DEQ
Montana Department of Environmental Quality

Air, Energy & Mining Division

MOGOTES COPPER USA INC.

EXPLORATION LICENSE NO. 00910

Amendment No. 1

COPPER CLIFF PROJECT
MISSOULA COUNTY, MT

October 20, 2026
Draft Environmental Assessment

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PROJECT OVERVIEW

COMPANY NAME: Mogotes Copper USA Inc.
EA DATE: October 20, 2026
PROJECT: Copper Cliff Project
PERMIT/LICENSE: Exploration License No. 00910
AMENDMENT #: Amendment 1 (AMD1)

Location

(46.80815°, -113.45019°) County: Missoula

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 review for state actions that may have an impact on the human environment. The proposed action is considered to be a state action that may have an impact on the human environment and therefore, the Department of Environmental Quality (DEQ) must prepare an environmental review. This Environmental Assessment (EA) will examine the proposed action and alternatives to the proposed action and disclose potential impacts that may result from the proposed and alternative actions. DEQ will determine the need for additional environmental review based on consideration of the criteria set forth in Administrative Rules of Montana (ARM) 17.4.608. DEQ may not withhold, deny, or impose conditions on the permit based on the information contained in this Environmental Assessment. § 75-1-201(4), Montana Code Annotated (MCA).

Proposed Action

DEQ would approve Amendment 1 (AMD1) to Exploration License No. 00910 (Exploration License) for Mogotes Copper USA Inc. (Applicant) – Copper Cliff Exploration Project, if DEQ has determined that the Applicant has met the criteria set forth in 82-4-332, MCA. As outlined in 82-4-332, MCA in addition to a complete and acceptable application, the applicant must also file with the department a reclamation and revegetation bond in a form and amount as determined by the department 82-4-332(3), MCA. If approved, the license to conduct exploration activities would be granted for a period of one year, at which time, the Applicant could renew the Exploration License annually.

Purpose and Need

DEQ's purpose and need in conducting this environmental review is to act upon the Applicant's application for an Exploration License Amendment to conduct mineral exploration activities in compliance with the Metal Mine Reclamation Act (MMRA) (Sections 82-4-301, et seq., MCA). On August 13, 2026, the Applicant submitted a complete application for an Exploration License (Exploration License No. 00910) and Amendment (AMD1). Pursuant to 82-4-332(2), MCA, the application was complete and acceptable.

The Applicant proposes this action to assess the commercial potential of an ore deposit using surface and underground exploration methods on private land located in Missoula County, Montana, approximately 8 miles southeast of Potomac, Montana.

The Plan of Operations submitted on August 13, 2026, proposes 4 drill pads, 4 drill holes with one mother hole and 2 daughter holes (3 tracks) per collar, 8 internal sumps, 4 external sumps, with a cumulative drilling length of 59,800 feet across all drill holes. The 4 drill holes would be a result of diamond core drilling, a process in which a hollow diamond bit cuts a narrow circular ring in the subsurface material. This allows solid, cylindrical pieces of rock to be extracted so that the geological characteristics of the area may be further studied. As seen in Figure 1, the core samples are often cut in half lengthwise for additional study or to be placed in storage to preserve the samples.

Figure 1. Rock core samples

Photo taken in 2019 at the Drill Core Library run by the Minnesota Department of Natural Resources. Included as educational material to show the scale of standard core samples. The samples shown above are only for example and are not associated with the proposed action.

A standard practice for drilling may include drilling multiple holes or “tracks” from one drill hole collar. This is performed by either utilizing directional drilling, where the drill bit is bent and oriented in a specific direction, or by using wedges placed within the original drill hole to “kick off” and force the drill bit to drift off into another direction. When utilizing these practices, the original hole is generally referred to as the “mother” hole, and the additional tracks originating from that original hole are referred to as “daughter” holes. Following this practice may reduce the surface footprint of the operation by reducing the amount of drill collars or entry points needed to explore an area.

The 4 drill pads would be constructed up to 100 feet long and 100 feet wide and up to 1 foot deep. The 8 internal drill sumps would be constructed up to 25 feet long, 14 feet wide, and 4 feet deep. The 4 external sumps would be 20 feet long, 15 feet wide and 5 feet deep. The sumps would temporarily contain drill fluids and cuttings (fragments of rock liberated downhole during the coring process and carried back to the surface by the recirculated drilling mud) generated during drilling activities.

A laydown area 200 feet by 100 feet on the surface of the ground is proposed to intermittently store drilling and construction materials during exploration activities. The Applicant proposes construction of new roads totaling approximately 340 feet by 15 feet by 1 foot deep; regrading existing roads totaling approximately 500 feet by 10 feet; and grubbing existing roads totaling approximately 900 feet.

The Applicant is proposing up to 1.59 acres of total new surface disturbance. Start dates of the proposed exploration activities are contingent upon DEQs acceptance of the required reclamation bond and issuance of an Approval to Proceed Letter. The Applicant proposes that the exploration operations be completed no later than **July 31, 2028**, and the reclamation operations be completed no later than **December 14, 2028.**

Table 1: Summary of Activities Proposed in Application

Summary of Proposed Activities in Application	
General Overview	Mogotes Copper USA Inc. proposes surface and underground exploration activities on private lands located in Section 11 Township 12 North, Range 15 West, located in Missoula County, Montana, approximately 8 miles southeast of Potomac, MT. The proposed action would include a total of 4 drill site locations, 4 drill holes with one mother hole and 2 daughter holes (3 tracks) per collar, 8 internal sumps, 4 external sumps, and 1 laydown area. The cumulative depth drilled would be up to 59,800 linear feet. The 4 drill pads accessible by land vehicles would be constructed up to 100 feet long and 100 feet wide, each site with 1 drill collar, with the drill holes reaching a maximum depth of up to 6,500 feet. A laydown area 200 feet long by 100 feet wide and 0 feet deep is proposed to support the proposed action. The proposed action includes construction of new roads totaling approximately 340 feet by 15 feet by 1 foot deep; regrading existing roads totaling approximately 500 feet by 10 feet; and grubbing existing roads totaling approximately 900 feet. The Applicant is proposing up to 1.59 acres of total new surface disturbance. The Applicant proposes that the exploration operations be completed no later than July 31, 2028, and the reclamation operations be completed no later than December 14, 2028. Final reclamation of all surface disturbances must be completed no later than two years following the conclusion of exploration activities.
Proposed Dimensions	
Drill pads (#)	4
Drill pad dimensions (xy)	100 feet by 100 feet by 1 foot
Internal Drill Sumps (#)	8
Internal Drill Sump Dimensions (xyz)	25 feet by 14 feet by 4 feet
External Drill Sumps (#)	4

External Drill Sump Dimensions (xyz)	20 feet by 15 feet by 5 feet
Laydown Area (#)	1
Laydown Area Dimensions (xyz)	200 feet by 100 feet by 0 feet
Drill Holes (#)	4 drill holes with one mother hole and 2 daughter holes (3 tracks) per collar
Maximum Drill Hole Depth (z)	6,500 feet
Cumulative Drill Hole Length (z)	59,800 feet
New Roads Dimensions (xyz)	340 feet by 15 feet by 1 foot
Road Improvement Dimensions (xy)	500 feet by 10 feet regrading 900 feet of grubbing at the surface
Total new surface disturbance	**1.59 acres**
Specific Proposed Activities	
Duration and timing	The Applicant proposes that the exploration operations be completed no later than July 31, 2028, and the reclamation operations be completed no later than December 14, 2028. Work hours are estimated to be up to 24 hours per day (2 x 12-hour shifts), up to 7 days per week. Final reclamation of all surface disturbances must be completed no later than 2 years following the conclusion of exploration activities.
Equipment	Exploration and Reclamation operations would be completed with the following equipment: • 1 – Torque TD2300 drill rig or equivalent • 1 – 579 6x6 4,000-gallon Water Truck • 1 – Excavator (Cat 320 or similar) • 1 – Backhoe (Cat 420F2 IT or similar) • 1 – Peterbilt haul/dump truck (348 flatbed 21’ rod truck or similar) • 2 – Light Plants (Allmand Pro II LED Light Tower or similar) • 5 – Trucks (4x4 Ford F250 or similar) • 2 – Water Pumps (Bean L1122 or similar)
Location and analysis area	**Location:** 46.80815°, -113.45019°

	Distance from the nearest town/city: On private lands in Section 11 Township 12 North Range 15 West, located in Missoula County, Montana, approximately 8 miles southeast of Potomac, MT. **Analysis Area:** The area being analyzed for this environmental review includes the immediate project area, immediate downstream water sources, and neighboring lands surrounding the analysis area within a reasonable distance for the impacts being considered. Refer to Location Map and any other maps below.
Personnel on-site	• 2 – Drillers (1 per shift) • 4 – Driller Assistants (2 per shift) • 1 – Supervisor • 1 – Mechanic • 1 – Geologist • 1 – CDL water truck driver
Structures	• 1 – 20 Foot Connex Box • 1 – Portable toilet • 1 – 4,000 gallon water tank • 1 – heating shelter attached to drill rig • 1- 20 foot portable dual axle rubber tire office trailer or similar • 3,000 feet of 1-inch diameter high density polyethylene (HDPE) water lines.
Proposed action water source	The Applicant proposes that drilling water would be sourced from up to 4 water right locations in the project area where natural springs were developed during previous exploration undertaken by Kennecott Exploration Company. The primary water source would be located at 46.81208, -113.45079°. In the event that additional water would be needed, any other legally available water source would be utilized. Water would be transported from the springs to the drill sites using a 4,000-gallon water truck and/or 3,000 feet of HDPE water lines depending on the environmental conditions. The Applicant proposes to use up to 2,500 gallons per day during drilling operations.
Air quality	The Applicant proposes that all equipment would utilize factory emission controls, vehicles would travel at a reduced speed, and trips would be reduced as necessary. The Applicant is required to comply with the applicable local, county, state, and federal requirements pertaining to air quality.
Supplemental Lighting	The Applicant proposes that 2 portable light plants would be used from 6:00 PM to 8:00 AM when required. To minimize fugitive light from leaving the drill pads during night operations, the Applicant

	proposes to implement Best Management Practices (BMPs), such as downward-facing lights and directional lighting.
Water quality	To minimize sediment transport from the drill pads, the Applicant has proposed the use of the following BMPs: vegetated buffers, earthen berms, plastic liners, silt fence, water diversions, spill prevention/response, surface roughening, straw wattles, plastic liners, and sediment traps. The Applicant is required to comply with the applicable local, county, state, and federal requirements pertaining to water quality.
Erosion control and sediment transport	To minimize sediment transport from the drill pads, the Applicant has proposed the use of the following BMPs: vegetated buffers, earthen berms, silt fence, water diversions, surface roughening, straw wattles, plastic liners, and sediment traps. The Applicant is required to comply with the applicable local, county, state, and federal requirements pertaining to water quality.
Solid waste	The Applicant proposes that any solid waste produced by the operation would not be stored on site and would be disposed of at the Republic Services Disposal Facility in Missoula, MT. The Applicant is required to comply with the applicable local, county, state, and federal requirements pertaining to the disposal of solid waste material.
Cultural resources	The Applicant proposes that any discovery would be marked and protected, and the DEQ and Montana State Historic Preservation Office (SHPO) would be notified within 24 hours. The Applicant proposes to stop work in the affected area until a qualified professional assessment is completed. All personnel would be briefed on this protocol and the Applicant commits to comply with the Montana Antiquities Act (Title 22, Chapter 3, Part 4). The Applicant is required to comply with the applicable local, county, state, and federal requirements pertaining to cultural resources.
Hazardous substances	The Applicant proposes to use: • 4 – 5 gallon gasoline cans, for a total storage capacity of 20 gallons. • 6 – 5 gallons of lubricants, for a total storage capacity of 30 gallons. • 4 – 1 gallon jugs of antifreeze, for a total storage capacity of 4 gallons. • 6 – aerosol cans of brake cleaner • 6 – aerosol cans of carburetor cleaner • 1 – 5 gallon can of degreaser

