Montana Department of
ENVIRONMENTAL QUALITY
Steve Bullock, Governor
Tracy Stone-Manning, Director
P. O. Box 200901 Helena, MT 59620-0901 (406) 444-2544 Website: www.deq.mt.gov

PRELIMINARY DETERMINATION
ON PERMIT APPLICATION

Date of Mailing: July 18, 2014

Name of Applicant: RC Resources Inc.

Source: Rock Creek Mine

Proposed Action: The Department of Environmental Quality (Department) proposes to issue a permit, with conditions, to the above-named applicant. The application was assigned Permit Application Number 2414-03.

Proposed Conditions: See attached.

Public Comment: Any member of the public desiring to comment must submit such comments in writing to the Air Resources Management Bureau (Bureau) of the Department at the above address. Comments may address the Department's analysis and determination, or the information submitted in the application. In order to be considered, comments on this Preliminary Determination are due by August 18, 2014. Copies of the application and the Department's analysis may be inspected at the Bureau's office in Helena. For more information, you may contact the Department.

Departmental Action: The Department intends to make a decision on the application after expiration of the Public Comment period described above and following issuance of the final supplemental Environmental Impact Statement being prepared by the Forest Service. A copy of the decision may be obtained at the above address. The permit shall become final on the date stated in the Department's Decision on this permit, unless an appeal is filed with the Board of Environmental Review (Board).

Procedures for Appeal: Any person jointly or severally adversely affected by the final action may request a hearing before the Board. Any appeal must be filed by the date stated in the Department's Decision on this permit. The request for a hearing shall contain an affidavit setting forth the grounds for the request. Any hearing will be held under the provisions of the Montana Administrative Procedures Act. Submit requests for a hearing in triplicate to: Chairman, Board of Environmental Review, P.O. Box 200901, Helena, MT 59620.

For the Department,

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

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

JM:CH
Enclosures

MONTANA AIR QUALITY PERMIT

Issued To: RC Resources
11115 E. Montgomery
Suite G
Spokane Valley, WA
99206

MAQP: #2414-03
Application Complete: June 18, 2014
Preliminary Determination Issued: July 18, 2014
Department's Decision Issued:
Permit Final:
AFS #: 089-0010

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to RC Resources Inc (RCR), 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

RCR propose construct and operate an underground silver/copper mine and processing facility known as the Rock Creek Mine with activities in Township 27N, Range 32W, Sections 26, 27, 34, and 35: and Township 26N, Range 32W, Sections 3, 10, 15, 22, 23, 27, 28, 29, 32, and 33, Sanders County, Montana.

B. Current Permit Action

The Department of Environmental Quality (Department) received an application from RCR on September 4, 2012; a revised application submittal on September 13, 2013; and a revised application submittal on March 25, 2014, and a final correspondence on June 18, 2014. The March 25, 2014, application submittal received along with the final correspondence represents the complete application reviewed by the Department. The proposed action is for an underground copper/silver mine which is scheduled to occur in two different phases. The first phase would be an evaluation phase where the ore body would be characterized using an exploration adit. A second production phase would expand operations to include two production adits, a mill site, and a mill tailings process area. The exploration adit will be adjacent to the southwestern border of the Cabinet Mountains Wilderness Area.

The facility's potential to emit criteria pollutants will be below major source thresholds for the Prevention of Significant Deterioration – New Source Review (PSD-NSR) program. The potential criteria pollutant and hazardous air pollutants will also be below major source thresholds and only a minor source Montana Air Quality Permit application is required.

C. Permitted Equipment

Emitting units are grouped into the following categories with individual equipment as noted.

a. Underground Blasting

b. Underground Ore Processing and Handling
    1. Ore Bin
    2. Vibrating Grizzly Screen
    3. Primary Crusher
    4. Coarse Ore Bin
    5. Two Vibrating Feeders
    6. Three Belt Conveyors including one transferring ore above ground
    7. One below ground wet scrubber (Scrubber #1)

c. Aboveground Ore Processing and Handling Circuit (Contained in Crushing Building)
    1. Discharge End of Belt Conveyor From Below Ground
    2. Primary Surge Bin
    3. Primary Screen
    4. Secondary Crusher
    5. Secondary Surge Bin
    6. Two Secondary Screens
    7. Two Tertiary Crushers
    8. Three Belt Conveyors Including One Transferring to Milling Building
    9. One Above Ground Wet Scrubber (Scrubber #2)

d. Fine Ore Processing and Handling Process (Contained in Milling Building)
    1. Discharge End of Belt Conveyor from Crushing Building
    2. Tertiary Surge Bin
    3. Two Vibrating Feeders
    4. Belt Conveyor
    5. Wet Milling Processing Equipment
    6. One Baghouse (Baghouse #1)

e. Emergency Generator (Less than or Equal to 560 kW)

f. Storage Pile Wind Erosion
    1. Exploration Adit Waste Rock Pile
    2. Exploration Adit Ore Stockpile
    3. Production Adit Waste Rock Pile
    4. Production Adit Ore Stockpile
    5. Tailings Impoundment

g. Road Dust
    1. Inclusive of all roads used based on all expected mine related travel

h. Insignificant Emission Sources
    1. Underground road fugitive emissions
    2. Small number of Building Heaters (electric or clean burning fuels, (natural gas or propane) with less than 5 MMBtu/hr ratings)
    3. Diesel Fuel Storage Tanks (Initially 500 gallon during exploration phase, 20,000 gallon during production phase)

