



March 7, 2022

Mark Thompson  
Montana Resources, LLP  
600 Shields Avenue  
Butte, MT 59701

Sent via email: [MThompson@montanaresources.com](mailto:MThompson@montanaresources.com)

**RE: Final Permit Issuance for MAQP #1749-13**

Dear Mr. Thompson:

Montana Air Quality Permit (MAQP) #1749-13 is deemed final as of March 5, 2022, by DEQ. This permit is for Montana Resources, LLP, a copper mine. All conditions of the Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For DEQ,

A handwritten signature in black ink that reads "Julie A. Merkel".

Julie A. Merkel  
Permitting Services Section Supervisor  
Air Quality Bureau  
(406) 444-3626

A handwritten signature in black ink that reads "Craig Henrikson".

Craig Henrikson, P.E.  
Air Quality Permitter  
Air Quality Bureau  
(406) 444-6711

Montana Department of Environmental Quality  
Air, Energy & Mining Division  
Air Quality Bureau



Montana Air Quality Permit #1749-13

Montana Resources, LLP  
Continental Pit  
600 Shields Avenue  
Butte, MT 59701

March 5, 2022

## Montana Air Quality Permit

Issued to: Montana Resources, LLP      MAQP: #1749-13  
600 Shields Avenue      Application Received: 11/2/2021  
Butte, MT 59701      Application Deemed Complete: 01/21/2022  
Preliminary Determination Issued: 02/01/2022  
Department Decision: 02/17/2022  
Permit Final: 03/5/2022

An air quality permit, with conditions, is hereby granted to Montana Resources, LLP (Montana Resources) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

### SECTION I: Permitted Facilities

#### A. Plant Location

An open pit copper and molybdenum mine, crushing facilities, milling operation and concentrator, located in Butte, Montana, Township 3 North, Range 7 West, Silver Bow County.

#### B. Current Permit Action

On November 2, 2021, the Department received an application from Montana Resources to modify Montana Air Quality Permit (MAQP) #1749-12 to allow additional diesel fuel usage during wintertime operation. An incompleteness letter was issued on November 30, 2021, and a response was received from Montana Resources on January 21, 2022. The requested change updates the particulate matter less than or equal to 10 microns (PM<sub>10</sub>) emission factor for diesel fuel combustion to account for newer haul trucks used at the mine. The newer haul truck fleet has resulted in a decrease of PM<sub>10</sub> emissions as the current fleet is now made up of Tier 1, Tier 2 and Tier 4 engines. Revising the emission factor to reflect the more efficient engines, will allow Montana Resources to use additional diesel fuel during the winter period of November thru February. The change revises the allowable wintertime diesel consumption from 1,220,624 gallons to 2,010,176 gallons, and the daily maximum diesel usage during winter operation from 10,065.8 gallons to 16,613 gallons. The current MAQP limit for PM<sub>10</sub> from diesel combustion is 4.32 tons per year (tpy). Revising the emission factor to reflect the newer engines will increase the allowable PM<sub>10</sub> emissions from 4.32 to 4.57 tpy, an increase of 0.25 tpy. The 0.25 tpy PM<sub>10</sub> increase must be off-set to maintain the Chemical Mass Balance (CMB) which is the basis for the permit conditions within the MAQP. If completely utilized, the additional volume of diesel fuel would provide for approximately 378 miles in excess of the current MAQP haul truck vehicle miles traveled limit (VMT) limit. To maintain the underlining mass limit of PM<sub>10</sub> from the CMB, the current VMT limit of 503,386 VMT's is reduced by 378 miles to 503,008 VMT's which is equivalent to a decrease of 0.25 tpy PM<sub>10</sub> emissions. This off-set ensures the proposed permit action does not increase emissions above the limit established for PM and PM<sub>10</sub> from the CMB study. The Contingency Measures established in the State Implementation

Plan remain unchanged and the maximum wintertime inventory of PM<sub>10</sub> remains at 834.9 tons for the four-month period from November thru February. Other minor production limit updates for haul trucks and diesel combustion were made to fully ensure the overall mass limits for PM and PM<sub>10</sub> remain in place.

## SECTION II: Limitations and Conditions

### A. Emission Control Requirements

Montana Resources shall install, operate, and maintain the following emission control equipment and practices, and all emission control equipment and practices as specified in their Montana Air Quality Permit and subsequent revisions, as shown in Section I.A. of the permit analysis (Existing Equipment, Facilities and Control Equipment/Procedures).

1. Fall distance shall be minimized during transfer of topsoil, overburden, and ore and waste removal (ARM 17.8.749).
2. Except as described below, all tailings ponds shall be maintained wet to the greatest extent possible. If a violation of the 20% opacity standard is documented, installation of particulate control measures approved by the Department will be required. If the conditions at the tailings ponds change, Montana Resources must develop a long-term fugitive dust control plan for the tailings ponds. The Department's approval of any plan submitted by Montana Resources does not relieve Montana Resources of its obligation to comply with all statutes and rules of the Clean Air Act of Montana, specifically including, but not limited to, ARM 17.8.308, Particulate Matter, Airborne (ARM 17.8.749).
3. Drilling shall utilize water sprays and mechanical deflectors and shall be conducted in such a way as to minimize fugitive emissions (ARM 17.8.749).
4. Blasting shall be conducted to prevent overshooting (ARM 17.8.749).
5. All haul roads and access roads shall be treated with water, as needed, and chemical dust suppressant at least one time per year, during October or November. If a violation of the 5% opacity standard is documented, more frequent applications of water and chemical dust suppressant will be required (ARM 17.8.749).
6. The primary crusher shall be equipped with a negative air pressure/baghouse system (ARM 17.8.749).
7. The primary crusher ore dump shall be equipped with a negative air pressure/baghouse system and water sprays (ARM 17.8.749).
8. The lime storage bins shall be controlled by a fabric filter collecting system (ARM 17.8.749).

9. The coarse-ore 3-7 transfer area shall be controlled by a baghouse (ARM 17.8.749).
10. The secondary crushers and the fine ore storage bins shall be controlled by baghouse systems (ARM 17.8.749).
11. All ore conveyors must be covered (ARM 17.8.749).
12. The molybdenum dryer shall be controlled by a high efficiency (99% control) wet scrubber (ARM 17.8.749).
13. Montana Resources shall not burn diesel fuel containing more than 0.05% sulfur by weight after December 31, 1993 (ARM 17.8.749).
14. Montana Resources shall operate and maintain the Detroit Diesel Electronic Control (DDEC) packages, or equivalent, on at least 15 haul trucks that have been converted (ARM 17.8.749).

B. Emission Limitations

1. Montana Resources shall not cause or authorize to be discharged into the atmosphere from any facility, unless otherwise specified, any visible emissions, point or fugitive, which exhibit opacity of 20% or greater. This opacity limitation applies to, but is not limited to, visible emissions from drilling, blasting, and all ore and waste handling (removal, dumping, etc.) (ARM 17.8.304).
2. Montana Resources shall not cause or authorize to be discharged into the atmosphere any visible fugitive emissions from haul roads or access roads that exhibit opacity of 5% or greater (ARM 17.8.749).
3. Montana Resources shall not cause or authorize to be discharged into the atmosphere any visible fugitive emissions from parking lots, disturbed areas, tailings ponds or storage piles that exhibit opacity of 20% or greater (ARM 17.8.308).
4. Montana Resources shall not cause or authorize to be discharged into the outdoor atmosphere from the primary crusher, lime bin, or coarse ore conveying system visible emissions that exhibit an opacity of 10% or greater (ARM 17.8.749).
5. Montana Resources shall not cause or authorize to be discharged into the outdoor atmosphere from the secondary crushers, fine ore storage bins or the molybdenum dryer, visible emissions that exhibit an opacity of 15% or greater (ARM 17.8.749).
6. Montana Resources shall not cause or authorize to be discharged into the outdoor atmosphere from the primary crusher, coarse-ore conveying system,

secondary crushers, or the fine ore bins, total particulate emissions in excess of 0.05 gm/dscm (ARM 17.8.749).

7. Montana Resources shall implement the contingency measure for emission and production limitations within 60 days of notification by the Department that the National Ambient Air Quality Standards for PM<sub>10</sub> have been exceeded in the Butte Silver Bow PM<sub>10</sub> nonattainment area (ARM 17.8.749).
8. Montana Resources shall not cause or authorize to be discharged into the atmosphere particulate emissions from the following sources in excess of the following limits. These limits are based on the DDEC packages being installed on 15 of the haul trucks and without the implementation of the contingency measure for Montana Resources (ARM 17.8.749).

a. Winter (Nov. - Feb.) Seasonal Emission Limitations

EMISSION POINT	TOTAL PARTICULATE Tons/Season	PM <sub>10</sub> Tons/Season
Haul Trucks	931.8	335.5
Diesel Exhaust	4.57	4.57
Lime Unloading	0.2	0.1
Support Vehicles	103.2	37.1
Molybdenum Dryer	0.1	0.1
Primary Crusher Ore Dump	30.8	15.4
Total from all sources at facility	2175.7	834.9

b. Summer (Mar. - Oct.) Seasonal Emission Limitations

EMISSION POINT	TOTAL PARTICULATE Tons/Season	PM <sub>10</sub> Tons/Season
Haul Trucks	2,631.6	947.4
Diesel Exhaust	22.5	22.5
Lime Unloading	0.8	0.3
Support Vehicles	428.0	154.0
Molybdenum Dryer	0.1	0.1
Primary Crusher Ore Dump	156.4	78.2
Total from all sources at facility	11,299.4	4,332.6

c. Winter (Nov. - Feb.) Daily Emission Limitations

EMISSION POINT	TOTAL PARTICULATE Pounds/Day	PM <sub>10</sub> Pounds/Day
Haul Trucks	15,300.5	5,526.2
Diesel Exhaust	75.4	75.4
Lime Unloading	3.2	1.3
Support Vehicles	1,712.3	615.9
Molybdenum Dryer	0.1	0.1
Primary Crusher Ore Dump	528.0 <sup>1</sup>	264.0 <sup>2</sup>
Total from all sources at facility	35,925.6	13,145.1

9. Montana Resources shall operate and maintain a weighted average of EPA Tier ratings of no less than 1.75 across the haul truck fleet or an equivalent demonstration. This is calculated by multiplying the number of the tier rating for each type of engine (1, 2, 3, or 4) times the number of haul trucks, added together for each tier rating category, and divided by the total number of trucks (ARM 17.8.752).
10. In the event the contingency measure must be implemented, Montana Resources shall not cause or authorize to be discharged into the atmosphere particulate emissions from the following sources in excess of the following limits. These limits are based on the DDEC packages being installed on 11 of the 15 haul trucks (ARM 17.8.749).

a. Winter (Nov. - Feb.) Seasonal Emission Limitations

EMISSION POINT	TOTAL PARTICULATE Tons/Season	PM <sub>10</sub> Tons/Season
Haul Trucks	591.3	212.9
Diesel Exhaust	4.0 <sup>3</sup>	4.0 <sup>3</sup>
Lime Unloading	0.2	0.1
Support Vehicles	103.2	37.1

<sup>1</sup> Fluctuation occurred at the Primary Crusher Ore Dump during the CMB study year and the range has been reported by Montana Resources. The average during the winter months will remain at 528.0 lb/day of total particulate, but the maximum that may occur on any day is 646.7 lb/day of total particulate.

<sup>2</sup> Fluctuation occurred at the Primary Crusher Ore Dump during the CMB study year and the range has been reported by Montana Resources. The average during the winter months will remain at 264.0 lb/day of PM-10, but the maximum that may occur on any day is 323.4 lb/day of PM-10.