	• BMPs to minimize the release of petroleum products and solvents include the use of: spill kits, regular equipment maintenance, proper and secured storage, and secondary containment. The Applicant must adhere to all applicable local, county, state, and federal regulations concerning hazardous substances.
Reclamation Plans	**Concurrent Reclamation:** The Applicant proposes that sumps would be backfilled, and holes would be plugged from bottom to 10' with bentonite, and capped with cement as each hole is completed and as sumps are dry. "End of season" reclamation would include backfilling and reseeding sumps, reseeding and stabilizing drill pads, and using BMPs as needed. **Final Reclamation:** The Applicant proposes to recontour disturbances, redistribute topsoil and wood material over the reclaimed areas, and reseed the disturbances with a seed mixture. **Weed Control Plan:** The Applicant proposes to: • Inspect and wash vehicles, equipment, and machinery as needed **Structures to Remain:** The Applicant proposes to leave existing roads that provide access to the drill pads in a repaired condition for continued landowner use. All drill pads, sumps, water lines, Connex boxes, portable toilets, light plants, and laydown storage would be removed and reclaimed.
	Cumulative Impact Considerations
General setting	The project area features forest and woodland, shrubland, and human land use in mountainous terrain. Private, BLM, state, and county-maintained, and historical exploration roads are present within the analysis area.
Past actions	Past actions in the area include exploration drilling or hand sampling-based prospecting for lode deposits periodically from the late 1800s to present. Exploration drilling in the area has been conducted by other exploration companies like Anaconda Copper Company and by the current landowner, Kennecott Exploration Company (Exploration License No. 00667).
Present actions	**Exploration:** No other active exploration projects authorized by DEQ are present within the analysis area. **Other:** Some recreationalists participate in travel and outdoor recreation in the greater project area. Local travel takes place along the pre-existing public BLM and county roads.
Related future actions	The Applicant may submit additional applications to amend the exploration license, which DEQ would review pursuant to the

	MMRA and rules adopted under the MMRA at that time. Any subsequent approvals would undergo a separate environmental review under MEPA.

Figure 2. Project Location Map

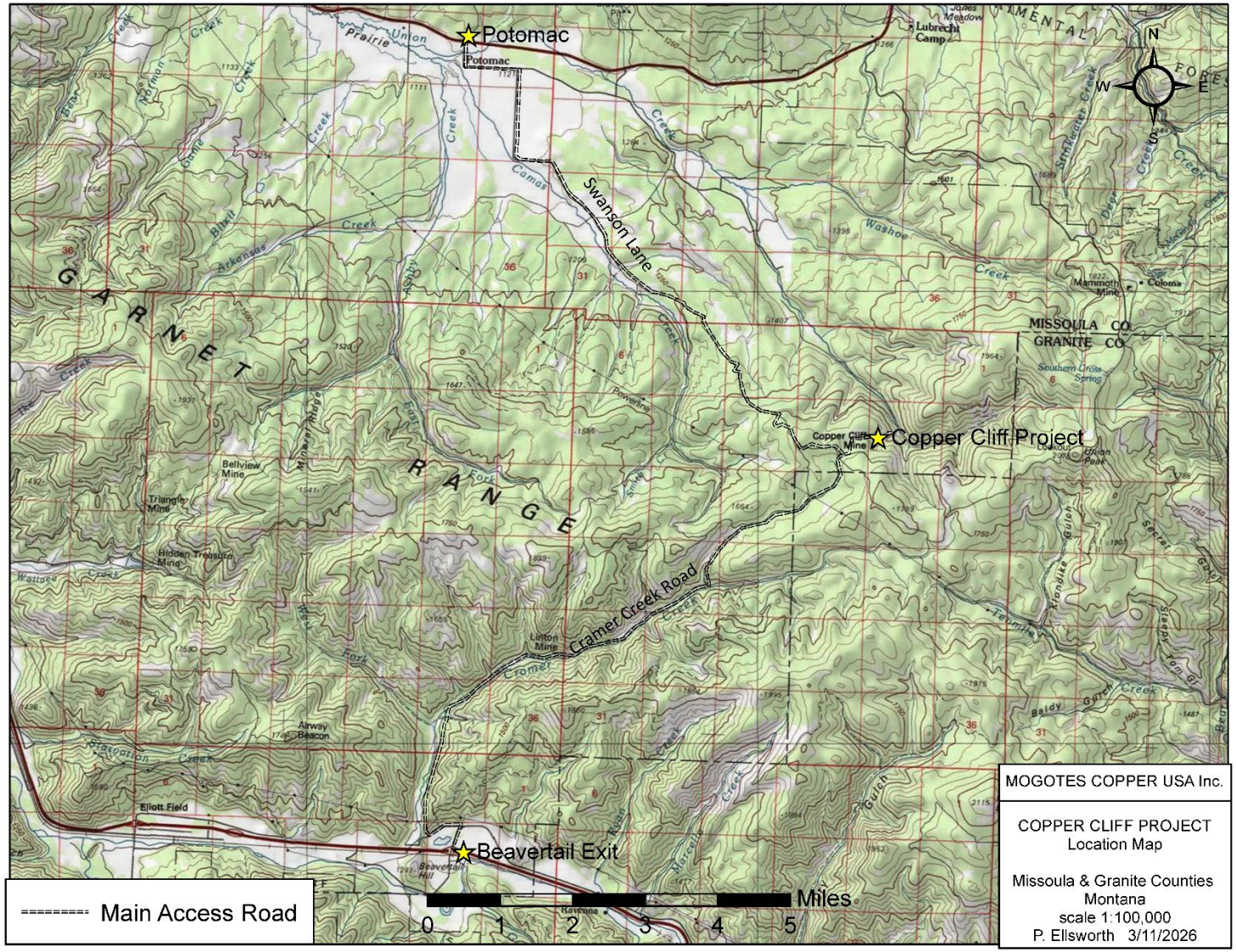
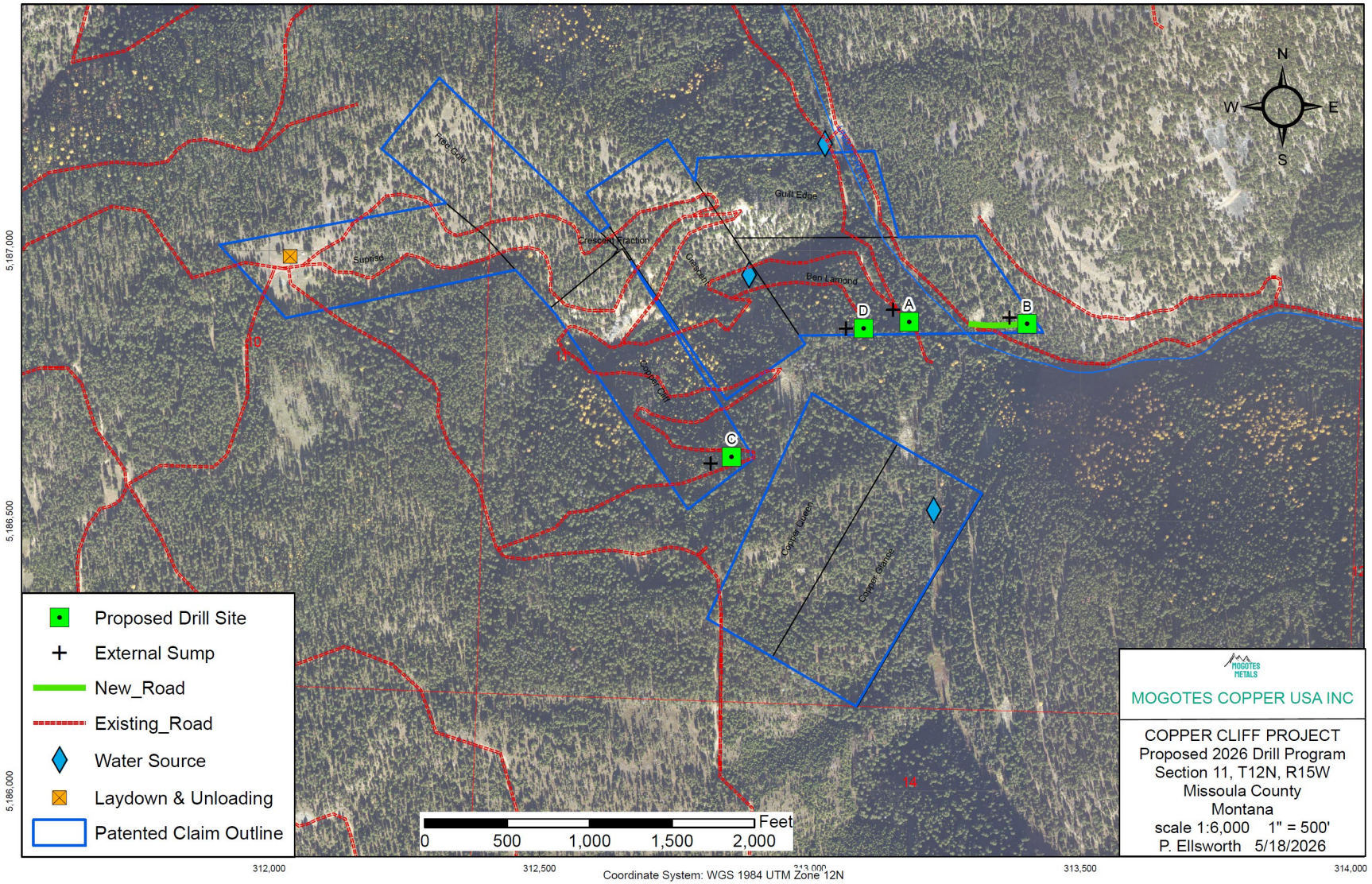


Figure 3. Detailed Site Map



SUMMARY OF POTENTIAL IMPACTS

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 will be described.

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 pre-impact statement studies, separate impact statement evaluation, or permit processing procedures. The proposed actions identified in **Table 1** were analyzed as part of the cumulative impacts assessment for each resource.