4. Flotation Separation, Concentrate dewatering, and other "wet" handling operations which have negligible emissions due to moisture content and are located at the Paste Plant/Load-Out Facility

Section II: Conditions and Limitations

A. Emission Limitations

1. RCR shall be limited to a maximum of 10,000 tons of ore production per day (measured as throughput at the primary crusher) during any 24-hour rolling period (ARM 17.8.749).

2. RCR shall be limited to a maximum of 3.5 million tons of ore production (3,500,000) during any rolling 12-month time period (ARM 17.8.749).

3. RCR shall be limited to a maximum of 1,500 tons of emulsion explosive usage during any rolling 12-month time period (ARM 17.8.749)

4. The maximum diesel fuel consumption by underground equipment shall be limited to a maximum of 900,000 gallons during any rolling 12-month time period (ARM 17.8.749).

5. RCR shall not cause or authorize to be discharged into the atmosphere any fugitive emissions from process equipment not covered under 40 CFR 60, Subpart LL that exhibit 20% opacity or greater averaged over 6 consecutive minutes (ARM 17.8.308 and ARM 17.8.340).

6. RCR shall limit process fugitive emissions for any affected facility as identified in 40 CFR 60, Subpart LL, from the date of the performance test forward, to a maximum opacity of 10%. Stack emissions from any affected facility are limited to a maximum of 7% opacity unless using a wet scrubber (40 CFR Part 60, Subpart LL, ARM 17.8.308 and ARM 17.8.340).

7. RCR 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).

8. RCR 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.7 (ARM 17.8.749).

9. Water shall be available and used, as necessary, to maintain compliance with the opacity limitations (ARM 17.8.752).

10. The below ground Scrubber #1 shall be operated and maintained per industry best practices (ARM 17.8.749).

11. Emissions from the above ground Scrubber #2 used to control emissions from the above ground ore processing and handling shall be limited to a maximum of 0.05 grams per dry standard cubic meter (g/dscm) (ARM 17.8.749 and 40 CFR Part 60, Subpart LL).

12. RCR shall install, calibrate, maintain, and operate equipment at the above ground Scrubber #2 to monitor the following parameters (ARM 17.8.340 and 40 CFR Part 60, Subpart LL):

    a. Change in pressure of the gas stream through the above ground Scrubber #2. The monitoring device must be certified by the manufacturer to be accurate within ±250 pascals (±1 inch water) gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.

    b. Scrubbing liquid flow rate to the above ground Scrubber #2. The monitoring device must be certified by the manufacturer to be accurate within ±5 percent of design scrubbing liquid flow rate and must be calibrated on at least an annual basis in accordance with manufacturer's instructions.

13. Emissions from Baghouse #1 used to control emissions from the Fine Ore Processing and Handling Process shall be limited to a maximum of 0.05 g/dscm (ARM 17.8.749 and 40 CFR Part 60, Subpart LL).

14. RCR shall comply with all applicable standards, limitations, and the reporting, record keeping, and notification requirements contained in 40 CFR Part 60, Subpart LL, for all affected facilities (ARM 17.8.340 and 40 CFR Part 60).

15. Detailed descriptions of Baghouse #1, underground Scrubber #1 and above ground Scrubber #2 (make, model, flowrate, etc.) shall be submitted to the Department prior to the commencement of construction (ARM 17.8.749).

16. RCR shall develop a general operating plan for the tailings impoundment site including a fugitive dust control plan to control wind erosion from the tailings impoundment site. Prior to the commencement of operation, RCR shall submit to the Department for review and approval a general operation plan for the tailings impoundment site including the fugitive dust control plan. The plan must include, at a minimum, cell configurations, a general sprinkler arrangement, and a narrative description of the operation, including tonnage rates, initial area, and any plans related to how the impoundment operation might change over the mine life (ARM 17.8.749 and ARM 17.8.752)

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17. Tailings wind erosion control shall be maintained during the interim period after the end of active tailings deposition and prior to final reclamation of the site (ARM 17.8.749 and ARM 17.8.752).

18. If constructed, RCR shall use the contingent additional adit only as an air intake adit. Any pollutant emissions from the contingent adit are prohibited as the location and details were not available to be considered in the modeling analysis (ARM 17.8.749).

19. RCR shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR 60 Subpart IIII for the emergency generator (ARM 17.8.340 and 40 CFR 60 Subpart IIII).

20. RCR shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR 63 Subpart ZZZZ for the emergency generator (ARM 17.8.342 and 40 CFR 63 Subpart ZZZZ).

