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October 2, 2012

Mr. Eric Detmer, P.E.  
Spring Creek Coal LLC  
P.O. Box 67  
Decker, MT 59025

Dear Mr. Detmer:

Montana Air Quality Permit #1120-11 is deemed final as of October 2, 2012, by the Department of Environmental Quality (Department). This permit is for a surface coal mine. 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,

Charles Homer  
Manager, Air Permitting, Compliance and Registration  
Air Resources Management Bureau  
(406) 444-5279

Deanne Fischer, P.E.  
Environmental Engineer  
Air Resources Management Bureau  
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CH:DF  
Enclosure

Montana Department of Environmental Quality  
Permitting and Compliance Division

Montana Air Quality Permit #1120-11

Spring Creek Coal LLC  
P.O. Box 67  
Decker, MT 59025

October 2, 2012



## MONTANA AIR QUALITY PERMIT

Issued to: Spring Creek Coal LLC  
P.O. Box 67  
Decker, MT 59025

MAQP #1120-11  
Application Complete: 08/23/2012  
Preliminary Determination Issued: 08/29/2012  
Department's Decision Issued: 09/14/2012  
Permit Final: 10/02/2012  
AFS#: 003-0003

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

### Section I: Permitted Facilities

#### A. Plant Location

Spring Creek operates a surface coal mine located approximately 11 miles north of Decker, Montana. The mine covers portions of Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 35, and 36 of Township 8 South, Range 39 East, and Sections 18, 19, 20, 27, 28, 29, 30, 31, 32, and 34 of Township 8 South, Range 40 East, and Sections 1 and 12 of Township 9 South, Range 39 East, and Sections 3, 6, 7, 10, 11, and 15 of Township 9 South, Range 40 East, in Big Horn County, Montana.

#### B. Current Permit Action

On July 19, 2012, the Department of Environmental Quality – Air Resources Management Bureau (Department) received an application from Spring Creek to modify MAQP#1120-10 to add a 400 ton per hour (TPH) scoria rock crushing/screening operation at the mine and to remove the ambient air monitoring requirements specified in Attachment 1 of MAQP #1120-10. A Preliminary Determination on the permit application was issued by the Department on August 29, 2012. The Department received comments on the Preliminary Determination via email from Spring Creek on September 7, 2012. The comments noted that the legal description of the facility site, as listed in both the permit and permit analysis, was incorrect, and identified two other minor typographical errors in the permit analysis. The comment letter requested that these items be corrected. The current permit action incorporates the requested changes, and also updates the permit to reflect current permit language and rule references used by the Department.

### Section II: Conditions and Limitations

#### A. Emission Limitations

1. Maximum coal production shall be limited to 24 million tons per rolling 12-month time period (ARM 17.8.749).
2. Spring Creek shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (40 CFR 60, Subpart Y, ARM 17.8.340, ARM 17.8.304, and ARM 17.8.308).

3. All visible emissions from any Standards of Performance for New Stationary Source (NSPS) – affected crusher shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart OOO):
  - a. For crushers that commence construction, modification, or reconstruction on or after April 22, 2008: 12% opacity
  - b. For crushers that commence construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008: 15% opacity
4. 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).
5. 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):
  - a. For equipment that commence construction, modification, or reconstruction on or after April 22, 2008: 7% opacity
  - b. For equipment that commence construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008: 10% opacity
6. Water and spray bars shall be available on-site at all times and operated as necessary to maintain compliance with the opacity limitations in Sections II.A.2, II.A.3, II.A.4, and II.A.5 (ARM 17.8.749 and ARM 17.8.752).
7. Spring Creek shall comply with all applicable standards, limitations, and the reporting, record keeping, and notification requirements contained in 40 CFR 60, Subpart Y, *Standards of Performance for Coal Preparation and Processing Plants* and 40 CFR 60, Subpart OOO *Standards of Performance for Nonmetallic Mineral Processing Plants* (ARM 17.8.340, 40 CFR 60, Subpart Y, and 40 CFR 60, Subpart OOO).
8. The following lists the required emission control technologies and techniques as described in the application (ARM 17.8.749):

#### Coal Conveyors (Facilities Area)

The above ground conveyor sides and roof shall be enclosed by metal siding. The conveyor floor shall be partially enclosed by stairs or walkways and the remaining space shall be covered by expanded metal.

#### Truck Dump

The truck dump pit shall be enclosed on two sides, a partial third, and the top. The opening shall face the prevailing wind direction. A dust suppression system shall be installed at the top of the truck dump hopper to suppress dust as the trucks are unloaded. The sprays shall provide a curtain across the top of the hopper to contain the dust generated by falling coal. Overhead sprays shall be used to control dust near the bed level of the trucks as they dump. Dust suppression systems shall work only when coal is being loaded on an as-necessary basis. Such systems are to be designed for year-round use.

### Primary Crushers

An ADS™ dust suppression (ADS) system shall be used to control dust during the primary crusher's operations. The ADS system shall also be used at strategic points in the primary crusher.

### Secondary Crusher

An ADS system shall be used to control dust during the secondary crusher's operations. The ADS system shall also be used at strategic points in the secondary crusher.

### Rail Load-Outs

An ADS system shall be used to collect dust during the loading of the 200-ton load-out bin. A baghouse shall be used to control dust during the loading of the 400-ton load-out bin. A combination of an ADS system and a Passive Enclosure Containment (PEC) system shall be used to control emissions from the transfer of coal onto belt conveyor #5. Telescoping chutes shall be used during railcar loading.

### Overland Conveyor In-Pit Crusher

The in-pit crusher emissions shall be controlled by a combination of an ADS system and a PEC system.

### Coal Barn Storage

The 40,000-ton coal storage pile shall be completely enclosed in a storage barn. The coal storage barn stacker is to be designed to minimize the free fall distance of the coal, thus helping to minimize the creation of coal dust. An open coal stockpile may be maintained adjacent to the truck dumps for blending purposes.

### Overburden and Coal Removal

Best Management Practice is defined as the minimization of fall distance of coal and overburden into the trucks.

### Coal and Overburden Blasting

Blasting shall be conducted in such a manner as to prevent overshooting and to minimize the area to be blasted.

### Topsoil Stockpiles

Wind erosion shall be controlled by the use of temporary vegetative covers.

### Coal and Overburden Haul Roads

Fugitive dust from haul roads shall be controlled by a combination of chemical dust suppressants and road watering.

### Haul Road Maintenance

Haul roads shall be graded as required. Loose debris shall be removed from haul roads. Chemical dust suppressants shall be reapplied as required.

### Wind Erosion From Disturbed Areas

Reclamation of reclaimed surface shall begin within one growing season.