1. Geology and Soil Quality, Stability, and Moisture

The area of proposed exploration would be located on private land, surrounded by Bureau of Land Management (BLM) land managed by the Missoula Field Office, and state trust land managed by the Department of Natural Resources (DNRC) and University of Montana (the Lubrecht Forest) within the historic Copper Cliff Mining District located on the north slope of the Garnet Mountains, about 26 miles east of Missoula and approximately 8 miles southeast of Potomac, in Missoula County, Montana.

Copper Cliff Mining District History and Geology

The Copper Cliff mining district is located on the north slope of the Garnet Mountains about 20 miles east of Missoula. The primary drainage in the district is Union Creek, a tributary of the Blackfoot River. The district's mines were only accessible north up Cramer Creek from Bonita, a small community on the Little Blackfoot River. The district was named for a cliff at the foot of a slope, about a third of the way downstream from the head of a gulch tributary to Union Creek. The "Cliff" is a rugged mass of quartzite about 150 feet high, with blue, green, yellow, and white streaks. The mines were at an elevation of about 5,000 feet. The Copper Cliff copper-bearing lode was discovered in 1890 or 1891, but mining activity was sporadic (Sahinen 1957).

The Copper Cliff mining district is characterized by sandstones and shales of the Belt series (Proterozoic) and by Cambrian limestones, with a few small bodies of porphyritic intrusions. At the Copper Cliff mine, the most prominent structural features are faults. The most severe faulting was in a relatively narrow zone on the northwest side of the limestone wedge, parallel to the face of the Cliff. The fault breccias contain ore minerals, but the metallic content is irregular (Sahinen 1935; Pardee 1918).

The Copper Cliff mine was located near the head of a steep gulch tributary to Union Creek from the southwest and it was discovered in 1890 or 1891 by W. P. Shipler. Later the mine was sold to an English company that developed it extensively with about 1,500 feet of underground workings prior to 1916. Between 1905 and 1910, operators shipped 310 tons of ore to Tacoma for treatment. The ore yielded 77,000 pounds of copper, plus a little gold and silver. The mine

was idle for a time, but in 1916 it was leased to Bielenberg and Higgins, who developed it further. Total production prior to 1918 was estimated to be about 150,000 pounds of copper and small amounts of gold and silver (Wolle 1963; Sahinen 1957; Pardee 1918; Sahinen 1935; Kauffman & Earll 1963).

In 1919, the Potomac Copper Company did much development work at the mine. By that time there were four tunnels, including one being driven from the main gulch on Union Creek westerly. The company was not mentioned after 1920. In 1940, 47 tons of ore were shipped from the Copper Cliff, with a total value of $333, and the next year 15 tons were produced. Production remained low; in 1943 four tons of ore were produced, and in 1944 five tons of ore (Sahinen 1957).

One quarry face at the north end of the Copper Cliff reportedly averaged 2.5% copper, and carloads running 22 percent were shipped. The different ore shipments from the Copper Cliff mine contained 9.5 - 22 percent copper; 0.5-1 ounce silver; and $0.25 to $2.30 per ton in gold (Pardee 1918). According to Kauffman and Earll (1963), however, "any one of the several dumps represents the expenditure of more money than the value of the entire production of the district."

The formation at the mine is quartzite, shale, and limestone, faulted together. In the lower adit and some other places there were small blocks of porphyry, apparently broken from a dike or other intrusive body. The deposit at Copper Cliff is in greatly brecciated Precambrian quartzite and argillite that seem to be remote from any large granitic intrusive (Pardee 1918; Kauffman & Earll 1963).

Soil Types

The erosion hazard ratings described below indicate the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. The ratings are based on slope, soil erosion factor K, and an index of rainfall erosivity (R). The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by some kind of disturbance such as logging, grazing, mining, or other kinds of disturbance (Natural Resource Conservation Service, 2026).

Soil types in the project area with a moderate erosion hazard rating for disturbances located off-road or off-trail include:

- Helmvill cobbly loam, cool, 35 to 60 percent slopes (4.2 acres);
- Trapps gravelly loam, 35 to 60 percent slopes (27.1 acres);
- Evaro gravelly loam, moist, 35 to 60 percent slopes (0.6 acres);
- Whitecow gravelly loam, cool, 35 to 60 percent slopes (12.9 acres);
- Crow silt loam, 4 to 15 percent slopes (70.7 acres);
- Evaro gravelly loam, 30 to 60 percent slopes (271.4 acres);
- Repp very gravelly loam, cool, 30 to 60 percent (10.5 acres);
- Trapps gravelly loam, 30 to 60 percent (63.9 acres); and,
- Winkler Kadygulch family, complex, 20 to 60 percent slopes (214.6 acres).

Soils with a moderate erosion hazard rating indicate that some erosion would be likely and that erosion-control measures may be needed (Natural Resources Conservation Service, 2026).

The remainder of the soil types in the project area include:

- Trapps gravelly loam, 8 to 15 percent slopes (1.3 acres);
- Trapps gravelly loam, 15 to 35 percent slopes (43.6 acres);
- Crow clay loam, moist, 4 to 15 percent slopes (4.6 acres);
- Ambrant-Rochester, warm-Rock outcrop complex, 30 to 60 percent slopes (12.7 acres);
- Evaro gravelly loam, 8 to 30 percent slopes(45 acres);
- Trapps gravelly loam, 8 to 30 percent slopes (76.6 acres);
- Winkler very gravelly sandy loam, 8 to 30 percent slopes (57.2 acres); and,
- Winkler very gravelly sandy loam, 30 to 60 percent slopes (140.9 acres).

Soils with a slight erosion hazard rating indicate that erosion is unlikely under ordinary climatic conditions (Natural Resource Conservation Service, 2026). No unusual or unstable geologic features are present, and no fragile or distinctly erosive, unstable soils are present.

The Applicant would precede drill pad and new road construction with topsoil stockpiling and/or soil from areas of new disturbance to be used in reclamation. Trees would be removed and limbs would be scattered on the surface after reclamation to aid in revegetation efforts.

The analysis area for geology and soils includes the project area and immediately surrounding landscape in Missoula County, Montana (Table 1). The Applicant must comply with the applicable local, county, state, and federal requirements for erosion control and sediment transport. The Applicant proposes the use of vegetated buffers, earthen berms, plastic liners, silt fence, water diversions, surface roughening, straw wattles, and sediment traps as best management practices (BMPs) to minimize erosion and sediment transport offsite.

Direct Impacts:

The proposed action would result in the displacement of soil and rock to the dimensions of the drill pad sumps and new road construction, as described in Table 1. The Applicant proposes to construct 4 new drill pads, 100 feet by 100 feet by 1 foot deep, with 8 internal drill sumps approximately 25 feet by 14 feet by 4 feet deep, 4 external drill sumps up to 20 feet by 15 feet by 5 feet deep, with 1 overland laydown area 200 feet by 100 feet wide. Drill pads would facilitate 4 drill holes with one mother hole and 2 daughter holes (3 tracks) per collar. Each drill hole track would not exceed 6,500 feet in depth, with a cumulative total drill footage not to exceed 59,800 feet. Rock would be removed during drilling, although the volume or mass of the resulting core or rock chip samples from drilling would be negligible. As described in ARM 17.24.106, all drill holes must be plugged prior to removing the drill rig from a hole unless removing the drill rig is necessary for the hole plugging operation or unless otherwise approved by the department. The Applicant would generally plug the drill holes with bentonite and then cap the top 5-10 feet with cement.

Secondary Impacts:

The proposed action could result in soil disturbance and minor subsequent erosion of disturbed soil, and sediment could be transported off-site via stormwater. Surface soil disturbance could allow for the establishment of weeds. Weed control during and after exploration activities is a requirement. Noxious weeds are further addressed in "Section 4. Vegetation Cover, Quantity, and Quality."

Cumulative Impacts:

Cumulative impacts to soil stability from the proposed action, including increased potential for soil erosion and area instability, could impact soil stability from previous exploration activities conducted by Kennecott Exploration Company (Exploration license No. 00667). The additional disturbance of up to 1.59 acres, some on previously disturbed ground, with the application of erosion control BMPs and reclamation, is expected to make only a minor, short-term contribution to the cumulative effects on soil stability and geologic conditions and would not measurably change long term geologic or soil stability characteristics in the project area vicinity.

2. Water Quality, Quantity, and Distribution

Surface Water and Runoff:

The greater project area is located in an approximately 4.5 square mile sub-basin of Union Creek, which eventually flows to the Blackfoot River approximately 13.5 miles downstream in McNamara. This basin receives a mean annual precipitation of 24.95 inches (StreamStats, 2026). The project area contains multiple intermittent streams that drain into the headwater of Union Creek. The proposed drill pads and laydown are located upgradient of Union Creek, with a minimum separation of approximately 250 feet.

The Applicant proposes to construct 4 drill pads that measure approximately 100 feet by 100 feet by 1 foot deep, and 8 internal drill sumps approximately 25 feet by 14 feet, by 4 feet deep, and 4 external drill sumps approximately 20 feet by 15 feet by 5 feet deep. Additionally, 1 laydown yard approximately 100 feet by 200 feet, and new road construction up to approximately 340 feet by 15 feet wide is proposed. 4 drill holes up to 6,500 feet deep, with up to at least 3 tracks, totaling to a cumulative footage of 59,800 feet is proposed.

The proposed Copper Cliff AMD1 Exploration project area is adjacent to the following wetland and riparian classifications: 3 acres of palustrine systems, consisting of emergent persistent temporarily flooded (PEM1A), and 28 acres of riparian systems, encompassing lotic scrub-shrub (5 acres, Rp1SS) and lotic forested (23 acres, Rp1FO) (MTNHP, 2026).

Groundwater

The closest groundwater wells identified on the Montana Bureau of Mine and Geology's Groundwater Information Center (MBMG GWIC, 2026) are located within Sections 3, 13, and 14 of Township 12 North, Range 15 West. The project area is characterized by its rugged, mountainous terrain, where nearby locations may lie within separate surface water drainages or

intercept different groundwater zones. This effect may introduce error or affect the analysis of the water table within the project area where faults or underground mine workings, such as the Copper Cliff Mine and Frogs Diner Mine, may influence groundwater movement. At least one adit entrance located within the Frogs Diner Mine area has been documented to discharge some amount of water depending on the time of year (AML, 1994). Given the uncertainty regarding hydraulic connections between nearby wells and the proposed drill sites, the groundwater well data outside of the sub-basin identified on GWIC was not considered further.

Based on the interpreted potentiometric surface, groundwater would generally flow either along preferential flow paths such as the underground workings located near the Copper Cliff and Frogs Diner Mines sites, or generally flow perpendicular to the contours of the immediate terrain within the project area (downhill). A typical groundwater regime in mountainous terrain with a gaining stream would broadly consist of a saturated zone of slowly moving water (groundwater) following the contours of the surface of the earth at some distance below grade, and gradually getting closer to the surface of the earth as the saturated zone eventually intersects with the topographic low. The surface expression of groundwater in this scenario would result in either riparian or wetland environments, or, with enough volume and energy, develop into a moving body of water like a stream (Union Creek).

