

**Butte Blackjack Operating, LLC
Exploration License #00857
AMD1**

**Butte Blackjack Exploration Project
Silver Bow County, MT**

**Draft Environmental Assessment
July 19, 2021**

Contents

COMPLIANCE WITH THE MONTANA ENVIRONMENTAL POLICY ACT	3
PROPOSED ACTION	3
PURPOSE AND NEED FOR PROPOSED ACTION.....	3
Table 1: Summary of activities proposed in AMD1	5
Figure 1: Overview of AMD1 to Exploration License #00857.....	9
Figure 2: Missoula Drill Site.....	10
Figure 3: Badger Drill Site.....	11
Figure 4: Chief Joseph Portal Underground Exploration.....	12
SUMMARY OF POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS:.....	13
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE	13
2. WATER QUALITY, QUANTITY, AND DISTRIBUTION	14
3. AIR QUALITY:.....	15
4. VEGETATION COVER, QUANTITY AND QUALITY:	16
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:.....	17
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:.....	17
7. HISTORICAL AND ARCHAEOLOGICAL SITES:	18
8. AESTHETICS:	18
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:	19
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:	19
11. HUMAN HEALTH AND SAFETY:	20
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:	20
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:	21
14. LOCAL AND STATE TAX BASE AND TAX REVENUES:	21
15. DEMAND FOR GOVERNMENT SERVICES:	21
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:.....	22
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:.....	22
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:	23
19. SOCIAL STRUCTURES AND MORES:.....	23
20. CULTURAL UNIQUENESS AND DIVERSITY:	24
21. PRIVATE PROPERTY IMPACTS:.....	24
22. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	24
ALTERNATIVES CONSIDERED:	24
CONSULTATION:.....	25
PUBLIC COMMENT PERIOD:.....	25
OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION:.....	25
CUMULATIVE IMPACTS:.....	25
NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS.....	26
Table 2: Summary of potential impacts that could result from AMD1 to Exploration License #00857	27

**Montana Department of Environmental Quality
Air, Energy, & Mining Division
Hard Rock Mining Section
ENVIRONMENTAL ASSESSMENT**

COMPANY NAME: Butte Blackjack Operating, LLC
EA DATE: DRAFT - July 19, 2021
PROJECT: Butte Blackjack Exploration Project
LICENSE: #00857
AMENDMENT: AMD1
LOCATION: 46.029044, -112.526389 **COUNTY:** Silver Bow
PROPERTY OWNERSHIP: FEDERAL STATE PRIVATE

COMPLIANCE WITH THE MONTANA ENVIRONMENTAL POLICY ACT

Under the Montana Environmental Policy Act (MEPA), Montana agencies are required to prepare an environmental impact statement for state actions significantly affecting the quality of the human environment. An agency may prepare an environmental assessment to determine the need to prepare an environmental impact statement. This environmental assessment (EA) will evaluate and determine the significance of potential impacts that may result from the proposed and alternative actions. DEQ will then determine the need for preparation of an environmental impact statement based on consideration of the criteria set forth in Administrative Rules of Montana (ARM) 17.4.608.

PROPOSED ACTION

DEQ would issue Exploration License #00857 (license) to Butte Blackjack Operating, LLC (Blackjack) and approve an amendment (AMD1) to the license if DEQ has determined that Blackjack has met the criteria set forth in 82-4-332, Montana Code Annotated (MCA). The application for Exploration License #00857 was submitted on June 2, 2021. Blackjack has revised and resolved outstanding deficiencies regarding their exploration license, and the last substantial change to the project was submitted on July 12, 2021.

PURPOSE AND NEED FOR PROPOSED ACTION

DEQ's purpose and need in conducting the environmental review is to act upon Blackjack's application for a mineral exploration license submitted under the Metal Mine Reclamation Act (MMRA). On June 15, 2021, Blackjack's Exploration License application (the Applicant's Proposed Action) was determined to be complete. Pursuant to 82-4-332 (2), MCA, and ARM 17.24.103, the application was:

1. Submitted in writing;
2. Included a map of sufficient detail to locate the area to be explored as well as the actual proposed disturbances, and to allow DEQ to adequately determine whether significant environmental problems would be encountered;
3. Stated the type of prospecting and excavation techniques that would be employed in disturbing the land and included a reclamation plan in sufficient detail to allow DEQ to determine whether the specific reclamation requirements of ARM 17.24.104 through 107 would be satisfied.

DEQ is required to issue an exploration license if the applicant meets the following criteria set forth in Section 82-4-332(1), MCA:

1. Pay a fee of \$100 to the department.
2. Agree to reclaim any surface area damaged by the applicant during exploration operations, as may be reasonably required by the department.
3. Not be in default any other reclamation obligation under the Metal Mine Reclamation Act.

In addition, under ARM 17.24.103, an applicant is required to submit a reclamation performance bond in a form and amount determined by DEQ before an exploration license can be issued.

Table 1: Summary of activities proposed in AMD1

Summary of Activities Proposed in AMD1 (Applicant's Proposed Action)	
General Overview	<p>Blackjack is proposing to conduct surface and underground exploration activities in Butte and Walkerville, MT in areas that have previously been disturbed by mining activities (Figure 1).</p> <p>Blackjack would construct 12 drill pads in two separate areas; the Missoula Drill Site (Figure 2) and the Badger Drill Site (Figure 3). Four drill pads would be located within the Missoula Drill Site, and eight drill pads would be located within the Badger Drill Site. Drill pads would measure 30 feet wide by 40 feet long. Each drill site would include a lined sump measuring 15 feet wide by 20 feet long by 8 feet deep.</p> <p>When possible, drill pads would be located in areas of existing or previous disturbance, or areas without existing vegetation. At drill pads where leveling is required and at every sump, any existing growth media would be salvaged and placed next to the excavation for use in reclamation. The City-County of Butte-Silver Bow (BSB) would test each excavation for lead and arsenic using x-ray fluorescence (XRF). If specific lead and arsenic levels are present, the excavated soil would be removed from the site and disposed of in an impoundment site specified by BSB located about ½ a mile from the Badger Drill Site. Blackjack would use up to 825 cubic yards of locally sourced material to backfill any excavations where contaminated soil has been removed from the site.</p> <p>Blackjack would drill a total of 37 holes down to a maximum of 1,500 feet, but not to exceed a depth beyond 5,460 feet above sea level to avoid intercepting groundwater. The total depth of drilling for the entire project would be up to 30,600 feet.</p> <p>No new roads would be constructed for drilling activities, and sites would be accessed via existing roads and 950 feet of overland travel.</p> <p>Surface drilling activities at the Badger Drill Site would occur in two 10-hour shifts for up to 7 days per week. Supplemental lighting would be used to support those drilling activities. Surface drilling activities at the Missoula Drill Site would be limited to daytime hours only and would occur up to 7 days per week.</p> <p>Blackjack would repair the portal and existing tunnel of the Chief Joseph decline to ensure safe entrance and egress (Figure 4). Work on the Chief Joseph portal would occur within the Badger Drill Site in areas with existing disturbance. Existing security gates would be reinstalled at the entrance to secure access.</p> <p>After portal repairs are completed, Blackjack would drive an additional 1,000 to 1,500 feet of decline to connect to the historic 350 level of the Lexington Mine at 5,920 feet above sea level. Approximately 21,000 cubic yard of waste rock would be generated and would be placed on the land surface about 300 to 400 feet east-southeast of the portal via an existing access road and a new 225-foot segment of road.</p> <p>Approximately 900 cubic yards of growth media would be salvaged from the waste rock pile footprint and stockpiled directly north of the waste rock pile area via the new segment of road.</p> <p>Underground exploration activities would occur in two 10-hour shifts for 4 days per week, or in one 12-hour shift for 7 days per week. Existing lighting at the Chief Joseph portal would be used to support underground exploration activities.</p> <p>Exploration activities would occur over the course of 2 years followed by up to 2 years of reclamation. After completion of exploration, all new surface disturbances would be backfilled, recontoured, and reseeded. Weed control and management would occur until revegetation is accomplished. All drill holes would be plugged in accordance with ARM 17.24.106, which would generally involve plugging holes that encounter groundwater from the bottom to within 5 to 10 feet of the top with bentonite, then capping with 5 to 10 feet of cement. The waste rock pile would be graded, covered in salvaged growth media, and seeded to establish vegetation. The portal would be left open but secured in accordance with ARM 17.24.107(6), which allows an adit or shaft to remain accessible, but secured to prevent unauthorized entry and ensure public safety, for possible future exploration or development if DEQ confirms the necessity for it to remain open.</p>