### Access Road

The paved mine access road is approximately 13,300 feet long. The road shall be maintained by Spring Creek.

### Overland Conveyor System

The conveyors shall be covered. The drop distance shall be minimized at the transfer from the buffer conveyor to the overland conveyor. A combination of an ADS system and a PEC system shall control emissions at the transfer point from the buffer conveyor to the overland conveyor.

### Coal Quality Analytical Laboratory

The emissions from the Coal Quality Analytical Laboratory shall be controlled by a baghouse. Approximately 80 tons of coal per year will be crushed and analyzed at the laboratory.

### Lump and Stoker Production

The lump operation, located at the truck dump, has a reject conveyor, which places the incorrectly sized product back in the truck dump. This operation processes, over a three-year average, approximately 13,800 tons per year, with a 60% reject tonnage. The remaining 40% is transported via trucks to the predefined customer. Emissions from the reject product shall be controlled by the truck dump suppression system.

The stoker process coats the coal with used oil for dust suppression and fills over-the-road trucks out of the stoker silos.

9. Spring Creek 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).
10. Spring Creek shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.9 (ARM 17.8.749).
11. Spring Creek shall not operate more than one scoria rock crusher, at any given time and the maximum rated design capacity of the crusher shall not exceed 400 TPH (ARM 17.8.749).
12. Spring Creek shall not operate more than one scoria rock screen at any given time and the maximum rated design capacity of the screen shall not exceed 400 TPH. (ARM 17.8.749).

13. Spring Creek shall not operate more than one scoria rock stacker-conveyor at any given time and the maximum rated design capacity of the screen shall not exceed 400 TPH. (ARM 17.8.749).

B. Testing Requirements

1. Within 60 days after achieving maximum production, but no later than 180 days after initial start-up, an 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 emission limitations contained in Section II.A.4 and II.A.5. 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. Spring Creek 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 identified in the most recent emission inventory report and sources identified in Section I.A of the permit analysis. This information submitted shall include the amount of coal produced (ARM 17.8.749).

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

2. Spring Creek shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include *the addition of a new emissions unit*, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department in writing 10 days prior to 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 information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).
3. All records compiled in accordance with this permit must be maintained by Spring Creek as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
4. Spring Creek shall document, by month, coal production levels. By the 25<sup>th</sup> day of each month, Spring Creek shall total the coal production levels for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.1. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

D. Notification

Spring Creek shall provide the Department with written notification of the actual start-up date of the scoria rock crushing/screening operation postmarked within 15 days after the actual start-up date (ARM 17.8.749).

Section III: General Conditions

- A. Inspection – Spring Creek 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 emissions monitoring system (CEMS) or continuous emissions rate monitoring system 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 Spring Creek fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Spring Creek 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 actions as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Spring Creek may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis  
Spring Creek Coal LLC  
MAQP #1120-11

I. Introduction/Process Description

Spring Creek Coal LLC (Spring Creek) owns and operates a surface coal mine. The facility is located about 11 miles north of Decker, Montana. The mine covers portions of Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 35, and 36 of Township 8 South, Range 39 East, and Sections 18, 19, 20, 27, 28, 29, 30, 31, 32, and 34 of Township 8 South, Range 40 East, and Sections 1 and 12 of Township 9 South, Range 39 East, and Sections 3, 6, 7, 10, 11, and 15 of Township 9 South, Range 40 East, in Big Horn County, Montana.

A. Permitted Equipment

The Spring Creek surface coal mine includes a centralized coal processing and handling system including a truck dump, crushing, conveying, storage barn, and two train load-outs. An in-pit truck dump and crusher, and an overland conveyor system are operated, as well as the necessary auxiliary equipment, including dragline, trucks, shovels, scrapers, drills, dozers, etc., as applicable. In addition, Spring Creek operates a 400 ton per hour (TPH) portable scoria rock crushing/screening operation.

B. Source Description

The Spring Creek Mine is a surface-coal operation, where overburden removal is accomplished by a combination of dragline, cast blast, dozer, and truck/shovel methods. Coal removal is accomplished by truck and shovel type systems.

Prior to any mining disturbance, soil is salvaged and stockpiled. Following soil salvage operations, overburden is drilled and blasted before removal. Associated equipment operations include production dozing, scraper hauls, and other similar ancillary activities. The coal mined is entirely from the Anderson-Dietz coal seam, averaging approximately 80 feet thick. The coal is blasted in lifts of varying depths and loaded out by typical mining equipment such as, but not limited to electric shovels, hydraulic shovels, front end loaders, and mining haul trucks. Removal is typically conducted in more than one pass, because of the thickness of the coal seam, quality and operational considerations. The coal is transported to the primary crusher at the truck dump or the in-pit crusher for the overland conveyor by haul trucks. Production frequently takes place simultaneously from more than one location in the mine, so as to blend the coals to create a marketable product and meet various consumer specifications. Coal is crushed in a primary and secondary crusher plant and loaded onto trains for market delivery. Final placement of overburden consists of dragline placed spoils as part of the normal overburden removal process. Final grading of overburden follows the contours specified in the approved post-mine topography plan. Topsoil and subsoil is placed with scrapers or other equipment at prescribed depths and the reclaimed areas are then seeded.

Product from the scoria rock crushing/screening operation will be used for road construction and various construction projects.

C. Permit History

**MAQP #1120** was issued to Spring Creek Coal Company on May 11, 1979, for the operation of a coal processing and handling facility.

MAQP #1120-01 was issued March 15, 1993, for the construction and use of an in-pit truck dump and crusher and an overland conveyor system. **MAQP #1120-01** replaced MAQP #1120-00.

On December 9, 1994, MAQP #1120-02 was issued increasing the allowable coal production rate from 7 million to 15 million tons per year.

The permitted area changed from 4,793 to about 4,482 acres. The coal seam being mined was the Anderson Dietz Seam. Overburden removal continued to be done by dragline, with truck/shovel assist. The mine used standard mining and reclamation techniques and equipment. The facility's area included a truck dump, crushers, conveyors, storage barn, and rail load-out. Some coal was directly hauled to the facility's area. Coal from pit #1 was hauled to an in-pit crusher and then carried by an overland conveyor to the facilities area. **MAQP #1120-02** replaced MAQP #1120-01.

Spring Creek Coal Company was issued MAQP #1120-03 on May 18, 1995, to correct language in the permit relative to the truck dump and to include a baghouse on the coal quality analytical laboratory. **MAQP #1120-03** replaced MAQP #1120-02.

