

MT DEQ

Draft Environmental Assessment

Proposed OP#00199 Bullock Contracting, LLC

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Hard Rock Mining Bureau ENVIRONMENTAL ASSESSMENT

COMPANY NAME: Bullock Contracting, LLC
OPERATING PERMIT: Pending Operating Permit #00199
LOCATION: York Road, Helena, MT
 S23, T11 N, R02 W
COUNTY: Lewis and Clark County
PROPERTY OWNERSHIP: FEDERAL ___ STATE ___ PRIVATE X _

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.

PROPOSED ACTION

DEQ would approve an application for Operating Permit #00199 for Bullock Contracting, LLC, to operate a hard rock mine at a previously unpermitted site near the town of Helena in Lewis and Clark County, Montana.

PURPOSE AND NEED FOR PROPOSED ACTION

DEQ determined that the application for Operating Permit #00199 is complete and compliant on February 5, 2020. When an application for a proposed operating permit is complete and compliant, DEQ is required under Section 82-4-337(d), Montana Code Annotated (MCA), to detail in writing the substantive requirements of the Metal Mine Reclamation Act (MMRA) and how the proposed action complies with those requirements. The compliance determination finalized on February 5, 2020, sets forth DEQ's determination that the Bullock Contracting, LLC, proposed operating permit application complies with the substantive requirements of the MMRA. The proposed operating permit would be issued under the MMRA, Title 82, chapter 4, part 3, MCA.

APPLICANT'S PROPOSED ACTION

Background:

Bullock Contracting, LLC (the applicant) has applied for an operating permit to incorporate a currently unpermitted mine, the Devil's Elbow Quarry, into proposed Operating Permit #00199.

Location:

The Devil's Elbow Quarry is approximately 13 miles northeast of Helena, MT. The access road is located off York Road (Montana Highway 280), approximately 0.6 miles northeast of Peaks View Drive. The active quarry is directly west of York Road.

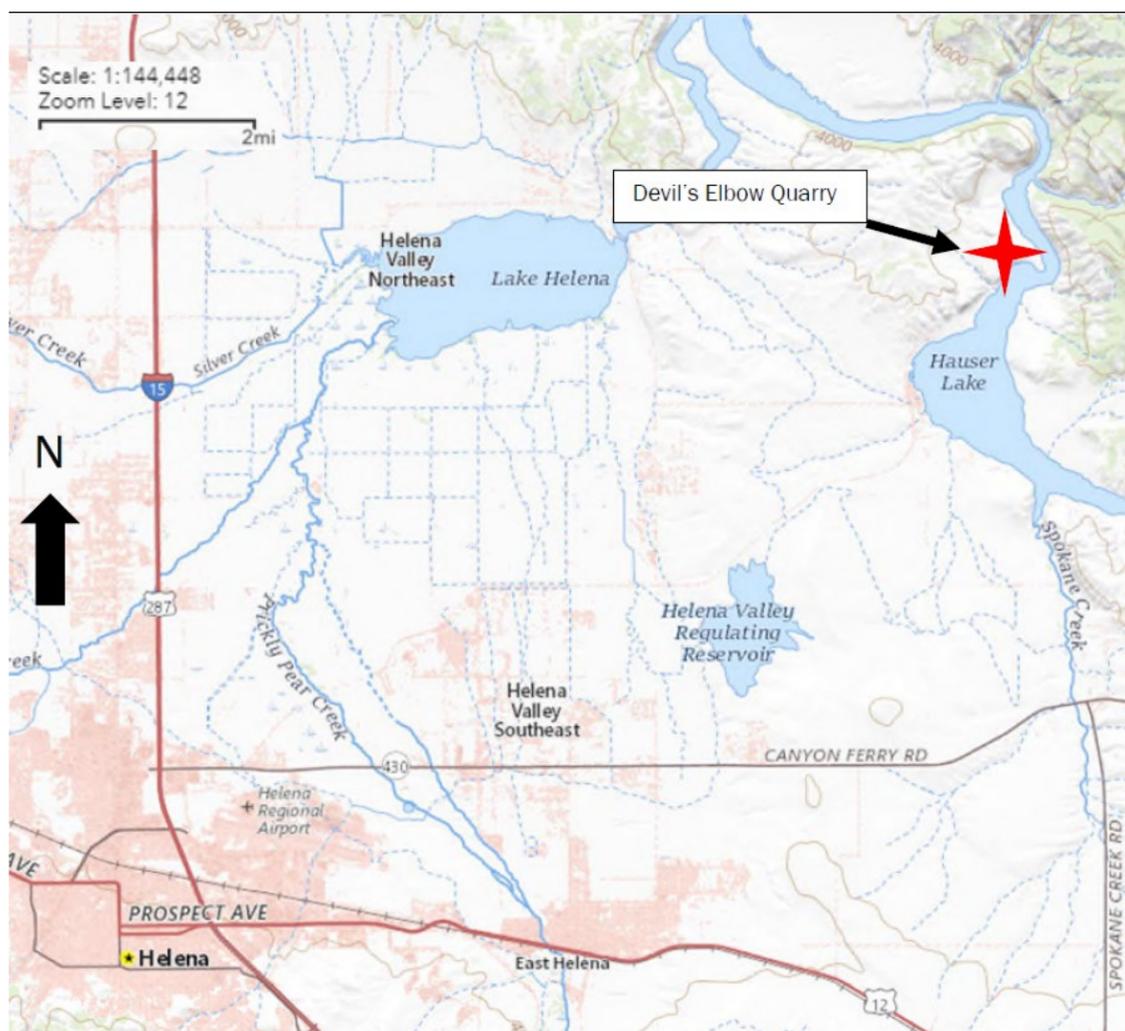


FIGURE 1: BULLOCK CONTRACTING, LLC PROPOSED PERMIT AREA LOCATION

Activities at the site would be a continuance of the current practice of mining and producing crushed rock for construction aggregate. Other than the addition of a shop and parking area, no additional roads or facilities would be constructed on site. The quarrying would excavate the current quarry site to approximately 65 feet below the natural surface. A crusher would be used on the quarry site to help create the desired product size. Approximately 200 tons of crushed rock would be produced per day.