Dimensions and Quantities of Disturbance Proposed to Support Drilling in AMD1	
Drill pads (#)	12 total: 4 at Missoula Drill Site, 8 at Badger Drill Site
Drill pad dimensions (xy)	30'x40'
Sumps (#)	12, 1 per drill pad
Sump dimensions (xyz)	15'x20'x8'
Drill Holes (#)	37 total: <i>Badger Drill Site:</i> Site B1: 4 holes Site B2: 4 holes Site B3: 4 holes Site B4: 2 holes Site B6: 2 holes Site B7: 6 holes Site B8: 2 holes Site B2: 4 holes <i>Missoula Drill Site:</i> Site M1: 4 holes Site M2: 2 holes Site M3: 2 holes Site M4: 1 hole
Maximum drilling depth (ft)	Up to 1,500 feet below ground surface, but not beyond 5,460 feet above sea level
Total drilling depth (ft)	30,600
New roads	None
Overland travel (xy)	950'x10'
Total surface disturbance	3.44 acres, including underground exploration yard and roads
Dimensions and Quantities of Disturbance Proposed to Support Underground Exploration in AMD1	
Portal and decline repair	Chief Joseph decline
Decline development	Drive an additional 1,000 to 1,500 feet of decline to meet the historic 350 level of the Lexington Mine at 5,920 feet above sea level
Waste rock	21,000 cubic yards placed on the land surface about 300 to 400 feet east-southeast of the portal via an existing access road and a new segment of road
New road (xy)	225'x20'x2'
Underground exploration yard	2.1 acres
Proposed Activities in AMD1	
Duration and timing	<ul style="list-style-type: none"> - Operations would commence after approval of AMD1 to Exploration License #00857. - Exploration operations would occur over the course of 2 years followed by up to 2 years of reclamation. - Drill crews would operate in two 10-hour shifts for up to 7 days per week at the Badger Drill Site. Drill crews would operate during daytime hours only at the Missoula Drill Site for up to 7 days per week. - Underground crews would operate in two 10-hour shifts for 4 days per week, or one 12-hour shift for 7 days per week. - Final reclamation of all surface disturbances would be required to be completed no later than 2 years following the conclusion of exploration.
Equipment	Drilling: <ul style="list-style-type: none"> - 1,000-gallon fuel storage tank - 2 track carrier-mounted drill rigs - 5 pick-up trucks - 4 ATVs/buggies - 2 2,500-gallon water trucks - 1 portable light with a generator

Proposed Activities in AMD1 cont.	
Equipment cont.	<p>Underground:</p> <ul style="list-style-type: none"> - 2 10-ton haul trucks - 2 maintenance trucks - 2 4-yard haul dump loaders <p>Soil/Growth Media Salvage – Re-spread Equipment</p> <ul style="list-style-type: none"> - 2 excavators - 2 dozers - 2 15-yard haul trucks - 3 skid steers <p>4 all-terrain lifts</p>
Location and Analysis Area	<ul style="list-style-type: none"> - The proposed project would be located on private land located within Butte and Walkerville, MT. - The area being analyzed as part of this environmental review includes the immediate project area boundaries as depicted on Figure 1 and the adjacent neighboring lands for all resources areas except for water resources. The water resource analysis area are the immediate downstream water sources.
Personnel Onsite	<p>Personnel would include two drill crews and two mine crews:</p> <ul style="list-style-type: none"> - 2 drillers per drill crew - 1 drill supervisor total - 1 mining supervisor per mine crew - 1 mechanic per mine crew - 1 nipper per mine crew - 2 miners per mine crew
Personnel Lodging	Seasonally, crew members could be housed in trailers or campers on site. Drilling contractors would likely seek temporary housing in the Butte area for the winter months.
Project Water Source	Water would be sourced from the public water supply (hydrant) north of the portal entrance. A maximum of 15,000 gallons of water would be used each day.
Structures	<ul style="list-style-type: none"> - 1 office trailer - 1 maintenance/tool trailer - Portable toilet - Fuel storage area - Seasonally, trailers or campers for crew lodging.
Supplemental Lighting	One portable light plant with a generator would be used to support drilling at the Badger site. Existing lighting would be used at the Chief Joseph portal area to support underground activities.
Air Quality	<ul style="list-style-type: none"> - Water trucks would be available to control dust on existing roads. - Exhaust controls would be provided on equipment used for surface and underground drilling.
Erosion Control and Sediment Transport	<ul style="list-style-type: none"> - A variety of Best Management Practices (BMPs) would be used to accomplish erosion control around drill sites. Erosion controls for the drilling operation would be used as necessary to control run-off. A berm would be constructed on the downgradient edge of each drill pad to collect run-off and allow infiltration/evaporation of precipitation. Silt fences, hay bales, and straw wattles would be installed in conjunction with berms to control sediment, where necessary. - All wheeled vehicles would be confined to existing roads and trails, or overland travel routes.
Solid Waste	<ul style="list-style-type: none"> - Dumpsters would be available on site and would be emptied regularly by a contracted service. - Untreated mine lumber removed as part of the portal entrance repair work would be disposed of with the waste rock from the repairs and extension work.
Cultural Resources	The applicant has not proposed any actions to reduce impacts to cultural resources.
Hazardous Substances	<ul style="list-style-type: none"> - Blasting reagents would be stored in a Mine Safety and Health Administration (MSHA) approved magazine and managed by an outside contractor. - A 1,000-gallon fuel tank would be stored on site within an existing disturbance in secondary containment consisting of a bermed area lined with geosynthetic liner. - Other materials and substances (e.g., antifreeze, lubricants) would be securely stored in the maintenance/tool trailer. - All used materials would be captured and hauled off site to an appropriately licensed facility. - Fuel for drill rigs would be provided from tanks located in pick-up trucks.