Molybdenum Dryer	0.1	0.1
Primary Crusher Ore Dump	28.0	14.0
Total from all sources at facility	1,831.4	710.4

b. Summer (Mar. - Oct.) Seasonal Emission Limitations

EMISSION POINT	TOTAL PARTICULATE Tons/Season	PM <sub>10</sub> Tons/Season
Haul Trucks	2,447.7	881.3
Diesel Exhaust	22.5 <sup>3</sup>	22.5 <sup>3</sup>
Lime Unloading	0.8	0.3
Support Vehicles	428.0	154.0
Molybdenum Dryer	0.1	0.1
Primary Crusher Ore Dump	151.1	75.6
Total from all sources at facility	11,110.2	4,263.9

c. Winter (Nov. - Feb.) Daily Emission Limitations:

EMISSION POINT	TOTAL PARTICULATE Pounds/Day	PM <sub>10</sub> Pounds/Day
Haul Trucks	9,817.0	3,532.9
Diesel Exhaust	66.2 <sup>3</sup>	66.2 <sup>3</sup>
Lime Unloading	3.2	1.3
Support Vehicles	1,712.3	615.9
Molybdenum Dryer	0.1	0.1
Primary Crusher Ore Dump	463.5 <sup>4</sup>	232.4 <sup>5</sup>

3. These emissions have been reduced from the emission limitations in Permit #1749-04 by 31.5% for the installation of the DDEC packages on 11 of the 15 haul trucks in addition to the 17% reduction in emissions due to the installation of the injectors, intercoolers, etc. on the haul trucks.

4. Fluctuation occurred at the Primary Crusher Ore Dump during the CMB study year and the range has been reported by Montana Resources. The average during the winter months will remain at 463.5 lb/day of total particulate, but the maximum that may occur on any day is 571.16 lb/day of total particulate.

5. Fluctuation occurred at the Primary Crusher Ore Dump during the CMB study year and the range has been reported by Montana Resources. The average during the winter months will remain at 232.4 lb/day of PM-10, but the maximum that may occur on any day is 285.6 lb/day of PM-10.



Total from all sources at facility	30,311.0	1,111.0
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d. Compliance Determination

- i) Compliance with annual, seasonal, and daily emission limits shall be determined through calculations, using annual, seasonal, and daily production information submitted by Montana Resources and representative emission rates (lb/hr, gr/dscf, etc.) determined during the required source tests (for point sources) or emission factors (for fugitive sources).
- ii) Exceedances of the production limitations or implementation of process changes or changes in air pollution control equipment or procedures that increase emission rates, determined through the applicable emission factor, will constitute violations of the annual emission limits.
- iii) Changes in the applicable emission factors or PM<sub>10</sub> fractions due to testing or analysis, reassessment of applicable emission factors or use of revised or updated emission factors by the Department or EPA will be reflected in changes in the allowable emission rates and compliance determinations, but will not result in changes in the production limitations.
- iv) Changes in the applicable emission factors, PM<sub>10</sub> fractions, or emission rates, due to substantive process changes or changes in air pollution control equipment or procedures, will be reflected in the compliance determination.
- v) Implementation of substantive process changes or changes in air pollution control equipment or procedures may require an air quality permit alteration prior to implementation or construction pursuant to ARM 17.8, Subchapter 7, Permit, Construction and Operation of Air Contaminant Sources.
- vi) Emission decreases for specific emission points resulting from substantive process changes or changes in air pollution control equipment or procedures may be distributed among other emission points within the source to increase the overall production if the process changes or the changes in air pollution control equipment or procedures are made enforceable through inclusion as permit conditions. The production rates and emission limitations for the named emission points may not be increased unless any emission increases are offset by emission decreases from other named sources. The amount of offset required in each case shall be based on the relative ambient impact of each named source based on the Butte Chemical Mass Balance (CMB)/source

apportionment study.

Montana Resources has installed DDEC packages on 15 of the haul trucks at the mine, which allowed the Department to change the levels contained in Section II.B.8.a-c and Section II.C.1-3 of Permit #1749-10. Montana Resources must still comply with the contingency measure, as necessary. In the event the contingency measure has to be implemented by Montana Resources, emission and production levels will revert to the pre-DDEC levels contained in Section II.B.9.a-c and Section II.C.4-6 of Permit #1749-10.

e. Emission Factors/PM<sub>10</sub> Fractions

The allowable emission rates for each listed fugitive emission source were calculated using the following emission factors and PM<sub>10</sub> fractions.

EMISSION POINT	EMISSION FACTOR	PM <sub>10</sub> FRACTION
Blasting	50 lb/blast	50%
Waste Removal	.01 lb/ton	50%
Ore Removal	.01 lb/ton	50%
Haul Trucks	24.7 lb/vmt	36%
Waste Dumping	.01 lb/ton	50%
Diesel Exhaust	17.7 lb/1000 gal	100%
Drilling	1.5 lb/hole	50%
Wind Erosion Disturbed Areas	33.2 g/m <sup>2</sup> /yr	50%
Wind Erosion Tailings Pond	1.3 ton/acre/yr	50%
Support Vehicles	1.4 lb/VMT	50%
Coarse Ore Stockpile	.01 lb/ton	50%

C. Production Limitations

Montana Resources shall not exceed the following production limitations. These limits are based on the DDEC packages being installed on 15 of the haul trucks and before the contingency measure for Montana Resources is implemented (ARM 17.8.749).

1. Winter (Nov.-Feb.) Seasonal Production Limitations

EMISSION POINT (Production Units)	MAXIMUM SEASONAL PRODUCTION RATE
Haul Trucks (vmt)	503,008
Diesel Exhaust (gallons of diesel)	2,010,176

Lime Unloading (tons of lime)	27,738.5
Support Vehicles (vmt)	353,331.4
Molybdenum Dryer (tons of molybdenum)	9,795.9
Primary Crusher Ore Dump (tons of ore)	6,840,821.9

2. Summer (Mar.-Oct.) Seasonal Production Limitations

EMISSION POINT (Production Units)	MAXIMUM SEASONAL PRODUCTION RATE
Haul Trucks (vmt)	1,420,560.0
Diesel Exhaust (gallons of diesel)	6,358,664.9
Lime Unloading (tons of lime)	123,898.5
Support Vehicles (vmt)	1,466,666.0
Molybdenum Dryer (tons of molybdenum)	61,875.6
Primary Crusher Ore Dump (tons of ore)	34,759,820.9

3. Winter (Nov.-Feb.) Daily Production Limitations

EMISSION POINT (Production Units)	MAXIMUM DAILY PRODUCTION RATE (unless designated otherwise)
Haul Trucks (vmt)	4,143.2
Diesel Exhaust (gallons of diesel)	16,613.
Lime Unloading (average tons of lime/day)	231.2
Support Vehicles (vmt)	2,944.4
Molybdenum Dryer (tons of molybdenum)	81.6
Primary Crusher Ore Dump (average tons of ore/day)	58,670.7 <sup>66</sup>

In the event that a contingency measure must be implemented, Montana Resources shall not exceed the following production limitations. These limits are based on the DDEC packages being installed on 11 of the 15 haul trucks.

4. Winter (Nov.-Feb.) Seasonal Production Limitations

EMISSION POINT (Production Units)	MAXIMUM SEASONAL PRODUCTION RATE
Haul Trucks (vmt)	318,950.0
Diesel Exhaust (gallons of diesel)	871,281.7
Lime Unloading (tons of lime)	27,738.5
Support Vehicles (vmt)	353,331.4
Molybdenum Dryer (tons of molybdenum)	9,795.9
Primary Crusher Ore Dump (tons of ore)	6,218,929.1

6 Fluctuation occurred at the Primary Crusher Ore Dump during the CMB study year and the range has been reported by Montana Resources. The average production during the winter months will remain at 58,670.7 tons of ore, but the maximum that may occur on any day is 71,860.9 tons of ore.

5. Summer (Mar.-Oct.) Seasonal Production Limitations:

EMISSION POINT (Production Units)	MAXIMUM SEASONAL PRODUCTION RATE
Haul Trucks (vmt)	1,320,299.7
Diesel Exhaust (gallons of diesel)	4,941,801.1
Lime Unloading (tons of lime)	123,898.5
Support Vehicles (vmt)	1,466,666.0
Molybdenum Dryer (tons of molybdenum)	61,875.6
Primary Crusher Ore Dump (tons of ore)	33,576,892.4

6. Winter (Nov.-Feb.) Daily Production Limitations

EMISSION POINT (Production Units)	MAXIMUM DAILY PRODUCTION RATE (unless designated otherwise)
Haul Trucks (vmt)	2,657.9
Diesel Exhaust (gallons of diesel)	7,260.7
Lime Unloading (average tons of lime/day)	231.2
Support Vehicles (vmt)	2,944.4
Molybdenum Dryer (tons of molybdenum)	81.6
Primary Crusher Ore Dump (average tons of ore/day)	51,824.4 <sup>77</sup>

D. Testing Requirements

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. The Department of Environmental Quality (Department) may require further testing (ARM 17.8.105).
3. Montana Resources shall perform compliance source tests (submittal of reports) on the primary crusher, the secondary crushers, the coarse ore conveying system, the fine ore system, and the molybdenum dryer before August 1, 2004, and at least once every 4 years thereafter, or according to another testing schedule approved by the Department. The source tests shall include determination of total mass particulate and shall be conducted in accordance with the applicable test methods listed in 40 CFR Part 60, Appendix A (Total Particulate) and the Montana Source Test Protocol and Procedures Manual (ARM 17.8.749).

<sup>77</sup> Fluctuation occurred at the Primary Crusher Ore Dump during the CMB study year and the range has been reported by Montana Resources. The average production during the winter months will remain at 51,824.4 tons of ore, but the maximum that may occur on any day is 63,460 tons of ore.

4. All records compiled in accordance with this permit must be maintained by Montana Resources 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. These records may be stored at a location other than the plant site upon approval by the Department (ARM 17.8.749).

E. Operational Reporting Requirements

1. Montana Resources 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 Section I of this permit.

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). Montana Resources 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).

Montana Resources shall supply a summary report listing the maximum daily production achieved during the months of November through February for those emission points that have a daily production limitation. This information, along with the winter seasonal inventory described below, must be submitted to the Department by April 15 of the following calendar year.

In addition, Montana Resources shall supply the Department with annual, seasonal, and daily particulate emission inventories for the emission points listed in Section I.A of the permit analysis. This information is required to verify compliance with permit conditions and may also be used in the annual emission inventory. The emission inventories shall include the following production data (on an annual, winter seasonal, and summer seasonal basis), a listing of all emission factors used, all calculations and other related information that may be requested. This annual information must be submitted to the Department by March 1 of the following calendar year (ARM 17.8.505).

- a. Tons of ore removed;
- b. Tons of waste, including all non-ore material removed;
- c. Haul truck vehicle miles traveled (this must include all supporting information such as length of haul, number of trucks, weight of trucks, etc.);

- d. Support vehicle miles traveled (this must include all supporting information such as length of haul, number of trucks, weight of trucks, etc.);
  - e. Number of holes drilled;
  - f. Number of blasts;
  - g. Tons of ore through the primary crusher;
  - h. Tons of ore through each of the secondary crushers;
  - i. Tons of ore through the fine ore system;
  - j. Tons of feed to concentrator;
  - k. Current acreage of disturbed area;
  - l. Current exposed area of tailings pond;
  - m. Gallons of diesel consumed;
  - n. Tons of lime unloaded; and
  - o. Tons through molybdenum dryer.
2. Montana Resources 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).

### SECTION III: General Conditions

- A. Inspection – Montana Resources 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 such as Continuous Emission Monitoring Systems (CEMS) or Continuous Emission Rate Monitoring Systems (CERMS), or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if Montana Resources fails to appeal as indicated below.

- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Montana Resources 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 Montana Resources 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 Analysis  
Montana Resources  
MAQP #1749-13

I. Introduction

A. Permitted Equipment, Facilities and Control Equipment/Procedures

	CONTROL EQUIPMENT/PROCEDURE	% CONTROL EFFICIENCY
<b>1. Ore and Waste Removal and Handling</b>		
a. Drills	Water Sprays and Mechanical Deflectors	50%
b. Blasting	Reduce Overshoot	0%
c. Ore and Waste Removal Fugitive Dust 1) Loaders, Dozers, Shovels 2) Haul Roads 3) Support Vehicles	Minimize Drop Height Watering and Chemical Stabilization Watering and Chemical Stabilization	0% 85% 85%
d. Diesel Truck Tailpipe Emissions	Installation of smaller injectors, Intercoolers on the turbochargers, Minimum throttle delay devices. Installation of DDEC on 15 haul trucks	17% 43%
e. Waste Dumping	Minimize drop height	0%
f. Wind Erosion Exposed Mill Tailings	None	0%
g. Wind Erosion Disturbed Area	None	0%
<b>2. Crushing</b>		
a. Primary Crusher Ore Dump	Neg. Air/Water	10%
b. Primary Crusher	Baghouse	99%
c. Lime Unloading	Fabric Filter	99%
d. Coarse Ore Conveying	Hoods, Baghouse, Vacuum Truck	99%
e. Coarse Ore Stockpile	None	0%
f. 3 Secondary Crushers	Baghouse	99%
g. Fine Ore Storage Bins	4 Baghouses	99%
<b>3. Molybdenum Dryer</b>	Wet scrubber	99%

B. Process Description

Mining at Montana Resources is done via conventional open-pit methods utilizing blast hole drills, loaders, shovels, trucks, dozers and typical haul road maintenance

equipment. All ore is hauled to the primary crusher and then conveyed to the coarse ore stockpile.

Drilling is accomplished using rotary blast hole drills. The drills are crawler or rubber tire mounted and self-contained. Blasting utilizes bulk ANFO and non-electric primers and delays. Wet holes are loaded with a package ANFO or waterproof slurry.

Blast holes are filled with sufficient ANFO to ensure adequate fragmentation. The mining contractor is instructed not to overfill holes, and to clean up spillage prior to blasting. Spillage is placed in holes prior to stemming to ensure detonation. Cuttings from each blast hole are collected and assayed for delineation of ore and waste.

Loading of ore and waste is performed by front-end loaders or shovels. 170-ton trucks are used for hauling ore and waste. Ore is transported to the crushing plant while waste is taken to the dump sites.

### C. Permit History

Montana Resources currently operates an open pit copper and molybdenum mine, crushing and milling operation in Butte, Montana. The original permit, **#1749**, was issued to Atlantic Richfield Corporation (ARCO) on April 1, 1983, as a result of the Butte Total Suspended Particulate (TSP) State Implementation Plan (SIP).

On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new ambient air quality standards for particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>). The annual PM<sub>10</sub> standard is 50 ug/m<sup>3</sup> and the 24-hour PM<sub>10</sub> standard is 150 ug/m<sup>3</sup>. These standards were in turn adopted by the Montana Board of Health and Environmental Sciences on April 29, 1988. On August 7, 1987, EPA designated Butte as a PM<sub>10</sub> Group I area due to numerous violations of the PM<sub>10</sub> 24-hour ambient standards.

The 1990 amendments to the Federal Clean Air Act (FCAA) designated the Butte Group I area as a PM<sub>10</sub> nonattainment area in November 1990. As a result of these designations, the Department was required to develop a PM<sub>10</sub> emission control program as part of the State Implementation Plan to bring the Butte area into compliance with the PM<sub>10</sub> standard and demonstrate maintenance of that standard.

In order to identify the major PM<sub>10</sub> emission sources in the area, the Department conducted a chemical mass balance (CMB) study. Since the exceedance days were experienced during the winter when Butte has the worst air quality, the CMB results for the days that exceeded the National Ambient Air Quality Standards (NAAQS) were used for the demonstration of emission contributions for the winter period. Montana Resources' emissions comprised 19.5% of the total contribution seen on the days that exceeded the NAAQS. The CMB study period was from September 25, 1987, through March 25, 1988. Therefore, September and October data was used to determine non-wintertime contributions. Montana Resources' emissions were 18% of the total for that period. Over the entire study period, Montana Resources'

emissions comprised 21.3% of the total. Complete results of the CMB study and the compliance and maintenance demonstration are contained in the Butte PM<sub>10</sub> SIP.

Since the sources have been identified, control plans were developed for each source (wood stove control programs, sanding material specifications and street sweeping programs, etc.), including the industrial sources (Montana Resources and Rhône-Poulenc).

EPA determined that the demonstration of compliance must be made using allowable emissions and that any allowable emission limits must be federally enforceable. Since Montana Resources' actual emissions during the PM<sub>10</sub>/CMB study period (3-87 through 2-88) were substantially lower than their allowable emissions, based on Permit #1749A, Montana Resources' permit had to be modified to reduce their allowable emissions. This modification, Permit #1749-04, reduced Montana Resources' allowable daily winter (November through February) emissions to 90% of their actual daily emissions during the 1987-1988 CMB study period. The emissions identified during the CMB study were from the haul trucks, diesel exhaust, lime unloading, support vehicles, molybdenum dryer, and primary crusher ore dump. An average daily wintertime limit for production has been set for each of these sources. Due to the production schedule at Montana Resources during the study period, the primary ore crusher was given an average daily wintertime limit for production and a ceiling production limit. This was done because the crushing of ore ran on the same schedule currently as was present during the study period. This schedule includes scheduled down time each week for the primary crusher and scheduled down time each week for the secondary crushers. The variation during the study period ranged from 29,225 tons of ore crushed to 63,460. This range is reflected in the study period and was, therefore, allowed for future production. Montana Resources' annual allowable total particulate emissions were reduced to approximately 37% of Montana Resources' current annual allowable total particulate emissions.

Permit #1749-04 also established PM<sub>10</sub> emission limitations for the first time, as well as a Reasonably Available Control Measure (RACM)/Reasonably Available Control Technology (RACT) analysis. This permit required the use of chemical dust suppression on the haul roads and contained annual point-specific production and emission limits, and seasonal and daily source-wide production and emission limits. The initial analysis, completed by Department staff as part of the SIP development process, indicated that the modification (Permit #1749-04), in conjunction with the control plans being developed for the other identified sources, demonstrated compliance with the daily and annual PM<sub>10</sub> standards in the Butte PM<sub>10</sub> nonattainment area by the year 1993. Complete details are contained in the Butte PM<sub>10</sub> SIP.

Montana's air quality rules ARM 17.8.733(a) MODIFICATION OF PERMIT allowed the Department to modify a source's permit due to changes in applicable rules or standards adopted by the Board of Health and Environmental Sciences. Permit #1749A was issued to ARCO during the Butte TSP SIP development process and later transferred to Montana Resources. Permit #1749-04 reflected the adoption of the new ambient PM<sub>10</sub> standard by the Montana Board of Health and

Environmental Sciences. The permit identified that the permit may be further modified if the currently proposed control plan for all point and area sources fails to achieve compliance with the ambient PM<sub>10</sub> standards.

On October 13, 1991, and as part of the Butte PM<sub>10</sub> SIP, the Department issued a Notification of Permit Modification for the air quality permit held by Montana Resources. On October 28, 1991, a Petition for Hearing on this permit modification was filed by Montana Resources with the Board of Health and Environmental Sciences. After the filing of the petition, the parties met on several occasions and engaged in extensive settlement discussions concerning the terms of a modified permit. The Department and Montana Resources subsequently agreed to the terms of a modified air quality permit for Montana Resources' operations. The Department and Montana Resources filed a Stipulation for Issuance of Final Permit with the Board, which included a proposed modified permit. Paragraphs 7, 8 and 9 of the stipulation described the parties' understanding of the interpretation and application of Part B, Section 6.e.vi of the modified permit. On March 20, 1992, the Board accepted the stipulation and issued a final Order directing the Department to issue the proposed modified permit to Montana Resources. Therefore, Permit **#1749-04** was issued on that date.

On November 15, 1993, Montana Resources applied for Permit Alteration **#1749-05** to allow for production increases in their diesel consumption, vehicle miles traveled by the haul trucks, and ore hauled to the primary crusher dump. This increase was allowed because Montana Resources installed DDEC packages on 11 of the 15 haul trucks at the mine. The installation of DDEC packages on the haul trucks resulted in a 43% decrease in diesel exhaust emissions per truck. However, since only 11 of the 15 trucks had been retrofitted at the time, the Department only credited Montana Resources 11/15 of 43% or a 31.5% emission decrease.

In addition to allowing the production increases in Permit **#1749-05**, a contingency measure was also added to this permit. The FCAA Amendments of 1990 require the implementation of a contingency measure within 60 days of notification from EPA that the area has exceeded the NAAQS after the date of December 31, 1994. The contingency measure must reduce ambient PM<sub>10</sub> emissions in sufficient amounts to demonstrate compliance as determined in the Butte Silver Bow PM<sub>10</sub> SIP from sources that are not currently controlled and accounted for in the Butte Silver Bow PM<sub>10</sub> State Implementation Plan.

Since it was determined through source apportionment studies that the Montana Resources facility was one of the largest contributing sources of uncontrolled ambient PM<sub>10</sub> emissions in the Butte Silver Bow PM<sub>10</sub> nonattainment area, a contingency measure for Montana Resources was determined to be necessary to bring the area back into attainment with the National Ambient Air Quality Standards in the event that these standards are exceeded. The contingency measure to be implemented by Montana Resources in case of an exceedance would be to decrease emission and production levels to the pre-DDEC limitations contained in Section II.B.9.a-c and Section II.C.4-6 of Permit **#1749-05**.

Also, Montana Resources planned to retrofit the remaining four haul trucks with the DDEC packages in the following 18 months to 2 years. This would result in an additional 11.5% (43%-31.5%) emission decrease, which could be used for production increases elsewhere in the facility. Montana Resources was notified that they would need to apply for a permit alteration requesting production increases when the remaining four trucks were retrofitted to include the DDEC package. These production increases were not included in the contingency measure production levels.

On March 29, 1994, Montana Resources applied for a permit modification, Permit **#1749-06**, that would allow for the use of water sprays on the primary crusher ore dump. The water sprays provided more emission control than the negative air system currently used to control emissions from the primary crusher ore dump. Since Montana Resources was mining drier ore than previous years, the water spray was required to be utilized in the milling process. However, the water sprays cannot be used at the same time that the negative air system is being used because of the possibility of an obstruction occurring in the negative air system. Also, the water sprays cannot be used in the winter because of the possibility the water lines could freeze. Therefore, a condition was added in Permit **#1749-06** that allowed Montana Resources to use either water sprays or a negative air system to control emissions from the primary crusher ore dump.

On May 26, 1996, Permit **#1749-07** was issued to Montana Resources. Montana Resources proposed, with concurrence from the Department, to reduce the amount of required opacity observations contained in Section II.F.1 of Permit **#1749-06** for their facility. Montana Resources is now only required to conduct monthly visible emission observations for wind erosion from the tailings pond during the months of May through September. There was no emissions increase as a result of this modification.

On July 21, 1997, the Department received a request from Montana Resources to replace the four wet scrubbers controlling emissions from the fine ore storage bins with four new baghouses. The baghouse system will control the particulate emissions better than the wet scrubbers and will result in a reduction in particulate emissions from the facility. This proposal was allowed under the Administrative Rules of Montana (ARM) 17.8.705(1)(q) provided that the permit was modified to reflect that baghouses, instead of the wet scrubbers, will be used to control emissions from the fine ore storage bins.

In addition, the permit was updated to reflect that Montana Resources retrofitted the four remaining haul trucks with the DDEC package for emission control. This would result in a decrease in emissions, which could be used by Montana Resources for an increase in production elsewhere in the facility. Permit **#1749-08** replaced Permit **#1749-07**.

On February 2, 1999, the Department received a request from Montana Resources to modify Permit **#1749-08** to clarify some of the existing language in the permit. This modification request was given Permit **#1749-09**. This modification was withdrawn because other changes were necessary for Montana Resources' permit

that could not be completed under the existing modification rule.