A near-surface water table (potentiometric surface) was interpreted by DEQ for the purposes of this analysis in the exploration drilling areas based on the surface expression of water at the 4 developed spring sites located in the topographic lows of the project area, and the additional presence of at least one adit with intermittent discharge at the surface.

Groundwater would likely be encountered during drilling operations, although the depths and rates of groundwater inflow are uncertain. Union Creek downstream of the drill pads has a reported local surface elevation of up to approximately 4,750 feet above mean sea level (amsl). Proposed drill pad elevations range from approximately 4,850 amsl, to 5,300 amsl, and the maximum proposed drill hole is approximately 6,500 feet below the ground's surface. For a vertical hole drilled from a collar elevation of 4,850 feet amsl, this length would correspond to a bottom-hole elevation of approximately -1,650 amsl. These elevations illustrate the potential depth of drilling but do not establish the elevation at which groundwater would be encountered. The Applicant has proposed to comply with ARM 17.24.106 regarding scenarios where drilling operations would interact with the groundwater table, but if the groundwater is intercepted, the Applicant must comply with the drill hole plugging rules detailed in ARM 17.24.106 to maintain compliance.

The Applicant does not propose storing any waste on site. At the end of exploration activities, the Applicant would haul all refuse and exploration materials/supplies off site, consistent with applicable regulations. The Applicant would clean up any oil, material, or chemicals that could spill during exploration activities immediately. After cleaning, oil, fluids, or chemicals would be removed from the site and disposed of at an approved disposal facility.

Water Supply

Water necessary for drilling operations would be sourced from 4 groundwater rights held by Kennecott Exploration Company (Montana DNRC Certificates 76F 30066509, 76F 30066518, 76F

30069773, and 76F 30069774). The developed springs are listed as being active groundwater certificates with the DNRC with the purpose listed as “other purpose”, with maximum flows ranging from 3 to 8 gallons per minute. Proof of water right ownership is not a requirement under MMRA for obtaining an exploration license. However, an exploration license requires that the Applicant conduct exploration activities in compliance with all applicable state and federal laws, including Montana water rights law administered by the Department of Natural Resources and Conservation (DNRC). Water would be used on-site during drilling operations. The Applicant proposes that up to 2,500 gallons of water per day would be utilized during drilling operations and would be transported to the drill site from developed springs using surface laid temporary 1-inch HDPE water line or a water truck, depending on environmental conditions. Water would be used to cool and lubricate the drill bit, clean the bit-rock interface to optimize cutting performance, and to carry drill cuttings out of the hole. Wet drilling also suppresses dust for safer working conditions for drilling personnel.

Direct Impacts:

Surface Water and Runoff:

Precipitation and surface water would generally be expected to infiltrate into the shallow subsurface and be retained within pore spaces in the unsaturated soil or vadose zone and potentially utilized by vegetation. Infiltrating runoff is not expected to reach the groundwater table in sufficient quantity to impact the aquifer or influence water quality beyond baseline conditions.

However, storm water leaving the sites during heavy storms could carry sediment from the disturbed soils and non-sediment contaminants from drilling operations. To comply with ARM 17.24.105, the Applicant must confine drilling fluids as well as waste cuttings from drilling operations to the drill site by the use of storage tanks or sumps or dispose of the fluids or waste in accordance with an approved plan. In the event that an inadvertent release of drilling fluid to the surface took place, it would be a violation of ARM 17.24.105 and a violation may be issued to the Applicant, following the regular compliance structure. Practically, the drilling fluids would be handled similarly to a fuel or water release. The drilling fluids would likely act as a thin mud or paste with increased viscosity (i.e., decreased fluidity), and would likely be contained within the drill pad area by the stormwater and sediment controls described in the Surface Water and Runoff section above. The Applicant also proposes the use of erosion control BMPs to minimize sediment transport off site and maintain surface water quality, including vegetated buffers, earthen berms, plastic liners, silt fence, water diversions, spill prevention/response, surface roughening, straw wattles, and sediment traps.

Groundwater:

The drilling and plugging processes are not expected to affect the groundwater quantity or quality or disturb other water users in the greater project area. The Applicant proposes drilling to a maximum depth of 6,500 feet from the surface. Except for potentially shallow drillholes, it is expected that groundwater would be encountered during drilling operations. However, the hydrologic setting (i.e., the distance between groundwater and the surface, in a transmissive unconfined aquifer) indicates that artesian flow would not be expected to occur from the

drillholes at elevations above the topographic lows, eliminating the potential impacts from uncontrolled flow of groundwater and groundwater-containing drilling fluids coming back up to the surface.

Under the proposed action, it would be necessary to use water or some type of drilling fluid to cool the drill bit, to lubricate the advancing hole, and to remove cuttings from the bit face up to the surface. Current practice in the drilling industry is to use one or more types of synthetic polymer or mud products to increase the viscosity of water. The proposed drilling fluids are likely classified as synthetic based drilling muds, because the polymer component is often made from synthetic organic compounds like esters, ethers, or olefin isomers. Compared to traditional water or oil-based fluids, the synthetic polymers provide high drilling efficiency, while exhibiting low toxicity and they degrade to environmentally benign products (Burke and Veil, 1995). The proposed action requires industry-standard, water-based drilling mud systems that create a low permeability filter cake on drill hole walls, reducing fluid loss into formations and limiting mass transfer between drilling fluids and groundwater during operations. These regulated, commercially-supplied additives are non-toxic and biodegradable, and are unlikely to compromise the water quality of groundwater encountered during drilling.

All exploration drill holes would be required to be reclaimed in accordance with ARM 17.24.106, which includes plugging with bentonite (clay rock composed mostly of montmorillonite, a swelling-clay mineral) or a similar compound from the bottom of the hole to within five to ten feet of the surface, and with cement from the top of the bentonite to the surface. The proposed surface drilling activity, and the resulting drill holes prior to plugging, are unlikely to influence the elevation or the quality of groundwater.

Water Supply Impacts:

The proposed activities at the water sources include the withdrawal of up to 2,500 gallons of water per day, and pumping water through either 1-inch HDPE lines or into a water truck. In the event of an uncontrolled transfer of water or water spillage, the action proposed could have similar impacts to surface water runoff from a stormwater producing event, as described above. The transfer of water would be controlled by piping and valving at the water source. The withdrawal of up to 2,500 gallons of water per day from the water sources would likely represent similar demand from previous projects that the water supply has been used for (Kennecott Exploration Company's Exploration License No. 00667, Copper Cliff Project). The proposed withdrawal from the developed springs is unlikely to measurably affect aquifer storage or the distribution of water among existing users downstream of the area.

Additionally, the Applicant proposes that in the event that the Applicant requires water supply beyond the springs flow capacity, that the Applicant would seek water purchases from a local water supply with existing water rights, or other legal source, and transport to the drill site using a water truck. The Applicant must obtain and maintain all applicable agreements, authorizations, and approvals related to the purchase, transport, storage, and use of water and must comply with all applicable local, county, state, and federal requirements.

The Applicant is required to comply with the applicable local, county, state, and federal requirements pertaining to water quality.

Secondary Impacts:

Storm water from a precipitation event would generally be expected to infiltrate into the subsurface, however, storm water leaving the sites could carry sediment from the disturbed soils and non-sediment contaminants from drilling operations. The Applicant proposes the use of vegetated buffers, earthen berms, plastic liners, silt fence, water diversions, spill prevention/response, surface roughening, straw wattles, and sediment traps as BMPs to minimize erosion and transport of sediment and non-sediment contaminants off-site.

Cumulative Impacts:

Cumulatively, the proposed exploration drilling could add a small, temporary increment of disturbance to a watershed already affected by historical mining and exploration in the area. Because the proposed action would: disturb only a limited area, 1.59 acres, on or near previously disturbed ground, implement erosion and sediment control BMPs, use and store drilling fluids in sumps or tanks, reclaim all drill holes in accordance with ARM 17.24.106, and obtain up to approximately 2,500 gallons per day of water from up to 4 different existing developed springs, its contribution to cumulative impacts on surface water and groundwater quality are expected to be minor.

3. Air Quality

The Flathead Reservation is the closest Class 1 Airshed to the project area, at about 22 miles due northwest. The immediate area complies with the National Ambient Air Quality Standards. This proposed action would not be expected to impact the immediate area's airshed.

The Applicant proposes to reduce traffic volume, reduce traveling speeds, and maintain factory emissions controls on all equipment and vehicles as BMPs to minimize impacts to air quality. Wet drilling would suppress dust for safer working conditions for drilling personnel. The Applicant is required to obtain any other necessary permits related to air quality as required by state, local, and federal law.

Direct Impacts:

Dust particulates would be produced or become airborne during exploration and reclamation operations. Mechanized equipment would produce some exhaust fumes and dust during excavation work. The operator would be expected to maintain compliance with Montana's law regarding the need to take reasonable precautions to control airborne particulate matter.

Although the proposed action could result in fugitive dust and equipment exhaust, it would not be expected to impact the Flathead Reservation Class 1 Airshed due to the small scale of activity and distance between the proposed action and the airshed, in conjunction with implementation of BMPs.

Secondary Impacts:

No secondary impacts to air quality would be expected from the proposed action. Emissions control and dust reduction measures address the principal air quality pathways, and no high emission processes such as milling, concentrating, or continuous heavy haulage would be authorized under this exploration license.

Cumulative Impacts:

Cumulative impacts to air quality from the proposed action could add to impacts from existing traffic and general recreational activities in Potomac, MT and in the greater project area in the vicinity of the proposed action. The incremental air-quality contribution of this short-term, small-scale exploration program is expected to be negligible. Equipment emissions and fugitive dust are limited by the terms of the proposed action and are temporary. Because exploration activities are temporary, limited in extent, and do not involve high-emission processes, the residual emissions are expected to be low and localized, with no measurable degradation of regional air quality.

4. Vegetation Cover, Quantity, and Quality

Land cover in the greater project area mapped using the Montana Natural Heritage Program (MTNHP, 2026) varies and is dominantly classified as Forest and Woodland, Shrubland, Human Land Use systems. These systems include:

- Rocky Mountain Douglas-fir forest (1,030 acres, 40%),
- Lodgepole pine forest (843 acres, 33%),
- Interior PNW Douglas-fir forest and woodland (362 acres, 14%),
- Lowland – montane shrubland (125 acres, 5%),
- Rocky Mountain ponderosa pine forest and woodland (85 acres, 3%),
- Other road (50 acres, 2%), and
- Additional limited land cover equal to or less than 1% each (MTNHP, 2026)

Lowland – montane shrubland and Rocky Mountain ponderosa pine forest and woodland is classified as Habitat of Greatest Conservation Need (HGCN), which were designated by the State Wildlife Action Plan (SWAP) Habitat Technical Team as HGCNs due to threats faced by the habitat and/or known dependence of a Species of Greatest Conservation Need (SGCN) on the land.