21. RCR shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR 60, Subpart A (ARM 17.8.340 and 40 CFR 60, Subpart LL).

B. Emission Control Practice and Requirements

RCR shall utilize the following emission control requirements (ARM 17.8.752):

1. Underground Blasting – Industry Best Operating Practices (BOPs) shall be used for minimizing blasting emissions, including hole size optimization, water spray after each blast, and minimizing time between charge loading and detonation.

2. Underground Primary Crusher – An underground scrubber (Scrubber #1) shall be used to control crushing particulate emissions.

3. Underground Screens/Feeders – Scrubber #1 shall be used to control screens/feeders particulate emissions.

4. Underground Coarse Ore Conveyor Transfers – Scrubber #1 shall be used to control underground conveyor transfers.

5. Aboveground Ore Processing and Handling Circuit –An aboveground scrubber (Scrubber #2) shall be used to control the above ground Course Ore Circuit.

6. Fine Ore Processing and Handling – A fabric filter baghouse shall be used to control particulate emissions from the Fine Ore Processing and Handling Circuit (Baghouse #1). All of the milling operations shall occur within enclosed buildings.

7. Emergency Generator – The diesel-fired generator rated for up to 560 kW shall meet 40 CFR Part 89 Tier 4 requirements.

8. Exploration Adit Waste Rock Pile – RCR shall revegetate the Waste Rock Pile the first growing season after its creation.

9. Production Adit Ore Stockpile – This temporary ore stockpile produced during construction of the production adit shall be processed during the early periods of the mill operation or shall be treated using reasonable precautions to prevent particulate emissions.

10. Conveyor Discharge to Mill – The conveyor discharge to the Mill shall occur inside the Mill Building.

11. Tailings Impoundment – The tailings from the mill shall be slurried through a pipeline to a tailings impoundment site. The impoundment area will include areas which have been fully reclaimed to active areas of fresh tailings deposition. The active areas will be divided into multiple cells approximately 50 to 120 acres each. Cell depth and coverage will be monitored and adjusted to facilitate perimeter dike construction and to compensate for growing season timing. RCR will use an irrigation system on cells to reduce dust emissions as needed, both before and after the vegetation is established.

12. Metallic Concentrate Product – The metallic concentrate product shall be slurried through a pipeline to the Highway 200 Paste Plant area where it is further dewatered to approximately 8-10 % moisture.

13. U.S. Forest Service Road 150 – Mine traffic shall predominately use Forest Service Road 150. U.S. Forest Service Road 150 shall be paved from the highway to the mill site. Reasonable precautions including sweeping and washing shall also be performed on Forest Service Road 150.

14. Highway 200 Load-Out Facility – A load-out rail facility shall be constructed per the project schedule and metallic concentrate product shall be loaded onto rail cars waiting for transportation to a melting processing plant.

15. Contingent Ventilation Adit – The contingent ventilation adit, if constructed, will supplement air flow in the mine and shall function as air intake only.

C. Testing Requirements

1. The affected facilities under 40 CFR 60, Subpart LL shall be tested and demonstrate compliance with the emission limitations contained in Section II.A. 11 and Section II.A.13 within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the system (ARM 17.8.105, ARM 17.8.340, 40 CFR 60.8 and 40 CFR 60, Subpart LL).

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

D. Operational Reporting Requirements

1. RCR 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 emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505). RCR shall submit the following information annually to the Department by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505):

a. Amount of ore handled.

b. Amount of diesel fuel used (underground equipment).

c. Amount of propane and natural gas used.

d. Amount of explosives used (RU Emulsion explosive).

e. Hours of operation of the emergency diesel-fired generator.

f. An estimate of vehicle miles traveled from Highway 200 to the mine and mill access points.

g. Amount of disturbed acreage (including tailings impoundment area).

2. RCR shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit,*** change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).

3. All records compiled in accordance with this permit must be maintained by RCR 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. RCR shall document, by day, the ore production levels (measured as throughput at the primary crusher). RCR shall sum the total ore production during the previous 24 hours to verify compliance with the limitations in Section II.A.1. A written report of the compliance verification shall be submitted annually to the Department along with the annual emission inventory (ARM 17.8.749).

5. RCR shall document, by month, the tons of ore processed at the underground crusher. By the 25th day of each month, RCR shall total the total tons of ore processed for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.2. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

6. RCR shall document, by month, the tons of emulsion explosive used at the facility. By the 25th day of each month, RCR shall total the total tons of emulsion explosive used for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.3. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

7. RCR shall record the measurements of both the pressure drop across aboveground Scrubber #2 and the scrubbing liquid flow rate during the initial performance test of Scrubber #2 and at least weekly thereafter. RCR shall submit semiannual reports to the Department of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow rate differ by more than ±30 percent from those measurements recorded during the most recent performance test. These reports must be submitted within 30 days following the end of the second and fourth calendar quarters (ARM 17.8.340 and 40 CFR Part 60, Subpart LL).