On March 22, 1998, MAQP #1120-04 was issued to Spring Creek Coal Company to change the ambient monitoring plan in Attachment 1 from requiring monitoring every third day to requiring monitoring every sixth day. The modification also corrected the volume processed by the laboratory from 11 tons per year to 80 tons per year, and identified the lump and stoker production as permitted equipment. The lump and stoker production increased particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) emissions by 1.38 tons per year. Also, the rule references used by the Department of Environmental Quality (Department) in the permit were updated. **MAQP #1120-04** replaced MAQP #1120-03.

On September 14, 1999, Spring Creek Coal Company requested an alteration to MAQP #1120-04. Spring Creek Coal Company proposed to install an Agglomeration Dust Suppression (ADS) system at four locations in the facility: the primary crusher, the conveyor #1 head pulley, the secondary crusher, and the rail loadout area. The ADS system replaced the existing dust control system, which included baghouses and surfactant and water application. Spring Creek Coal Company proposed no changes in emissions as a result of the ADS system. A reduction in fugitive emissions was actually expected. The permit conditions were revised to reflect the changes in control equipment. **MAQP #1120-05** replaced MAQP #1120-04.

On December 31, 2001, the Department received a letter from Spring Creek Coal Company requesting approval for the relocation of their upwind ambient air monitoring site. The request included a facility map identifying two potential new locations. The Department determined that either site location indicated on the facility map would be appropriate and approved the location transfer. Further, the Department indicated that Spring Creek Coal Company must provide the Department with the actual site chosen for the new Hi-Vol site.

Subsequently, on May 2, 2002, the Department received a letter and site map indicating the actual site that was selected for the new Hi-Vol site. The actual site selected is identified in Attachment #1 to air quality MAQP #1120-06. **MAQP #1120-06** replaced MAQP #1120-05.

On July 6, 2005, the Department received a (MAQP Application from Kennecot Energy for a proposed coal production increase at Spring Creek Coal Company. The application requested a modification to MAQP #1120-06 to increase maximum annual coal production from 15 million tons per year (MMTPY) to 20 MMTPY and to include another rail load-out facility. On December 22, 2005, the Department received additional information and the MAQP Application was considered complete. **MAQP #1120-07** replaced MAQP #1120-06.

On March 8, 2007, the Department received a MAQP Application from Rio Tinto Energy America for a modification to MAQP #1120-07. The modification changed the Best Available Control Technology (BACT) determination by replacing the baghouse requirement at the overland conveyor in-pit crusher with a combination of an ADS system and a Passive Emission Control (PEC) system and changing the baghouse requirement at the transfer point from the buffer conveyor to the overland conveyor with a combination of an ADS system and a PEC system.

The overland conveyor extension was intended to shorten the length of haul road required for off-site transport of the coal. **MAQP #1120-08** replaced MAQP #1120-07.

On September 23, 2008, the Department received a complete MAQP Application from Rio Tinto Energy America for a proposed project at Spring Creek Coal Company. The application requested a modification to MAQP #1120-08 to increase the maximum annual coal production from 20 MMTPY to 24 MMTPY. In addition, Spring Creek Coal Company requested to relocate two air monitoring stations that are currently located in areas that will be mined in the near future. **MAQP #1120-09** replaced MAQP #1120-08.

On January 14, 2009, the Department received notification that a reorganization had taken place within Rio Tinto Energy America. Spring Creek Coal Company was merged into Spring Creek Coal LLC. The Department amended the permit pursuant to the Administrative Rules of Montana (ARM) 17.8.764 to change the name to Spring Creek Coal LLC. **MAQP #1120-10** replaced MAQP #1120-09.

D. Current Permit Action

On July 19, 2012, the Department received an application from Spring Creek to modify MAQP#1120-10 to add a 400 TPH scoria rock crushing/screening operation at the mine. The rock crusher, screen, and stacker conveyor are each driven by a diesel engine. The diesel engines are mobile, non-road engines and as such are not required to be permitted. The application also requested the removal of the ambient air monitoring requirements specified in Attachment 1 of the permit. In a letter from the Department dated September 8, 2009, it was determined that Spring Creek could discontinue ambient monitoring of PM<sub>10</sub> because it has had relatively low readings since 2004. The current permit action adds the 400 TPH scoria rock crushing/screening operation to the list of permitted equipment, removes the ambient air monitoring requirements (Attachment 1), and also updates the permit to reflect current permit language and rule references used by the Department. **MAQP #1120-11** replaces MAQP #1120-10.

E. Response to Public Comments

Person/Group Commenting	Permit Reference	Comment	Department Response
Spring Creek Coal, LLC	Section I (A). Plant Location	Correct legal description of facility location.	The legal description of the facility location was corrected as requested.
Spring Creek Coal, LLC	MAQP Analysis, Section I, Introduction/Process Description	Correct legal description of facility location.	The legal description of the facility location was corrected as requested.
Spring Creek Coal, LLC	MAQP Analysis, Section III, BACT Determination	Typographical error: correct the permit number from 1120-01 to 1120-11.	The typographical error was corrected as requested.
Spring Creek Coal, LLC	MAQP Analysis Page 16, Table 3. 1-Hour NO <sub>2</sub> Modeling Results	Typographical error: correct pollutant from PM <sub>10</sub> to NO <sub>2</sub>	The typographical error was corrected as requested.

F. Additional Information

Additional information, such as applicable rules and regulations, 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 operation. The complete rules are stated in the 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).

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

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

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

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM<sub>10</sub>

Spring Creek must maintain compliance with the applicable ambient air quality standards.

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

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter (PM). (2) Under this rule, Spring Creek shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310 Particulate Matter, Industrial Processes. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
6. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Spring Creek is considered an NSPS affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts:
  - a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
  - b. 40 CFR 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. In order for a crushing/screening plant to be subject to NSPS requirements, two specific criteria must be met. First, the crushing/screening plant must meet the definition of an affected facility and, second, the equipment in question must have been constructed, reconstructed, or modified after August 31, 1983. Based on the information submitted by Spring Creek, the portable scoria rock crushing, screening, and conveying equipment to be used under MAQP #1120-11 is subject to this subpart because it meets the definition of an affected facility and was constructed or modified after August 31, 1983.
  - c. 40 CFR Part 60, Subpart Y - Standards of Performance for Coal Preparation and Processing Plants - This rule applies to affected facilities in coal preparation and processing plants that process more than 181 megagrams (Mg) (200 tons) of coal per day. The affected facilities include thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), and coal storage systems, transfer and loading systems that commenced construction, reconstruction or modification after October 27, 1974, and on or before April 28, 2008. An owner or operator shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system gases which exhibit 20 percent opacity or greater as described in Section II of the permit. Based on the information submitted by Spring Creek, the coal preparation and processing equipment to be used under MAQP #1120-11 is subject to this subpart because it meets the definition of an affected facility and was constructed or modified after October 27, 1974, and on or before April 28, 2008.
  - d. 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE). Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, and owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart. An ICE is considered stationary if it remains at the permitted location for more than 12 months, or a shorter period of time for an engine located at a seasonal source. Based on the information submitted by Spring Creek, the CI ICE equipment to be used under MAQP #1120-11 is not subject to this subpart because it does not meet the definition of a stationary ICE.