Proposed Activities in AMD1 cont.	
Weed control	<ul style="list-style-type: none"> - Weed control would be limited to areas of proposed disturbance with existing vegetative cover to prevent the establishment of new noxious weed populations in areas that are currently weed-free and limit the spread of existing noxious weeds. - Prior to project commencement, noxious weeds would be sprayed by a commercial contractor. - All equipment on site would be clean and free of noxious weed seed or parts. - Revegetation of newly disturbed land would be conducted as promptly as possible during an optimal seeding and planting window. - Any straw/hay bales and mulch used for erosion control would be noxious weed free. - All seeds would be certified noxious weed free. - Weed monitoring and management would continue until revegetation has been accomplished. - Weed control applications would occur twice per year in late spring/early summer and in the fall. - Weed control would be a requirement of an exploration license. The project would be subject to any plans or rules set forth by the BSB Bow Weed Control Board and the 2017 Montana Noxious Weed Management Plan.
Reclamation Plans	<ul style="list-style-type: none"> - Blackjack would initiate final reclamation of all surface disturbance in 2023 unless Blackjack submits an amended exploration plan. - All new temporary structures and facilities would be removed from the site. - Stockpiled soil and organic material would be used to backfill and level all new surface disturbances. Compacted areas would be ripped, restored to approximate original contours, and prepared for seeding/revegetation. - Sump liners would be cut, folded, and buried in place prior to replacement of excavated materials and growth media. - All drill holes would be plugged in accordance with ARM 17.24.106, which would generally include plugging holes that encounter groundwater from the bottom to within 5 to 10 feet of the top with bentonite, then capping with 5 to 10 feet of cement. - The waste rock dump would be contoured to allow for growth media placement and successful revegetation. - The underground portal would be left open for potential future exploration or development and secured in accordance with ARM 17.24.107.
Overlapping Regulatory Considerations for AMD1	
	<p>The location of the proposed project falls within the Silver Bow Creek/Butte Area Superfund site, specifically the Butte Mine Flooding Operable Unit (BMFOU) and the Butte Priority Soils Operable Unit (BPSOU). The proposed project may fall under the regulatory purview of BSB related to the use of water sourced from the public water supply and the BSB excavations and dirt-moving protocols. Portions of the proposed project may be subject to considerations for areas that are zoned as two-family residential (R2) and conservation open space (OS-C). Additionally, the proposed project may be required to acquire a permit for stormwater discharges associated with exploration activities from DEQ.</p> <p>The proposed project may be subject to additional regulatory oversight and operating conditions at federal, state, county, and/or local levels including, but not limited to, authorizations related to air quality, water quality, and excavation and disposal of soils.</p> <p>This EA will examine the application for an Exploration License submitted to, and determined complete by, DEQ's Hard Rock Mining Section (HRMS). The HRMS has determined the application for an Exploration License to be complete pursuant to 82-4-332, MCA. The proposed activities examined in this EA do not necessarily meet operational or regulatory requirements beyond those set forth in the MMRA.</p>

Figure 1: Overview of AMD1 to Exploration License # 00857

Legend

- Groundwater sampling points
- ▭ Proposed exploration areas
- Drill pads
- ★ Chief Joseph portal

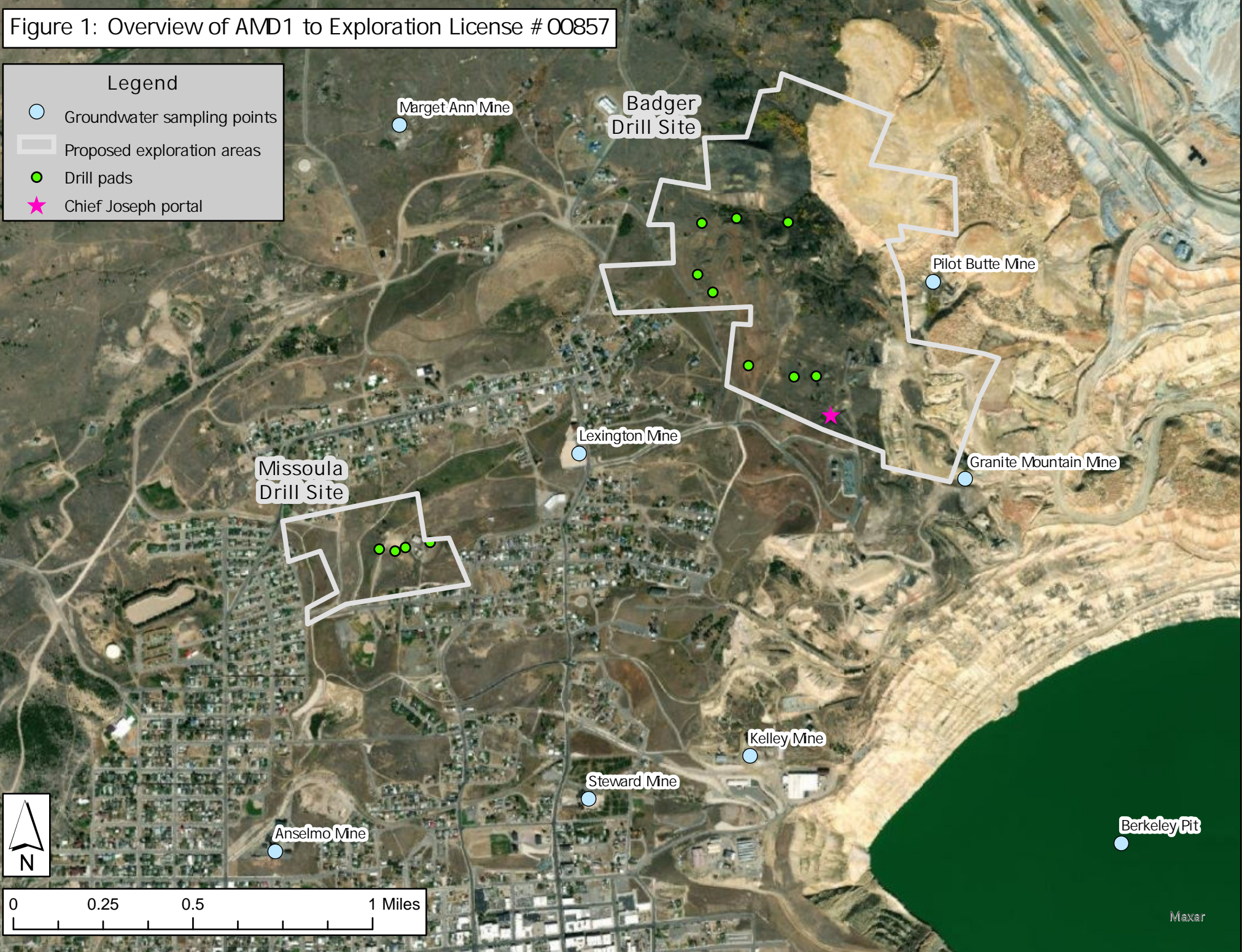


Figure 2: Missoula Drill Site

Legend

- Drill pads
- Sumps
- Proposed exploration area
- Overland travel



Maxar, Microsoft, Esri, Community Maps Contributors, BuildingFootprintUSA, Esri Canada, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA

Figure 3: Badger Drill Site

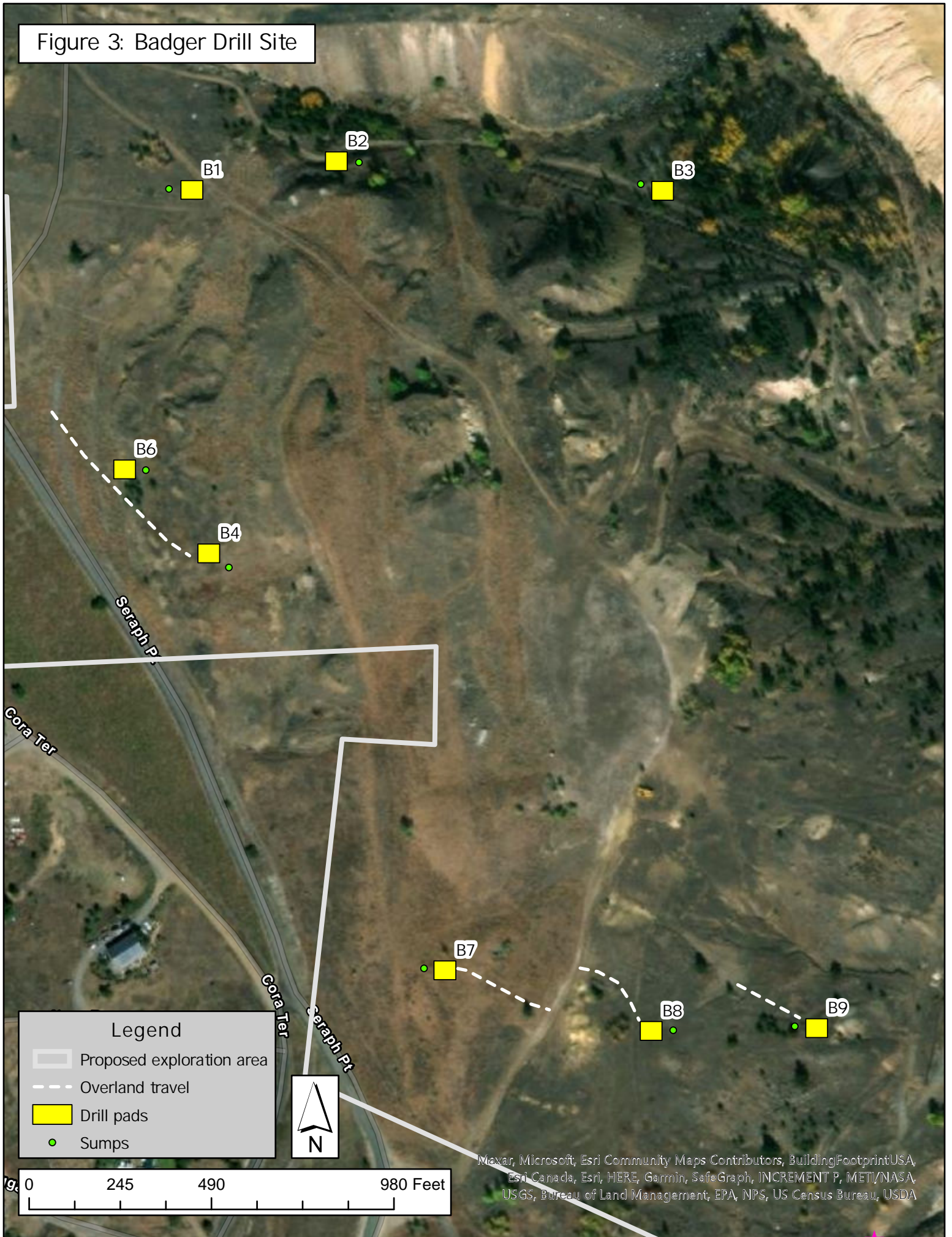


Figure 4: Chief Joseph Portal Underground Exploration

Legend

- ★ Chief Joseph Portal
- New roads
- Growth media stockpile
- Underground exploration yard
- Waste rock area



SUMMARY OF POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS:

The impact analysis will identify and estimate whether the impacts are direct or secondary impacts. Direct impacts occur at the same time and place as the action that causes the impact. Secondary impacts are 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 would occur, the impacts analysis will also estimate the duration and intensity of the impact. The duration is defined as follows:

- Short-term: Short-term impacts are defined as those impacts that would not last longer than the life of the project, including final reclamation.
- Long-term: Long-term impacts are impacts that would remain or occur following project completion.

The intensity of the 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.

1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE

Are soils present, which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?

The area of proposed exploration would be located entirely on private land that has been previously disturbed by mining activity within the Butte Mining District in Butte and Walkerville, MT. The proposed project would be located just west of existing, unreclaimed disturbance from historic mining in the area. Further east is Continental Mine, which is actively operated under Operating Permit #00030 by Montana Resources LLP.

Soil types in the Badger Drill Site area include Minestope, extremely boulder-Branham, extremely bouldery-rock outcrop complex; Beeftrail-Branham-Minestope complex; Typic Cryorthenents, reclaimed area-Beeftrail, severely impacted complex; and mine and garbage dumps (NRCS, 2021). Soil types in the Missoula Drill Site area include Typic Cryorthenents, reclaimed area-Beeftrail, severely impacted complex and Beeftrail-Minestope-Dinnen complex (NRCS, 2021).

Where possible, Blackjack would locate drill sites in areas of existing or previous disturbance, or areas without existing vegetation. Existing growth media at drill pads, sumps, and the waste rock pile would be salvaged and then used for reclamation of surface disturbance. BSB would test each excavation for lead and arsenic using XRF. If specific lead and arsenic levels are present, the excavated soil would be removed from the site for disposal. Blackjack would then use up to 825 cubic yards of locally sourced material to backfill any excavations where contaminated soil has been removed from the site.

Blackjack would use erosion controls to prevent surface run-off through a variety of BMPs. Berms would be constructed on the downgradient edge of each drill pad to collect run-off. Where necessary, silt fences, hay bales, and straw wattles would be installed on sites in conjunction with berms. These types of erosion control measures have been proven to be effective in preventing

erosion.

Direct Impacts:

A total of 3.44 acres would be disturbed at the surface. Surface disturbance would occur within the BPSOU, and some drill sites are proposed within the boundaries of sites within the Butte Reclamation Evaluation System (BRES) associated with the BPSOU. Specifically, site M1 in the Missoula Drill Site is proposed within the Missoula Mine BRES site, and site B7 in the Badger Drill Site is proposed within the Moose Dump BRES site. Reclamation of surface disturbance within the BPSOU may be subject to specifications imposed by federal, state, county, and/or local authorities.

Under the Applicant's Proposed Action, drill pads would be located in areas of existing or previous disturbance or areas without existing vegetation. Any existing growth media at each drill pad and sump would be salvaged and placed next to the disturbance for use in reclamation. Approximately 900 cubic yards of growth media would be salvaged from the waste rock pile footprint and stockpiled directly north of the waste rock pile area via a new segment of road. These practices would minimize impacts to soil in the boundaries of the proposed project by avoiding compaction or loss of soil material to the building of pads, sumps or berms. The exploration project could result in erosion of some disturbed soil (Table 2), and sediment could be transported to surface water via stormwater. The BMPs described previously regarding prevention of surface run-off would minimize this type of impact. These BMPs would prevent run-off from leaving the site. Surface soil disturbance could allow for the establishment of weeds. Weed control is a condition of an exploration license and the Blackjack would be required to control the spread of noxious weeds. Noxious weeds are further addressed in "Section 4. Vegetation Cover, Quantity and Quality" (Table 2). Impacts to the geology, soil quality, stability and moisture would be short-term and minor and therefore would not be significant (Table 2).

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to the geology and soil quality, stability and moisture would be expected.

2. WATER QUALITY, QUANTITY, AND DISTRIBUTION

Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?

The Badger Drill Site and Chief Joseph Portal are located at a topographic high point between 6,300 and 6,400 feet above sea level. The Missoula Drill Site is located about ¾ of a mile to the west of the Badger Drill Site at about 6,040 feet above sea level. The project area receives about 12.52 inches of precipitation annually. The nearest surface water bodies to the project area are the Yankee Doodle Tailings Impoundment and the Berkeley Pit, which are located within the boundary of the Montana Resources Operating Permit #00030. The project area would be located near established neighborhoods and adjacent to an area of large-scale open pit mining, and the hydrologic flow patterns have been significantly altered from the natural pre-mining and pre-development flow patterns. In the event of a large precipitation event, any runoff from the project area would likely travel through the existing municipal stormwater system that would typically include gutters, drains, and catch basins.

The National Wetland Inventory did not identify any natural wetlands or riparian areas within the greater project area. No land disturbance or work is proposed within wetland or riparian areas.