A search of MTNHP in the greater project area identified habitat and potential habitat for 18 vascular plant Species of Concern (SOC) and 2 Species of Potential Concern (SOPC). The USFS Species of Conservation Concern in Forests search identified 2 vascular plant SCC and 14 vascular plants classified as sensitive. The BLM classified 2 vascular plants as sensitive and 1 as threatened (Whitebark Pine).

The Applicant would stockpile soil from areas of new disturbance to be used in reclamation. The Applicant would backfill, recontour, and replace topsoil on the surface and seed for revegetation. Trees would be removed and limbs scattered on the surface to aid in revegetation efforts.

To control the spread of noxious weeds, the Applicant proposes to inspect and wash equipment, vehicles, and machinery as needed.

Direct Impacts:

The vegetation cover as described above would be removed or disturbed on vegetated ground within the 1.59 acres of surface disturbance proposed. Exploration activities that could affect the vegetation cover, quantity, and quality include the grubbing, scraping, trampling, and removal of vegetative cover not already affected by previous actions to develop drill pads, drill sumps, new road construction, laydown area, and other proposed action disturbances related to exploration activities. Due to the limited disturbance area,1.59 acres, the exploration activities are unlikely to cause broad, long-term loss of native vegetation or habitat at the population or ecosystem scale in the project area.

Secondary Impacts:

Land disturbance at the site may result in the propagation of noxious weeds. Equipment, vehicles, and machinery would be inspected and washed as needed. The project area would be subject to the 2017 Montana Noxious Weed Management Plan and any additional measures required by the Missoula County Weed Control Board.

No broad secondary impacts to vegetation cover, quantity, or quality would be expected because weed control is a condition of an exploration license, and the Applicant would be required to minimize the spread of noxious weeds, and sufficient vegetation to consider the disturbances reclaimed must be achieved within 2 years of the completion or abandonment of the proposed action to maintain compliance with Section 82-4-332, MCA.

Cumulative Impacts:

Cumulative impacts on vegetation cover, quantity, and quality from the proposed action could add to existing impacts from existing roads and from historical mining and previous exploration activities conducted by Kennecott Exploration Company (Exploration License No. 00667) within the project area. Reclaimed areas are expected to re-establish cover comparable to surrounding disturbed lands.

5. Terrestrial, Avian, and Aquatic Life and Habitats

No area within the greater project area is considered General Habitat for sage grouse. The BLM has not identified any areas within the greater project area as General Habitat Management Areas.

The proposed action has the potential to temporarily impact 1.59 acres of terrestrial, avian and/or aquatic habitat and temporarily displace species occurring within the proposed disturbance area. The primary types of activities which could affect wildlife occurrence and habitat use include noise and night lighting (disturbance) from exploration drilling, removal of vegetation for drill sites, and use of pre-existing roads.

Common wildlife, such as birds, mammals, amphibians, and invertebrates, may utilize the project area and may be temporarily displaced while machinery and equipment are operating. Displaced wildlife are expected to find other suitable habitats in the surrounding undeveloped area and return to the project area following completion of exploration and reclamation activities.

Direct Impacts:

Impacts on terrestrial, avian, and aquatic life and habitats may include increased ambient noise levels from the drilling equipment, excavation equipment, transportation equipment, and result in temporary displacement in the project area. Impacts to noise levels are further discussed in "Section 8. Aesthetics."

Wildlife could experience increased orientation or disorientation from additional illumination and be attracted to or repulsed by the increased light glare. This increased light could affect foraging, reproduction, communication, and other behaviors (Longcore and Rich, 2024). Any impact that could occur to terrestrial, avian, and aquatic life due to lighting impacts would last for the duration of low light activities under the proposed action.

Secondary Impacts:

No secondary impacts to terrestrial, avian, and aquatic life and habitats stimulated or induced by the direct impacts analyzed above would be expected.

Cumulative Impacts:

Cumulative impacts to terrestrial, avian, and aquatic life and habitats from the proposed action could add to existing impacts from recreational use in the area.

6. Unique, Endangered, Fragile, or Limited Environmental Resources

A search of the MTNHP identified habitat and potential habitats for 23 bird, invertebrate, amphibian, fish, reptile and mammal SOC, and 8 SOPC (MTNHP, 2026). Habitat for these species is common and not unique to the project area.

The analysis area included the habitat for 10 SOC of fish, birds, and mammals that have been observed, occur as a resident year-round, or are generally known to be present in the greater project area. Those species include:

- Fish
    - Westslope Cutthroat Trout
- Mammals
    - Wolverine
    - Canada Lynx
    - Long-eared Myotis
    - Grizzly Bear
    - Fisher

- Birds
    - Evening Grosbeak
    - Clark's Nutcracker
    - Pileated Woodpecker
    - Pacific Wren

Additionally, the analysis area included the habitat for 2 SOPC birds that have been observed to be year round residents, including:

    - Cassin's Finch
    - Great Gray Owl

Habitat for all other species within the project area is common throughout the larger ecosystem, and any displaced animal could find other suitable habitats in the surrounding undeveloped area and return to the project area after the proposed action's conclusion.

Direct Impacts:

The proposed action would result in the new disturbance of up to 1.59 acres. Impacts to unique, endangered, fragile, or limited environmental resources could include increased ambient noise levels from drilling operations, excavating equipment operations, transportation operations, and result in temporary displacement in the project area. Impacts to noise levels are further discussed in "Section 8. Aesthetics." The proposed action is not proposing to disturb wetlands or riparian habitat.

Both wolverines and fishers are generally associated with remote, isolated areas away from human development. While the proposed action falls within the elevation range used by wolverine, the sites would be accessed by preexisting roads, which receive a modest level of motorized use by recreationalists. The drilling operations would add to the human presence in the area with extended duration of noise, lights, vibrations, and general human presence during exploration and reclamation operations. Short-term disturbance and displacement of individual wolverines and fishers could potentially occur in and adjacent to the drill sites.

Secondary Impacts:

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.

Cumulative Impacts:

SOC within the cumulative impact analysis area may be disturbed or displaced due to habitat loss/degradation, noise, and human presence. Cumulative impacts on other unique, endangered, fragile, or limited environmental resources from the proposed action could add to existing impacts from local traffic and recreational activities in the project areas immediate vicinity. However, cumulative impacts are expected to be minimal because there is an abundance of alternate habitat for species dispersal so they can avoid the exploration activity areas.

7. Historical and Archaeological Sites

The Montana Cultural Resource Database under the State Historic Preservation Office (SHPO) indicates that there are inventoried and historical sites within the greater project area. SHPO recommends that any structure over fifty years of age be considered historic and potentially eligible for listing on the National Register of Historic Places, and any such sites be recorded, and determination of their eligibility be made prior to any disturbance taking place.

The proposed exploration activities are located on private lands. The Applicant proposes that any discovery would be marked and protected, DEQ and SHPO would be notified within 24 hours, and no work would be conducted in the affected area until a qualified professional assessment is completed. All personnel would be briefed on this protocol, and the Applicant commits to complying with the Montana Antiquities Act (Title 22, Chapter 3, Part 4). The Applicant is required to comply with the applicable local, county, state, and federal requirements pertaining to cultural resources.

Direct Impacts:

Unidentified cultural or historic resources could be disturbed by exploration activities. The unanticipated-discovery protocol discussed above addresses the risk that undocumented sites connected to this cultural landscape could be disturbed by exploration activities.

Secondary Impacts:

No secondary impacts on historical or archaeological sites would be expected from the proposed action given the small disturbance footprint, the discovery protocol, and the concurrent reclamation measures.

Cumulative Impacts:

No cumulative impacts on historical and archaeological resources would be expected from the proposed action. The small disturbance footprint, the use of existing disturbances where possible, the use of existing roads, and concurrent reclamation minimize the number of areas requiring disturbance and the duration of ground disturbing activities, thereby limiting the cumulative potential for any incremental impact on the region's cultural resource record.

8. Aesthetics

The proposed activities would occur on private lands. The project area is located adjacent to BLM, state trust land, and existing private, county, and public roads, however, the area is sparsely populated, typical to the remote forest setting in the adjacent lands. The project area would be visible to the public traveling along local roads and/or recreationists in the area with an unobstructed view. There would be no permanent change to the topography or the viewshed. Noise associated with the proposed action may be heard where sound related to the proposed action has not been fully diminished by distance or another sound-dampening feature.

The Applicant proposes to perform 2, 12-hour shifts per day, 7 days a week. Two portable light plants (Table 1) would be deployed at the project area as necessary for low light operations,

from 6:00 pm to 8:00 am when required. Light pollution controls proposed include the use of downward-facing lights and directional lighting. Portable light towers are widely used on a variety of construction sites. The primary advantages of portable lights are their ability to be positioned at different sections within and across the work zone. The mounting heights typically range from six feet to a fully extended 30 feet and the light pole is usually rotatable 360 degrees. Other lighting systems that could be used during operation would include headlights on equipment and trucks (Nafakh, Davila, Zhang, et. al, 2022).

Light impacts can be described in several forms. These forms of light impacts are described as spill light, glare, and sky glow. Spill light or stray light is the amount of light that leaves a specific site. Spill light can be controlled by taking measurement of vertical illuminance at the property boundary line or the edge of the road allowance (Nafakh, Davila, Zhang, et. al, 2022). Glare is the light that shines horizontally. Sky glow is a term that refers to the increased sky brightness caused by electric light scattering into the atmosphere, most notably from outdoor lighting in urban areas (Nafakh, Davila, Zhang, et. al, 2022).

Direct Impacts:

The proposed action would be temporarily visible to or heard by the sparsely populated surrounding area and to receptors located at observation points that are unobstructed by topography or forested vegetation. The intensity of noise would correlate to atmospheric conditions and the distance between the equipment and receptor, with sound diminishing as the distance increases.

The proposed sites would be visible from portions of BLM and county roads in the vicinity of the drill pads, sumps, and laydown area. Aesthetic impacts from exploration and reclamation activities would include views of heavy equipment like the drill rig, excavations, passenger vehicles, and miscellaneous equipment related to drilling and reclamation. The light plants may be visible to receptors during low-light operations. Noise associated with the proposed action could be heard where sound related to the proposed action has not been fully diminished by distance or another sound dampening feature. Sources of noise could include the operation of heavy equipment, construction activities and vehicle travel. Final reclamation would be required within 2 years of completion of the proposed action.

Secondary Impacts:

No secondary impacts to area aesthetics would be expected from the proposed work.

Cumulative Impacts:

Cumulatively, the proposed action would add a short-term increment of visible equipment, construction activity, lighting, and noise in the project area, within a landscape affected by travel and previous exploration activities. These visual and noise effects are expected to be moderate to minor, and temporary, with final reclamation required within 2 years after exploration concludes.

