;

- Plains Spadefoot (Sensitive)
- Golden Eagle (Sensitive)

- Greater Sage-Grouse (Sensitive)
- Burrowing Owl (Sensitive)
- Pinyon Jay (MTFWP - Tier 2)
- Sage Thrasher (Sensitive)
- Loggerhead Shrike (Sensitive)
- Brewer's Sparrow (Sensitive)
- Townsend's Big-eared Bat (Sensitive)
- Greater Short-horned Lizard (Sensitive)
- Common Sagebrush Lizard (MTFWP - Tier 2)
- Western Hog-nosed Snake (Sensitive)
- Milksnake (Sensitive)
- Woolly Twinpod (Sensitive)
- Ban's Milkvetch (Sensitive)

While these species may be found within the search area, these animals may have many miles of potential habitat. Specific effects of operating the crushing facility in this area would be minor since the facility is relatively small in size and located within an existing mine. In addition the source will have only seasonal and intermittent operations in the area. Therefore, the Department determined that any effects upon these species would likely be minor and short-lived.

H. Demands on Environmental Resources of Water, Air, and Energy

Due to the relatively small size of the project, only small demands on environmental resources would likely be required for proper operation. Only small quantities of water are required for dust suppression of particulate emissions being generated at the site. In addition, impacts to air resources would be expected to be minor because the source would be considered a minor industrial source of emissions, with intermittent and seasonal operations, and because air pollutants generated by the facility would be widely dispersed as described in Section 7.F of this EA. Energy requirements would also be small, as the diesel engines would use small amounts of fuel. Overall, any impacts to water, air, and energy resources would likely be minor.

I. Historical and Archaeological Sites

The Department contacted the Montana Historical Society - State Historical Preservation Office (SHPO) in an effort to identify any historical and/or archaeological sites that may be present in the proposed initial location of the facility. Search results concluded that there were several previously recorded historical or archaeological resources of concern within the area surrounding proposed for initial operations. According to past correspondence from the Montana State Historic Preservation Office, there would be a low likelihood of adverse disturbance to any known archaeological or historic site given previous industrial disturbance to an area. Therefore, no impacts upon historical or archaeological sites would be expected as a result of operating the proposed crushing/screening plant.

J. Cumulative and Secondary Impacts

The operation of the crushing facility would likely cause minor cumulative and secondary impacts to the physical and biological aspects of the human environment because the facility would be limited in the amount of emissions allowed to be released to the atmosphere. Emissions and noise generated from the equipment would likely result in only minor impacts to the area of operations because the operation of the crushing facility would be seasonal and temporary. The proposed project would be short-term in nature, and likely have minor cumulative effects upon resources within the area. These resources include water, terrestrial and aquatic life, soils, and vegetation. Overall, cumulative and secondary impacts to the physical and biological aspects of the human environment would likely be minor.

8. *The following table summarizes the potential economic and social effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.*

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores				X		Yes
B	Cultural Uniqueness and Diversity				X		Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production			X			Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities				X		Yes
G	Quantity and Distribution of Employment				X		Yes
H	Distribution of Population				X		Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity			X			Yes
K	Locally Adopted Environmental Plans and Goals			X			Yes
L	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

The operation of the crushing facility would expect to cause no disruption to the social structures and mores in the area because the source would be a minor industrial source of emissions and would only have temporary and intermittent operations. Further, the facility would be required to operate according to the conditions that would be placed in MAQP #2901-03, which would limit the effects to social structures and mores.

B. Cultural Uniqueness and Diversity

The cultural uniqueness and diversity of this area would not likely be impacted by the operation of the proposed crushing facility because the facility is a portable source, with seasonal and intermittent operations. Therefore, there would not be any impacts expected to the cultural uniqueness and diversity of this.

C. Local and State Tax Base and Tax Revenue

The operation of the crushing facility would likely have little, if any, impact on the local and state tax base and tax revenue because the facility would be a minor industrial source of emissions and would have seasonal and intermittent operations. The facility would require the use a maximum of three employees. Thus, only minor impacts to the local and state tax base and revenue would be expected from the employees and facility production. Furthermore, the impacts to local tax base and revenue would expect to be minor because the source would be portable and the money generated for taxes would be widespread.