A search of the Groundwater Information Center (GWIC) indicated that 24 wells and 5 mine

shafts used for monitoring are located within the same sections as the proposed project. Of the 24 wells, 13 are domestic, 9 are for monitoring, 1 is for stockwater, and 1 is for research. The nearest domestic well is located about 4,000 feet to the northwest of the Missoula Drill Site.

Eight groundwater sampling points associated with the BMFOU are located at historic mine shafts and within the Berkeley Pit area near the proposed project area: Pilot Butte, Granite Mountain, Kelley, Marget Ann, Lexington, Steward, Anselmo, and the Berkeley Pit (Figure 1). These sampling points indicate groundwater elevation levels between 5,365 and 5,578 feet.

Project water would be sourced from a public water supply hydrant located north of the Chief Joseph portal. The proposed project would use up to 15,000 gallons of water per day from the BSB public water supply sourced from a hydrant located near the Chief Joseph portal and would be transported from the hydrant by two 2,500-gallon water trucks.

Blackjack would drill a total of 37 holes down to a maximum of 1,500 feet, but not to exceed a depth beyond 5,460 feet above sea level to avoid intercepting groundwater. Blackjack would drive an additional 1,000 to 1,500 feet of decline from the Chief Joseph portal to connect to the historic 350 level of the Lexington Mine at 5,920 feet above sea level.

Direct Impacts:

Stormwater impacts due to erosion of soil from surface disturbances and waste rock pile would be expected to be limited due to the BMPs described above, and the sediment load would either drop out in local BMPs (in the case of routine storm events) or may be carried further in the case of major runoff events before settling out in historic mine areas within the Berkeley Pit drainage or being captured by the municipal stormwater system that is operated and maintained by BSB. Any potential impacts to surface water would be short-term and minor (Table 2).

Based on available data from area well logs, groundwater in the proposed project area would be expected around an elevation of 5,365 to 5,578 feet above sea level. Bedrock groundwater in the exploration areas typically flows from northwest to southeast, within an area known as the “East Camp” in the BMFOU. Groundwater within this area generally flows toward the water surface in the Berkeley Pit, which is actively pumped to maintain a lower elevation in the bedrock aquifer to prevent outward flow from the pit. Drilling in this area would be expected to be completed to at least 5,460 feet above sea level. Blackjack would not anticipate completing drill holes below the groundwater surface. All drill holes would be plugged according to the requirements of AR 17.24.106, which would generally involve plugging any holes that encounter water from the bottom to within 5 to 10 feet of the top with bentonite, then capping with 5 to 10 feet of cement. The Chief Joseph decline extension would be expected to be completed at a depth of 5,920 feet above sea level and would not be expected to encounter groundwater. Dewatering operations are not proposed. No impacts to groundwater would be expected as a result of this project.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to water quality, quantity and distribution would be expected.

3. AIR QUALITY:

Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?

Direct Impacts:

Dust particulate would be produced or become airborne during construction of drill pads and sumps, portal improvements, construction of the waste rock pile, and travel along existing roads to and from the project area (Table 2). Mechanized equipment would produce some exhaust fumes. The operator would be expected to maintain compliance with Montana's law regarding the need to take reasonable precautions to control airborne particulate matter and has stated that exhaust controls would be provided on equipment for surface and underground drilling, and that water trucks would be available to control dust on existing roads.

The closest Class 1 airshed to the project site would be located about 30 miles to the west (Anaconda Pintler Wilderness). This project would result in minimal dust emissions and is not expected to impact the airshed of the Anaconda Pintler Wilderness due to the scale of activity and the distance between the proposed project and the wilderness area.

Impacts to air quality would be short-term and minor and, therefore, would not be significant as a result of this project (Table 2).

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to air quality would be expected.

4. VEGETATION COVER, QUANTITY AND QUALITY:

Will vegetative communities be significantly impacted? Are any rare plants or cover types present?

Land cover in the greater project area generally includes quarries, strip mines, and gravel pits; roads; Rocky Mountain subalpine-upper montane grassland; Rocky Mountain lower montane, foothill, and valley grassland; open water; low intensity residential; developed, open space; commercial/industrial; montane sagebrush steppe; and high intensity residential (MTNHP, 2021).

A search of the Montana Natural Heritage Program (MTNHP) did not identify potential habitat for any vascular plant SOC or PSOC. No vascular plant SOC or PSOC have been observed in the immediate project area.

Spotted knapweed, oxeye daisy, and dalmatian toadflax, all noxious weeds, have been identified in the greater project area.

Direct Impacts:

When possible, drill pads would be located in areas of existing or previous disturbance, or areas without existing vegetation. Approximately 900 cubic yards of growth media would be salvaged from the waste rock pile footprint, and stockpiled directly north of the waste rock pile area via a new segment of road. The proposed project would only disturb 3.44 acres of land and trying to locate drill pads in areas of existing disturbance could result in less vegetation being disturbed. Impacts to vegetative cover, quantity or quality resulting from this project would be short-term and minor and would not be significant (Table 2).

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. Land disturbance at the site may result in propagation of noxious weeds (Table 2). Any surface excavations would be regraded and seeded with an appropriate seed mix. If AMD1 were approved, weed control during and after exploration activities would be a requirement. The immediate

project area would be subject to the 2017 Montana Noxious Weed Management Plan.

5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Is there substantial use of the area by important wildlife, birds or fish?

Common wildlife may utilize the project area and may be temporarily displaced while machinery and equipment are operating. Northern flying squirrel, bluejay, cedar waxwing, Hunt's bumble bee, all noted as native species by MTNHP, have been observed in the greater project area.

Direct Impacts:

The project area is located within an urban area near historical and ongoing mining disturbance. Impacts to terrestrial, avian and habitats would potentially include temporary displacement of animals, although habitat found within the project area is common throughout the larger ecosystem (Table 2). Any displaced animals could find other suitable habitat nearby and return to the project area shortly after the project conclusion. Although wildlife habitat may be impacted until the project disturbance is reclaimed, other developed and non-developed land exists around the proposed exploration site for the temporarily displaced the animals. Impacts to terrestrial, avian, life and habitat would be short term and minor and would not be significant.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to terrestrial, and avian habitats stimulated or induced by the direct impacts analyzed above would be expected.

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

Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?

A search of the MTNHP identified potential habitat for 12 mammal, reptile, invertebrate, bird, and amphibian SOC, PSOC, sensitive, or threatened species. Habitat for these species is common and not unique to the project area. Grizzly bear, great blue heron, great short-horned lizard, all SOC, could occur in or near the project area. No wetlands or riparian habitat would be disturbed from the project.

Direct Impacts:

The project area is located within an urban area near historical and ongoing mining disturbance. While potential habitat for threatened and endangered species may exist, the surrounding neighborhoods and mining disturbance would diminish habitat potential within the project area.

Impacts to unique, endangered, fragile, or limited environmental resources would potentially include temporary displacement of animal species (Table 2), although habitat within the project area is common throughout the larger ecosystem and any animals displaced could find other nearby suitable habitat and return to the project area shortly after the project conclusion. Impacts to unique, endangered, fragile, or limited environmental resources would be short-term and minor and would not be significant.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of

the action. No secondary impacts to unique, endangered, fragile, or limited environmental resources that could be stimulated or induced by the direct impacts analyzed above would be expected.

7. HISTORICAL AND ARCHAEOLOGICAL SITES:

Are any historical, archaeological or paleontological resources present?

The proposed project area is located within the Butte-Anaconda National Historic Landmark District, and some specific recorded sites exist within the National Historic Landmark District exist within the immediate project area. After consulting with the State Historic Preservation Office (SHPO), a total of 36 Historic Properties are found to be located within or near the project area, mostly related to historic mining activity. Historic Properties are those sites that are eligible for or potentially eligible for listing on the National Register of Historic Places (NRHP). Twenty-Seven of the sites are listed as Undetermined, 4 are listed as Unresolved for NRHP eligibility, 3 are listed as Eligible to the NRHP, one site is Listed on the NRHP, and one site, which is also a Historic District, is identified as a National Historic Landmark.