9. Demands on Environmental Resources of Land, Water, Air, or Energy

Proposed action water would be supplied from 4 developed springs located in the project area. The developed springs are listed as being active groundwater certificates with the DNRC with the purpose listed as "other purpose", with maximum flows ranging from 3 to 8 gallons per minute. Proof of water right ownership is not a requirement under MMRA for obtaining an exploration license. However, an exploration license requires that the Applicant conduct exploration activities in compliance with all applicable state and federal laws, including Montana water rights law administered by the Department of Natural Resources and Conservation (DNRC). The Applicant proposes that approximately 2,500 gallons of water per day would be utilized during drilling operations and would be transported to the drill site from developed springs by surface laid temporary 1-inch HDPE water line or a water truck, depending on environmental conditions like freezing temperatures. No other local land, water, air, or energy resources would be used as part of this proposed action.

Direct Impacts:

The proposed action would consume up to 2,500 gallons of water resources per day during drilling activities. No direct impacts of land, air or energy are expected from this proposed action.

Secondary Impacts:

No secondary impacts to environmental resources of land, water, air, or energy would be expected.

Cumulative Impacts:

Cumulatively, the proposed action's use of up to 2,500 gallons of water per day from 4 developed springs in the project area would add to existing demands on the water table, which could affect overall water availability or water table capacity in the immediate vicinity. No additional cumulative impacts on the environmental resources of land, air or energy are expected from the proposed action.

10. Impacts on Other Environmental Resources

DEQ searched the following websites or databases for nearby activities that may affect the proposed action, however no other projects were identified:

- Montana Department of Natural Resource and Conservation (DNRC)
- Montana Department of Environmental Quality (DEQ)
- Montana Department of Transportation (MDT)
- Missoula County
- University of Montana
- United States Department of Interior, Bureau of Land Management (BLM)
- United States Forest Service (USFS)

Direct Impacts:

No direct impacts on other environmental resources would be expected from the proposed action.

Secondary Impacts:

No secondary impacts on other environmental resources would be expected from the proposed action.

Cumulative Impacts:

No cumulative impacts to other environmental resources would be expected from the proposed action.

11. Human Health and Safety

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. The proposed action would occur on private land, and few members of the public may be in the project area during exploration and reclamation operations.

Direct Impacts:

Direct impacts to human health and safety to the Applicant's exploration staff could occur from this proposed action, however compliance with OSHA standards would substantially reduce risk. The respiration of exhaust fumes and the ingestion of dust generated by equipment during exploration operations and reclamation would be minimized with proper personal protection equipment. Increases in operation-related traffic would likely occur. The daily traffic that would be leaving the site could vary greatly.

The Applicant must comply with all human health and safety requirements according to local, state, and federal laws and regulations.

Secondary Impacts:

Fugitive dust that leaves the project area and is not dispersed by air movement could be deposited near the project area, which could cause irritation with varying degrees of severity to receptors who come into contact with that dust. ARM 17.8.308 would require the Applicant to take reasonable precautions to control airborne particulate matter.

Dust impacts from the proposed action would be minimized by implementing wet drilling.

Cumulative Impacts:

No cumulative impacts on human health and safety would be expected from the proposed action.

12. Industrial, Commercial, and Agricultural Activities and Production

No other industrial, commercial, or agricultural activities are known to occur in the project area.

Direct Impacts:

No direct impacts to industrial, commercial and agricultural activities and production in the area would be expected from the proposed action.

Secondary Impacts:

No secondary impacts to industrial, commercial, and agricultural activities and production in the area would be expected from the proposed action.

Cumulative Impacts:

No cumulative impacts on the industrial, commercial, and agricultural activities and production in the area would be expected from the proposed action.

13. Quantity and Distribution of Employment

Existing employees of a drilling subcontractor would likely be utilized for this proposed project. The Applicant proposes that 2 Drillers (1 per shift), 4 Driller assistants (2 per shift), 1 Supervisor, 1 Mechanic (on call), 1 geologist, and 1 CDL water truck driver (as needed) would be onsite during operations. It is not anticipated that this proposed action would create, move, or eliminate jobs.

Direct Impacts:

Direct impacts on quantity and distribution of employment would not likely result from this proposed action. The proposed action plan calls for several limited-duration contracted and otherwise employed people. No lasting positive or negative impacts to employment would be expected from this proposed action.

Secondary Impacts:

No secondary impacts to quantity and distribution of employment would be expected from the proposed action.

Cumulative Impacts:

No cumulative impacts on the quantity and distribution of employment would be expected from the proposed action.

14. Local and State Tax Base and Tax Revenues

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

Direct Impacts:

Some positive, yet limited, benefit to the local and state economy could result from this proposed action. However, due to the nature of the minimal tax revenue from income, the purchase of local goods and services, or expenses, minimal impacts would be expected from this proposed action. The significance assessment is presented in Table 2.

Secondary Impacts:

No secondary impacts to local and state tax base and tax revenues would be expected from the proposed action.

Cumulative Impacts:

No cumulative impacts to local and state tax base and tax revenue would be expected from the proposed action.

15. Demand for Government Services

It is not anticipated that substantial traffic or services would be necessary as part of this proposed action. The proposed action would be located on private lands using private, county, and public access roads. Site access would rely on existing roads, some new but private road construction, and private road improvements to drill pad locations.

Direct Impacts:

No direct impacts to the demand for government services would be expected from the proposed action. Impacts would not be expected on the demand for government services.

Secondary Impacts:

No secondary impacts to the demand for government services would be expected from the proposed action.

Cumulative Impacts:

No cumulative impacts to demand on government services would be expected from the proposed action.

16. Locally Adopted Environmental Plans and Goals

The proposed activities would occur on private land. The project area would be subject to any plans or rules set forth by Missoula County, and the 2017 Montana Noxious Weed Management Plan.

Locally-adopted environmental plans and goals discovered include:

- Blackfoot Drought Response Plan
- Blackfoot Subbasin Plan
    - Blackfoot River Watershed Restoration Plan
- Missoula County Growth Policy (Comprehensive Plan)
- Missoula County Community Wildfire Protection Plan

None of the above listed plans would impact the issuance of an exploration license as long as the application complies with the requirements of the MMRA. The applicant would be required to comply with all laws and to obtain all required permits, licenses, or approvals for operation.

Direct Impacts:

DEQ is not aware of any other locally-adopted environmental plans or goals that would impact this proposed action or the project area. Impacts from or to locally-adopted environmental plans and goals would not be expected as a result of this proposed action. The proposed exploration activities would occur on private lands.

Secondary Impacts:

No secondary impacts from or to locally adopted environmental plans and goals would be expected because of the proposed work.

Cumulative Impacts:

No cumulative impacts from or to locally adopted environmental plans and goals would be expected from the proposed action.

17. Access to and Quality of Recreational and Wilderness Activities

The proposed exploration activities would occur on private lands. There are recreational opportunities for the general public in the project area, although there are no maintained formal access points to recreational opportunities within or adjacent to the project area.

Direct Impacts:

The proposed action would occur on private lands adjacent to BLM lands and state trust lands managed by the DNRC and by the University of Montana as the Lubrecht Forest. No impacts to the access of recreational activities are expected. A commonly desired quality of public lands used by recreationists is the isolation and distance from human activity. The quality of recreational activities within the immediately surrounding BLM and state lands, along the access

roads, and in close proximity could be impacted similarly in scale, quality, and duration as the impacts described in Section 8. “Aesthetics”.

Secondary Impacts:

No secondary impacts to the access and quality of recreational opportunities would be expected from the proposed action.

Cumulative Impacts:

No cumulative impacts to the access or quality of recreational opportunities would be expected from the proposed action.

18. Density and Distribution of Population and Housing

Missoula County had a population of approximately 117,922 people as of the census conducted by the United States Census Bureau in 2020.

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 proposed action.

Secondary Impacts:

No secondary impacts to population density and housing would be expected from the proposed action.

Cumulative Impacts:

No cumulative impacts to population density and housing would be expected from the proposed action.

19. Social Structures and Mores

The surrounding areas contain a mix of sparse residential and undeveloped forest use, and the proposed short-term exploration would be consistent with this existing character. Due to the short-term project duration and location on previously disturbed land, it is not anticipated that this proposed action would disrupt native or traditional lifestyles or communities.

Direct Impacts:

No direct impacts on social structures and mores would be expected from the proposed action.

Secondary Impacts:

No secondary impacts on social structures and mores would be expected from the proposed action.

Cumulative Impacts:

No cumulative impacts to social structures and mores would be expected from the proposed action.

20. Cultural Uniqueness and Diversity

The proposed action would be conducted in an area that has been affected by historical mining and previous exploration. Given the proposed action's small scale, short duration, and location on previously disturbed land, it is not expected to alter the cultural character, uniqueness, or diversity of the affected communities.

Direct Impacts:

No direct impacts to cultural uniqueness and diversity would be expected from the proposed action.

Secondary Impacts:

No secondary impacts to cultural uniqueness and diversity would be expected from the proposed action.

Cumulative Impacts:

No cumulative impacts to cultural uniqueness and diversity would be expected from the proposed action.

21. Private Property Impacts

The proposed action would take place on private lands. DEQ's approval of AMD1 to Exploration License No. 00910, with conditions, would affect the Applicant's real property. DEQ has determined, however, that the permit conditions are reasonably necessary to ensure compliance with applicable requirements under the Metal Mine Reclamation Act and demonstrate compliance with those requirements or have been agreed to by the Applicant. Further, if the application is complete, DEQ must take action on the permit pursuant to ARM 17.24.119. DEQ, therefore, does not have discretion to take alternative action that would have less impact on private property. Therefore, DEQ's approval of an amendment to License No. 00910 would not have private property-taking or damaging implications.

Montana's Private Property Assessment Act, Section 2-10-101, et seq., MCA establishes an orderly and consistent internal management process for state agencies to evaluate their proposed actions under the "Takings Clauses" of the United States and Montana Constitutions, as those clauses are interpreted and applied by the United States and Montana Supreme Courts. Section 2-10-104, MCA required Montana's Attorney General to develop guidelines, including a checklist, to assist state agencies in identifying and evaluating proposed agency actions that may result in the taking or damaging of private property. In turn, Section 2-10-105(1) and (2), MCA set out a process for each State Agency to evaluate whether a State action may result in an unconstitutional taking of private property. Those provisions direct that:

A. Each state agency shall assign a qualified person or persons in the state agency the duty and authority to ensure that the state agency complies with this part. Each state agency action with taking or damaging implications must be submitted to that person or persons for review and completion of an impact assessment. The state agency may not take the action unless the review and impact assessment have been completed, except that the action with taking or damaging implications may be taken before the review and impact assessment are completed if necessary to avoid an immediate threat to public health or safety.
B. Using the attorney general's guidelines and checklist, the person shall prepare a taking or damaging impact assessment for each state agency action with taking or damaging implications that includes an analysis of at least the following:

    i. the likelihood that a state or federal court would hold that the action is a taking or damaging;

    ii. alternatives to the action that would fulfill the agency's statutory obligations and at the same time reduce the risk for a taking or damaging; and

    iii. the estimated cost of any financial compensation by the state agency to one or more persons that might be caused by the action and the source for payment of the compensation.