7. 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. Spring Creek is considered a NESHAP-affected facility under 40 CFR Part 63 and is subject to the requirements of the following subparts:
  - a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to an NESHAP Subpart as listed below:
  - b. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants (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 Spring Creek, the RICE equipment to be used under MAQP #1120-11 is not subject to this subpart because it does not meet the definition of a stationary ICE.

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

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Spring Creek 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. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that 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 air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. The Spring Creek facility has a PTE greater than 25 tons per year of PM<sub>10</sub>; 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. Spring Creek 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. Spring Creek submitted an affidavit of publication of public notice for the August 8, 2012, issue of the *The Sheridan Press*, a newspaper of general circulation in the Town of Sheridan in Sheridan County, Wyoming, 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 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 Spring Creek of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
14. ARM 17.8.765 Transfer of Permit. 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 subchapter would otherwise allow.

This facility is not a major stationary source since this facility is not a listed source and the facility's potential to emit is less than 250 tons per year of any pollutant (excluding fugitive emissions).

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

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

- b. PTE > 10 tons/year of any one Hazardous Air Pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
  - c. PTE > 70 tons/year of PM<sub>10</sub> in a serious PM<sub>10</sub> nonattainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #1120-11 for Spring Creek, the following conclusions were made:
- a. The facility's PTE is less than 100 tons/year for any pollutant (excluding fugitive emissions).
  - 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<sub>10</sub> nonattainment area.
  - d. This facility is subject to a current NSPS standard (40 CFR 60, Subpart A, Subpart Y, and, Subpart OOO).
  - e. This facility is not subject to any current NESHAP standards.
  - 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 Spring Creek is a minor source of emissions as defined under Title V. Therefore, Spring Creek is not required to obtain a Title V Operating Permit. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit in the future, Spring Creek will be required to obtain a Title V Operating Permit.

### III. Best Available Control Technology Determination

A BACT determination is required for each new or modified source. Spring Creek shall install on the new or modified source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized. A BACT analysis was submitted by Spring Creek in permit application #1120-11, addressing some available methods of controlling particulate emissions from the scoria rock crushing/screening operation. The Department 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 determination.

#### **Crushing/Screening Particulate Emissions**

Two types of emissions controls are readily available and used for dust suppression of fugitive emissions at the site, fugitive emissions for the surrounding area of operations, and for equipment emissions from the crushing operation. These two control methods are water and/or chemical dust suppressant. Chemical dust suppressant could be used for dust suppression on the area

surrounding the crushing operation and for emissions from the crushing operation. However, because water is more readily available, is more cost effective, is equally effective as chemical dust suppressant, and is more environmentally friendly, water has been identified as the most appropriate method of pollution control of particulate emissions for the general plant area. In addition, water suppression has been required of recently permitted similar sources. Individual circumstances may, however, necessitate the use of chemical dust suppressant to assist in controlling particulate emissions from the surrounding plant area.

The control options selected have controls and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards. The Department determined that water spray bars planned for installation on the crusher equipment will be capable of maintaining compliance with applicable opacity requirements and reasonable precaution limitations and constitutes BACT for the crushing/screening operation.

IV. Emissions Inventory

Topsoil Rmvd (BCY)	OB Holes Drilled	OB Blasts	OB Rmvd Truck/Shovel (BCY)	OB Haul Truck VMT	OB Rmvd Dragline (BCY)	Coal Holes Drilled	Coal Blasts	Coal Rmvd (Tons)	Coal Haul Truck VMT	OB Remvd Cast Blast (BCY)
625,656	18,861	78	20,587,315	707,469	38,205,100	16,901	60	24,000,000	606,208	14,650,869

  

Coal Dumping at Truck Dump (Tons)	Coal Dumping at Conveyor (Tons)	Water Truck VMT	Open Acres	Storage Pile Acres at Conveyor	Storage Pile Acres at Truck Dump	Access Road VMT	Stoker Loadout (Tons)	Diesel Fuel Used (Gallons)	Gasoline Used (Gallons)
16,398,861	7,601,139	40,320	1,250	1	1	19,250	80,000	5,290,802	120,000

<u>Mining Operation</u>	<u>PM<sub>10</sub> Emission Factor Equation</u>	<u>Uncontrolled PM<sub>10</sub> Emission Factor</u>	<u>Percent Control</u>	<u>PM<sub>10</sub> Emission Rate (ton/year)</u>
Topsoil removal	625,656 yd <sup>3</sup> * 0.0145 lb/yd <sup>3</sup> * 0.0005 lb/ton	0.0145 lb/yd <sup>3</sup>	0	4.54
Topsoil dumping	625,656 yd <sup>3</sup> * 0.01 lb/yd <sup>3</sup> * 0.0005 lb/ton	0.01 lb/ton	0	3.13
OB drilling	18,861 holes drilled * 1.5 lb/hole * 0.0005 lb/ton	0.16 lb/hole	0	1.51
OB blasting	78 blasts * 18.75 lb/blast * 0.0005 lb/ton	18.75 lb/blast	0	0.73
OB removal (truck/shovel)	0.009 lb/yd <sup>3</sup> * 20,318,561 yd <sup>3</sup> * 0.0005 lb/ton	0.009 lb/yd <sup>3</sup>	0	92.64
OB truck travel	707,469 VMT * 3.6 lb/VMT * 0.0005 lb/ton * (1-0.85)	3.6 lb/VMT	85	191.02
OB removal (cast blast)	14,650,869 yd <sup>3</sup> * 0.009 lb/yd <sup>3</sup> * 0.0005 lb/ton	0.009 lb/yd <sup>3</sup>	0	65.93
OB removal (dragline)	38,205,100 yd <sup>3</sup> * 0.009 lb/yd <sup>3</sup> * 0.0005 lb/ton	0.009 lb/yd <sup>3</sup>	0	171.92
Coal drilling	16,901 holes drilled * 0.028 lb/hole * 0.0005 lb/ton	0.028 lb/hole	0	0.24
Coal blasting	60 blasts * 13.125 lb/blast * 0.0005 lb/ton	13.125 lb/blast	0	0.39
Coal removal	24,000,000 tons * 0.005 lb/ton * 0.0005 lb/ton	0.005 lb/ton	0	60.00
Coal truck travel	606,208 VMT * 3.6 lb/VMT * 0.0005 lb/ton * (1-0.85)	3.6 lb/VMT	85	163.68
Coal dumping at conveyor	7,601,139 tons * 0.001 lb/ton * 0.0005 lb/ton	0.001 lb/ton	0	3.80
Coal dumping at truck dump	16,398,861 tons * 0.001 lb/ton * 0.0005 lb/ton * (1-0.90)	0.001 lb/ton	90	0.82
Water truck travel	40,320 VMT * 3.6 lb/VMT * 0.0005 lb/ton * (1-0.85)	3.6 lb/VMT	85	10.89