Direct Impacts:

The proposed exploration activities would occur on private land. Some resources may be impacted as part of this project, and the impact would be long-term and minor and would not be considered significant or adverse (Table 2). Additional work is required to determine if the proposed activities would have an adverse effect on the identified properties. Without additional work, it is assumed the proposed project would have an adverse effect on these Historic Properties.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to historical and archaeological sites would be expected.

8. AESTHETICS:

Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?

The proposed exploration activities would occur on private land. The Badger Drill Site would be located east of Seraph Point and north of Bernie's Way. The Missoula Drill Site would be located north of Missoula Avenue and Center Street, east of 5th Street, south of Transit Street, and west of North B Street and North Montana Street. Both drill sites would be located within urban residential areas.

The daily schedule at the Missoula Drill Site would consist of work occurring in one 10-hour shift during daytime hours for seven days per week. No supplemental lighting would be used at the Missoula Drill Site. The daily schedule at the Badger Drill Site would consist of work occurring in two 10-hour shifts for up to seven days per week. Supplemental lighting would be used to support drilling activities at the Badger drill site. Underground exploration activities would occur at the Chief Joseph portal in two 10-hour shifts for 4 days per week, or one 12-hour shift for 7 days per week. Existing lighting at the Chief Joseph portal would be used to support underground exploration activities.

Blackjack would initiate final reclamation of all surface disturbance in 2023 unless Blackjack submits an amended exploration plan that includes use of the unreclaimed disturbance. Reclamation would be required to be completed within two years of the end of the proposed project unless the project disturbance were incorporated into an Operating Permit.

Direct Impacts:

The proposed project would be visible from various places in the surrounding neighborhoods in Walkerville and Butte, MT, and some areas further away (Table 2). Visible components of the exploration project would include, but are not limited to, various pieces of heavy equipment including drills, discreet patches of excavations, a waste rock pile, passenger vehicles, and miscellaneous equipment related to drilling and transporting core. Noise associated with the project may be heard by receptors located in an area where sound related to the project has not been fully diminished by distance or another sound dampening feature (Table 2). Exploration activities would occur over the course of two years followed by two years of reclamation. Impacts to aesthetics are short-term and minor and, therefore, would not be significant (Table 2).

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to area aesthetics would be expected as a result of the proposed work.

9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project?

The proposed project would use up to 15,000 gallons of water per day from the BSB public water supply sourced from a hydrant located near the Chief Joseph portal. No other local resources would be used.

Direct Impacts:

The proposed project would not use resources that are limited in the surrounding area. Therefore, impacts on the demands of the environmental resources of land, water, air, or energy would not be anticipated as a result of this project.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated or induced by, or otherwise result from a direct impact of the action. No secondary impacts to environmental resources of land, water, air, or energy would be expected.

10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:

Are there other activities nearby that will affect the project?

DEQ searched the following websites or databases for nearby activities that may affect the project. Other nearby permitted projects were identified and are included below in the cumulative impacts analysis, however no other projects that would have an impact on other environmental resources that may also affect the proposed project were identified:

- Montana Department of Natural Resource and Conservation (DNRC)
- Montana Department of Environmental Quality (DEQ) Federal Superfund and Construction Section
- Montana Department of Transportation (MDT)
- City-County of Butte-Silver Bow (BSB)

- United States Department of Interior, Bureau of Land Management (BLM)
- United States Forest Service (USFS)

Direct Impacts:

DEQ did not identify any other nearby activities that may affect the project. Therefore, impacts on other environmental resources are not likely to occur as a result of this project.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated or induced by, or otherwise result from a direct impact of the action. No secondary impacts to other environmental resources would be expected as a result of the proposed work.

11. HUMAN HEALTH AND SAFETY:

Will this project add to health and safety risks in the area?

The applicant would be required to adhere to all applicable state and federal safety laws. Industrial work such as the work proposed by the applicant is inherently dangerous. The Occupational Safety and Health Administration (OSHA) has developed rules and guidelines to reduce the risks associated with this type of labor. Few, if any, members of the public would be in the general project proximity during exploration operations.

Direct Impacts:

Impacts to human health and safety would be short-term and minor and would not be significant as a result of this project.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated or induced by, or otherwise result from a direct impact of the action. No secondary impacts to human health and safety would be expected as a result of the proposed work.

12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:

Will the project add to or alter these activities?

Direct Impacts:

The proposed exploration project would occur in an area that has been previously disturbed by mining activities. The proposed project would not affect any industrial, commercial, or agricultural activities in the area. As noted in the cumulative impacts analysis below, this project would add to the impacts of mining in the greater project area, however all disturbance related to this project would be reclaimed at the conclusion of the project. Final reclamation would be required within two years of completion of the project unless the project disturbance were incorporated into an Operating Permit. Impacts on the industrial, commercial, and agricultural activities and production in the area would be minor and short-term and would not be significant.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the

human environment that may be stimulated or induced by, or otherwise result from a direct impact of the action. No secondary impacts to industrial, commercial, and agricultural activities and production would be expected as a result of the proposed work.

13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Will the project create, move or eliminate jobs? If so, estimated number.

Direct Impacts:

Significant positive or negative impacts on quantity and distribution of employment would not likely result from this project. The project plan calls for several limited duration, contracted, and otherwise employed people at the site. No lasting positive or negative impacts to employment would be expected from this project.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to quantity and distribution of employment would be expected as a result of the proposed work.

14. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Will the project create or eliminate tax revenue?

The proposed project would have a limited increase in tax revenue related to the payroll taxes from the project.

Direct Impacts:

Some increased, yet limited, benefit to the local and state economy could result from this project. However, due to the nature of the exploration project, minimal tax revenue from income or expenses would be expected from this project. The impact to local and state tax base and tax revenue would be short-term and negligible and would not be significant.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. Minor beneficial secondary impacts to local and state tax base and tax revenues would be expected as a result of the proposed work.

15. DEMAND FOR GOVERNMENT SERVICES:

Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?

The proposed project would add a minimal amount of traffic to existing roads around the immediate project area. The proposed project would use up to 15,000 gallons of water per day from the BSB public water supply sourced from a hydrant located near the Chief Joseph portal. The increased traffic and use of water would occur during the limited life of the exploration project, including the period of time when disturbances associated with the exploration project are being reclaimed.

Fire protection would likely be provided by the BSB Fire Department or the Centerville Volunteer Fire Department, both of which would be located under 1 mile from the project areas. The

Butte Sheriff's Department would likely provide some law enforcement presence throughout Butte, including around the project area. Emergency Medical Services would be based at St. James Hospital, located approximately 1 mile to the southwest of the project area.

Direct Impacts:

The proposed project would be located on private land. Impacts would not be expected on the demand for government services. Impacts on the demand for government services would be minor and short-term and would not be significant.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to the demand for government would be expected as a result of the proposed work.

16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?

The proposed exploration activities would occur entirely on private land. The project area would be subject to any plans or rules set forth by the BSB Weed Control Board and the 2017 Montana Noxious Weed Management Plan. The location of the proposed project falls within the Silver Bow Creek/Butte Area Superfund site, specifically the Butte Mine Flooding Operable Unit (BMFOU) and the Butte Priority Soils Operable Unit (BPSOU). The proposed project may fall under the regulatory purview of BSB related to use of water sourced from the public water supply and the BSB excavations and dirt-moving protocols. Portions of the proposed project may be subject to considerations for areas that are zoned as two-family residential (R2) and conservation open space (OS-C). Additionally, the proposed project may be required to acquire a permit from DEQ for stormwater discharges associated with exploration activities.