DEQ has utilized the Montana Attorney General's Checklist and analytical Flowchart revised in January 2011 to evaluate the legal impact to property rights resulting from the proposed action. These flowchart questions have been applied by DEQ to the proposed project area, which takes place on private land, as follows:

- Does the action pertain to land or water management or environmental regulation affecting private real property or water rights? Answer: Yes.
- Does the action result in either a permanent or indefinite physical occupation of private property? Answer: No.
- Does the action deprive the owner of all economically beneficial use of the property? Answer: No.
- Does the action require a property owner to dedicate a portion of property or to grant an easement? Answer: No.
- Does the action deny a fundamental attribute of ownership? Answer: No.
- Does the action have a severe impact on the value of the property? Answer: No.
- 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? Answer: No.

Given the results from the legal flowchart questions, DEQ has determined that the permit conditions are reasonably necessary to ensure and demonstrate compliance with applicable requirements of the Metal Mine Reclamation Act, Section 82-4-301, et seq., MCA, and have been sought by the Applicant. Therefore, no taking or damaging of private property rights will occur because of DEQ's approval of the Permit Application.

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 proposed action.

23. Greenhouse Gas Analysis

When greenhouse gases (GHGs) are emitted by any source, they become well-mixed globally due to their long lifetimes in the atmosphere (i.e., tens of years for methane to thousands of years for carbon dioxide) and atmospheric mixing, primarily driven by differential heating and synoptic-scale weather patterns, which distribute the gases throughout the planet, leading to a relatively uniform concentration of these gases across the globe. In general, GHG emissions from sources that are not considered a fossil-fuel activity, as defined by § 75-1-220, MCA, contribute to an overall negligible increase of GHG concentrations in the global atmosphere, not local airsheds, causing a marginal global greenhouse effect (i.e., solar energy trapped in the earth's atmosphere from GHGs, resulting in higher average surface temperatures). Localized industrial source GHG emissions do not have direct impacts on climate, public health and associated impacts to the environment on a local or statewide scale.

DEQ is required to evaluate GHG emissions for statutorily defined fossil fuel activities. 2025 Mont. Laws ch. 348, § 1. However, this exploration activity is excluded from the definition of fossil fuel activities and therefore a GHG assessment is not mandatory. *Id.*, § 4(7)(b)(iii). Instead, to determine if a GHG assessment is needed, DEQ applies the normal MEPA standard of whether GHG emission impacts are potentially significant because of a proposed action, in this case exploration activities. ARM 17.4.609(3)(d)–(e).

DEQ concludes that the authorization of exploration activities pursuant to 82-4-332, MCA, would likely have negligible effect on increased GHG entering the atmosphere, and therefore any additional assessment of GHG is not necessary for purposes of this EA.

PROPOSED ACTION ALTERNATIVES

Pursuant to ARM 17.4.609, when an applicant proposes an action with the potential to have an impact on the Montana environment, the associated EA must include a description of reasonable alternatives. For the purposes of MEPA, and the minimum requirements of ARMs 17.4.607 and 17.4.609 for EAs, the alternatives analysis must include the "no action" alternative. The "no action" alternative represents the baseline condition in which the proposed activity does not occur. However, if the applicant demonstrates compliance with all applicable rules and regulations required for approval, the "no action" alternative would not be appropriate. Rather, the "no action" alternative forms the baseline from which the impacts of the proposed action can be measured. Pursuant to section 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. Therefore, if an application meets all the requirements for permit approval, DEQ cannot require any alternative to the project as described in the permit application, including a "no action" alternative.

No Action Alternative:

In addition to the proposed action, DEQ also considered the "no action" alternative. Under the "no action" alternative, DEQ would not approve AMD1 to Exploration License No. 00910, and data from AMD1 exploration activities would not be collected. Baseline conditions would persist. No additional 1.59 acres of disturbance from drilling up to 4 drill holes would occur, and any other potential impacts authorized under AMD1 would not occur. However, DEQ does not consider the “no action” alternative appropriate because the Applicant has demonstrated compliance with all applicable rules and regulations as required for a complete and acceptable determination. For purposes of MEPA, the no-action alternative forms the baseline from which the proposed action's impacts can be measured.

CONSULTATION

DEQ engaged in internal and external efforts to identify substantive issues and/or concerns related to the proposed action. Internal scoping consisted of internal review of the environmental assessment document by DEQ staff.

External scoping efforts also 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)
- Missoula County
- US Geological Society – Stream Stats (USGS)
- Montana Natural Heritage Program (MTNHP)
- Montana Cadastral Mapping Program
- Montana Groundwater Information Center (GWIC)
- Montana Bureau of Mines and Geology (MBMG)
- United States Environmental Protection Agency (EPA)
- United States Department of Interior, Bureau of Land Management (BLM)
- United States Forest Service (USFS)

PUBLIC INVOLVEMENT

Under MEPA, an agency is responsible for providing opportunities for public review consistent with the seriousness and complexity of the environmental issues associated with the proposed action and the level of public interest. For purposes of this proposed action, the method of accomplishing public review includes publishing a news release or legal notice to announce the availability of an EA, summarizing its content and soliciting public comment, and distributing copies of the draft EA for review and comment. Any public comment received for this EA will be summarized in the Final Environmental Assessment.

This Draft Environmental Assessment was posted to the DEQ website for public comment on October 21, 2026. The Final EA will be available on the DEQ website.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION

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

This environmental review analyzes the proposed action submitted by the Applicant. Any impacts from the action would be short-term and would be fully reclaimed at the conclusion of the proposed action, and thus, would not contribute to the long-term cumulative effects of mining in the area. No other DNRC, BLM, or USFS-regulated projects were identified in the immediate project vicinity.

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 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.

As described in this EA, the proposed action would authorize additional surface and underground exploration activities that would disturb up to approximately 1.59 acres, on private lands.

The EA analysis indicates that, with implementation of applicable BMPs and compliance with federal, state, and local requirements, the remaining impacts on Montana's environment of the proposed action would be low to moderate in intensity, localized in extent, and short term in duration. Applicable BMPs are described throughout the EA in resource sections and Table 1 and 2.

BMPs to minimize erosion, sediment movement, and water resource impacts include: specific drill depth requirements, vegetated buffers, earthen berms, plastic liners, silt fence, water diversions, spill prevention/response, surface roughening, straw wattles, and sediment traps. Additionally, where possible, reclamation would include returning disturbed ground to the original slope, covering the area with stockpiled topsoil and slash, and monitoring for noxious weeds. Weed control would be used to control the spread of noxious weeds.

BMPs to minimize impacts to air quality include: maintaining factory emissions controls, reduced traffic volume, and reduced traveling speeds.

Further, reclamation of disturbed lands to comparable utility and stability as adjacent undisturbed land would minimize impacts to wildlife and habitats.

Geology/soils, water, and air resources would experience only small, temporary increments of additional disturbance and emissions within an area already affected by previous exploration activities and reclamation is required within two years after exploration is complete. The proposed action would primarily use an existing water source (up to 2,500 gallons per day) and would plug exploration drill holes in accordance with ARM 17.24.106.

For social and economic resources, the EA concludes that the proposed action would have only limited, short term positive effects on local employment and tax revenues, would not displace existing industrial, commercial, or agricultural activities, and would be generally consistent with the project area. The limited impacts on employment, tax base, housing, neighborhood character, and demand for government services are not expected to result in substantial growth inducing or growth inhibiting effects or conflicts with locally adopted plans, goals, or regulations under ARM 17.4.608 The EA also finds that the proposed action would not result in substantial changes to social structures, cultural uniqueness and diversity, or private property impacts, and would not conflict with local, state, or federal laws, requirements, or formal plans.

Approval of the proposed action 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 additional license, amendment, or operating permit applications to conduct further exploration or mining, DEQ would conduct a separate permitting and environmental review process and make a permitting decision based on the criteria set forth in the MMRA and applicable MEPA requirements. Issuance of this amendment does not predetermine the level of environmental review for any future proposals; that determination would be made on a case specific basis using the criteria in ARM 17.4.608.

Based on consideration of the criteria set forth in ARM 17.4.608, and the analysis presented in this EA, DEQ has determined that the proposed action, AMD1 to Exploration License No. 00910, is not expected to significantly impact the quality of Montana's environment. Preparation of an EA is therefore the appropriate level of environmental review under MEPA, and an EIS is not required for this action.

Table 2: Assessment of Significance (ARM 17.4.608)

Affected Resource and Section Reference	Potential Impact	Severity[1], Extent[2], Duration[3], Frequency[4], Uniqueness and Fragility (U/F)	Probability impact will occur[5]	Cumulative impacts	Measures to reduce impact as proposed by Applicant	Significance (yes/no)
1. Geology and Soil Quality, Stability, and Moisture	A. Displacement/excavation of rock and soil, drilling. B. Erosion of disturbed soil and weed propagation	**A. Severity-Medium:** Of the 1.59 acres of ground that would be disturbed, the improvements to the road and excavation of the drill pads and sumps would result in the displacement and movement of rock and soil. Drill cuttings/core and samples would be removed. **Extent-Small:** Total surface area susceptible to displacement would be less than 1.59 acres. Up to 59,800 linear feet of core could be removed. **Duration- Short Term:** Up to 2 years after completion or abandonment of exploration activities plus growing seasons. **Frequency:** Daily **Unique/Fragile:** Not unique or particularly fragile. **B. Severity-Medium:** Of the ground that would be disturbed, all disturbance would be susceptible to erosion and propagation of weeds. **Extent-Small:** Total surface disturbance susceptible to erosion and weed propagation would be less than 1.59 acres. **Duration- Short Term:** Up to 2 years after completion or abandonment of exploration activities plus growing seasons. **Frequency:** During occasional storm events. **Unique/Fragile:** Not unique or particularly fragile.	A. Certain B. Possible	Erosion could add to cumulative impacts associated with potential erosion on existing roads, and from previous mining and exploration activities conducted under Kennecott Exploration Company's EXP-00667 within the proposed project area.	The Applicant proposes the use of; • vegetated buffers, • earthen berms, • plastic liners, • silt fence, • water diversions, • spill prevention/response, • surface roughening, • straw wattles, and • sediment traps as best management practices (BMPs) to minimize erosion and sediment transport off-site. - Reclamation would be performed immediately after the conclusion of exploration operations. Weed control is further discussed in "Section 4. Vegetation Cover, Quantity, and Quality".	No
2. Water Quality, Quantity, and Distribution	Erosion of disturbed soil into waterways, intercepting the groundwater table in the project area, and 2,500 gallon per day withdrawal at the proposed action water source.	**Severity-Low:** Of the ground that would be disturbed, all disturbance would be susceptible to erosion. The maximum depth proposed is 6,500 feet, which would intercept the water table. Up to 2,500 gallons per day would be consumed during drilling operations. **Extent-Small:** Total surface disturbance susceptible to erosion would be less than 1.59 acres. **Duration- Short Term:** Up to 2 years after completion or abandonment of exploration activities plus growing seasons and during drilling activities. **Frequency:** During occasional storm events, and during general drilling operations. **Unique/Fragile:** Not unique or particularly fragile.	Possible	Erosion could add to cumulative impacts associated with potential erosion on existing roads, and from previous exploration activities conducted by Kennecott Exploration Company within the project area. Intercepting the groundwater table during drilling operations could add to cumulative impacts associated with previous historical mining, and exploration activities conducted by Kennecott Exploration Company. Proposed water withdrawals at the proposed action water source could add to the cumulative impacts to the aquifer by nearby water users.	The Applicant proposes the use of the above BMPs to minimize erosion and sediment transport off-site. -Drilling could intercept the groundwater table. The Applicant is required to reclaim drill holes in accordance with ARM 17.24.106. - Reclamation would be performed immediately after the conclusion of exploration operations.	No