Duration of Activity:

Mining activity would take place year-round, with hours of expected operation Monday through Sunday during daylight hours. The operator would mine the site until the intended elevation of the post mine access road is reached, which is estimated to be 25 years.

Personnel and Equipment:

The quarry would be expected to employ 4-6 people on site during working hours. On site equipment would include screens and crushers, generators, loaders, dozers, excavators, and haul trucks.

Reclamation Plan:

Access roads would be reduced from the required haul truck width to 60-foot right-of-way size; areas outside of this would be reclaimed. The shop area would be left post-mine for landowner use. Access road cut banks (>3:1 slope) near York Road would be reclaimed to stable rock slopes to match the existing cut banks on York Road. All other disturbance areas would be graded, soiled, and seeded.

All reclamation would be graded to match existing topography. Slopes other than the access road cut banks would be no greater than 3 horizontal to 1 vertical slope (3:1). Soil material would be stripped about 10 feet ahead of any disturbance, and all soil and overburden would be salvaged and replaced upon reclamation. Topsoil material (A and B horizon) would be salvaged and stockpiled separately from the overburden; the topsoil depth on site ranges from 0-6 inches. Reclaimed mine areas would receive an average of 4 inches of topsoil.

Reclaimed areas would be seeded with a DEQ-approved seed mix (Table 1). Seed tags would be retained, and copies would be submitted to DEQ with the Annual Progress Report. Seedbed preparation would include broadcast seeding in the spring or fall with the seed being harrowed/dragged/raked/tracked into the ground immediately after seeding. The seed mix would be drilled into reclaimed soils at a rate of 12.5 lbs. Pure Live Seed (PLS) per acre or broadcast at a rate of 25 lbs. PLS per acre. Reclamation would be monitored annually for success; reclaimed areas that did not reestablish at least 25% vegetation cover within two years of seeding would be reevaluated for reseeding, additional soil application, soil amendment, or a combination thereof. Final reclamation would produce native grassland suitable for domestic and wildlife grazing and for future use as residential development

Seed Variety	Drill Seeding	Broadcast Seeding
Slender Wheatgrass	2.0 lbs./acre PLS	4.0 lbs./acre PLS
Western Wheatgrass	3.0 lbs./acre PLS	6.0 lbs./acre PLS
Thickspike Wheatgrass	2.5 lbs./acre PLS	5.0 lbs./acre PLS
Bluebunch Wheatgrass	2.5 lbs./acre PLS	5.0 lbs./acre PLS
Green Needlegrass	2.0 lbs./acre PLS	4.0 lbs./acre PLS
Western Yarrow	0.5 lbs./acre PLS	1.0 lbs./acre PLS
Total	12.5 lbs/acre PLS	25.0 lbs/acre PLS

TABLE 1: SEED MIX

SUMMARY OF POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS:

The impact analysis will identify and estimate whether the impacts are direct or secondary impacts. Direct impacts occur at the same time and place as the action that causes the impact. Secondary impacts are a further impact to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action ((ARM) 17.4.603(18)). Where impacts would occur, the impacts analysis will also estimate the duration and intensity of the impact. The duration is quantified as follows:

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

The intensity of the impacts is measured using the following:

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

1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE

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

The area’s geology is dominated by the Greyson Formation which occurs as siltite, argillitic siltite, feldspathic quartzite, and minor argillite. The formation generally forms smooth dark-gray or olive-gray slopes with steeper ledge-lined slopes in lowest and uppermost parts. The formation is overlain by a terrace gravel deposit, which is composed of rounded pebbles and cobbles with sand and silt matrix of fluvial origin. Gravel rests on an erosion surface that slopes gently downstream and is separated from the floodplain of an adjacent stream by a steeper slope that rises from the stream bottom (Reynolds and Brandt, 2005).

The climate for the proposed permit area is dry and relatively sunny with a mean annual precipitation of 11.74 inches (USGS StreamStats, 2019). Musselshell-Crago complex (soil ID 137B) makes up the majority of the soil in the proposed permit disturbance area, while Hauz-Sieben-Tolman channery loam (soil ID 263E) is the remainder of the proposed permit disturbance area soil (Figure 3).