On December 30, 1999, Montana Resources was issued Permit **#1749-10**, which consisted of the following changes:

1. The diesel consumption limitation was increased because Montana Resources had installed 4 additional DDEC packages on the haul trucks and decreased the amount of ore sent to the Primary Crusher Ore Dump. The DDEC packages and the decreased production make offsets available for Montana Resources to use elsewhere at their facility.
2. Montana Resources' monitoring plan was revised to remove the requirement to operate and maintain the PM<sub>10</sub> monitor at the Alpine Site. The lot where this monitor was located was sold and Montana Resources was required to remove the monitor from this location. Because the Department operates and maintains a PM<sub>10</sub> monitor at the nearby Greeley School, Montana Resources did not have to re-locate the monitor.
3. Montana Resources' monitoring plan was also revised to decrease the monitoring frequency for the remaining sites from every third day to every sixth day.
4. Montana Resources' monitoring plan was also revised to clarify that the annual report is required to be submitted 90 days after the end of the calendar year.
5. The daily production limitation for Lime Unloading was noted to be an average instead of a maximum amount for any one day. The limitation in the permit was changed to 231.2 tons/day as a daily maximum. However, when this limit was established, it was calculated as an average value and not a daily maximum, but it was never designated as an average.
6. Condition #14 of the permit was revised to allow for emission controls "equivalent" to the DDEC packages to be installed on the haul trucks in the future.
7. The Department also made the verbiage changes requested by Montana Resources in a letter dated February 1, 1999.

The changes requested by Montana Resources resulted in an overall net decrease in emissions of PM and PM<sub>10</sub>. **Permit #1749-10** replaced Permit #1749-08.

On May 23, 2001, the Department issued its decision on a permit modification for Montana Resources in accordance with the ARM 17.8.733. This permit modification required Montana Resources to design and operate a water and/or chemical dust suppression system to control emissions from the Yankee Doodle Tailings Pond. The permit also required Montana Resources to develop a long-term plan for the

control of emissions from the pond. This was necessary because conditions had changed at the facility since Montana Resources ceased operation during the summer of 2000. Since the closure, wet tailings had not been applied to the surface of the pond and tailings had been observed blowing from the pond. Therefore, it was necessary for Montana Resources to take steps to minimize emissions from the tailings pond and remain in compliance with their air quality permit. Permit #1749-11 replaced Permit #1749-10.

The Department received a letter from Montana Resources on January 4, 2002, requesting the termination of their ambient air monitoring program at the Montana Resources mining operation. The Department reviewed the request and supporting information relative to the Department's October 1998 Monitoring Requirements Guidance Statement. In a letter dated March 5, 2002, the Department approved the request. This permit action removed the ambient monitoring requirements from the permit, clarified stack testing timeframes in Section II.E.4, and updated the rule citations in the permit. **Permit #1749-12** replaced Permit #1749-11.

#### D. Current Permit Action

On November 2, 2021, the Department received an application from Montana Resources to modify Montana Air Quality Permit (MAQP) #1749-12 to allow additional diesel fuel usage during wintertime operation. An incompleteness letter was issued on November 30, 2021, and a response was received from Montana Resources on January 21, 2022. The requested change updates the particulate matter less than or equal to 10 microns (PM<sub>10</sub>) emission factor for diesel fuel combustion to account for newer haul trucks used at the mine. The newer haul truck fleet has resulted in a decrease of PM<sub>10</sub> emissions as the current fleet is now made up of Tier 1, Tier 2 and Tier 4 engines. Revising the emission factor to reflect the more efficient engines, will allow Montana Resources to use additional diesel fuel during the winter period of November thru February. The change revises the allowable wintertime diesel consumption from 1,220,624 gallons to 2,010,176 gallons, and the daily maximum diesel usage during winter operation from 10,065.8 gallons to 16,613 gallons. The current MAQP limit for PM<sub>10</sub> from diesel combustion is 4.32 tons per year (tpy). Revising the emission factor to reflect the newer engines will increase the allowable PM<sub>10</sub> emissions from 4.32 to 4.57 tpy, an increase of 0.25 tpy. The 0.25 tpy PM<sub>10</sub> increase must be off-set to maintain the Chemical Mass Balance (CMB) which is the basis for the permit conditions within the MAQP. If completely utilized, the additional volume of diesel fuel would provide for approximately 378 miles in excess of the current MAQP haul truck vehicle miles traveled limit (VMT) limit. To maintain the underlining mass limit of PM<sub>10</sub> from the CMB, the current VMT limit of 503,386 VMT's is reduced by 378 miles to 503,008 VMT's which is equivalent to a decrease of 0.25 tpy PM<sub>10</sub> emissions. This off-set ensures the proposed permit action does not increase emissions above the limit established for PM and PM<sub>10</sub> from the CMB study. The Contingency Measures established in the State Implementation Plan remain unchanged and the maximum wintertime inventory of PM<sub>10</sub> remains at 834.9 tons for the four-month period from November thru February. Other minor production limit updates for haul trucks and diesel combustion were made to fully ensure the overall mass limits for PM and PM<sub>10</sub> remain in place. **MAQP #1749-13** replaces MAQP #1749-12.

E. Response to Public Comments

Commenter	Comment	Department Response
Bison/Montana Resources	<p>It is noted that Section B.8. states that “ ... shall not cause or authorize ... sources in excess of the following limits. ...”</p> <p>However, there are no ‘limits’ found within Section B.8 itself. Those limits are, in fact, found in (taken primarily from the previous permit) Section B.9 as Tables a, b and c.</p>	Tables were relocated below section B.8.
Bison/Montana Resources	<p>Bison discovered a minor conflict in the existing (-12) and prior permits. In Section B.8.c (existing permit) there is a table (subsection c) that contains, for example, a PM10 limit of 5,530 lb/day for winter-time Haul Trucks. However, at the end of the table, the “Total” from all sources is listed as only 3,145 lb/day. Based on various data, it seems clear that the “total” number is in error.</p> <p>It looks to me that the figure should have been 13,145 rather than 3,145. The number “1” was apparently inadvertently left out as a typo. A 13,145 figure is consistent with the seasonal limit (adjusted to a single day) found in Table 8.a. I checked through earlier permits and note that this differential has been carried out since 1996 (#1749-07).</p>	Department concurs there is an administrative typing error on this table. It has been corrected to match the correct value.

F. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonable 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).

Montana Resources shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited, 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:

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>

Montana Resources 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 an opacity limitation of less than 20% for all stacks or vents.
  2. ARM 17.8.308, Particulate Matter, Airborne. This rule requires reasonable precautions for fugitive emissions sources and RACT for existing fugitive sources located in a nonattainment area. The Department determined that a 20% opacity limitation for fugitive sources (5% for haul roads and access roads) and a requirement for use of chemical stabilization on haul roads and access roads will satisfy these requirements. (See Section VI, Permit #1749-05, RACM/RACT Analysis.)
  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 17.8.310, 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. The requirements of this section are superseded by the stricter emission limits established in the permit.
  6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
  7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60.

8. ARM 17.8.341 Emission Standards for Hazardous Air Pollutants. This source shall comply with the standards and provisions of 40 CFR Part 61, as appropriate.
  - a. 40 CFR 61, Subpart A – General Provisions apply to all equipment or facilities subject to a NESHAP Subpart as listed below:

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. Montana Resources 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 25 tons per year of any pollutant. Montana Resources 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 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to 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. Montana Resources 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. Montana Resources submitted an affidavit of publication of public notice for the November 4, 2021, issue of the Montana Standard, a newspaper of general circulation in the Town of Butte in Silver Bow 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 Montana Resources 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 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 it is not a listed source and does not have the potential to emit 250 tons per year or more of any air pollutant, excluding fugitive emissions.

G. ARM 17.8, Subchapter 9 – Permit Requirements for Major Stationary Sources or Major Modifications Locating Within Nonattainment Areas, including, but not limited to:

The 1990 Clean Air Act Amendments require the application of RACM in moderate PM<sub>10</sub> nonattainment areas. RACM has been defined as RACT for existing PM<sub>10</sub> stack or point sources, process fugitive, and fugitive dust sources such as haul roads, open stockpiles, disturbed areas, tailings disposal areas, or unpaved staging areas (see "Guidance on Reasonably Available Control Requirements in Moderate PM<sub>10</sub> Nonattainment Areas"). The Department determined that a 20% opacity limitation for fugitive sources (5% for haul roads and access roads), application of NSPS emission limits to point sources, and a requirement for use of chemical stabilization on haul roads and access roads satisfies these requirements (see Section V, Permit #1749-05, RACM/RACT Analysis).

- 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 stationary source having:
    - a. PTE > 100 tons/year of any pollutant;
    - b. PTE > 10 tons/year of any one Hazardous Air Pollutant (HAP), or PTE > 25 tons/year of a combination of any HAPs, or a lesser quantity as the Department may establish by rule;
    - 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 Applicability. 1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #1749-13 for Montana Resources, 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 of all HAPs.
    - c. This source is not located in a serious PM<sub>10</sub> nonattainment area.
    - d. This facility is not subject to any current NSPS.
    - 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 Montana Resources is a minor source of emissions as defined under Title V.

### III. BACT Determination

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

Air quality regulations require that BACT be identified and implemented for equipment that is new or is being modified. The proposed permit modification to allow increased diesel fuel usage in the haul trucks requires neither new nor modified equipment. The updated haul truck fleet meets one of the EPA or CARB Tier ratings for emissions; as such, the truck engines already meet BACT.

Reduced emissions from the newer fleet allows for an increase in fuel usage in the haul trucks without an associated increase in emissions.

The Tier rating system for engines are codified in federal regulations and engines manufactured after a certain date must meet the associated Tier emission limits. Consequently, any new haul trucks added to the fleet mix will meet the appropriate Tier standards. EPA instituted the Tier standard system in order to reduce emissions from large engines over time to allow manufacturers to modify engine designs to meet the increasingly stringent standards. Therefore, the Tier-established engine emission limits represent BACT as the Tier system forces the development of increasingly effective air pollution control for large diesel engines.

Mobile sources, such as haul trucks, are in almost all cases excluded from air permitting requirements intended for stationary air pollution sources by design. Mobile source emissions are regulated at the manufacturer level, whereas stationary/nonmobile air pollution sources are regulated at the point of use by preconstruction air permitting. Montana Resources is in a unique position in that permit limits for mobile equipment were necessary to establish compliance with ambient air quality standards.

Montana Resources is committed to maintaining a fleet of haul trucks that meet the emission standards established by the Tier system. This factor combined with the increasingly strict emission limits of the Tier system and the proposed diesel fuel limit will ensure that haul truck exhaust emissions at Montana Resources will not increase over time. A new permit condition was incorporated to establish a baseline Tier average of 1.75 across the fleet of haul trucks.

The BACT determination for following Tier requirements is consistent with previous determinations on stationary engines.

### IV. Air Quality Impacts/Compliance with Air Quality Standards

This permitting action will result in an increase in allowable gallons of diesel fuel, which is off-set by a an equivalent reduction in VMTs. There are no increases in allowable emissions for PM and PM<sub>10</sub> with this proposed action. Therefore, the Department determined this permitting action will not cause or contribute to a violation of the ambient standards as no increase in permitted emissions is occurring with this permit action. The overall limits

established as part of the Chemical Mass Balance remain in place and the Contingency Measures established in the SIP remain unchanged.

V. Existing Air Quality

Butte is a secondary non-attainment area for TSP and was a PM<sub>10</sub> Group I nonattainment area. The Department submitted a PM<sub>10</sub> redesignation request to EPA in 2019, and EPA approved the area as a limited maintenance plan effective July 26, 2021.

VI. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment which is located in the attached Environmental Assessment.