8. RCR shall document, by month, the diesel fuel consumption by underground equipment. By the 25th day of each month, RCR shall calculate the total diesel fuel consumption by underground equipment for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.4. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

9. RCR shall document, by month, the hours of operation of the emergency diesel-fired generator. By the 25th day of each month, RCR shall calculate the hours of operation of the diesel engine/generator for the previous month. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

E. Notification

1. RCR shall supply the Department the following notification (ARM 17.8.749 and 40 CFR 60, Subpart A):

   a. Date when Aboveground Ore Processing and Handling Circuit commences construction, postmarked no later than 30 days after such date.

   b. Date when Aboveground Ore Processing and Handling Circuit begins operation, postmarked no later than 15 days after such date.

c. Date when the Fine Ore Processing and Handling Process commences construction, postmarked no later than 30 days after such day.

d. Date when the Fine Ore Processing and Handling Process begins operation, postmarked no later than 15 days after such date.

SECTION III: General Conditions

A. Inspection – RCR shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if RCR fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving RCR of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay 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 the Department at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by RCR 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
Rock Creek Mine
MAQP #2414-03

I. Introduction/Process Description

RC Resources Inc. (RCR) proposed to construct and operate a silver/copper mine referred to as the Rock Creek Mine. The facility is located in Township 27N, Range 32W, Sections 26, 27, 34, and 35: and Township 26N, Range 32W, Sections 3, 10, 15, 22, 23, 27, 28, 29, 32, and 33, Sanders County, Montana.

A. Source Description

RCR proposes to construct a 10,000 ton-ore-per-day (3.5 million tons per year) mine and mill complex to extract copper and silver ore from a mineral deposit underlying a portion of the Cabinet Mountains Wilderness, about 13 miles northeast of Noxon, in Sanders County, Montana. RCR anticipates a 5-year period to fully complete both the evaluation and production phase of the mine. This plan includes a one year period for constructing an evaluation adit and support facilities, a 3-year period for production adit construction, primary crushing installation and tailings impoundment construction, with limited production and rail siding completion in year five. Full production would begin after that and is estimated to last for 30 years. The full production life would depend upon metal prices, engineering, and other factors that determine financial viability. Post-mining reclamation is estimated to last a few years.

Ore would be initially processed in an underground crusher. The above-ground ore-processing complex would further grind the ore to liberate metal-bearing sulfides. Sulfides would then be removed by flotation and the metallic product concentrate transported by slurry pipeline to a paste plant/load facility located about five miles away and ultimately shipped to an off-site smelter.

The mill complex, including surface conveyor, office building, shop, and warehouse, would be located north of USFS Road 150 as it heads west prior to connecting with Highway 200. Tailings would be transported as a slurry to the paste plant location at the tailings disposal area. There it would be dewatered to make a paste approximately 20 percent by weight. Approximately 3.5 million tons per year of tailings would be deposited in the tailings impoundment area.

The proposed evaluation (exploration) adit would be driven prior to other work on the project in an attempt to better understand the configuration of the ore body. During the mine production phase, this adit would serve as the primary air intake opening and under a secondary contingency plan could serve as a secondary exhaust. Conventional mining methods would be employed for the 1-year adit construction period. All electric power would be provided by electric transmission lines. A backup emergency diesel-fired generator would be used during electrical power outages and for maintenance. Access would largely be by existing roads.

Mine development would include driving two parallel adits directly north-northeast of the mill site. One adit would be used as a conveyor adit for ore being conveyed from below ground and the other as access for personnel and equipment for mine access. A level working area at the portal would be constructed by cutting into the hill to create a vertical face for adit construction. Adit size is dictated by ventilation requirements and dimensions of mining equipment. Each adit would be approximately twenty to twenty five feet in diameter.

B. Permit History

ASARCO submitted the original air quality permit application **(#2414-00**) for the Rock Creek Project on December 15, 1987. Following the submittal of additional information that application was deemed complete on June 8, 1988. Subsequently, ASARCO requested a temporary suspension of the review process. On August 22, 1995, and December 4, 1995, ASARCO submitted updated modeling analyses in support of the application. The original Preliminary Determination on the application was issued March 5, 1996. ASARCO submitted revisions to the application on March 28, 1997, and May 28, 1997. This revised Preliminary Determination reflected the updated proposal and the revised application was given number 2414-01 for clarification. Based on comments received from the public, the Department of Environmental Quality (Department) requested additional clarification regarding the deposition factor for nitrogen oxides (NO_x) and the emissions from the temporary generators. The additional information was submitted by ASARCO on July 24, 1998. This revised Preliminary Determination reflects the updated proposal and the revised application was given number #**2414-01** for clarification.