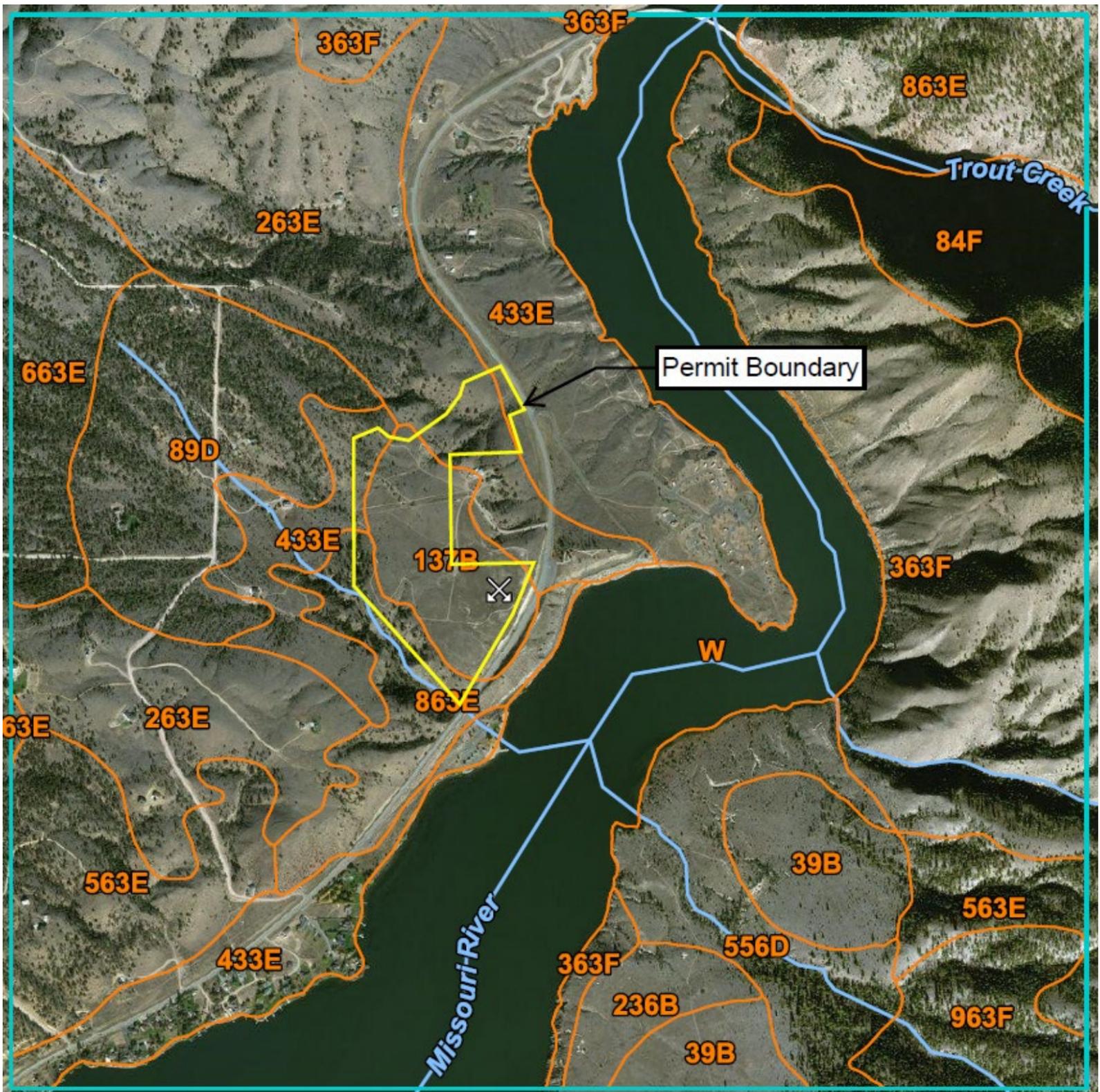


FIGURE 3: SOILS MAP FOR THE DEVIL’S ELBOW QUARRY

Typical profiles for the quarry soils are found in Table 2.

Soil Horizon	Musselshell-Crago Complex	Hauz-Sieben-Tolman Channery Loam
A	0-4 inches Loam	0-5 inches Channery Loam
Bk1	4-34 inches Gravelly Loam	5-15 inches Very Channery Clay Loam
Bk2	34-60 inches Very Gravelly Sandy Loam	15-24 inches Extremely Channery Loam

TABLE 2: TYPICAL SOIL PROFILES

Direct Impacts:

At the mining and processing site, soil horizons would be disrupted. Salvaged overburden and/or soil would be replaced after mining and then contoured to match the surrounding topography as much as possible. The area would then be seeded. Erosion control would be accomplished using sediment control structures and a variety of BMPs as needed, including rip-rap, slash filters, ditches, berms, and seeding.

No fragile soils or unstable geologic features are present at the site. There would be no special reclamation considerations. Surface soil disturbance could allow for the establishment of weeds. Weed control would be required to control the spread of noxious weeds. Noxious weeds are further addressed in “Section 4. Vegetation Cover, Quantity and Quality” (Table 3). Impacts to the geology, soil quality, stability and moisture would be short-term and minor and therefore would not be significant (Table 3).

Secondary Impacts:

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

2. WATER QUALITY, QUANTITY, AND DISTRIBUTION

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

Groundwater

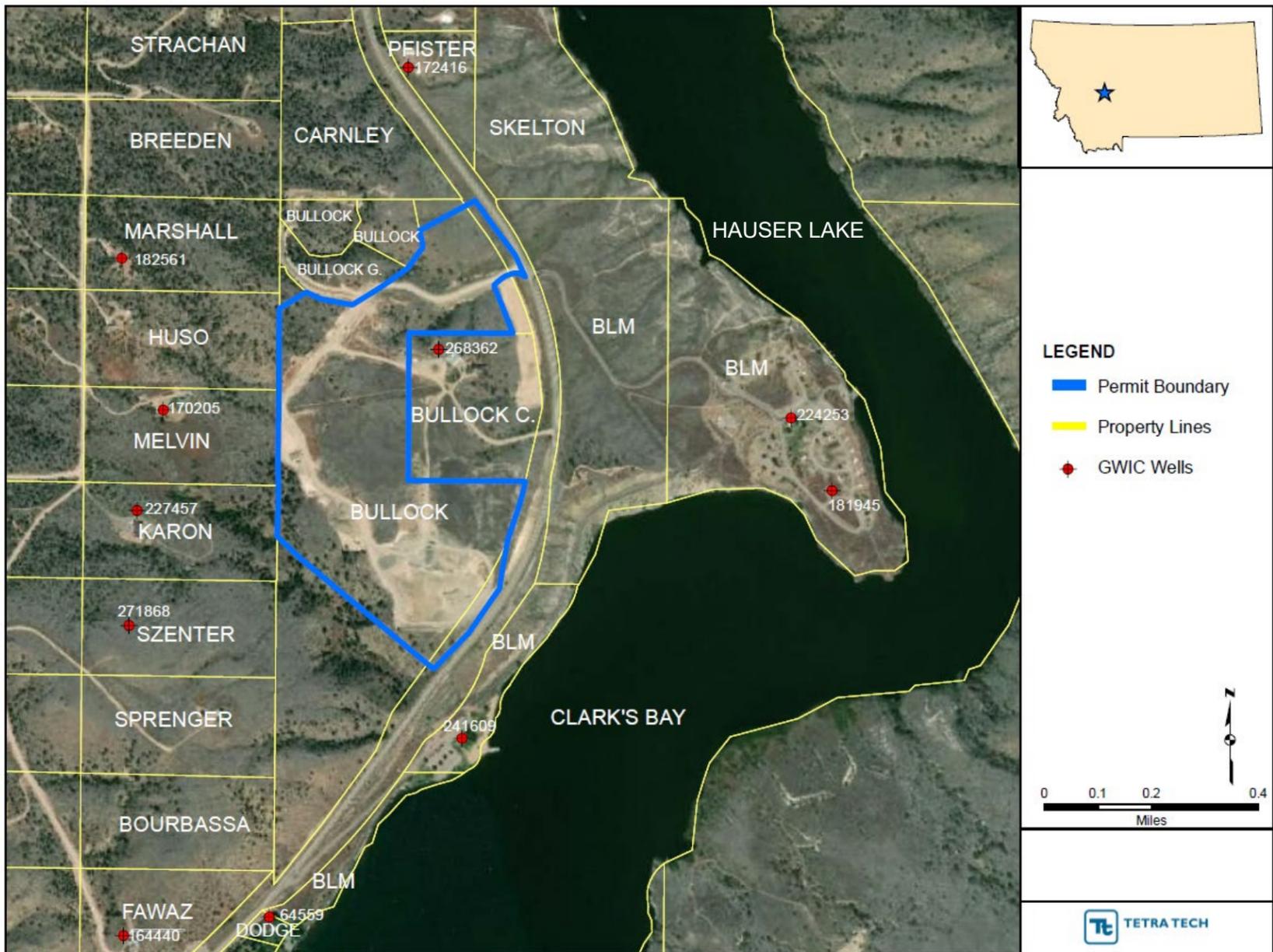


FIGURE 4: PROPERTY OWNERS AND WELLS ADJACENT TO THE PROPOSED PERMIT BOUNDARY AREA

Several residential wells exist near the proposed permit area (Figure 4). The static water level of nearby wells GWIC #271868 and #268362 are reported as 159 and 113 feet below ground surface, respectively. These wells are located at a similar elevation to the quarry site. Bullock would develop the Devil’s Elbow Quarry to a depth of approximately 65 feet below surface. Based on the location, adjacent wells, topography, and elevation of the site, no significant groundwater sources would be expected to be encountered during the life of the mine. No springs or seeps are located within the proposed permit area.

Direct Impacts:

There would be no acid rock drainage associated with the waste rock or overburden and no other source of objectionable discharge to groundwater. No water would be used for processing or during the mine operation, except what would be used for dust control. The applicant would be bound to all applicable state and federal rules regarding water quality and quantity. Groundwater quality would not be impacted by sediment, however, could be impacted by other by-products of operation, including spilled fuel and

nitrate residual from potential blasting. Impacts to water quality, quantity, and distribution would be short-term and minor and would not be significant as a result of the proposed operations (Table 3).

Secondary Impacts:

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

Surface Water

Hauser Lake is located along the eastern border of the permit area (Figure 4). The closest permitted disturbance would be located 400 feet away and 140 feet above Hauser Lake, across York Road. An ephemeral drainage is located to the south and west that drains the land area north and west of the quarry site (Figure 3). The drainage would not be included in the proposed permit disturbance area.

Direct Impacts:

Rainfall in the area is limited and averages 11 inches per year. BMPs would control storm water runoff and reduce opportunity for sediment and/or spilled petroleum products from leaving the permitted disturbance area and impacting the springs and intermittent streams. Although storm water associated with the project would be managed and permitted under the Montana Pollutant Discharge Elimination System, any surface water that may leave the site during a heavy storm event could carry sediment from disturbed soils (Table 3). Impacts to surface water would be short-term and minor and would not be significant as a result of the proposed operations (Table 3).

Secondary Impacts:

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

3. AIR QUALITY

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

Dust particulates would be produced or become airborne during operations. Fugitive dust from mining, loading, hauling, or crushing would be controlled by watering as needed. The quantity of water used for dust control is dependent on environmental conditions such as rainfall, wind, time of year, and overall surface conditions.

The operator would be expected to maintain compliance with Montana laws regarding the need to take reasonable precautions to control airborne particulate matter according to the ARM 17.8.308. Gaseous products of combustion (oxides of nitrogen and carbon monoxide) would result from this operation, specifically from gas and diesel fuel-fired equipment. The quarry crusher plant is permitted under the Montana Department of Environmental Quality Air Quality Permit #3223-01.