The proposed project may be subject to additional regulatory oversight and operating conditions at federal, state, county, and/or local levels including, but not limited to, authorizations related to air quality, water quality, and excavation and disposal of soils.

Direct Impacts:

DEQ is not aware of any other locally adopted environmental plans or goals that would impact this proposed project or the project area. Impacts to locally adopted environmental plans and goals would not be expected as a result of this project.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to the locally adopted environmental plans and goals would be expected as a result of the proposed work.

17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?

The proposed exploration activities would occur entirely on private land, with no access to

public recreational opportunities. There are no designated wilderness or recreational areas in the vicinity of the project area.

Direct Impacts:

Impact to the access or quality of recreational and wilderness activities would not be expected to result from the project.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to access and quality of recreational and wilderness activities would be expected as a result of the proposed work.

18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Will the project add to the population and require additional housing?

Butte is a city in Silver Bow County, MT, and the population was 33,525 at the 2010 census. Walkerville is a suburb of Butte, and the population was 675 at the 2010 census. As noted above in “Section 13. Quantity and Distribution of Employment”, the proposed project would not be expected to add to or decrease the local population or employment.

Direct Impacts:

Due to the short-term project duration and the temporary nature of the activity, no impact to population density and housing would be expected from this project.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to density and distribution of population and housing would be expected as a result of the proposed work.

19. SOCIAL STRUCTURES AND MORES:

Is some disruption of native or traditional lifestyles or communities possible?

Direct Impacts:

The proposed exploration activities would occur entirely on private land in an area that has been subject to active mining for over 160 years. Due to the short-term project duration, no disruption of native or traditional lifestyles would be expected.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated or induced by, or otherwise result from a direct impact of the action. No secondary impacts to social structures and mores would not be expected as a result of the proposed work.

20. CULTURAL UNIQUENESS AND DIVERSITY:

Will the action cause a shift in some unique quality of the area?

Direct Impacts:

The proposed project is located in an area that has been affected by historical and recent mining activities. Due to the short-term project duration and the temporary nature of the activity, no impacts to cultural uniqueness and diversity would be expected from this project.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to cultural uniqueness and diversity would be expected as a result of the proposed work.

21. PRIVATE PROPERTY IMPACTS:

Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required. Does the proposed regulatory action restrict the use of the regulated person's private property? If not, no further analysis is required. Does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives.

If DEQ issues Blackjack an exploration license, any conditions of the exploration license are either required to comply with applicable requirements of the Metal Mine Reclamation Act (including administrative rules adopted under the Metal Mine Reclamation Act) or be included in the exploration license with the consent of the Blackjack. DEQ is not proposing to include in the exploration license any conditions that are not required under the Metal Mine Reclamation Act or to which the Blackjack has not consented. Therefore, DEQ is not required to determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and to analyze those alternatives.

22. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Due to the nature of the proposed exploration activities, and the limited project duration, no further direct or secondary impacts would be anticipated from this project.

ALTERNATIVES CONSIDERED:

In addition to the Proposed Action Alternative, DEQ also considered a No Action Alternative. Under the No Action Alternative, DEQ would deny Blackjack's application for an exploration license. Blackjack would not obtain the authority to conduct exploration for minerals on their private land. Blackjack would still be allowed to conduct casual use-level activities but would not be able to dive into the ground with mechanized equipment. The potential impacts that may result under the Proposed Action Alternative would not occur. The No Action Alternative forms the baseline from which the impacts of the proposed action can be measured.

CONSULTATION:

DEQ engaged in internal and external efforts to identify substantive issues and/or concerns related to the proposed project. Internal review of the environmental assessment document by three DEQ staff including Whitney Bausch P.G., Jacob Mohrmann P.G., and Craig Jones. External review efforts included queries to the following websites/ databases/ personnel:

- Montana State Historic Preservation Office (SHPO)
- Montana Department of Natural Resource and Conservation (DNRC)
- Montana Department of Environmental Quality (DEQ)
- Montana Department of Transportation (MDT)
- City-County of Butte-Silver Bow (BSB)
- US Geological Society – Stream Stats
- Montana Natural Heritage Program (MTNHP)
- Montana Cadastral Mapping Program
- Montana Groundwater Information Center (GWIC)
- Montana Bureau of Mines and Geology (MBMG)
- United States Department of Interior, Bureau of Land Management (BLM)
- United States Forest Service (USFS)
- United States Environmental Protection Agency (EPA)

PUBLIC COMMENT PERIOD:

Scoping for this proposed action will include a 22-day public comment period. The public will be notified of the opportunity for comment through a DEQ-issued press release, a posting on the DEQ website, and a targeted mailer to landowners in close proximity to the proposed project areas. Substantive public comments received will be considered before DEQ issues the final EA.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION:

The proposed project would be fully located on private land. All applicable state and federal rules must be adhered to, which, at some level, may also include other state, federal, or tribal agency jurisdiction.

CUMULATIVE IMPACTS:

Cumulative impacts are the collective impacts on the human environment within the borders of Montana 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.

This environmental review analyzes the proposed project submitted by the applicant. The proposed project would occur in an area that has been affected by historical and recent mining activity. Any impacts from the project would be temporary and would be fully reclaimed at the conclusion of the project pursuant to ARM 17.24.107. Thus, the proposed project would not contribute to the long-term cumulative impacts of mining in the area. DEQ identified other mining or exploration projects in the area.

DEQ-regulated projects located near the proposed project site include:

- One hard rock mining Operating Permit site is located adjacent to the Badger Drill Site.

- One hard rock exploration site is located just over one mile north of the Badger Drill Site.

No other DNRC, BLM, USFS, or BSB regulated projects were identified in the project vicinity.

DEQ considered all impacts related to this project and secondary impacts that may result. Cumulative impacts related to this project are identified in the Table 2. Cumulative impacts related to this project would not be significant.

NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS

When determining whether the preparation of an environmental impact statement is needed, DEQ is required to consider the seven significance criteria set forth in the Administrative Rules of Montana (ARM) 17.4.608, which are as follows:

1. The severity, duration, geographic extent, and frequency of the occurrence of the impact;
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 department to future actions with significant impacts or a decision in principle about such future actions; and
7. Potential conflict with local, state, or federal laws, requirements, or formal plans.

Table 2: Summary of potential impacts that could result from AMD1 to Exploration License #00857