The Record of Decision (ROD) for the Rock Creek Project contained the Department's decision on the air quality permit and was signed by officials from both the Department and the U.S. Forest Service on December 26, 2001. However, there were printing and mailing delays associated with the issuance of the ROD and the document itself wasn't mailed until January 8, 2002. Because of these delays, the company and other interested persons were not provided a reasonable opportunity to request a hearing under 75-2-211, MCA on the decision to issue the air quality permit. Therefore, on January 24, 2002, the Department rescinded its decision on the air quality permit and re-issued its decision, resulting in the initiation of a new appeal period on the air quality permit. This re-issued Department decision was not changed in any substantive manner. A section was added to clarify the re-issuance of the Department decision and the dates were updated to reflect the date of issuance.

Upon issuance of the Department's decision on air quality Permit #2414-01, a request for a contested case hearing was filed before the Board of Environmental Review (Board). In settlement of the contested case, the Department agreed to several revisions of the permit. The Department required the company to submit a quarterly summary report to verify compliance with the limitations contained in Section II.A of the permit. The Department clarified the applicable limitations on the exhaust adits (evaluation adit and service adit) proposed at the mine in Section II.D of the permit. The Department also clarified that the wilderness adit may be used only as an air intake adit and that a compliance demonstration method will be developed and approved by the Department in Section II.F of the permit. Under Attachment I, the monitoring was updated to reflect that the company is required to operate ambient monitors for at least 5 years and a request for discontinuance of

monitoring after that time would be reviewed in accordance with the Department's October 9, 1998, "Monitoring Requirements" guidance or a more stringent guidance in effect at that time. The Department also agreed to and stated in Attachment I that one of the three PM_{10} ambient monitoring sites will be located northeast of the evaluation adit (between the evaluation adit and the Cabinet Mountain Wilderness).

Permit **#2414-01**, the original permit for the project, was issued as final on March 28, 2003.

The Department received a letter from Sterling Mining Company on October 23, 2003, requesting a name change for the project to Revett. The permit action makes that change and updates the rule citations. Permit **#2414-02** replaced Permit #2414-01.

C. Current Permit Action

The current permit action would re-permit the silver/copper mine that was earlier permitted under MAQP #2414-02 which expired since construction never took place. R.C. Resources provided a new MAQP application to allow issuance of a Montana Air Quality Permit. **MAQP #2414-03** replaces MAQP #2414-02.

D. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of 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).

RCR 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 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
4. ARM 17.8.213 Ambient Air Quality Standard for Ozone
5. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
6. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
7. ARM 17.8.221 Ambient Air Quality Standard for Visibility
8. ARM 17.8.222 Ambient Air Quality Standard for Lead
9. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}
10. ARM 17.8.230 Fluoride in Forage

RCR must maintain compliance with the applicable ambient air quality standards.

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

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, RCR shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.

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

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

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

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

8. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). RCR is considered an NSPS affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts.

    a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:

    b. 40 CFR 60, Subpart LL – Standard of Performance for Metallic Mineral Processing Plants

    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.

9. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:

a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to 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 RICE at a major or area source of HAP emissions is subject to provisions of this subpart, except if the stationary RICE is being tested at a stationary RICE test cell/stand. As an area source, the diesel RICE will be subject to this rule.

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. RCR 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 prorate the required fee amount.

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

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 15 tons per year of any pollutant for asphalt concrete plants, mineral crushers and mineral screens. RCR has a PTE greater than 15 tons per year of CO; therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. RCR 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. RCR submitted an affidavit of publication of public notice for the August 31, 2012, issue of the *Western News*, a newspaper of general circulation in the Town of Libby in Lincoln 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 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 RCR 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 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.

12. 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.

13. 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).

14. 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.

15. 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 FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 10 – Preconstruction Permit Requirements for Major Stationary Sources of Modifications Located Within Attainment or Unclassified Areas, including, but not limited to:

ARM 17.8.1004 When Air Quality Preconstruction Permit Required. This current permit action does not constitute a major modification. Therefore, the requirements of this subchapter do not apply.

H. 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 particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #2414-03 for RCR, the following conclusions were made:

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

b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.

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

d. This facility is subject to current NSPS as indicated in Section II.C.8.

e. This facility is subject to current NESHAP standards as indicated in Section II.C.9.

f. This source is not a Title IV affected source, or a solid waste combustion unit.

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

Based on these facts, the Department determined that RCR will be a minor source of emissions as defined under Title V. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, RCR will be required to obtain a Title V Operating Permit.

III. BACT Determination

A BACT determination is required for each new or modified source. RCR 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 RCR in permit application #2414-03, addressing some available methods of controlling emissions from the proposed emitting units. The Department reviewed these methods, as well as previous BACT determinations. The following information has been summarized from the RCR proposed BACT submittal and has been reviewed by the Department in order to make the following BACT determination.

Blasting

Underground mining will be performed using emulsion explosives to liberate and fracture the ore. Blasting will generate both fugitive gaseous and particulate emissions which will largely be confined to underground. However, ventilation required largely for worker safety will also carry some emissions to the surface. The use of common Best Operating Practices (BOPs) is the industry standard method for minimizing the formation of blasting emissions and RCR proposes to use the following BOPs to establish BACT.