Direct Impacts:

There would be some exhaust fumes and dust produced by the on-site equipment and mine activity. Dust control (water or magnesium chloride) would be employed to meet particulate emission requirements. The level of gaseous emissions from the site would be minimal due to the small number of fuel-fired equipment in use at the sites. Impacts to air quality would be short-term and minor and would not be significant as a result of the proposed operations (Table 3).

Secondary Impacts:

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

4. VEGETATION COVER, QUANTITY AND QUALITY

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

The vegetation of the permit and surrounding areas is of the Rocky Mountain Lower Montane Grassland type, dominated by Rough Fescue (*Festuca campestris*) and Idaho Fescue (*Festuca Idahoensis*) as co-dominant species. Bluebunch and Western Wheatgrass are also commonly found with this eco-type. Ponderosa and Limber Pine with Juniper understory represent the dominant trees and shrub species of the area. A search of the Montana Natural Heritage Program (MTNHP) identified potential habitat for 18 vascular plant and 1 moss species of concern (SOC), although no rare or endangered vegetation has been identified at the proposed disturbance area (MTNHP, 2019). Curly-leaf Pondweed, Leafy Spurge, Whitetop, Spotted Knapweed, Dalmation Toadflax, Common Hound's-tongue, Canada Thistle, Yellow Toadflax, and Salt Cedar, all noxious weeds, have been observed near the proposed mine site (MTNHP, 2019).

Direct Impacts:

Land disturbance at the site may result in propagation of noxious weeds (Table 3). Any surface disturbances would be reclaimed and seeded with an appropriate seed mix (see Table 1). The project area would be subject to the Lewis and Clark County Weed Management Control Plan and to the 2017 Montana Noxious Weed Management Plan. Impacts to vegetative cover, quantity or quality resulting from this project would be short-term and minor and would not be significant (Table 3).

Secondary Impacts:

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

5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS

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

The permit area has habitat for deer, antelope, prairie dogs, and other commonly observed area wildlife.

Direct Impacts:

Impacts to wildlife and birds would potentially include temporary displacement of the animals, although habitat found within the project

area is common throughout the larger ecosystem. Animals most likely have been previously displaced by the nearby residential development and recreational areas. Any displaced animals could find other suitable habitat nearby and return to the project area shortly after the project conclusion. Impacts to terrestrial and avian life and habitat would be short-term and minor and would not be significant. There are no aquatic habitats in the proposed permit area, so no impact on aquatic life would be expected.

Secondary Impacts:

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

6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

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

A search of the MTNHP identified potential habitat for 105 mammal, reptile, invertebrate, bird, and amphibian SOC, potential SOC, sensitive, or threatened species. Habitat for these species is common and not unique to the proposed permit area. SOC that have been observed near the proposed permit area include Westslope Cutthroat Trout, Great Blue Heron, Golden Eagle, Townsend's Big-eared Bat, Spotted Bat, Peregrine Falcon, Clark's Nutcracker, Long-billed Curlew, Western Toad, Caspian Tern, American White Pelican, and Common Loon. The Bald Eagle, a species of special concern, has been observed near the proposed permit area.

No wetlands have been identified in the proposed permit area.

Direct Impacts:

Impacts would potentially include temporary displacement of animals (Table 3), although habitat within the project area is common throughout the larger ecosystem and any animals displaced could find other nearby suitable habitat and return to the project area shortly after the project conclusion. Impacts to unique, endangered, fragile or limited environmental resources would be short-term and minor and would not be significant (Table 3).

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to unique, endangered, fragile, or limited environmental resources that could be stimulated or induced by the direct impacts analyzed above would be expected.

7. HISTORICAL AND ARCHAEOLOGICAL SITES

Are any historical, archaeological or paleontological resources present?

The proposed mine site is entirely located on private land. The Montana Cultural Resource Database under the State Historic Preservation Office indicates that no inventoried historical sites, archaeological, or paleontological resources are present within the proposed permit area.

Direct Impacts:

Impacts to historical, archaeological, or paleontological resources are not likely to occur.

Secondary Impacts:

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

8. AESTHETICS

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

The proposed mine site would be located on private land. The mine site would be visible to surrounding residential houses, vehicles traveling on York Road, and to visitors at the Devil's Elbow Campground that is located next to Hauser Lake, ¼ mile east of the proposed permit area. The hours of operation would coincide with normal ranch and agricultural operations for this area. The highest predicted noise level for equipment operated on site would be 95 dba at 50 feet. Blasting is not planned at the site and no "air blasts" or exceedances of peak levels would be expected.

Direct Impacts:

The proposed project would likely be visible to the surrounding population and to viewers located at observation points that are unobstructed by topography or forested vegetation (Table 3). Mining and truck noise could potentially be noticeable at the closest residences (>¼ miles away) and at the Devil's Elbow Campground. Aesthetic impacts at the campground are further addressed in Section 17, Access to and Quality of Recreational and Wilderness Activities" (Table 3). All equipment would be operated with appropriate mufflers in accordance with 61-9-403 and 61-9-435, MCA. Operation would be limited to daylight hours. Impacts to aesthetics would be short-term and moderate and would not be significant (Table 3).

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. There would be no secondary impacts to the sites as there are few residences in the area.

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

Would the proposed operation use resources that are limited in the area? Are there other activities nearby that would affect the project?