Wind erosion of open acres	1,250 acres * 0.19 ton/acre-year	0.19 ton/acre-year	0	237.50
Wind erosion of storage pile at conveyor	1 acre * 0.19 ton/acre-year	0.19 ton/acre-year	0	0.19
Wind erosion of storage pile at truck dump	1 acres * 0.19 ton/acre-year	0.19 ton/acre-year	0	0.19
Vehicle travel on paved access road	19,250 VMT * 1.08 lb/VMT * 0.0005 lb/ton * (1-0.85)	1.08 lb/VMT	85	1.56
Stoker loadout	80,000 tons * 0.1 lb/ton * 0.0005 lb/ton	0.10 lb/ton	0	4.00
Train loading at loadout #1	24,000,000 tons * 0.0059 lb/ton * 0.0005 lb/ton * (1-0.99)	0.0059 lb/ton	99	0.71
Train loading at loadout #2	24,000,000 tons * 0.0059 lb/ton * 0.0005 lb/ton * (1-0.99)	0.0059 lb/ton	99	0.71
Diesel fuel usage	5,290,802 gallons * 0.00785 lb/gallon * 0.0005 lb/ton	0.00785 lb/gal	0	20.77
Gasoline usage	120,000 gallons * 0.0126 lb/gallon * 0.0005 lb/ton	0.0126 lb/gal	0	0.76
Primary crusher at truck dump	24,000,000 tons * 0.006 lb/ton * 0.0005 lb/ton * (1-0.99)	0.006 lb/ton	99	0.49
Secondary crusher	24,000,000 tons * 0.006 lb/ton * 0.0005 lb/ton * (1-0.99)	0.006 lb/ton	99	0.49
Primary crusher at conveyor	7,601,139 tons * 0.006 lb/ton * 0.0005 lb/ton * (1-0.99)	0.006 lb/ton	99	0.23
<b>Total</b>				<b>1038.84</b>

#### Emissions Inventory for Permit Modification – MAQP#1120-11

<b>Emission Source</b>	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
KPI-JCI Crusher (400 TPH)	2.10	0.95	0.18
Metso Screen (400 TPH)	3.85	1.30	0.09
Conveyor Transfer Points (10)	2.45	0.81	0.23
Haul Roads	10.98	3.03	0.30
Pile Forming	5.89	2.78	0.42
Fragmented stone load-in to Ground Storage	0.05	0.03	0.19
<b>Total Emissions</b>	<b>25.33</b>	<b>8.89</b>	<b>1.40</b>

### **KPI-JCI Crusher (400 TPH)**

Process Rate: 400 TPH

Hours of operation: 8,760 hrs

#### **PM Emissions:**

Emission Factor: 0.0012 lb/ton (AP 42, Table 11.19.2-2, 8/04, controlled)

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0012 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{2.10 \text{ ton/yr}}$

#### **PM<sub>10</sub> Emissions:**

Emission Factor: 0.00054 lb/ton (AP 42, Table 11.19.2-2, 8/04, controlled)

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00054 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{0.95 \text{ ton/yr}}$

#### **PM<sub>2.5</sub> Emissions:**

Emission Factor: 0.0001 lb/ton (AP 42, Table 11.19.2-2, 8/04, controlled)

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0001 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{0.18 \text{ ton/yr}}$

### **Metso Screen (400 TPH)**

Process Rate: 400 TPH

Hours of operation: 8,760 hrs

#### **Total PM Emissions:**

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

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0022 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{3.85 \text{ ton/yr}}$

#### **Total PM<sub>10</sub> Emissions:**

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

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00074 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{1.30 \text{ ton/yr}}$

#### **Total PM<sub>2.5</sub> Emissions:**

Emission Factor 0.00005 lb/ton (AP 42, Table 11.19.2-2, 8/04)

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00005 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{0.09 \text{ ton/yr}}$

### **Conveyor Transfer Points (10) (controlled) - (SCC 3-05-020-06)**

Process Rate: 400 TPH

Hours of operation: 8,760 hrs

Number of Transfers: 10

#### **Total PM Emissions:**

Emission Factor: 0.00014 lb/ton (AP 42, Table 11.19.2-2, 8/04)

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00014 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (10 \text{ transfer}) = \mathbf{2.45 \text{ ton/yr}}$

#### **Total PM<sub>10</sub> Emissions:**

Emission Factor: 0.000046 lb/ton (AP 42, Table 11.19.2-2, 8/04)

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.000046 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (10 \text{ transfer}) = \mathbf{0.81 \text{ ton/yr}}$

#### **Total PM<sub>2.5</sub> Emissions:**

Emission Factor: 0.000013 lb/ton (AP 42, Table 11.19.2-2, 8/04)

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.000013 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (10 \text{ transfer}) = \mathbf{0.23 \text{ ton/yr}}$

## **Haul Roads**

Vehicle Miles Traveled (Estimated)	5	VMT/day
VMT per Hour	0.21	VMT/hr
Hours of Operation	8,760	hrs/yr
	365	days/yr

### **PM Emissions:**

Emission Factor = $k * (s / 12)^a * (W / 3)^b = 12.04$ lb/VMT	12.04	lb/VMT
Where: k = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	4.9	lbs/VMT
s = surface silt content (sand/gravel processing, material storage area, Table 13.2.2-1)	7.1	%
W = mean vehicle weight (1994 average loaded/unloaded or a 40 ton truck)	50	tons
a = constant (Value for PM30/TSP, Table 13.2.2-2)	0.7	
b = constant (Value for PM30/TSP, Table 13.2.2-2)	0.45	
Calculation: $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (12.04 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) =$	10.98	tons/yr

### **PM<sub>10</sub> Emissions:**

Emission Factor = $k * (s / 12)^a * (W / 3)^b = 3.32$ lb/VMT	3.32	lb/VMT
Where: k = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	1.5	lbs/VMT
s = surface silt content (sand/gravel processing, material storage area, Table 13.2.2-1)	7.1	%
W = mean vehicle weight (1994 average loaded/unloaded or a 40 ton truck)	50	tons
a = constant (Value for PM30/TSP, Table 13.2.2-2)	0.9	
b = constant (Value for PM30/TSP, Table 13.2.2-2)	0.45	
Calculation: $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (3.32 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) =$	3.03	tons/yr