- Optimize drill hole sizes. Optimizing drill hole size will result in effective blasting and thus reduce the number of blasts needed to achieve the desired effect. Water added to the ore at this time will continue to reduce particulate emissions throughout downstream handling and processing operations.

- Spray the area with water after each blast. This is standard operating procedure done primarily to reduce airborne dust below thresholds established for worker safety.

- Minimize retention time between loading blasting holes with emulsion and detonation. RCR plans to load blast holes with emulsion and detonate them within 24 hours or less.

The use of BOPs as described above is accepted as BACT for the blasting operations underground.

Underground Ore Processing and Handling and Aboveground Ore Processing and Handling

Since both the underground and above ground handling of course ore are similar, for purposes of the BACT analysis they are included in a single category. The combined systems include a total of four crushing operations, four screening operations, four storage bins, and multiple conveyors and feeders.

The following alternatives were reviewed for the course ore handling operations:

- No Add-on Control. This is the base case for proposed new sources.

- BOPs. BOPs include a variety of techniques which largely utilize reducing the drop height for material transfers.

- Enclosure. Enclosure technology uses either a full enclosure or partial enclosure to shelter material from wind entrainment.

- Wet Dust Suppression. Water spray with or without surfactant to material reduces particulate emissions by increasing the moisture content.

- Electrostatic Precipitator (ESP). An ESP uses electrical forces to move entrained particles onto a collection surface. Periodic cleaning is needed to dislocate the trapped particulates and provide collection beneath the plates.

- Wet Particulate Scrubber. Wet scrubbers either use a venturi or spray chamber to collect particulate into water droplets.

- Fabric Filter Baghouse. Baghouses collect particulate on tightly woven fabric materials. As the fabric materials are loaded with particulate, the pressure drop increases and periodic cleaning is necessary to maintain collection efficiency and prevent excessive pressure drop.

Both ESPs and fabric filter baghouse technology suffer performance issues with wet particulate air streams and are eliminated as feasible control alternatives for the underground and above ground ore handling processes. Enclosures, BOPs and wet dust suppression are feasible but have relatively low control efficiencies.

The best remaining control technology for course ore handling is wet particulate scrubbers and RCR has proposed both a scrubber for the underground process handling activities and a wet scrubber for the above ground course ore handling activities. A wet scrubber for the control of course ore handling activities is accepted as BACT.

Fine Ore Processing and Handling

Each of the below control technologies were also reviewed for the fine ore processing and handling.

- BOPs
- Enclosure
- Wet Dust Suppression
- Electrostatic Precipitator (ESP)
- Wet Particulate Scrubber
- Fabric Filter Baghouse

The fine ore processing and handling is similar to the course ore handling but fine ore moisture content has been reduced to low enough levels that baghouse technology becomes feasible to deal with fine ore materials. ESP technology is still eliminated due to concerns around highly variable product characteristics and concern for long-term performance issues. Therefore, RCR is recommending fabric filter baghouse technology as the recommended control for the fine ore processing and handling operations located within the milling building. Baghouse technology has a minimum removal efficiency typically of 98 percent. Baghouse technology for the control of the fine ore handling activities is accepted as BACT.

Emergency Generator (Less than or Equal to 560 kW)

- RCR proposes that BACT for reducing all criteria pollutant emissions from the proposed emergency generator is compliance with 40 CFR Part 89 Tier 4 requirements.

Compliance with applicable federal emission standards with proper operation and maintenance is accepted as BACT as the emission limits associated with the emergency generator represent low emission rates.

Emissions from Roads, Stockpiles and Tailings Impoundment

Primary sources of fugitive dust from the project will be light vehicle traffic and wind erosion of ore and waste stockpiles as well as from the tailings impoundment. RCR has proposed to implement a Fugitive Dust Control Plan for these sources which incorporate BOPs typically recognized as BACT for fugitives from similar sources.

Disturbed/Exposed Soil – Revegetation of disturbed areas will occur in the first appropriate season after disturbance.

Roads

- U.S. Forest Service Road 150 will be paved to the mill facilities and be washed and swept to minimize dust emissions.
- All unpaved roads will be water or a dust palliative will be used as needed to reduce fugitive dust.
- Vehicle speeds will be restricted on haul roads to reduce the amount of fugitive dust.
- Heavily used unpaved roads will be chemically stabilized with nontoxic soil cement or dust palliatives mixed into the upper 1 to 2 inches of road surfaces as necessary.
- Metallic Product Concentrate and tailings will be piped in a slurry form from the mill to the paste plant/product load-out area and tailings impoundment.
- Personnel will be transported via multi-passenger vans from Highway 200 to the mill and mine sites.

Conveyors – A covered conveyor system will be used to minimize emissions.

Tailings Impoundment – A sprinkler system will minimize fugitive dust emissions from wind erosion of the tailings impoundment.

The development of a Fugitive Control Plan with the elements incorporated above is accepted as BACT.

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

IV. Emission Inventory

The point source emission inventory for the proposed RCR operations are indicated below. A full emission inventory with calculations is on file with the Department.