Current mining operations at the site use diesel fuel power for equipment and the mobile generators which power the crushing and screening equipment. An onsite fuel island would be used to store diesel fuel for the equipment. Any water needed for dust suppression would come from the landowner's offsite well. No water is needed for current operations beyond dust suppression. The proposed permit operations would not expand any use of resources that are limited in the area.

Direct Impacts:

Any impacts on the demand on environmental resources of land, water, air or energy would be short-term and minor and would therefore not be significant as a result of the proposed operations.

Secondary Impacts:

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

10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES

Are there other activities nearby that would affect the proposed operation?

There are no activities in the area that would affect the operation. DEQ searched the following websites or databases for nearby activities that may affect the project, however no other projects were identified:

- Montana Department of Natural Resource and Conservation
- Montana Department of Environmental Quality
- Montana Department of Transportation
- Lewis and Clark County
- United States Department of Interior Bureau of Land Management
- United States Forest Service

Aside from the current quarry operations, the surrounding land is used for agricultural, residential, and recreational purposes.

Direct Impacts:

Impacts on other environmental resources are not likely to occur as a result of the proposed operations.

Secondary Impacts:

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

11. HUMAN HEALTH AND SAFETY

Would this proposed operation add to health and safety risks in the area?

The applicant would be required to adhere to all applicable state and federal safety laws. Industrial work such as the work proposed by the applicant is inherently dangerous. The Mine Safety and Health Administration (MSHA) has developed rules and guidelines to reduce the risks associated with this type of labor. The Devil's Elbow Quarry site is located on private land that is signed as "private/no Trespassing." The quarry area is fenced and no public access would be allowed to the proposed permit area.

Direct Impacts:

No impacts to public health and safety would result from the proposed action. However, short-term and minor impacts on worker human health and safety would be involved during mining operations.

Secondary Impacts:

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

12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION

Would the proposed operation add to or alter these activities?

Direct Impacts:

As noted in the cumulative impacts analysis below, this project would add to the impacts of mining in the greater project area, however all disturbance related to this project would be reclaimed at the conclusion of the project. There are two existing small miner exclusion statement (SMES) sites in the area that co-exist with the current unpermitted operations at the proposed site. Impacts on the industrial, commercial, and agricultural activities and production in the area would be minor and short-term, and would not be significant.

Secondary Impacts:

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

13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT

Would the proposed operation create, move or eliminate jobs? If so, what is the estimated number?

The site is currently operating without a permit. The workforce is not expected to either increase or decrease as a result of the proposed permitting action. Denial of the operating permit would result in the loss of jobs for those currently employed at the site.

Direct Impacts:

All activities would be conducted by current employees. No additional work force is anticipated. If market conditions fluctuate, the work force may marginally increase or decrease. No lasting positive or negative impacts to employment would be expected from this project.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human environment that may be stimulated,

or induced by, or otherwise result from a direct impact of the action. No secondary impacts to quantity and distribution of employment would be expected as a result of the proposed work.

14. LOCAL AND STATE TAX BASE AND TAX REVENUES

Would the proposed operation create or eliminate tax revenue?

The sale of construction aggregate creates local jobs, providing tax revenue to the state and/or the federal government. The landowner may receive royalties from the operation.

Direct Impacts:

The production and work force would not be anticipated to increase from the existing unpermitted operations to the proposed permit operations, and no change in tax revenues would be anticipated. Continued operation of the site under an Operating Permit would result in short-term, minor impacts to the local and state tax base and tax revenues and would not be significant. Denial of the operating permit would result in loss of jobs and subsequently loss of tax revenue.

Secondary Impacts:

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

15. DEMAND FOR GOVERNMENT SERVICES

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

The site is on private land and operations would be a continuance of current activities. The site is located off York Road, a secondary state highway (S-280).

Direct Impacts:

The site is currently in operation as an unpermitted mine site. No increase in employment or production is anticipated from this proposed action. All traffic related to the mine operation, including heavy equipment and semi-truck traffic would utilize York Road, and may cause minor, short-term impacts to the road surface or to traffic patterns.

Secondary Impacts:

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

16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS

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

The site is on private land which has been used in the past for wildlife habitat. The mine operations would be subject to the Lewis and Clark County Weed Management Control Plan and to the 2017 Montana Noxious Weed Management Plan. There are no known zoning or other restrictions in place.

Direct Impacts:

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

Secondary Impacts:

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

17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES

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

The site is located on private property and there are no recreational or wilderness areas in the proposed permit boundaries. A BLM recreation area, the Devil's Elbow Campground, is located on Hauser Lake on the east side of York Road, across from the proposed permit site. Camp sites are between ¼ and ½ mile from the proposed permit boundary.

Direct Impacts:

Mining activities would potentially be audible and visible to camp sites and visitors at the Devil's Elbow Campground (Table 3). All equipment would be operated with appropriate mufflers in accordance with 61-9-403 and 61-9-435, MCA. Operations would be limited to daylight hours. Impacts to the quality of recreational activities would be short-term and moderate and would not be significant (Table 3). No direct impacts to access to recreational and wilderness activities would be expected from the proposed operation.

Secondary Impacts:

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

18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING

Would the proposed operation add to the population and require additional housing?

Lewis and Clark County is the sixth most populated county in Montana, with a population of 68,700 as of the 2010 census. As noted above in "Section 13, Quantity and Distribution of Employment," the mine site would not be expected to add to or decrease the local population or employment of Bullock Contracting, LLC.

Direct Impacts:

No direct impacts to density and distribution of population and housing would be expected from the proposed operation.

Secondary Impacts:

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

19. SOCIAL STRUCTURES AND MORES

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

Direct Impacts:

The proposed operation would occur entirely on private land. No disruption of native or traditional lifestyles would be expected.