### **PM<sub>2.5</sub> Emissions: (AP 42, Ch. 13.2.2, 11/06)**

Emission Factor = $k * (s / 12)^a * (W / 3)^b = 0.33$ lb/VMT	0.33	lb/VMT
Where: k = constant (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.15	lbs/VMT
s = surface silt content (sand/gravel processing, material storage area, Table 13.2.2-1)	7.1	%
W = mean vehicle weight (1994 average loaded/unloaded or a 40 ton truck)	50	tons
a = constant (Value for PM30/TSP, Table 13.2.2-2)	0.9	
b = constant (Value for PM30/TSP, Table 13.2.2-2)	0.45	
Calculation: $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (0.33 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) =$	0.30	tons/yr

## **Pile Forming**

Process Rate	400	ton/hr
Hours of Operation	8,760	hrs/yr
Number of Piles	2	piles

### **PM Emissions:**

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00168$ lb/ton	0.00168	lb/ton
Where: k = particle size multiplier	0.74	
U = mean wind speed	6.8	mph
M = material moisture content	3.40	%
Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00168 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (2 \text{ piles}) =$	<b>5.89</b>	<b>ton/yr</b>

### **PM<sub>10</sub> Emissions:**

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00079$ lb/ton	0.00079	lb/ton
Where: k = particle size multiplier	0.35	
U = mean wind speed	6.8	mph
M = material moisture content	3.40	%
Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00079 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (2 \text{ piles}) =$	<b>2.78</b>	<b>ton/yr</b>

**PM<sub>2.5</sub> Emissions:**

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00012$ lb/ton	0.00012	lb/ton
Where: k = particle size multiplier	0.053	
U = mean wind speed	6.8	mph
M = material moisture content	3.40	%
Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00012 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (2 \text{ piles}) =$	<b>0.42</b>	<b>ton/yr</b>

**Fragmented stone load-in to Ground Storage**

Process Rate	400	ton/hr
Hours of Operation	8,760	hrs/yr
Number of Loads	1	load

**PM Emissions: Assuming PM= PM10 = PM2.5**

Emission Factor: PM10 /0.51 (AP-42 Appendix B.2. - Table B.2.2, Category 3, 1/95)	3.14E-05	lb/ton
Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00003 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ load}) =$	<b>0.05</b>	<b>ton/yr</b>

**PM<sub>10</sub> Emissions:**

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.000016$ lb/ton	1.60E-05	lb/ton
Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00002 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ load}) =$	<b>0.03</b>	<b>ton/yr</b>

**PM<sub>2.5</sub> Emissions:**

Emission Factor: PM10 /0.15 (AP-42 Appendix B.2. - Table B.2.2, Category 3, 1/95)	1.07E-04	lb/ton
Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00011 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ load}) =$	<b>0.19</b>	<b>ton/yr</b>

## V. Existing Air Quality

Spring Creek is located approximately 11 miles north of Decker, Montana. The air quality in this areas is currently attainment or unclassified for all pollutants. In addition, Spring Creek has monitored particulate levels around the mine through the life of the operation. This data is on file with the Department. Particulate levels have been found to fall below state and federal standards. The current permit action discontinues ambient air monitoring at the mine, and adds a scoria rock crushing/screening operation.

## VI. Ambient Air Impact Analysis

The permit action associated with MAQP #1120-09 included air dispersion modeling. The modeling analysis for Spring Creek's proposed production rate under MAQP #1120-09 demonstrated compliance with the applicable National Ambient Air quality Standards (NAAQS) and Montana Ambient Air quality Standards (MAAQS). The modeling results show that the peak modeled PM<sub>10</sub> impact is very near the 24-hour PM<sub>10</sub> standard; however, EPA's models and modeling protocol are designed to provide conservative results.

**PM<sub>10</sub> MODELING RESULTS**

The following two tables list the PM<sub>10</sub> results for both 2016 and 2017 modeling years. To compare the modeled 24-hour PM<sub>10</sub> concentrations to the applicable NAAQS/MAAQS, the modeled high second high (H2H) was selected. For clarification, an exceedance of the daily PM<sub>10</sub> standards occurs after rounding the concentrations to the nearest 10 micrograms per cubic meter (µg/m<sup>3</sup>) (i.e., values ending with 5 µg/m<sup>3</sup> or greater are rounded up so a 155 µg/m<sup>3</sup> is considered an exceedance). Essentially, the 24-hour PM<sub>10</sub> NAAQS may not be exceeded more than three times over any three year period. Table 1 lists the results for the 24-hour PM<sub>10</sub> modeled concentrations.

**Table 1. 24-Hour SCC PM<sub>10</sub> Modeling Results.**

Year	Modeled H2H <sup>1</sup> 24-Hour PM <sub>10</sub> Concentration (µg/m <sup>3</sup> ) <sup>2</sup>	MDEQ PM <sub>10</sub> Default Background Concentration (µg/m <sup>3</sup> )	Total PM <sub>10</sub> Concentration (µg/m <sup>3</sup> )	NAAQS/MAAQS <sup>3</sup> (µg/m <sup>3</sup> )	Pass?	Location		Elevation (m)	Date <sup>5</sup>
						Easting (m) <sup>4</sup>	Northing (m)		
2016	119.2	30	149.2	150	Yes	351190.38	4993724.00	1152.03	03111324
2017	119.9	30	149.9	150	Yes	350990.47	4993717.50	1158.00	03083124

<sup>1</sup>. H2H = Highest Second High 24-hour PM<sub>10</sub> concentration.

<sup>2</sup>. µg/m<sup>3</sup> = micrograms per cubic meter.

<sup>3</sup>. NAAQS/MAAQS = National Ambient Air Quality Standard/Montana Ambient Air Quality Standard.

<sup>4</sup>. m = meters.

<sup>5</sup>. Date = Year (YY) Month (MM) Day (DD) Hour (HH).

Table 2 lists the modeling results for the annual PM<sub>10</sub> emissions from Spring Creek, which indicates that there were no violations of the annual PM<sub>10</sub> NAAQS/MAAQS.

**Table 2. Annual SCC PM<sub>10</sub> Modeling Results.**

Year	Modeled H1H <sup>1</sup> Annual PM <sub>10</sub> Concentration (µg/m <sup>3</sup> ) <sup>2</sup>	MDEQ PM <sub>10</sub> Default Background Concentration (µg/m <sup>3</sup> )	Total PM <sub>10</sub> Concentration (µg/m <sup>3</sup> )	NAAQS/MAAQS <sup>3</sup> (µg/m <sup>3</sup> )	Pass ?	Location		Elevation (m)
						Easting (m) <sup>4</sup>	Northing (m)	
2016	28.7	8	36.7	50	Yes	353082.94	4995140.00	1107.57
2017	28.0	8	36.0	50	Yes	351490.19	4993733.00	1143.74

<sup>1</sup>. H1H = Highest First High Annual PM<sub>10</sub> concentration.