D. Agricultural or Industrial Production

The operation of the crushing facility would have only a minor impact on local industrial production since the facility would be a minor source of air emissions. Because minimal deposition of air pollutants would occur on the surrounding land (as described in Section 7.F of this EA), only minor and temporary effects on the surrounding vegetation (i.e. agricultural production) would occur. In addition, the facility operations would be small and temporary in nature and would be permitted with operational conditions and limitations that would minimize impacts upon surrounding vegetation, as described in Section 7.D of this EA.

E. Human Health

MAQP #2901-03 would incorporate conditions to ensure that the crushing/screening facility would operate in compliance with all applicable air quality rules and standards. These rules and standards are designed to be protective of human health. As described in Section 7.F. of this EA, the air emissions from this facility would be minimized by the use of water spray and other operational limits that would be required by MAQP #2901-03. Also, the facility would be operating on a temporary basis and pollutants would disperse from the ventilation of emissions at this site (see Section 7.F of this EA). Therefore, only minor impacts would be expected on human health from the proposed project.

F. Access to and Quality of Recreational and Wilderness Activities

Based on information received from Basic Energy, no recreational activities or wilderness areas are near the proposed project site. Therefore, no impacts to the access to and quality of recreational and wilderness activities would be expected.

G. Quantity and Distribution of Employment

The increase production capacity resulting from this modification will not require additional employees to operate; furthermore, the operation of this plant would have only seasonal and intermittent operations. No individuals would be expected to permanently relocate to this area of operation as a result of operating the crushing/screening facility. Therefore, no effects upon the quantity and distribution of employment in this area would be expected.

H. Distribution of Population

The portable crushing/screening operation is a portable industrial facility that would only require a limited number of employees. No individuals would be expected to permanently relocate to this area as a result of operating the crushing/screening facility. Therefore, the crushing/screening facility would not likely impact the normal population distribution in the initial area of operation or any future operating site.

I. Demands of Government Services

Minor increases may be seen in traffic on existing roadways in the area while the crushing/screening facility is being operated. In addition, government services would be required for acquiring the appropriate permits for the proposed project and to verify compliance with the permits that would be issued. However, demands for government services would be expected to be minor.

J. Industrial and Commercial Activity

The operation of the crushing facility would represent only a minor increase in the industrial activity in the proposed area of operation because the source would be a relatively small industrial source that would be portable and temporary in nature. Furthermore, the industrial

activity associated with this plant will occur within an existing open cut mine. Therefore, only limited additional industrial or commercial activity would be expected as a result of the proposed operation.

K. Locally Adopted Environmental Plans and Goals

Basic Energy would be allowed, by MAQP #2901-03, to operate in areas designated by the United States Environmental Protection Agency as attainment or unclassified for ambient air quality. MAQP #2901-03 contains operational restrictions for protecting air quality and to keep facility emissions in compliance with any applicable ambient air quality standards, as a locally adopted environmental plan or goal for operating at this proposed site. Because the proposed crushing/screening facility would be a portable source and would likely have intermittent and seasonal operations, any impacts from the project would be expected to be minor and short-lived.

L. Cumulative and Secondary Impacts

The operation of the facility would cause only minor cumulative and secondary impacts to the social and economic aspects of the human environment in the immediate area of operation because the source would be a portable and temporary source. Minor increases in traffic would have minor effects on local traffic in the immediate area. Because the source is relatively small and temporary, only minor economic impacts to the local economy would be expected from operating the facility. Further, this facility may be operated in conjunction with other equipment owned and operated by Basic Energy, but any cumulative impacts upon the social and economic aspects of the human environment would likely be minor and short-lived. Thus, only minor and temporary cumulative effects would be expected to the local economy.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the operation of a portable non-metallic mineral processing facility; MAQP #2901-03 provides conditions and limitations to ensure the facility would operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

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