VII. Environmental Assessment

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

Analysis Prepared By: Craig Henrikson

Date: January 21, 2022





**Montana Resources**

**Final Environmental Assessment for**

**Montana Air Quality Permit #1749-13**

Air Quality Bureau

<b>APPLICANT:</b> Montana Resources, LLP		
<b>SITE NAME:</b> Continental Pit		
<b>PROPOSED PERMIT NUMBER:</b> Montana Air Quality Permit (MAQP) #1749-13		
<b>APPLICATION RECEIVED:</b> 11/02/2021		
<b>APPLICATION DEEMED COMPLETE:</b> 01/21/2022		
<b>LOCATION:</b> 600 Shields Avenue Butte, MT 59701		<b>COUNTY:</b> Silver Bow
<b>PROPERTY OWNERSHIP:</b>	FEDERAL ____ STATE ____ PRIVATE <u>X</u> __	
<b>EA PREPARER:</b>	C. Henrikson	
<b>EA Draft Date</b>	<b>EA Final Date</b>	<b>Permit Final Date</b>
02/01/2022	02/17/2022	03/05/2022

**COMPLIANCE WITH THE MONTANA ENVIRONMENTAL POLICY ACT**

The Montana Department of Environmental Quality (DEQ) prepared this Environmental Assessment (EA) in accordance with requirements of the Montana Environmental Policy Act (MEPA). An EA functions to determine the need to prepare an Environmental Impact Statement (EIS) through an initial evaluation and determination of the significance of impacts associated with the proposed action. However, an agency is required to prepare an EA whenever, as here, statutory

requirements do not allow sufficient time for the agency to prepare an EIS (ARM 17.4.607(3)(c)). This document may disclose impacts over which DEQ has no regulatory authority.

### **INCORPORATION BY REFERENCE**

DEQ completed an EIS for the Yankee Doodle Tailings Impoundment (Yankee Doodle) site in 2019. Since the EIS was completed recently, and because the mine operations have not changed relative to ore hauling, the EIS sections discussing emissions from haul roads are still valid. The EIS established the emission inventory for the mine site including contributions from ore haul trucks and also established noise impacts relative to mobile equipment including haul trucks. This proposed action would result in the use of additional diesel fuel for haul trucks and provides reductions in allowable vehicle miles traveled (VMTs). The EIS sections on noise and ore haul road fugitive emissions are pertinent to the current proposed action in the Yankee Doodle EIS beginning on pages 3-107 and 3-120, respectively. The EIS also provides historical background on the overall operation of the facility. DEQ incorporates by reference pages 3-107 and 3-120 from the Yankee Doodle EIS.

### **COMPLIANCE WITH THE CLEAN AIR ACT OF MONTANA**

The state law that regulates air quality permitting in Montana is the Clean Air Act of Montana (CAA), §§ 75-2-101, *et seq.*, Montana Code Annotated (MCA). DEQ may not approve a proposed action contained in an application for an air quality permit unless the project complies with the requirements set forth in the CAA and the administrative rules adopted thereunder, ARMs 17.8.101 *et seq.* The project is subject to approval by the DEQ Air Quality Bureau (AQB) as the proposed change requires an existing permit condition established through previous permitting actions, to be updated and available for public comment (Administrative Rules of Montana (ARM) 17.8.743). DEQ's approval of an air quality permit application does not relieve Montana Resources from complying with any other applicable federal, state, or county laws, regulations, or ordinances. Montana Resources is responsible for obtaining any other permits, licenses, or approvals (from DEQ or otherwise) that are required for any part of the proposed action. Any action DEQ takes at this time is limited to the pending air quality permit application currently before DEQ's AQB and the authority granted to DEQ under the CAA. This action is not indicative of any other action DEQ may take on any future (unsubmitted) applications made pursuant to any other authority (*e.g.* Montana's Water Protection Act). DEQ will decide whether to issue the pending air quality permit pursuant to the requirements of the CAA alone. DEQ may not withhold, deny, or impose conditions on the permit based on the information contained in this Environmental Assessment. § 75-1-201(4), MCA.

### **SUMMARY OF THE PROPOSED ACTION**

Montana Resources has applied for a Montana Air Quality Permit (MAQP) modification under the CAA to request an increase in the allowable usage of diesel fuel for haul road trucks at the Montana Resources Continental Pit. The increase would allow Montana Resources to increase their maximum daily usage of diesel fuel and the total seasonal usage for the four-month wintertime period. Montana Resources requested this permit modification because under current operations, the limits established in 1999 are no longer adequate when haul trucks must travel deeper into the Continental Pit for transporting ore from excavation locations to the crusher as well as travel to dispose of waste ore.

This Montana Resources permit action has been assigned MAQP #1749-13 and would allow for the continued operation of the Continental Pit with the increase in diesel fuel usage for the four-month

wintertime operation. Particulate matter of 10 microns or smaller (PM<sub>10</sub>) emission from the current fleet of haul trucks has a lower PM<sub>10</sub> emission rate per gallon of diesel consumed than previously estimated in the 1999 Chemical Mass Balance (CMB) analysis. Accounting for the lower PM<sub>10</sub> emissions from the current fleet of haul trucks, the reduced vehicle miles travelled (VMTs) for haul trucks, and the allowed increased use of diesel, the overall PM<sub>10</sub> mass limits for the wintertime season remain unchanged at 834.9 tons per year (tpy). The changes in operation at Montana Resources associated with the diesel fuel increase are detailed below in Table 1.

Montana Resources estimated that by updating the CMB PM<sub>10</sub> emission factors to the current inventory of haul trucks which now include Tier 1, Tier 2 and Tier 4 trucks, the proposed diesel fuel increase would increase the PM<sub>10</sub> combustion emissions by 0.25 tpy if no adjustments were made to the allowed VMT. The additional gallons of diesel fuel for haul trucks, would provide additional VMTs which would exceed the current season limit of 503,386.3 gallons. Off-sets in PM<sub>10</sub> are achieved by reducing the allowable VMTs to 503,008.3 miles. With the off-sets from VMTs; the PM and PM<sub>10</sub> mass balance limits established in the CMB remain in place.

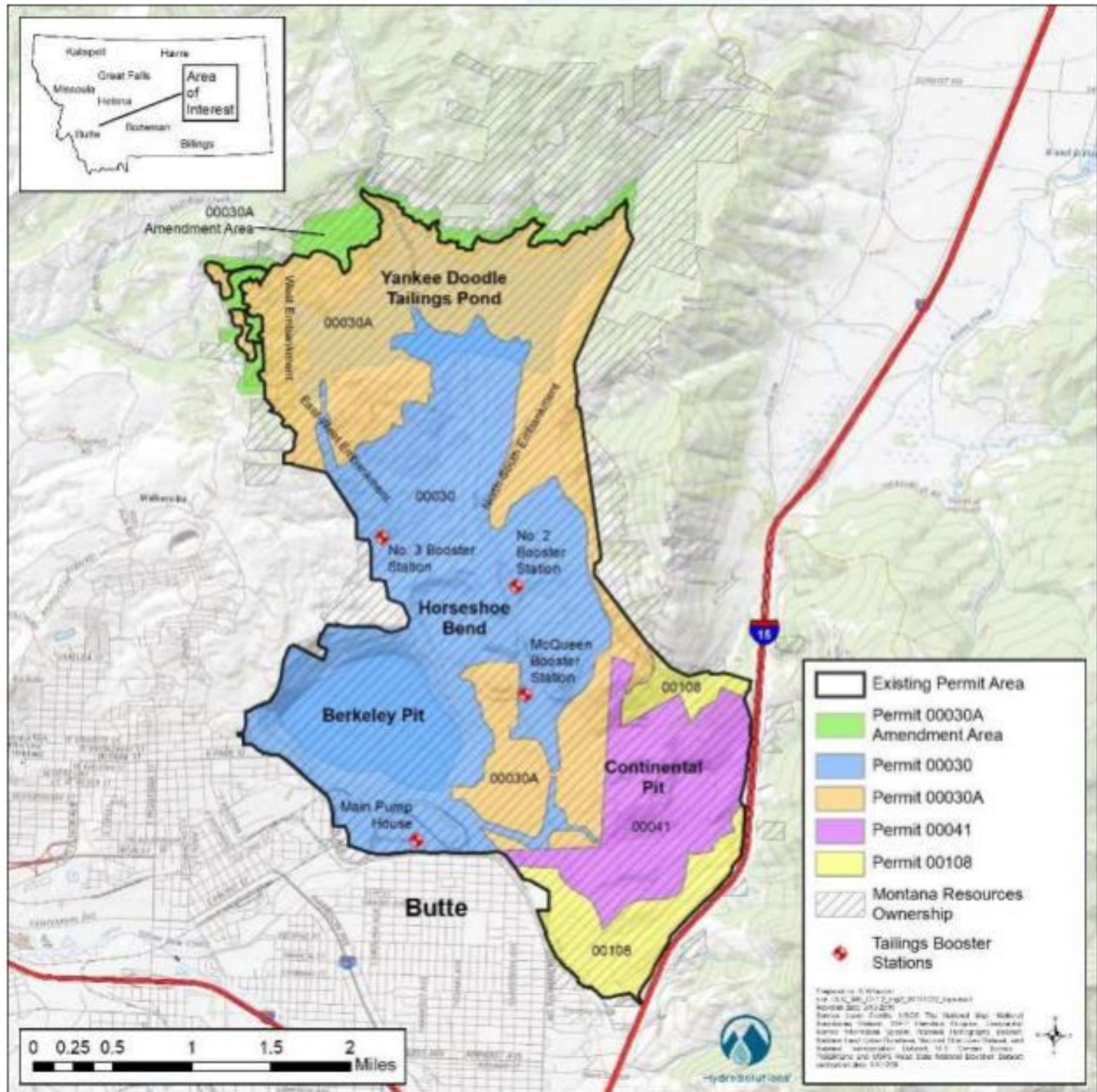
All information included in the EA is derived from the permit application, the existing permit conditions and permit history, the EIS on the Yankee Doodle Tailings Impoundment, discussions with the applicant, analysis of aerial photography, topographic maps, and other research tools.

**Table 1: Proposed Action Details**

Summary of Proposed Action	
General Overview	The proposed action would revise the allowed November thru February daily maximum usage of diesel fuel from 10,065.8 gallons to 16,613 and revise the allowed total diesel usage for the same four-month period from 1,220,624.3 gallons to 2,010,176. Allowed annual haul truck VMTs would be dropped from 503,386.3 to 503,008.3.
Proposed Action Estimated Disturbance	
Disturbance	There is no new ground disturbance associated with the proposed change. Additional haul truck vehicle miles would occur but on the existing haul roads.
Proposed Action	
Duration	<b>Operation Life:</b> Once the proposed change is made, the higher diesel fuel limit would be in effect as long as the Montana Resources permit is active.
Construction Equipment	There is no construction occurring with the proposed action.
Personnel Onsite	<b>Operations:</b> No change in staff is necessary to accommodate the higher diesel fuel limit as haul trucks would just be operated for longer trips. Some resource support would be necessary to accommodate additional diesel fuel deliveries.

Location and Analysis Area	<p><b>Location:</b> The proposed action is located at the Montana Resources Continental Mine property whose street address is Montana Resources 600 Shields Avenue Butte, MT 59701. The additional diesel fuel usage will occur on the existing Montana Resources haul roads. The property boundaries are shown in Figure 1.</p> <p><b>Analysis Area:</b> The area being analyzed as part of this environmental review includes the immediate project area (Figure 1), as well as neighboring lands surrounding the analysis area, as reasonably appropriate for the impacts being considered.</p>
Air Quality	<p>The Draft EA will be attached to the Preliminary Determination Air Quality Permit which would include all enforceable conditions for operation of the emitting units. Any revisions to the EA would be addressed and included in the Final EA attached to the Department's Decision.</p>
Conditions Incorporated into the Proposed Action	<p>The conditions developed in the Decision of the MAQP dated February 17, 2022, set forth in Sections II.A-E.</p>

Figure 1: Map of Montana Resources Permitted Areas



### PURPOSE AND BENEFIT FOR PROPOSED ACTION

DEQ's purpose in conducting this environmental review is to act upon Montana Resources's air quality permit application No. 1749-13 to consider the proposed increase in the allowable diesel fuel usage for the four-month wintertime period from November thru February.