Table 1. Point Source Emission Inventory (Tons Per Year)

Emissions Source	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	VOC	SO_2
Underground Scrubber #1	0.21	0.075	7.8E-3	—	—	—	—
Aboveground Scrubber #2	0.35	0.13	0.015	—	—	—	—
Fine Ore Baghouse	0.085	0.029	2.3E-3	—	—	—	—
Emergency Generator	6.6E-4	6.6E-4	6.6E-4	0.013	0.12	6.3E-3	—
Total	0.65	0.23	0.03	0.013	0.12	6.3E-3	0

The fugitive source totals are listed below. Although the blasting emissions will exit the portal they are shown as fugitive.

Table 2. Fugitive Source Emission Inventory (Tons Per Year)

Emissions Source	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	VOC	SO_2
Blasting	0.33	0.17	0.010	0.38	20.3	—	—
Storage Pile Wind Erosion	2.4	1.2	0.18	—	—	—	—
Road Dust	5.2	1	0.26	—	—	—	—
Total	7.93	2.37	0.45	0.38	20.3	0	0

V. Existing Air Quality

RCR production and processing facilities and tailings area are located in an area designated as attainment for all regulated air criteria pollutants.

VI. Ambient Air Impact Analysis

The Rock Creek Mine is classified as a minor source under the Title V and Prevention of Significant Deterioration (PSD) regulations. Potential emissions of regulated pollutants from the project during peak operations (year 5) are listed in Table 1 of this section. Emissions include CO, NO_X, PM_{10}, and particulate matter with a mean aerodynamic diameter equal to or less than 2.5 micrometers ($PM_{2.5}$). SO_2 emissions increase will be nearly zero and any VOCs associated with the proposed mine will be very small and no ambient air standards are associated with VOCs.

RCR production and processing facilities, and tailings area will be located in an area designated as attainment for all regulated air pollutants. The Rock Creek Mine (RCM) will be located approximately 10 and 28 miles southwest from the Libby, Montana (MT), $PM_{2.5}$ and PM_{10} non-attainment areas, respectively. It will also be approximately 31 miles from Thompson Falls, MT, and 44 miles from Sandpoint, Idaho; both of these areas have classified PM_{10} non-attainment areas. The northern portion of the proposed mine permit boundary is near the Cabinet Mountains Wilderness Area (CMWA), a federally-mandated Class I area.

The potential rates of criteria air pollutant emissions, as submitted in the RCR application, will be minor and will be well below de minimis levels which would normally not require air dispersion modeling. RCR, however, chose to demonstrate that the proposed increase in air emissions will not cause or contribute to any ambient air quality standard violations. In addition, PSD Class I modeling was also undertaken given the close proximity to the CMWA. Two emissions scenarios were considered: (1) exhaust exploratory adit with an underground scrubber and (2) production adit with an underground scrubber. In both cases, the aboveground on-site proposed mine source emissions were included. In most cases, the production phase emissions produced higher ambient air concentrations than the exploratory phase due to the higher associated activities except for the PSD Class I analysis. Since the exploratory adit will be much closer to the CMWA, the associated emissions will have a greater impact than the production emissions. Seven on-site buildings were also included in the modeling demonstrations and the receptors (where the air dispersion model calculates the criteria pollutant concentrations) were sufficiently dense to identify the maximum modeled concentrations.

Modeling was conducted using 5 years (2007 – 2011) of meteorological (met) data collected at the nearby Troy airport, MT, and 1 year of on-site met data collected near Noxon, MT; both locations are north of the proposed mine, about 4 and 32 miles, respectively. Missing on-site met data were supplemented by the Kalispell Glacier Park International Airport met data, about 72 miles northeast of the proposed mine. Corresponding years of upper air data were obtained from the Spokane International Airport, Washington, about 93 miles to the northwest.

The Montana Ambient Air Quality Standards and the National Ambient Air Quality Standards (MAAQS/NAAQS) compliance demonstrations were conducted using the latest USEPA AERMOD air dispersion model with auxiliary support programs. The first step in determining whether a full MAAQS/NAAQS impact analysis is necessary is a significant impact analysis. A MAAQS/NAAQS full compliance demonstration includes nearby industrial sources with background concentrations added for each pollutant and averaging period exceeding the concentrations associated with the significant impact demonstration. This initial analysis included the following criteria pollutants and averaging periods: CO (1- and 8-hour), NO_2 (1-hour and annual), PM_{10} (24-hour and annual) and $PM_{2.5}$ (24-hour and annual). Although the EPA has vacated and remanded the $PM_{2.5}$ SILs, the Department has the option to continue their application. This analysis showed CO and associated averaging periods were insignificant so no further modeling was necessary for this pollutant. The cumulative impact modeling proceeded with the nearby facilities, the Genesis Inc. Troy Mine (MAAQS #1690-02), about 24 miles northwest of RCM and the proposed Mines Management Inc. Montanore Mine (MAQP #3788-00), located on the other side of the CMWA, about 12 miles northeast relative to the proposed Rock Creek Mine.