Potential Impact	Affected Resource and Section Reference	Severity ¹ , Extent ² , Duration ³ , Frequency ⁴ , Uniqueness and Fragility (U/F)	Probability ⁵ impact will occur	Cumulative Impacts	Measures to reduce impact as proposed by applicant	Significance (yes/no)
Erosion of disturbed soil	Soil and Water 1.) Geology 2.) Water Quality	S-High: All 3.44 acres of disturbance would be susceptible to erosion. Soil excavated to construct drill pads, sumps, roads, and the waste rock pile, and any areas where vegetation is affected by overland travel, would be susceptible to erosion prior to reclamation. E-Small: Total surface disturbance susceptible to erosion would be 3.44 acres within 69 acres that encompass the Badger and Missoula Drill Sites, and Chief Joseph Portal. D-Up to 2 years after completion or abandonment of exploration activities plus growing seasons unless the disturbance were incorporated into an Operating Permit. F-During occasional storm events. U/F-Not unique or particularly fragile.	Possible	Erosion from this project would temporarily add to cumulative impacts associated with potential erosion on existing roads and other historical disturbances in the proposed project area.	- Erosion controls for the drilling operation would be used as necessary to control run-off. A berm would be constructed on the downgradient edge of each drill pad to collect run-off and allow infiltration/evaporation of precipitation. Silt fences, hay bales, and straw wattles would be installed in conjunction with berms to control sediment, where necessary. - A variety of BMPs would be used to accomplish erosion control around drill sites. - All wheeled vehicles would be confined to existing roads and trails, or overland travel routes.	No
Weed propagation associated with surface disturbance	Soil & Vegetation 1.) Geology 4.) Vegetation	S-High: All disturbed surfaces would be susceptible to weed propagation. E-Small: Total surface disturbance susceptible to erosion would be 3.44 acres within 69 acres that encompass the Badger and Missoula Drill Sites, and Chief Joseph Portal. D- Up to 2 years after completion or abandonment of exploration activities plus growing seasons unless the disturbance were incorporated into an Operating Permit. F-Twice: After excavation and after reclamation. U/F-Not unique or particularly fragile.	Probable	Weed propagation from this project would add to any other area weeds that already exist within and near the proposed project area.	- Weed control would be limited to areas of proposed disturbance with existing vegetative cover to prevent the establishment of new noxious weed populations in areas that are currently weed-free and limit the spread of existing noxious weeds. - Prior to project commencement, noxious weeds would be sprayed by a commercial contractor. - All equipment on site would be clean and free of noxious weed seed or parts. - Revegetation of newly disturbed land would be conducted as promptly as possible during an optimal seeding and planting window. - Any straw/hay bales and mulch used for erosion control would be noxious weed free. - All seeds would be certified noxious weed free. - Weed monitoring and management would continue until revegetation has been accomplished. - Weed control applications would occur twice per year in late spring/early summer and in the fall. - Weed control would be a requirement of an exploration license. The project would be subject to any plans or rules set forth by the BSB Weed Control Board and the 2017 Montana Noxious Weed Management Plan.	No
Dust and equipment exhaust	Air 3.) Air Quality	S-Medium: Dust and other particulates would be generated while driving on and off site. Mechanized equipment would produce some exhaust fumes. E-Small: Dust and exhaust fumes would be generated in proximity of moving/working equipment. D- Up to 2 years after completion or abandonment of exploration activities plus growing seasons unless the disturbance were incorporated into an Operating Permit. F-Daily: During exploration and reclamation operations. U/F-Not unique or particularly fragile.	Certain	Dust and exhaust generated from this project would temporarily add to the cumulative impacts from other vehicles and engines operating in the area, and to potential natural wildfire smoke moving through the area.	- Water trucks would be available to control dust on existing roads. - Exhaust controls would be provided on equipment used for surface and underground drilling.	No
Displacement of animals	Animals 5.) Terrestrial, avian, and aquatic life. 6.) Unique, endangered, fragile or limited resources	S-Low: 3.44 acres of area that has already been impacted by historical and recent mining would be impacted. E-Small: Total surface disturbance susceptible to erosion would be 3.44 acres within 69 acres that encompass the Badger and Missoula Drill Sites, and Chief Joseph Portal. D-Reclamation would be required within 2 years after completion or abandonment of exploration activities plus growing seasons unless the area is incorporated into an Operating Permit. F-During construction activity at each site. U/F-Not unique or particularly fragile.	Possible	Displacement of animals as a result of this project would add to the cumulative impacts associated with other nearby mining projects and urban development.	None proposed.	No

Potential Impact	Affected Resource and Section Reference	Severity ¹ , Extent ² , Duration ³ , Frequency ⁴ , Uniqueness and Fragility (U/F)	Probability ⁵ impact will occur	Cumulative Impacts	Measures to reduce impact as proposed by applicant	Significance (yes/no)
Project visibility and noise	8.) Aesthetics	<p>S-Medium: Exploration operations would be visible to, and heard by, nearby receptors, particularly those in the surrounding neighborhoods in Walkerville and Butte, and anyone travelling on the many urban roads near the project site.</p> <p>E-Small: Exploration operations would be visible to receptors from observation points unobstructed by topography or urban development. Noise may be heard by receptors located in an area where sound related to the project has not been fully diminished by distance or another sound-dampening features.</p> <p>D-Reclamation would be required within 2 years after completion or abandonment of exploration activities plus growing seasons unless the area is incorporated into an Operating Permit.</p> <p>F-Daily: Until reclamation is complete.</p> <p>U/F-The viewshed would be diminished; however, the viewshed is not particularly unique or fragile in the greater project area.</p>	Certain	Impacts to area aesthetics as a result of this project would add to the cumulative impacts associated with the other nearby mining and urban development activities.	Exploration activities would take place only during daylight hours at the Missoula Drill Site.	No
Impacts to Historical and Archaeological Sites	7.) Historical and Archaeological Sites:	<p>S – Low: Some disturbance associated with the proposed project could impact existing historical and archeological resources.</p> <p>E – Small: The presence of historical and archeological resources would be minimal within the broader 69 acres of project area.</p> <p>D – Long-term, any disturbance to archaeological sites would be permanent.</p> <p>F- Once</p> <p>U/F-Not unique or particularly fragile.</p>	Possible	Impacts to historical and archaeological sites associated with the project would add to the cumulative impacts associated with the surrounding private land that has been developed for residential and other mining uses.	None proposed.	No
Increased traffic and use of public water supply	15.) Demand for government services	<p>S-Low: Traffic would increase on a small number of public roads within the greater project area, and water use would be a small percentage of the water used each day from the BSB public water supply.</p> <p>E-Small: Increased traffic would only occur on some roads near the proposed project area.</p> <p>D-Reclamation would be required within 2 years after completion or abandonment of exploration activities plus growing seasons unless the area is incorporated into an Operating Permit.</p> <p>F-Daily: Until the proposed project was completed and reclaimed.</p> <p>U/F-Not unique or particularly fragile.</p>	Certain	Impacts to the demand for government services would add to the cumulative impacts from other nearby traffic and use of the public water supply.	None proposed.	No

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

The severity, duration, geographic extent, and frequency of the occurrence of the impacts associated with the proposed exploration activities would be limited. The applicant is proposing to construct 12 drill pads and 225 feet of new roads; excavate 12 sumps, utilize 950 feet of overland travel; drill 30,600 feet of exploration holes; repair the portal and decline of the Chief Joseph portal; extract 500 tons of material for metallurgical testing; and construct a waste rock pile of 21,000 cubic yards of waste rock. A total of 3.44 acres of ground would be subject to disturbance during the project. Project activity would be expected to be completed within two years and would be required to be reclaimed within 2 years after completion or abandonment of exploration activities.

DEQ has not identified any significant impacts associated with the proposed exploration activities for any environmental resource. Issuing Exploration License #00857 and does not set any precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions. If the applicant submits another exploration license application to conduct additional exploration, DEQ is not committed to issuing those authorizations. DEQ would conduct an environmental review for any subsequent authorizations sought by the applicant that require environmental review. DEQ would make a permitting decision based on the criteria set forth in the Metal Mine Reclamation Act. Issuance of Exploration License #00857 does not set a precedent for DEQ's review of other applications for exploration licenses, including the level of environmental review. The level of environmental review decision is made based on a case-specific consideration of the criteria set forth in ARM 17.4.608.

Finally, DEQ does not believe that the proposed exploration activities by the applicant have any growth-inducing or growth-inhibiting aspects or conflict 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 exploration activities are not predicted to significantly impact the quality of the human environment. Therefore, DEQ believes that preparation of an environmental impact statement is not required.

Environmental Assessment and Significance Determination Prepared by:



Whitney Bausch, P.G.
Environmental Science Specialist –Exploration Program