The benefits of the proposed action, if approved, include: authorizing Montana Resources to continue current operations with an increase in wintertime diesel fuel usage for haul trucks, as specified in MAQP #1749-13.

Authority to Montana Resources for operation of the Continental Pit would continue until the permit is revoked, either at the request of Montana Resources or by DEQ because of non-compliance with the conditions within the air quality permit.

## **REGULATORY RESPONSIBILITIES**

In accordance with ARM 17.4.609(3)(c), DEQ must list any federal, state, or local, authorities that have concurrent or additional jurisdiction or environmental review responsibility for the proposed action and the permits, licenses, and other authorizations required. Montana Resources must conduct its operations according to the terms of its permit, the CAA, §§ 75-2-101, *et seq.*, MCA, and ARMs 17.8.101, *et seq.*

Montana Resources remains a minor source following the increase in the usage of diesel fuel and would continue to not be required to obtain a Title V Operating Permit. In addition, Montana Resources remains a minor source because fugitive emissions are not counted toward major source status for a stationary mining source.

All Montana Resources activities must be in compliance with the current air quality permit (MAQP #1749-13) and ambient air quality standards. The air quality permit outlines requirements for compliance. Specific mitigations are required for permit compliance and include water and chemical suppressants to control fugitive emissions to ensure compliance with opacity standards. Montana Resources must maintain wet tailings and/or other methods for dust control.

The permit also requires annual emission reporting. Production/activity reports based on onsite activities and approved emission factors are submitted by Montana Resources to complete annual emission reporting. This reporting ensures compliance with annual, seasonal, and daily emission limits. As part of the Butte SIP for complying with the CAA, Montana Resources is required to prepare and implement a dust control plan (DCP) to reduced particulate matter emissions. The DCP is included as part of Montana Resources' mine permit. The DCP outlines procedures to control dust by interim dust control measures, interim reclamation, weather monitoring and forecasting to avoid planning activities during dry or windy periods (Montana Resources 2018a). If measures of the DCP are not followed or are inadequate for the site activities, enforcement action would be implemented to correct the response.

Ambient air monitoring at the Greeley School provides ongoing data of particulate matter levels in the area. Should elevated levels of particulate matter be reported, DEQ can identify sources and apply mitigations to achieve ambient air quality. If particulate matter increases, additional air quality monitoring requirements may be required by Montana Resources (DEQ 2004).

## **EVALUATION AND SUMMARY OF POTENTIAL IMPACTS TO THE PHYSICAL AND HUMAN ENVIRONMENT IN THE AREA AFFECTED BY THE PROPOSED ACTION:**

The impact analysis will identify and evaluate direct and secondary impacts. Direct impacts are those that occur at the same time and place as the action that triggers the effect. Secondary impacts

mean “a further impact to the human environment that may be stimulated or induced by or otherwise result from a direct impact of the action.” ARM 17.4.603(18). Where impacts are expected to occur, the impact analysis estimates the duration and intensity of the impact.

The duration of an impact is quantified as follows:

- **Short-term:** Short-term impacts are defined as those impacts that would not last longer than the proposed operation of the site.
- **Long-term:** Long-term impacts are defined as impacts that would remain or occur following shutdown of the facility.

The severity of an impact is measured using the following:

- **No Impact:** There would be no change from current conditions.
- **Negligible Impact:** An adverse or beneficial effect would occur but would be at the lowest levels of detection.
- **Minor Impact:** The effect would be noticeable but would be relatively small and would not affect the function or integrity of the resource.
- **Moderate Impact:** The effect would be easily identifiable and would change the function or integrity of the resource.
- **Major Impact:** The effect would alter the resource.

## 1. TOPOGRAPHY, GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

The Montana Resources site is located in Butte, Montana, on the east side of the Continental Divide in Silver Bow County.

**Direct Impacts:** Available information includes the permit application, analysis of aerial photography, topographic maps, Yankee Doodle Tailings Impoundment project, and other research tools. As the proposed project would not provide for additional equipment, new ground disturbance or construction, no direct impacts to topography, geology, soil quality, stability and moisture would occur.

**Secondary Impacts:** No secondary impacts to topography, geology, stability, and moisture would be expected because an increase in diesel fuel usage would not be expected to alter these site characteristics.

## 2. WATER QUALITY, QUANTITY, AND DISTRIBUTION:

Haul roads require the use of water spray and chemical suppressants to control dust. Longer travel routes by haul trucks could increase the frequency of water and chemical applications used to control road dust.

**Direct Impacts:** The information provided above is based on the information provided by the applicant for the purpose of obtaining the pending air quality permit. Montana Resources has indicated within the application that additional permits are not required for this project. Based on

the available information, DEQ does not anticipate the need for any additional permits related to the proposed action. Montana Resources would have to continue to monitor for fugitive road dust and adjust their dust suppressant application frequency to comply with their requirements in MAQP #1749-13. No direct impacts are expected to water quality, quantity, and distribution.

No fragile or unique water resources or values are present. Any additional dust emissions would be expected to have a negligible to minor impact to water quality and quantity, which are resources of significant statewide and societal importance.

**Secondary Impacts:** No secondary impacts to water quality, quantity and distribution would be expected. Additional dust deposition at the site could result in additional solids washing out during storm events. Most of the mine site is not yet revegetated and any increase in solids washing out would be considered negligible to minor versus the current operations.

### 3. AIR QUALITY:

The Butte area was designated as nonattainment for PM<sub>10</sub> on March 15, 1991. A State Implementation Plan (SIP) was developed and then fully approved by the United States Environmental Protection Agency (EPA) August 26, 1994. MDEQ proposed a redesignation for the PM<sub>10</sub> nonattainment area and EPA redesignated it to a limited maintenance plan effective July 26, 2021.

**Table 2: Project Emissions**

Pollutant	Current Limit	Proposed Limit	Change in Emissions
PM10 from Diesel Fuel Combustion	4.32 tpy (Equivalent to 10,0658 gallons)	4.57 tpy (Equivalent to 16,613 gallons)	Increase of 0.25 tpy
PM10 from Haul Truck Vehicle Miles	503,386.3 miles (Equivalent to 335.7 tpy)	503,008.3 miles (Equivalent to 335.5 tpy)	Decrease of 0.25 tpy (Equivalent to decrease of 387 miles)

**Direct Impacts:** Additional diesel fuel would be available to use in the haul trucks and a negligible amount of fugitive emissions would be produced by the additional diesel volumes. Off-sets would be provided to maintain the existing emission limits for PM and PM<sub>10</sub>, therefore no increases would occur over current permitted levels, and no direct impacts would be expected.

**Secondary Impacts:** Impacts from the increased use of diesel fuel would also require the increase in frequency of diesel fuel deliveries to the site. The additional vehicle travel for the fuel deliveries would be considered negligible. Additional loading of diesel fuel would result in negligible increases in fugitive VOCs.



#### 4. VEGETATION COVER, QUANTITY AND QUALITY:

There are no known rare or sensitive plants or cover types present in the site area. No fragile or unique resources or values, or resources of statewide or societal importance, are present. The area surrounding Butte has been actively mined for generations. Gold placer mining was conducted in the Upper Clark Fork area in the 1860s and 1870s and included the development of mining camps along Silver Bow Creek. Hard rock mining for silver ore began in the 1870s, resulting in a more permanent settlement of the area. As areas which have previously been mined, are reclaimed, replacement top-soil is brought in and replanted with appropriate vegetation.

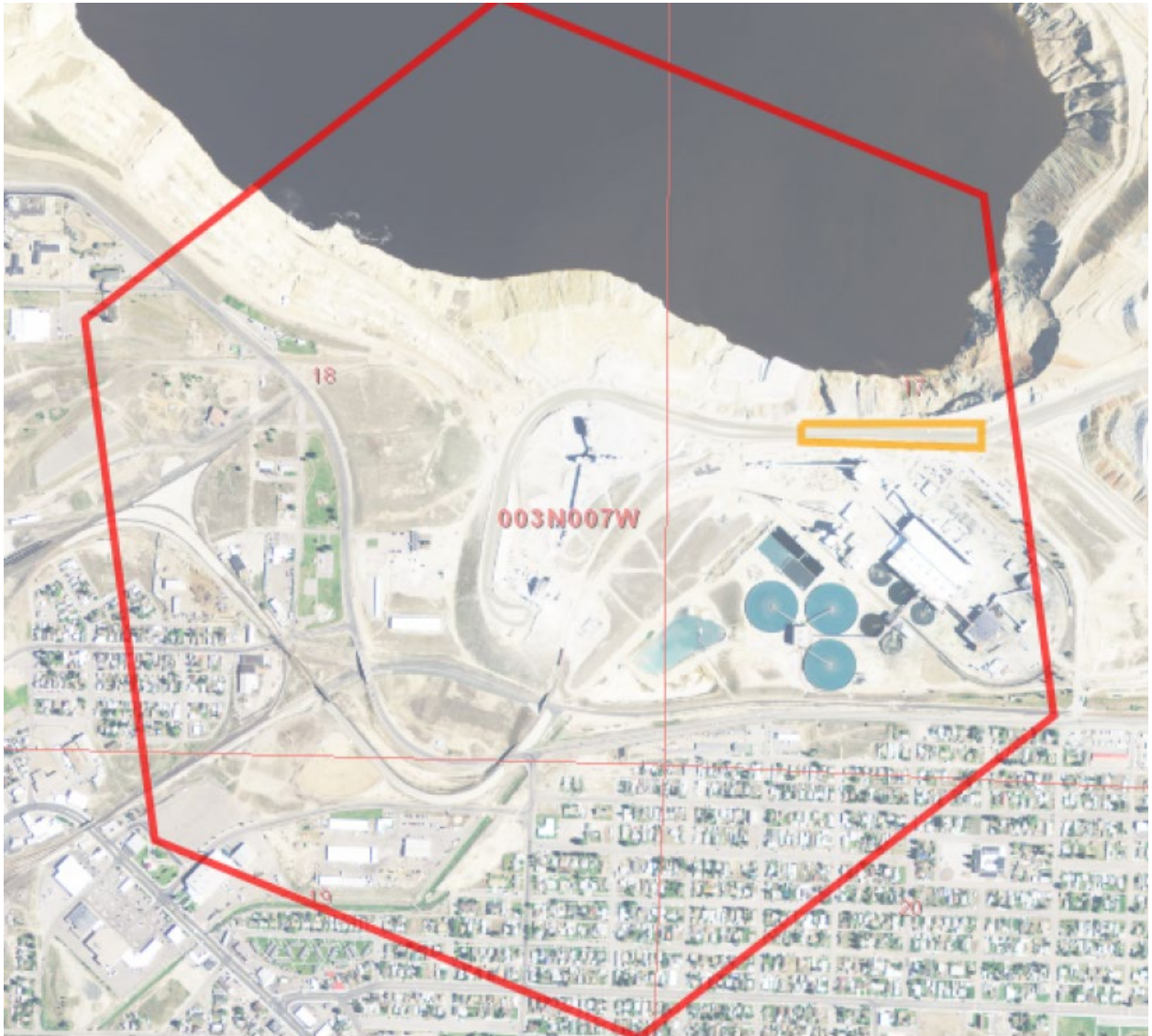
**Direct Impacts:** The information provided above is based on the information that DEQ had available to it at the time of completing this EA and provided by the applicant. Available information includes the permit application, analysis of aerial photography, topographic maps, geologic maps, soil maps, and other research tools. As the proposed action would occur on existing haul roads within the mine site, the vegetation is very limited at the site with the exception of revegetated areas which have been reclaimed. No impacts to vegetation cover, quantity and quality are expected, as the only change is an increase in diesel fuel usage on existing haul roads.