Secondary Impacts:

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

20. CULTURAL UNIQUENESS AND DIVERSITY

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

Direct Impacts:

There are no unique qualities that would be affected by the proposed operations. The site has been previously used for wildlife habitat and would be reclaimed after mine operations cease. No impacts to cultural uniqueness and diversity would be expected from this project.

Secondary Impacts:

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

21. PRIVATE PROPERTY IMPACTS

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

The proposed project would take place on private land owned by Megan and Buster Bullock. DEQ's issuance of an Operating Permit would affect the real property of nearby private landowners. 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. Therefore, DEQ's issuance of an Operating Permit would not have private property-taking or damaging implications.

22. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES

Due to the nature of the proposed activities, and the limited operations, no further direct or secondary impacts would be anticipated from these proposed activities.

ALTERNATIVES CONSIDERED

In addition to the proposed actions, DEQ also considered the "no action" alternative. The "no action" alternative would deny the issuance of the Operating Permit to Bullock Contracting, LLC. Bullock Contracting, LLC, would lack the authority to continue to quarry rock on the property beyond what is allowed under a SMES. Any potential impacts that would be authorized under the quarry operation would not occur. However, DEQ does not consider the "no action" alternative to be appropriate because Bullock Contracting, LLC, has demonstrated a willingness to comply with all applicable rules and regulations in the submitted proposal as required for permit issuance. The no action alternative forms the baseline from which the impacts of the proposed action can be measured.

PUBLIC INVOLVEMENT

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

Notice of the application for an operating permit was published November 26, 2019. External scoping is ongoing and includes a public comment period which will end on April 3, 2020. External scoping efforts also included queries to the following websites/ databases/ personnel:

- Montana Department of Environmental Quality (DEQ)
- Montana Cadastral Mapping Program
- USDA NRCS Soil Survey
- Montana Natural Heritage Program (MTNHP)
- Montana State Historic Preservation Office (SHPO)
- Montana Department of Natural Resource and Conservation (DNRC)
- Montana Department of Transportation
- United States Department of Interior Bureau of Land Management (BLM)
- United States Forest Service (USFS)
- Lewis and Clark County
- US Geological Society – Stream Stats

- Montana Groundwater Information Center (GWIC)
- Montana Bureau of Mines and Geology (MBMG)

RESPONSE TO PUBLIC COMMENTS

Scoping for this proposed action will include a 30-day public comment period. The public will be notified of the opportunity for comment through a DEQ-issued press release and posting on the DEQ website. Substantive public comments received will be considered before DEQ issues the final EA.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION

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

CUMULATIVE EFFECTS

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

This environmental review analyzes the proposed project submitted by the applicant. Any impacts from the proposed operation would be short-term and would be fully reclaimed while allowing certain structures to remain that have a post mining use at the conclusion of the proposed operation, and thus, would not contribute to long-term cumulative effects on the area. DEQ identified other mining projects in the area.

DEQ regulated projects located near the proposed project site include:

- Two Hard Rock Mining, active SMES operations are located at or within 1 mile of the proposed permit boundary. Both sites are on BLM land and are jointly regulated by the BLM and DEQ.

No other DNRC, BLM, or USFS regulated projects were identified in the project vicinity. DEQ considered all impacts related to this project and secondary impacts that may result. Cumulative impacts related to this project are identified in the Table 1. Cumulative impacts related to this project would not be significant.

NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS

When determining whether the preparation of an environmental impact statement is needed, DEQ is required to consider the 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 would occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact would 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 because of an impact of the proposed action that would commit the department to future actions with significant impacts or a decision in principle about such future actions; and
7. Potential conflict with local, state, or federal laws, requirements, or formal plans.

TABLE 1: SUMMARY OF POTENTIAL IMPACTS THAT COULD RESULT FROM OPERATING PERMIT #00199

Potential Impact	Affected Resource and Section Reference	Severity ¹ , Extent ² , Duration ³ , Frequency ⁴ , Uniqueness and Fragility (U/F)	Probability ⁵ impact will occur	Cumulative Impacts	Measures to reduce impact as proposed by applicant	Significance (yes/no)
Erosion of disturbed soil	Soil 1. Geology	S -high: All proposed disturbance area could be susceptible to erosion. E -medium: Total surface disturbance would be 24.5 acres over the next 25 years. D -Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment. F -During occasional storm events. U/F -Not unique or particularly fragile.	Possible	Erosion would add to cumulative impacts associated with potential erosion on existing roads and mined surfaces.	Bullock Contracting, LLC, would manage erosion control using sediment control structures and a variety of Best Management Practices (BMPs), including rip-rap, slash filters, ditches, berms, and seeding.	No
Weed propagation associated with surface disturbance	Soil & Vegetation 1. Geology 4. Vegetation	S -high: All disturbed surfaces would be susceptible to weed propagation. E -medium: Total surface disturbance would be 24.5 acres. Land in the immediate project area that would also be susceptible to weed propagation as a result of weeds growing at the mine site would be approximately 50 acres. D - Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment. F -Twice: After excavation and after reclamation. U/F -Not unique or particularly fragile.	Possible	Weed propagation from this project would add to any other area weeds that already exist within and near the proposed project area.	Weed control would be a requirement of the operating permit. The project would be subject to the Lewis and Clark County Weed Management Control Plan and the 2017 Montana Noxious Weed Management Plan. Bullock Contracting, LLC, would be expected to follow the approved reclamation plan.	No
Surface water	Water 2. Water Quality, Quantity, and Distribution	S -low: There is an intermittent drainage near the permit boundary. The closest perennial body of water is the Missouri River (Hauser Lake), 400 feet from the permit boundary. E -low: Confined to the intermittent drainage. D - Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment. F -During occasional storm events. U/F -Not unique or particularly fragile.	Possible	Some sediment from the project would add to any other sediment entering the intermittent drainage during stormwater runoff events.	Bullock Contracting, LLC, would manage stormwater runoff using sediment control structures and a variety of Best Management Practices (BMPs), including rip-rap, slash filters, ditches, berms, and seeding.	No
Dust and equipment exhaust	Air 3. Air Quality	S -medium: Dust and other particulate would be generated during construction/reclamation, crushing, and driving on/off site. Engines would produce some exhaust fumes. E -medium: Dust and exhaust fumes would be generated in proximity of moving/working equipment, and from dry exposed soil associated with new haul road and trench area. D - Until mining operations cease, and disturbed land is graded and soiled. F -Daily: During mining and initial reclamation operations. U/F -Not unique or particularly fragile.	Certain	Dust and exhaust would add to the cumulative impacts from other vehicles/engines operating in the area, and to potential natural wildfire smoke moving through the area.	The crusher is regulated for dust emission under MT DEQ Air Quality Permit #3223-01. Dust suppression would be provided by the mine site's water truck or magnesium chloride application, as necessary. OEM exhaust controls would be utilized on mechanized equipment.	No