<sup>2</sup>. µg/m<sup>3</sup> = micrograms per cubic meter.

<sup>3</sup>. NAAQS/MAAQS = National Ambient Air Quality Standard/Montana Ambient Air Quality Standard.

<sup>4</sup>. m = meters.

## NO<sub>x</sub> MODELING RESULTS

The following two tables list the NO<sub>2</sub> results for both 2016 and 2017 modeling years after the NO<sub>x</sub> modeled results were adjusted for the conversion of NO<sub>x</sub> to NO<sub>2</sub>.

**Table 3. 1-Hour NO<sub>2</sub> Modeling Results.**

Year	Modeled H1H <sup>1</sup> 1-Hour NO <sub>2</sub> Concentration (µg/m <sup>3</sup> ) <sup>2</sup>	MDEQ NO <sub>2</sub> Default Background Concentration (µg/m <sup>3</sup> )	Total NO <sub>2</sub> Concentration (µg/m <sup>3</sup> )	NAAQS/MAAQS <sup>3</sup> (µg/m <sup>3</sup> )	Pass?	Location		Elevation (m)	Date <sup>5</sup>
						Easting (m) <sup>4</sup>	Northing (m)		
2016	262.6	75	337.6	564	Yes	353328.78	4995194.00	1116.16	03082406
2017	259.9	75	334.9	564	Yes	353178.75	4993243.50	1101.01	03070402

<sup>1</sup>. H2H = Highest Second High 1-hour modeled NO<sub>x</sub> concentration was selected and the Ozone Limiting Method was applied.

<sup>2</sup>. µg/m<sup>3</sup> = micrograms per cubic meter.

<sup>3</sup>. MAAQS = Montana Ambient Air Quality Standard.

<sup>4</sup>. m = meters.

<sup>5</sup>. Date = Year (YY) Month (MM) Day (DD) Hour (HH).

**Table 4. Annual NO<sub>2</sub> Modeling Results.**

Year	H1H <sup>1</sup> Annual NO <sub>2</sub> Concentration (µg/m <sup>3</sup> ) <sup>2</sup>	MDEQ Default NO <sub>2</sub> Background Concentration (µg/m <sup>3</sup> )	Total NO <sub>2</sub> Concentration (µg/m <sup>3</sup> )	NAAQS/MAAQS <sup>3</sup> (µg/m <sup>3</sup> )	Pass?	Location		Elevation (m)
						Easting (m) <sup>4</sup>	Northing (m)	
2016	16.4	6	22.4	100/94	Yes	353128.81	4995192.00	1108.43
2017	10.7	6	16.7	100/94	Yes	351490.19	4993733.00	1143.74

<sup>1</sup>. H1H = Highest First High Annual modeled NOx concentration was selected and the Ambient Ratio Method was applied (modeling results were multiplied by 0.75).

<sup>2</sup>. µg/m<sup>3</sup> = micrograms per cubic meter.

<sup>3</sup>. NAAQS/MAAQS = National Ambient Air Quality Standard/Montana Ambient Air Quality Standard.

<sup>4</sup>. m = meters.

From these results, no violation of the NO<sub>2</sub> NAAQS/MAAQS occurred as a result of the actions associated with MAQP #1120-09. This data is on file with the Department.

Though Spring Creek has monitored particulate levels around the mine throughout the life of the operation, because of the facility's history of relatively low ambient monitoring readings, and the Department's confidence in current permit conditions, the Department determined the Spring Creek could discontinue monitoring. The current permit action discontinues ambient air monitoring at the Spring Creek Mine and adds a scoria rock crushing/screening operation.

Based on the information provided and the conditions established in MAQP #1120-11, the Department determined that the impact from the current permitting action will be minor.

## VII. Taking or Damaging Implication Analysis

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

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

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

## VIII. Environmental Assessment

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

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

**FINAL ENVIRONMENTAL ASSESSMENT (EA)**

*Issued To:* Spring Creek Coal, LLC

*Montana Air Quality Permit Number:* MAQP#1120-11

*Preliminary Determination Issued:* August 29, 2012

*Department Decision Issued:* September 14, 2012

*Permit Final:* October 2, 2012

1. *Legal Description of Site:* Spring Creek operates a surface coal mine located about 11 miles north of Decker, Montana. The mine covers portions of Sections 13, 14, 15, 21, 23, 24, 25, 26, and 27 in Township 8 South, Range 39 East, Sections 18, 19, 20, 27, 28, 29, 30, 31, 32, and 34 in Township 8 south, Range 40 East; Sections 1 and 12 in Township 9 South, Range 39 East; and Sections 3, 6, 7, 10, 11, and 15 in Township 9 South, Range 40 East, all in Big Horn County, Montana.
2. *Description of Project:* Spring Creek submitted a permit application to modify MAQP#1120-10 to add a 400 ton per hour (TPH) scoria rock crushing/screening operation and to remove ambient air monitoring requirements (Attachment 1).
3. *Objectives of Project:* The issuance of MAQP #1120-11 would allow Spring Creek to expand the facility operations to include production and sales of scoria rock to increase business and revenue for the company. In addition, the current project would discontinue Spring Creek's ambient air monitoring requirements. Spring Creek would continue to operate as a surface coal mine.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because Spring Creek 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 list of enforceable conditions, including a BACT analysis, would be included in MAQP #1120-11.
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 that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do 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

Impacts from the current permit action would be minor because, though there would be an increase in air emissions from the facility which could increase the deposition of pollutants within the terrestrial and aquatic life habitats, the activities associated with the proposed scoria crushing/screening operation would be conducted within the boundaries of the existing Spring Creek coal mine. The project site is already disturbed by coal mining operations and the applicant states that Spring Creek does extensive monitoring for wildlife as part of their State Mining Permit C1979012. Results of the monitoring are on file with the Montana Department of Environmental Quality (DEQ) Industrial and Energy Minerals Bureau. The Department has determined that the demands and impacts to terrestrial and aquatic life and habitats related to the current permit action would be minor.

B. Water Quality, Quantity and Distribution

This project would have a minor effect on the water quality, quantity, and distribution due to the use of water for fugitive dust suppression. Water would be required for fugitive dust suppression in the surface activities including the proposed scoria rock crushing/screening operations. Typical application of water spray for dust suppression results in the water being evaporated to the atmosphere shortly after its application. Therefore, the Department has determined that the impacts to the water quality, quantity, and distribution would be minor.