**Secondary Impacts:** No secondary impacts are expected since no land disturbance at the Continental Pit would occur with the proposed action.

#### 5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

As described earlier in Section 4. Vegetation Cover, the area is represented by active mining and revegetated ground. DEQ conducted research using the Montana Natural Heritage Program (MTNHP) website and ran the query titled “Environmental Summary Report” dated November 11, 2021, which produced the following species of concern (SOC): Great Blue Heron, Bat Roost (non-cave), Grizzly Bear, Golden Eagle, Peregrine Falcon, Evening Grosbeak, Cassin’s Finch, Clark’s Nutcracker, Northern Goshawk, Westslope Cutthroat Trout, and Varied Thrush. The selected area for the report was a custom polygon capturing a length of haul roadway between the ore extraction area and the primary crusher – a portion of the primary haul road used year-round for ore transfer. The selected roadway section then expanded to a single one square mile area. The area is as shown in the Figure 2 below. Although the MTNHP website did not report the presence of any migratory birds, migrating geese have been known to try and land in the water at the Berkeley Pit which resulted in many of their deaths.

Figure 2. MTNHP Polygon of a Montana Resources Haul Road Area



**Direct Impacts:** The potential impact (including cumulative impacts) to terrestrial, avian and aquatic life and habitats would be negligible, due to the long-term mining nature of the site.

**Secondary Impacts:** No secondary impacts to terrestrial, avian and aquatic life and habitats stimulated or induced by the direct impacts analyzed above or from the increase in diesel fuel usage.

## **6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:**

As described in Section 5 above, DEQ conducted a search using the MTNHP webpage. The search used a polygon that contained a portion of the primary haul road.

**Direct Impacts:** No direct impacts to unique, endangered, fragile or other environmental resources are expected due to the unique largely barren topography.

**Secondary Impacts:** The proposed action would have no secondary impacts to endangered species because of the nature of the mining site.

## 7. HISTORICAL AND ARCHAEOLOGICAL SITES:

The Montana State Historic Preservation Office (SHPO) was contacted to conduct a file search for historical and archaeological sites within Section 18, Township 3N, Range 7 West. SHPO provided a letter dated November 10, 2021, that indicated there have been numerous sites within the designated search location. Twenty five sites show up on the report with the majority of sites showing up as “undetermined” and are listed as historical residences. Three of the sites show up as National Historic Landmark (NHL) Listed or National Register (NR) Listed, and these are listed as Historic Political/Government, Historic District and Historic Industrial Development. It is SHPO’s position that any structure over fifty years of age is considered historic and is potentially eligible for listing on the National Register of Historic Places. If any structures are within the Area of Potential Effect, and are over fifty years old, SHPO recommends that they be recorded, and a determination of their eligibility be made prior to any disturbance taking place.

However, should structures need to be altered, or if cultural materials are inadvertently discovered during this proposed action, SHPO requests their office be contacted for further investigation.

**Direct Impacts:** Although the search by SHPO has identified some historical and archaeological sites, the proposed action does not directly disturb any surface area but instead increases the amount of diesel fuel used by the haul trucks on existing disturbed land. No direct impacts are expected.

**Secondary Impacts:** No secondary impacts to historical and archaeological sites are anticipated since the proposed action does not provide new surface disturbance.

## 8. SAGE GROUSE EXECUTIVE ORDER:

Montana Resources Continental Pit is not in core, general or connectivity sage grouse habitat, as designated by the Sage Grouse Habitat Conservation Program (Program) at: <http://sagegrouse.mt.gov>.

**Direct Impacts:** The proposed action is not located within Sage Grouse habitat, so no direct impacts would occur.

**Secondary Impacts:** No secondary impacts to sage grouse or sage grouse habitat would be expected since the proposed action is not located within Sage Grouse habitat.

## 9. AESTHETICS:

The haul roads are located throughout the Montana Resources property, but the primary route is from an eastern portion of the site, heading due west toward the primary crusher. A secondary

route also carries waste ore from the eastern portion of the site, northwest to the Yankee Doodle Tailings Impoundment site.

**Direct Impacts:** With the increase in allowed diesel fuel usage, an increase in vehicle miles traveled would be expected assuming ore continues to be available. Diesel fuel usage also increases as mining continues deeper into the Continental Pit. The public would not be able to see the impact of additional diesel fuel usage. There is no direct “line of sight” from the greater surrounding public property to observe routine haul truck traffic. Any additional haul miles traveled would also provide for noise levels for longer trips but it would not be expected to result in any measurable noise increase. Aesthetic impacts would be considered negligible.

**Secondary Impacts:** The increase in the allowable diesel fuel usage would increase fuel truck delivery to the site. The site already receives fuel truck deliveries, and the additional deliveries would be expected to have negligible secondary impacts.

#### **10. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:**

The increase in diesel fuel usage would require more frequent delivery of diesel shipments to the site.

**Direct Impacts:** Delivery of additional diesel quantities would be required during this four month wintertime operation. This would require an increase in the availability of diesel fuel in order to accommodate the proposed action. The resource demand impact from the increased use of diesel is considered negligible.

**Secondary Impacts:** No secondary impacts would be expected.

#### **11. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:**

The primary haul road and waste ore haul road are contained within the Montana Resources property.

**Direct Impacts:** No other environmental resources are known have been identified in the area beyond those discussed above. Hence, there is no impact to other environmental resources.

**Secondary Impacts:** No secondary impacts to other environmental resources are anticipated as a result of the proposed action.

#### **12. HUMAN HEALTH AND SAFETY:**

The applicant would be required to adhere to all applicable state and federal safety laws. The access to the public would continue to be restricted to this property.

**Direct Impacts:** Negligible changes in impacts to human health and safety are anticipated as a result of this project action. There would be some additional diesel fuel deliveries made to the

site. This would result in increased tanker traffic on the route to and from the site. These activities, however, are regulated by other state and federal laws to ensure they are operated safely.

**Secondary Impacts:** No secondary impacts to human health and safety are anticipated as a result of the proposed action.

### **13. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:**

The site is currently identified as “non-zoned or exempt”. It is not clear why the site is non-zone or exempt but is likely related to the historical use of the site for mining. There is no agricultural activity at the site.

**Direct Impacts:** The proposed action would allow for additional diesel fuel to be used in the haul trucks which would require more deliveries of diesel fuel during the wintertime operation which would come from off-site suppliers. As long as there is adequate ore available on-site, the increased use in diesel fuel would be expected to provide at least the current level of ore production. As the distance in ore transfer increases, the additional diesel fuel usage does not directly predict an actual increase in ore production. The impact from the proposed action on ore production would be negligible.

**Secondary Impacts:** No secondary impacts to industrial, commercial, and agricultural activities and production are anticipated as a result of the proposed action.

### **14. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:**

There currently are approximately 380 employees at Montana Resources.

**Direct Impacts:** The proposed action would be expected to have negligible to minor impacts on the overall distribution of employment. No new employees are anticipated by Montana Resources related to the proposed action.

**Secondary Impacts:** Although an increase in tanker truck deliveries of diesel fuel would be required, the increase may not be enough to generate additional employment beyond the current level. Impacts are considered negligible.

### **15. LOCAL AND STATE TAX BASE AND TAX REVENUES:**

The proposed action would be expected to have negligible to minor impacts on the local and state tax base and tax revenue.

**Direct Impacts:** The increased volume of diesel fuel usage would create a negligible increase in revenue generated from the sale of the diesel fuel and provide a small increase in revenue to the suppliers of the diesel fuel.

**Secondary Impacts:** No secondary impacts to local and state tax base and tax revenues are anticipated as a result of the proposed action.

#### **16. DEMAND FOR GOVERNMENT SERVICES:**

The proposed action is in an area identified as non-zoned or exempt. A review of the definitions from the Butte Silver Bow website do not provide any information as to the reason for this designation.

**Direct Impacts:** Compliance review and assistance oversight by DEQ AQB would be conducted in concert with other area activity. The proposed action would have negligible impacts on demand for government services. The same reporting required by Montana Resources would remain in place following the proposed action.

**Secondary Impacts:** No secondary impacts are anticipated on government services with the proposed action and a minimal increase in impact would occur from the permitting and compliance needs associated with the proposed action.

#### **17. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:**

A review was conducted of the Butte Silver Bow website on November 11, 2021. A Growth Policy link and document was available and last updated in 2008. The Growth Policy identified Montana Resources as being a major employer in the area.

**Direct Impacts:** Montana Resources' proposed action is on property which is identified as non-zoned or exempt. No impacts from the proposed action would be expected relative to any locally adopted community planning goals.

**Secondary Impacts:** No secondary impacts to the locally-adopted environmental plans and goals are anticipated as a result of the proposed action.

#### **18. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:**

The current site of the proposed action is in an area of heavy mining use. Recreational opportunities are not available to the public as the area is an active mining site.

**Direct Impacts:** There would be no impacts to the access to wilderness activities as none are within the mine boundary.

**Secondary Impacts:** No secondary impacts to access and quality of recreational and wilderness activities are anticipated as a result of the proposed action.

#### **19. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:**

No new permanent jobs would be expected with the proposed action.

**Direct Impacts:** The project would not add to the population or require additional housing,

therefore, no impacts to density and distribution of population and housing are anticipated.

**Secondary Impacts:** No secondary impacts to density and distribution of population and housing are anticipated as a result of the proposed action.

**20. SOCIAL STRUCTURES AND MORES:**

Based on the required information provided by Montana Resources, DEQ is not aware of any native cultural concerns that would be affected by the proposed action.

**Direct Impacts:** The proposed action is located on an existing mining area and no disruption of native or traditional lifestyles would be expected, therefore, no impacts to social structure and mores are anticipated.

**Secondary Impacts:** No secondary impacts to social structures and mores are anticipated as a result of the proposed project.

**21. CULTURAL UNIQUENESS AND DIVERSITY:**

Based on the required information provided by Montana Resources, DEQ is not aware of any unique qualities of the area that would be affected by the proposed action

**Direct Impacts:** No impacts to cultural uniqueness and diversity are anticipated from this project.

**Secondary Impacts:** No secondary impacts to cultural uniqueness and diversity are anticipated as a result of the proposed action or from an increase in diesel fuel usage.

**22. PRIVATE PROPERTY IMPACTS:**

The proposed action would take place on privately-owned land. The analysis below in response to the Private Property Assessment Act indicates no impact. DEQ does not plan to deny the application or impose conditions that would restrict the regulated person’s use of private property so as to constitute a taking. Further, if the application is complete, DEQ must take action on the permit pursuant to § 75-2-218(2), MCA. Therefore, DEQ does not have discretion to take the action in another way that would have less impact on private property—its action is bound by a statute.

There are private residences which surround the Montana Resources property. The closest residences to the primary haul road, are likely those located due South of the primary crusher. These houses lie along Farrell Street and Continental Drive and would be approximately 1400 feet from the primary crusher.

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)

YES	NO	
	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.

### 23. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Due to the nature of the proposed action, no further direct or secondary impacts are anticipated from this project.

### ADDITIONAL ALTERNATIVES CONSIDERED:

**No Action Alternative:** In addition to the analysis above for the proposed action, DEQ is considering a “no action” alternative. The “no action” alternative would deny the approval of the proposed action. The applicant would lack the authority to conduct the proposed activity. Any potential impacts that would result from the proposed action would not occur. The no action alternative forms the baseline from which the impacts of the proposed action can be measured.

**Other Ways to Accomplish the Action:** In order to meet the project objective to increase the allowable haul truck diesel fuel usage; Montana Resources would need to find an alternate means of transporting ore at the site rather than through the use of haul trucks. The most likely available option for consideration would be to construct conveyors capable of transferring coarse ore, which would likely create technical challenges, as the current conveyors on-site currently transfer ore once it has been initially crushed.

If the applicant demonstrates compliance with all applicable rules and regulations as required for approval, the “no action” alternative would not be appropriate. Pursuant to, § 75-1-201(4)(a), (MCA)



DEQ “may not withhold, deny, or impose conditions on any permit or other authority to act based on” an environmental assessment.