Affected Resource and Section Reference	Potential Impact	Severity[1], Extent[2], Duration[3], Frequency[4], Uniqueness and Fragility (U/F)	Probability impact will occur[5]	Cumulative impacts	Measures to reduce impact as proposed by Applicant	Significance (yes/no)
3. Air Quality	Erosion of disturbed soil/windblown emissions, e.g., equipment exhaust, construction dust	**Severity-High:** Dust and other particulates would be generated during exploration operations and while driving on and off-site. Mechanized equipment would produce exhaust fumes. **Extent-Small:** Dust and exhaust fumes would be generated near moving/working equipment. **Duration- Short Term:** Up to 2 years after completion or abandonment of exploration activities plus growing seasons. **Frequency-Daily:** During exploration and reclamation operations. **Unique/Fragile:** Not unique or particularly fragile.	Certain	Dust and exhaust generated from this proposed action would temporarily add to the cumulative impacts from the other vehicles and engines operating in the area and to general recreational activities in the greater project area in the use of public lands near the proposed action.	The Applicant proposes the use of; • reduced traffic volume • reduced travel speeds • maintaining factory emissions controls on all equipment and vehicles as BMPs to minimize the impacts to air quality.	No
4. Vegetation Cover, Quantity, and Quality	A. Displacement of vegetation B. Weed propagation associated with surface disturbance	**Severity-Medium:** The ground disturbed would be subject to the displacement of vegetation and the potential to propagate weeds. **Extent-Small:** Total surface disturbance subject to the displacement of vegetation and the potential to propagate weeds would be less than 1.59 acres. **Duration-Short Term:** Up to 2 years after completion or abandonment of exploration activities plus growing seasons. **Frequency-Twice:** After exploration and after reclamation activities. **Unique/Fragile:** Not unique or particularly fragile.	A. Certain B. Probable	The displacement of vegetation would add to cumulative impacts from previous historical mining, and exploration activities conducted by Kennecott Exploration Company within the project area. Weed propagation generated from the proposed action would temporarily add to the cumulative impacts in other areas where weeds already exist within and near the proposed action area.	• Equipment would be inspected and washed as needed.	No
5. Terrestrial, Avian, and Aquatic Life and Habitats	Increased ambient noise and the displacement of animals	**Severity-Medium:** 1.59 acres of disturbance and associated activities would cause temporary animal displacement from the project area. **Extent-Small:** Increased ambient noise would impact animals where sound has not been obstructed by topography or forested vegetation. Any displaced animal could find other suitable habitats nearby and return to the project area shortly after the proposed action's conclusion. **Duration-Short Term:** Reclamation would be required within 2 years after completion or abandonment of exploration activities plus growing seasons. **Frequency-Daily**: During exploration and reclamation activities. **Unique/Fragile:** Not unique or particularly fragile.	Probable	Cumulative impacts to terrestrial, avian, and aquatic life and habitats from the proposed action could add to existing impacts from recreational use in the area.	None	No

Affected Resource and Section Reference	Potential Impact	Severity[1], Extent[2], Duration[3], Frequency[4], Uniqueness and Fragility (U/F)	Probability impact will occur[5]	Cumulative impacts	Measures to reduce impact as proposed by Applicant	Significance (yes/no)
6. Unique, Endangered, Fragile, or Limited Environmental Resources	Displacement of unique or endangered animals	**Severity-Low:** 1.59 acres of disturbance would cause temporary animal displacement from the project area. **Extent-Small:** Increased ambient noise would impact animals where sound has not been obstructed by topography or forested vegetation. Any displaced animal could find other suitable habitats nearby and return to the project area shortly after the proposed action's conclusion. **Duration-Short Term:** Reclamation would be required within 2 years after completion or abandonment of exploration activities plus growing seasons. **Frequency-Daily:** During exploration and reclamation activities. **Unique/Fragile:** Not unique or particularly fragile.	Probable	Cumulative impacts on unique, endangered, fragile, or limited environmental resources from the proposed action could add to existing impacts from local traffic and recreational activities in the project areas immediate vicinity.	None	No
7. Historical and Archaeological Sites	Unidentified cultural or historic resources could be disturbed by exploration activities.	**Severity-Low:** Some disturbances associated with the proposed action could impact existing historical and archaeological resources. **Extent-Small:** The presence of historical and archaeological resources would be minimal within the project area proposed to be disturbed. **Duration-Long Term:** Any disturbance to archaeological sites would be permanent. **Frequency-Daily:** During exploration and reclamation activities. **Unique/Fragile:** Not unique or particularly fragile.	Probable	No cumulative impacts on historical and archaeological resources would be expected from the proposed action.	If unidentified historical or archaeological resources are discovered, the Applicant would cease exploration activities and conduct a qualified professional assessment.	No
8. Aesthetics	Proposed action visibility and noise	**Severity-Medium:** Receptors would view heavy equipment, equipment related to drilling, and equipment transportation. Receptors could observe light during low-light operations from the light plant in use. Receptors would hear noise from sources including operation of heavy equipment, construction, and travel. **Extent-Small:** The noise and visual impacts would be visible to receptors from observation points unobstructed by topography or forested lands and to receptors near the project area. Noise may be heard by receptors located in an area where sound related to the proposed action has not been fully diminished. **Duration-Short Term:** Reclamation would be required within 2 years after completion or abandonment of exploration activities plus growing seasons. **Frequency- Daily:** During exploration and reclamation activities. **Unique/Fragile:** Not unique or particularly fragile.	Certain	Impacts to area aesthetics generated from this proposed action could temporarily add to the cumulative impacts associated with travel and previous exploration activities conducted in the area.	The following BMPs are proposed to minimize light pollution; • directional and downward facing lights.	No
9. Demands on Environmental Resources of Land, Water, Air, or Energy	Water usage	**Severity-Low:** The proposed action would utilize up to 2,500-gallons of water per day during exploration operations. **Extent-Small:** The water would be sourced from a pre-existing water supply. **Duration-Short Term:** Water would be consumed during drilling operations and would cease upon the conclusion of operations. **Frequency- Daily:** During exploration and reclamation activities. **Unique/Fragile:** Not unique or particularly fragile.	Certain	Consumption of up to 2,500 gallons of water per day could temporarily add to the cumulative impacts associated with other water use in the area.	None	No

Affected Resource and Section Reference	Potential Impact	Severity[1], Extent[2], Duration[3], Frequency[4], Uniqueness and Fragility (U/F)	Probability impact will occur[5]	Cumulative impacts	Measures to reduce impact as proposed by Applicant	Significance (yes/no)
10. Impacts on Other Environmental Resources	No anticipated impacts	N/A	N/A	N/A	N/A	No
11. Human Health and Safety	Possible respiration, ingestion, or contact with dust, potential injuries related to heavy equipment operations	**Severity-Low:** Only exploration staff would be in the immediate vicinity during exploration activities. **Extent-Small:** Within the immediate area of operating equipment. **Duration-Short Term:** Respiration of exhaust fumes and the ingestion of dust produced by heavy equipment would only be during exploration or reclamation activities. Reclamation would be required within 2 years after completion or abandonment of exploration activities, plus growing seasons. **Frequency- Daily:** During exploration and reclamation activities. **Unique/Fragile:** Not unique or particularly fragile.	Unlikely	No cumulative impacts on human health and safety would be expected from the proposed action.	None	No
12. Industrial, Commercial, and Agricultural Activities and Production	No anticipated impacts	N/A	N/A	N/A	N/A	No
13. Quantity and Distribution of Employment	No anticipated impacts	N/A	N/A	N/A	N/A	No
14. Local and State Tax Base and Tax Revenues	Wages, withheld taxes, and local spending	**Severity-Low:** Workers and the companies participating in the proposed action. **Extent-Small:** The limited scale of the proposed action would only employ a minor number of individuals. **Duration-Short Term:** Workers and the company would only have opportunity to collect wages, withhold taxes, and spend locally related to the proposed action during operations and within 2 years after completion or abandonment of exploration activities, plus growing seasons. **Frequency- Daily:** During exploration and reclamation activities. **Unique/Fragile:** Not unique or particularly fragile.	N/A	The proposed action would provide only a small, temporary addition to the existing local and state tax base associated with other economic activity in the Potomac, MT area.	None	No
15. Demand for Government Services	Increased traffic	**Severity-Low:** Traffic would increase on a small number of public roads within the greater project area. **Extent-Small:** Increased traffic would occur along the local and public roads in the immediate vicinity of the project area. **Duration-Short Term:** Increased vehicle traffic would only occur during operations and within 2 years after completion or abandonment of exploration activities, plus growing seasons. **Frequency- Daily:** During exploration and reclamation activities. **Unique/Fragile:** Not unique or particularly fragile.	Certain	No cumulative impacts to demand on government services would be expected from the proposed action	None	No
16. Locally Adopted Environmental Plans and Goals	No anticipated impacts	N/A	N/A	N/A	N/A	No
17. Access to and Quality of Recreational and Wilderness Activities	Project visibility and noise	**Severity-Medium:** Receptors would view and hear heavy equipment, equipment related to drilling, and equipment transportation. Receptors could observe light during low-light operations from the	Certain	The proposed action would add impacts similar to those described in “Section 8. Aesthetics” these	None	No

Affected Resource and Section Reference	Potential Impact	Severity[1], Extent[2], Duration[3], Frequency[4], Uniqueness and Fragility (U/F)	Probability impact will occur[5]	Cumulative impacts	Measures to reduce impact as proposed by Applicant	Significance (yes/no)
		light plants in use. Receptors would hear noise from sources including the operation of heavy equipment, construction, and travel. **Extent-Small:** The proposed action could generate impacts similar to those described in "Section 8. Aesthetics" to recreationists in the immediately surrounding public and private lands. **Duration-Short Term:** Project visibility and noise would only occur during operations and within 2 years after completion or abandonment of exploration activities, plus growing seasons. **Frequency- Daily:** During exploration and reclamation activities. **Unique/Fragile:** Not unique or particularly fragile.		visual and noise effects are expected to be minor and temporary, with final reclamation required within 2 years after exploration concludes.		
18. Density and Distribution of Population and Housing	No anticipated impacts	N/A	N/A	N/A	N/A	No
19. Social Structures and Mores	No anticipated impacts	N/A	N/A	N/A	N/A	No
20. Cultural Uniqueness and Diversity	No anticipated impacts	N/A	N/A	N/A	N/A	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

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