C. Geology and Soil Quality, Stability and Moisture

The current permit action would have a minor effect on the geology and soil quality, stability, and moisture. The activities associated with the proposed scoria rock crushing/screening operation would be conducted within the boundaries of the existing Spring Creek coal mine which has already been disturbed by coal mining operations. The applicant states that Spring Creek does extensive testing of soils and geology as part of their State Mining Permit C1979012 and results from the testing are on file with the DEQ Industrial and Energy Minerals Bureau. The Department has determined that the impacts to the geology and soil quality, stability, and moisture related to the current permit action would be minor.

D. Vegetation Cover, Quantity, and Quality

The project would have a minor affect on the local vegetation cover, quantity, and quality. The impacts from emissions or deposition of pollutants would be minor due to dispersion characteristics of the pollutants, the atmosphere, and the conditions that would be placed in MAQP #1120-11. The activities associated with the proposed scoria rock crushing/screening operation would be conducted within the boundaries of the existing Spring Creek coal mine which has already been disturbed by coal mining operations. The applicant states that Spring Creek does extensive testing of soils and geology as part of their State Mining Permit C1979012 and results from the testing are on file with the DEQ Industrial and Energy Minerals Bureau. The Department has determined that the impacts to the vegetation cover, quantity, and quality related to the current permit action would be minor.

E. Aesthetics

The proposed project would have a minor effect on the local aesthetics. There will be additional equipment added to the worksite; however the proposed scoria rock crushing/screening operation would be located within the boundaries of the surface coal mine, and no new disturbance would be anticipated. Noise levels would be consistent with the levels from the existing coal mine operations and would not be expected to increase. There would be potential visual emissions associated with the proposed crushing/screening operations. However, conditions would be placed in MAQP #1120-11 to limit visible emissions. The Department has determined that the impacts to the aesthetics related to the current permit action would be minor.

F. Air Quality

The area surrounding the proposed project is unclassifiable/attainment for the NAAQS for all criteria air pollutants. The Department believes that concentrations of the criteria pollutants in the area are at or near background levels and well below any NAAQS levels. An increase in emissions of air pollutants would occur as a result of the current permit action. However, the air quality impacts from the current permit action would be minor because MAQP #1120-11 would include conditions limiting the visible emissions (opacity) from the proposed scoria rock crushing/screening operations. Overall, the Department determined that air emissions from the current permit action would have minor impacts on air quality in the immediate and surrounding area.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The current permit action would occur within the previously disturbed industrial site at the mine. As part of the MEPA analysis on initial mine development, assessments of potential impacts to unique endangered, fragile, or limited environmental resources were done by the Department, including contact with the Montana Natural Heritage Program – Natural Resource Information

System (NRIS) to identify species of special concern at the mine site. The Department determined that impacts to unique endangered, fragile, or limited environmental resources associated with the current permit action would be minor because of the lack of change to the mine boundary and the conditions placed in MAQP #1120-11.

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

The current permitting action would have a minor impact on the environmental resources of water, air, and energy. Limited amounts of water will be required for fugitive dust suppression. Pollutant emissions generated from the proposed scoria rock crushing/screening operation would have minimal impacts on air quality because of the conditions placed in MAQP #1120-11 and because it would be located within the boundaries of the existing Spring Creek coal mine. Overall, the Department determined that the demands on the environmental resource of water, air, and energy related to the current permit action would be minor.

I. Historical and Archaeological Sites

The current permit action would occur within the previously disturbed industrial site at the mine. According to past correspondence from the Montana State Historic Preservation Office, there is low likelihood of adverse disturbance to any known archaeological or historic site because of previous industrial disturbance within the area. Therefore, the Department determined that the likelihood that the current permit action would have an impact on historical or archaeological sites would be minor.

J. Cumulative and Secondary Impacts

The current permit action would cause minor cumulative and secondary impacts to the physical and biological aspects of the human environment. There would be a slight increase in air pollutant emissions and no increase in the mine plan area.

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
- B. Cultural Uniqueness and Diversity

The Department determined that the current permit action would not have an impact on the social structures and mores or the cultural uniqueness and diversity of this area of operation because the proposed project would occur within the previously disturbed industrial area. The surrounding area would remain unchanged as a result of the proposed project.

- C. Local and State Tax Base and Tax Revenue

The current permit action would have little or no impact on the local and state tax base and tax revenue. No full time, permanent employees would be added as a result of issuing MAQP #1120-11. The increase in the amount of equipment at the site would be minimal.

- D. Agricultural or Industrial Production

The current permit action would occur within the previously disturbed industrial area; therefore, the Department would not expect an impact to or displacement of agricultural production. The new equipment added as part of the current permit action are considered small by industrial standards and would, therefore, have only a minor impact on local industrial production.

- E. Human Health

There would be minor effects on human health due to the slight increase in emissions of air pollutants. However, MAQP #1120-11 incorporates conditions to ensure that the new equipment added as part of the current permit action would be operated in compliance with all applicable rules and standards. These rules and standards are designed to be protective of human health.

- F. Access to and Quality of Recreational and Wilderness Activities

The current permit action would occur within the previously disturbed industrial property and would not impact access to recreational and wilderness activities. Emissions from the operation would be minimized as a result of the conditions that would be placed in Permit #1120-11. Therefore, the associated impacts on the access to and quality of recreational and wilderness activities would be minor.

- G. Quantity and Distribution of Employment
- H. Distribution of Population

There are approximately 260 employees at the Spring Creek mine and no full time, permanent employees would be added as a result of issuing MAQP #1120-11. The quantity and distribution of employment and the distribution of population in the area would not be impacted as a result of the current permit action, and no related secondary employment would be expected.

- I. Demands for Government Services

Minor increases may be observed in the local traffic on existing roads in the area. Very limited additional government services would be required relative to these operations. Overall, demands for government services would be minor.

#### J. Industrial and Commercial Activity

The new equipment added as part of the current permit action represents only a minor increase in the industrial activity in any given area. No additional industrial or commercial activity is expected as a result of the proposed scoria rock crushing/screening operations.

#### K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans or goals that would be affected by the proposed project. The state standards would protect the proposed site and the environment surrounding the site.

#### L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would result in minor impacts to the economic and social environment in the immediate area. As previously stated, the proposed project would result in a slight increase in industrial process in the area. The Department believes that Spring Creek would be expected to operate in compliance with all applicable rules and regulations as outlined in MAQP #1120-11.

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 construction and operation of scoria rock crushing/screening operation. MAQP #1120-11 includes conditions and limitations to ensure the facility will 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

EA prepared by: Deanne Fischer  
Date: August 15, 2012