Potential Impact	Affected Resource and Section Reference	Severity ¹ , Extent ² , Duration ³ , Frequency ⁴ , Uniqueness and Fragility (U/F)	Probability ⁵ impact will occur	Cumulative Impacts	Measures to reduce impact as proposed by applicant	Significance (yes/no)
Displacement of fragile resource (Species of Concern)	6. Unique, endangered, fragile, or limited resources	<p>S-low: 24.5 acres of disturbance; surrounding area includes suitable habitat.</p> <p>E-low: Total surface disturbance would be 24.5 acres.</p> <p>D- Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment.</p> <p>F-During mining activity, which is expected to occur during every day, daylight shifts for life of mine, and reclamation operations.</p> <p>U/F-Unique.</p>	Probable	Displacement of Species of Concern as a result of this project would add to the cumulative impacts associated with the adjacent agricultural land, residential development, and recreational areas.	None.	No
Aesthetics	8. Aesthetics 17. Access to and Quality of Recreational and Wilderness Activities	<p>S-medium: Noise would be produced during operation of the crusher and mine equipment. Visual impacts would be 24.5 acres of disturbance.</p> <p>E-medium: Proposed permit site and surrounding areas, including nearby residences and at the Devil's Elbow Campground.</p> <p>D- Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment.</p> <p>F-During mining activity, which is expected to occur during every day, daylight shifts for life of mine, and reclamation operations.</p> <p>U/F-Unique.</p>	Certain	Noise and visual impacts as a result of this project would add to the cumulative impacts associated with the adjacent agricultural land, residential development, and recreational areas.	All equipment would be operated with appropriate mufflers in accordance with MCA 61-9-403 and 61-9-435. Operation would be limited to daylight hours.	No

1. Severity describes the concentration 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.

SUMMARY

The severity, duration, geographic extent, and frequency of the occurrence of the impacts associated with the proposed activities would be limited. Bullock Contracting, LLC, is proposing to mine up to 24.5 total acres with a life of mine of about 25 years. The mining activities would result in removal of material and the mine site elevation lowered by approximately 65 feet.

DEQ has not identified any significant impacts associated with the proposed activities for any environmental resource. Approving Operating Permit #00199 does not set any precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions. If the applicant submits another operating permit application, DEQ is not committed to issuing those authorizations. DEQ would conduct an environmental review for any subsequent authorizations sought by the applicant that require environmental review. DEQ would make a permitting decision based on the criteria set forth in the MMRA. Approving a draft permit for Operating Permit #00199 does not set a precedent for DEQ's review of other applications for operating permits, including the level of environmental review. The level of environmental review decision is made based on a case-specific consideration of the criteria set forth in ARM 17.4.608.

Finally, DEQ does not believe that the proposed activities by the applicant have any growth-inducing or growth-inhibiting aspects or conflict with any local, state, or federal laws, requirements, or formal plans.

Based on a consideration of the criteria set forth in ARM 17.4.608, the proposed activities are not predicted to significantly impact the quality of the human environment. Therefore, preparation of an environmental assessment is determined to be the appropriate level of environmental review under the Montana Environmental Protection Act.

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Approved By:



02/26/2020

Signature (Herb Rolfes for)
Dan Walsh, Bureau Chief
Hard Rock Mining Bureau, DEQ

Date

CITATIONS

Reynolds, M.W., and Brandt, T.R. *Geologic Map of the Canyon Ferry Dam 30' x 60' Quadrangle, West-Central Montana*. U.S. Department of the Interior U.S. Geological Survey, 2005.

McCarthy, P.M., Sando, Roy, Sando, S.K., and Dutton, D.M. *Methods for estimating streamflow characteristics at ungauged sites in western Montana based on data through water year 2009: U.S. Geological Survey Scientific Investigations Report 2015–5019*. 2016.

Montana Natural Heritage Program (MTNHP). *Environmental Summary Report for Latitude 46.67424 to 46.72053 and Longitude -111.78739 to -111.85094*. Retrieved on 8/28/2019.

Web Soil Survey. <https://websoilsurvey.sc.egov.usda.gov/>. Accessed [08/28/2019].