### **CUMULATIVE IMPACTS:**

Cumulative impacts are the collective impacts on the human environment within the borders of the proposed action when considered in conjunction with other past and present actions related to the proposed action by location and generic type. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through preimpact statement studies, separate impact statement evaluation, or permit processing procedures.

Currently, there are no other pending permit applications being reviewed by DEQ at this time.

There are other sources of industrial emissions in the vicinity which are limited thru enforceable conditions within their respective air quality permits including the Wayrynen-Richards Funeral Home. A Gilman Excavation asphalt plant and a Gilman crusher/screen may be located to the south of Montana Resources at certain times. Under the new DEQ Registration program, crushers/screens, and portable asphalt plants as well as concrete plants, can move into an area and operate with restrictions as required under DEQ’s Portable Registration Program.

A review was also conducted of the City of Butte Growth Policy which appears to have been updated in 2008. A search of Montana Resources was conducted to see how that facility may have been incorporated into the Growth Policy. It was noted that Montana Resources is considered a major employer in the area.

DEQ considered potential impacts related to this project and potential secondary impacts. Due to the limited activities in the analysis area, cumulative impacts related to this proposed action would be negligible to minor. The cumulative table for any direct and secondary impacts is located at the very end of this EA. See Table II.

### **PUBLIC INVOLVEMENT:**

Scoping for this proposed action consisted of internal efforts to identify substantive issues and/or concerns related to the proposed action. Internal scoping consisted of internal review of the EA document by DEQ Air Permitting staff.

Internal efforts also included queries to the following websites/ databases/ personnel:

- Montana State Historic Preservation Office
- Montana DEQ
- Silver Bow County Website
  - Zoning Map
  - Growth Policy 2008 Update
- Montana Natural Heritage Program
- Montana Cadastral Mapping Program

A fifteen day public comment period occurs along with the Preliminary Determination on MAQP #1749-13 is posted to the DEQ website.

## **OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION:**

The proposed action would be fully located on privately-owned land. All applicable local, state, and federal rules must be adhered to, which, at some level, may also include other local, state, federal, or tribal agency jurisdiction. Other Governmental Agencies which may have overlapping or sole jurisdiction include but may not be limited to: City of Butte, Silver Bow County Commission or County Planning Department (zoning), Silver Bow County Weed Control Board, Occupational Safety and Health Administration (worker safety), Mine Safety and Health Administration (MSHA), DEQ AQB (air quality) and Water Protection Bureau (groundwater and surface water discharge; stormwater), DNRC (water rights), and MDT and Silver Bow County (road access).

## **NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS**

Under ARM 17.4.608, DEQ is required to determine the significance of impacts associated with the proposed action. This determination is the basis for the agency's decision concerning the need to prepare an environmental impact statement and also refers to DEQ's evaluation of individual and cumulative impacts. DEQ is required to consider the following criteria in determining the significance of each impact on the quality of the human environment:

1. The severity, duration, geographic extent, and frequency of the occurrence of the impact.

“Severity” is analyzed as the density of the potential impact while “extent” is described as the area where the impact is likely to occur. An example could be that a project may propagate ten noxious weeds on a surface area of 1 square foot. In this case, the impact may be a high severity over a low extent. If those ten noxious weeds were located over ten acres there may be a low severity over a larger extent.

“Duration” is analyzed as the time period in which the impact may occur while “frequency” is analyzed as how often the impact may occur. For example, an operation that occurs throughout the night may have impacts associated with lighting that occur every night (frequency) over the course of the one season project (duration).

2. The probability that the impact will occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur.
3. Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts.
4. The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values.
5. The importance to the state and to society of each environmental resource or value that would be affected.
6. Any precedent that would be set as a result of an impact of the proposed action that would commit the DEQ to future actions with significant impacts or a decision in principle about such future actions.

7. Potential conflict with local, state, or federal laws, requirements, or formal plans.

The significance determination is made by giving weight to these criteria in their totality. For example, impacts with moderate or major severity may be determined to be not significant if the duration of the impacts is considered to be short-term. As another example, however, moderate or major impacts of short-term duration may be considered to be significant if the quantity and quality of the resource is limited and/or the resource is considered to be unique or fragile. As a final example, moderate or major impacts to a resource may be determined to be not significant if the quantity of that resource is high or the quality of the resource is not unique or fragile.

Preparation of an EA is the appropriate level of environmental review under MEPA if statutory requirements do not allow sufficient time for an agency to prepare an environmental impact statement, pursuant to ARM 17.4.607. An agency determines whether sufficient time is available to prepare an environmental impact statement by comparing statutory requirements that establish when the agency must make its decision on the proposed action with the time required to obtain public review of an environmental impact statement plus a reasonable period to prepare a draft environmental review and, if required, a final environmental impact statement.

### **SIGNIFICANCE DETERMINATION**

The severity, duration, geographic extent, and frequency of the occurrence of the primary, secondary, and cumulative impacts associated with the proposed action would be limited. Montana Resources proposes to increase their allowable use of diesel fuel during the four-month wintertime operation. The modification will occur completely on the Montana Resources haul roads and will support the continued production of ore. The project would occur solely on Montana Resources private property.

DEQ has not identified any significant impacts associated with the proposed action for any environmental resource. Approving Montana Resources's air quality permit application would not set precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions. If Montana Resources submits another permit application, DEQ is not committed to approve those applications. DEQ would conduct a new environmental assessment for any subsequent air quality permit applications sought by Montana Resources. DEQ would make a decision on Montana Resources's subsequent application based on the criteria set forth in the CAA.

DEQ's issuance of a modified MAQP to Montana Resources for this proposed operation also does not set a precedent for DEQ's review of other applications, including the level of environmental review. A decision of on the appropriate level of environmental review is made based on case-specific considerations of the criteria set forth in ARM 17.4.608.

DEQ does not believe that the proposed action has any growth-inducing or growth-inhibiting aspects or that it conflicts with any local, state, or federal laws, requirements, or formal plans. Based on a consideration of the criteria set forth in ARM 17.4.608, the proposed state action is not predicted to significantly impact the quality of the human environment. Therefore, at this time, preparation of an EA is determined to be the appropriate level of environmental review under MEPA.

**Environmental Assessment and Significance Determination Prepared By:**

**C. Henrikson** **Environmental Engineer, P.E.**  
Name Title

**EA Reviewed By:**

**J. Merkel** **Permitting Services Section Supervisor**  
Name Title

## **ABBREVIATIONS and ACRONYMS**

AQB – Air Quality Bureau  
ARM - Administrative Rules of Montana  
BACT – Best Available Control Technology  
BMP - Best Management Practices  
CAA – Clean Air Act of Montana  
CFR - Code of Federal Regulations  
CO - carbon monoxide  
DEQ – Department of Environmental Quality  
DNRC – Department of Natural Resources and Conservation  
EA – Environmental Assessment  
EIS – Environmental Impact Statement  
EPA - U.S. Environmental Protection Agency  
FCAA Federal Clean Air Act  
MAQP – Montana Air Quality Permit  
MCA – Montana Code Annotated  
MEPA – Montana Environmental Policy Act  
MPDES - Montana Pollutant Discharge Elimination System  
MTNHP - Montana Natural Heritage Program  
NO<sub>x</sub> - oxides of nitrogen  
PM - particulate matter  
PM<sub>10</sub> - particulate matter with an aerodynamic diameter of 10 microns and less  
PM<sub>2.5</sub> - particulate matter with an aerodynamic diameter of 2.5 microns and less  
PPAA - Private Property Assessment Act  
Program - Sage Grouse Habitat Conservation Program  
PSD - Prevention of Significant Deterioration  
SHPO - Montana State Historic Preservation Office  
SOC - Species of Concern  
SO<sub>2</sub> - sulfur dioxide  
tpy – tons per year  
U.S.C. - United States Code  
VOC - volatile organic compound

**Table II. Cumulative Impacts**

Potential Impact	Affected Resource and EA Section Reference	Severity <sup>1</sup> , Extent <sup>2</sup> , Duration <sup>3</sup> , Frequency <sup>4</sup> , Uniqueness and Fragility (U/F)	Probability <sup>5</sup> Impact Would Occur	Cumulative Impacts	Proposed Measures to Reduce Impact (by applicant)	Significant (yes/no)
VOC, PM10	III. AIR QUALITY	<p><b>S</b>-Negligible: MR provided estimates for additional diesel fuel combustion which would be stored on site</p> <p><b>E</b>-small: Diesel storage will continue in the existing infrastructure</p> <p><b>D/F</b>- Impacts from the proposed action will continue throughout the duration of the mine operation.</p> <p><b>U/F</b>-Not unique or particularly fragile.</p>	Possible	There would be limited change to the impact on this site from the proposed action as VOC releases from diesel storage tanks are minor. An increase in truck fuel deliveries would bring a minor increase in traffic to and from the site. PM10 permit limits remain unchanged for the winter season.	Best practices for diesel storage. PM10 offsets are provided with a reduction in VMTs and haul road reasonable precautions remain in place.	No
Noise Increases and Visual Changes	IX. AESHETICS	<p><b>S</b>-Negligible: Noise would not be expected to increase above current baseline. Visual changes would just include longer haul truck routes</p> <p><b>E</b>-small: Haul trucks are currently common.</p> <p><b>D/F</b>- Impacts from the proposed action will continue throughout the duration of the mine operation.</p> <p><b>U/F</b>-Not unique or particularly fragile.</p>	Unlikely	No discernable changes in noise would likely occur. No discernable changes in visual characteristics would be expected.	Continued use of reasonable precautions.	No

**Table II. Cumulative Impacts**

Potential Impact	Affected Resource and EA Section Reference	Severity <sup>1</sup> , Extent <sup>2</sup> , Duration <sup>3</sup> , Frequency <sup>4</sup> , Uniqueness and Fragility (U/F)	Probability <sup>5</sup> Impact Would Occur	Cumulative Impacts	Proposed Measures to Reduce Impact (by applicant)	Significant (yes/no)
Energy Use Increase Onsite and Transportation Energy Use Increases	X. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY	S-Negligible: More diesel fuel would need to be shipped to the mine for use. E-small: Minimal change is expected. D/F- Additional fuel usage would be allowed for the duration of the permit. U/F-Not unique or particularly fragile.	Unlikely	Minimal change of cumulative impacts is expected from the proposed action because the mine already uses diesel fuel and deliveries already occur to the mine.	None proposed	No
Property's Continued Use for Industrial Activities	XIII. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION	S -Negligible: No new ground disturbance would occur E – small: The diesel fuel increase would occur on the existing haul roads. D/F – Duration of the life of the mine. U/F-Not unique or particularly fragile.	Probable	On-going mine operations would continue as long as it remains economical to do so. Additional diesel fuel deliveries would continue to occur.	None proposed.	No

**Definitions are quantified as follows:**

- Short-term: Short-term impacts are defined as those impacts that would not last longer than the proposed operation of the site.
- Long-term: Long-term impacts are defined as impacts that would remain or occur following shutdown of the proposed facility.

1. Severity describes the density at which the impact may occur. Levels used are low, medium, high.

The severity of an impact is measured using the following:

- No impact: There would be no change from current conditions.
- Negligible: An adverse or beneficial effect would occur but would be at the lowest levels of detection.
- Minor: The effect would be noticeable but would be relatively small and would not affect the function or integrity of the resource.
- Moderate: The effect would be easily identifiable and would change the function or integrity of the resource.
- Major: The effect would alter the resource.

2. Extent describes the land area over which the impact may occur. Levels used are small, medium, and large.

3. Duration describes the time period over which the impact may occur. Descriptors used are discrete time increments (day, month, year, and season).

4. Frequency describes how often the impact may occur.

5. Probability describes how likely it is that the impact may occur without mitigation. Levels used are: impossible, unlikely, possible, probable, certain.