The results of the cumulative impact modeling are shown in the following table as summarized from the RCR application. Some footnotes from the application were not included as they were not necessary to present the overall results of the modeling. The ambient concentrations are reported in micrograms per cubic meter ($\mu g/m^3$).

MAAQS/NAAQS IMPACT MODELING RESULTS

Pollutant	Avg. Period	Modeled Concentra-tion ($\mu g/m^3$)	Background Concentra-tion ($\mu g/m^3$)	Predicted Ambient Concentra-tion ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent of NAAQS (%)	MAAQS ($\mu g/m^3$)	Percent of MAAQS (%)
NO_2	1-hr	148	35.7	184	188	98	564	33
	Annual	2.0	6.0	8.0	100	8	94	9
PM_{10}	24-hr	6.8	35.0	41.8	150	28	150	28
	Annual	3.0	14.0	17.0	--	--	50	34
$PM_{2.5}$	24-hr	1.9	10.4	12.3	35	35	--	--
	Annual	0.7	3.5	4.2	12	35	--	--

The results of the MAAQS/NAAQS modeling demonstration indicate that the predicted ambient concentrations from the sum of the modeled emissions from RCR, Troy Mine, and the proposed Montanore Mine with background concentrations will not cause or contribute to any exceedance of any of the ambient air quality standards. The highest percentage of any associated MAAQS/NAAQS limit was for 1-hour NO_2 at 98%. The next closest to any NAAQS limit were the 24-hour and annual $PM_{2.5}$ NAAQS with 35% of the corresponding NAAQS.

PSD Class I impacts from the proposed Rock Creek Mine on the CMWA Class I area was also investigated. As with the MAAQS/NAAQS analysis, the first step is to determine whether off-site facilities should be included for a full impact analysis by performing a PSD Class I significant impact analysis; the results are compared to the PSD Class I significant impact levels (SILs). For the RCM, the following criteria pollutants and averaging periods were examined: NO_2 (annual only, this is the only averaging period evaluated for this type of analysis), PM_{10} (24-hour and annual), and $PM_{2.5}$ (24-hour and annual). To reiterate, although the EPA has vacated and remanded the $PM_{2.5}$ SILs, the Department has the option to continue their application. Only the annual NO_2 exceeded its respective SIL which triggered a cumulative PSD Class I impact modeling analysis which included the two off-site NO_2 emission sources. For this type analysis, no background concentrations are added to the resulting modeled concentrations. The annual NO_2 PSD Class I increment is 2.5 ug/m^3; the maximum modeled annual NO_2 concentration including the corresponding off-site emissions was 0.4 ug/m^3 or 16% of the PSD Class I increment, therefore the RCM emissions will not cause an exceedance of the PSD Class I increments.

The Department determined, based on the minor level of emissions and proposed BACT methods, that the impacts from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, 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

Only the first page of the Department Environmental Assessment has been included below as numerous documents have been prepared by other agencies for this proposed project. The Montana Department of Environmental Quality and the Kootenai National Forest published a Final Environmental Impact Statement (FEIS) in 2001. A Biological Opinion was issued in 2003 by the U.S. Fish and Wildlife Service. The Record of Decision was issued by the Forest Service and the Department of Environmental Quality in 2003. Following an appeal of the Record of Decision, the Federal Court vacated the FEIS and a supplemental EIS is being prepared for the project. Copies of these documents are available from the agencies involved but Revett Mining also maintains copies of these documents on their website at http://www.revettminerals.com/projects/rock-creek.

Analysis Prepared By: Craig Henrikson
Date: June 24, 2014

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

DRAFT ENVIRONMENTAL ASSESSMENT (EA)

Issued To: RC Resources Inc.

Montana Air Quality Permit Number: 2414-03

Preliminary Determination Issued: July 18, 2014
Department Decision Issued:
Permit Final:

1. *Legal Description of Site*: RC Resources Inc. (RCR) propose construct and operate an underground silver/copper mine and processing facility known as the Rock Creek Mine with activities in Township 27N, Range 32W, Sections 26, 27, 34, and 35: and Township 26N, Range 32W, Sections 3, 10, 15, 22, 23, 27, 28, 29, 32, and 33, Sanders County, Montana.

2. *Description of Project*: The proposed action is for an underground copper/silver mine which is scheduled to occur in two different phases. The first phase would be an evaluation phase where the ore body would be characterized using an exploration adit. A second production phase would expand operations to include two production adits and would include a mill site, and a mill tailings process area. The exploration adit will be adjacent to the southwestern border of the Cabinet Mountains Wilderness Area.

3. *Objectives of Project*: Development of an underground copper/silver 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 RCR 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 #2414-03.

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 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. See supporting environmental impact statement documents prepared separately by the Forest Service, U.S. Fish and Wildlife Service, and the Department of Environmental Quality.

Prepared by: Craig Henrikson
Date: July 11, 2014