

MT DEQ

Draft Environmental Assessment

Proposed OP#00198 Huppert Brothers Construction, Inc

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**Hard Rock Mining Bureau
ENVIRONMENTAL ASSESSMENT**

COMPANY NAME: Huppert Brothers Construction, Inc

OPERATING PERMIT: Pending Operating Permit #00198, Current Small Miner Exclusion Statements (SMES) #03-009 (Lower Quarry 1), #03-010 (Lower Quarry 2), and #03-016 (Upper Quarry)

LOCATION: Spring Creek Road, Laurel, MT

Township 03S, Range 24E, Section 24 (Lower Quarry 1 and Lower Quarry 2); Township 03S, Range 25E, Section 30 (Upper Quarry)

COUNTY: Yellowstone 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 #00198 for Huppert Brothers Construction, Inc. (HBCI) to operate a hard rock mine at SMES sites #03-009, #03-010, and #03-016 near the town of Laurel, Montana.

PURPOSE AND NEED FOR PROPOSED ACTION

DEQ determined that the application for Operating Permit #00198 is complete and compliant on January 24, 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 January 24, 2020, sets forth DEQ's determination that the HBCI 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:

HBCI (the applicant) has applied for an operating permit to incorporate current SMES #03-009, #03-010, and #03-016 and additional area surrounding the areas into proposed Operating Permit #00198. HBCI is applying for an operating permit at the existing mine sites currently being operated under SMES #03-009 (SMES issued to Jay Craig), #03-010 (SMES issued to TFR Construction), and #03-016 (SMES issued to Yellowstone Valley Rock Supply, LLC), because land disturbance at the SMES sites #03-009 and #03-016 have grown beyond the five acres SMES limitation. The option of applying for an operating permit was a corrective action identified in violation letters that DEQ issued on October 12, 2018 to Jay Craig and Yellowstone Valley Rock Supply, LLC, the respective SMES holders. The violation letters were initiated by DEQ for disturbing land in excess of five acres at each SMES site.

Location:

The sites are in Yellowstone County, approximately 8 miles southeast of Laurel, MT (Figure 1). To get to the sites from Laurel, go approximately 1.1 miles south on Highway 212, turning left onto Thiel Road and continuing for approximately 2 miles to Spring Creek Road. Then, turn south onto Spring Creek Road and continue for approximately 6.5 miles. At this point the access road to Lower Quarry 1 and Lower Quarry 2 is on the right (West). To get to the Upper Quarry continue south on Spring Creek Road for an additional 0.75 miles; the access road for the Upper Quarry is on the left (East). Figure 2 shows the relative locations of the quarries. There is a Class III Tire Mono-fill (MT DEQ License #394) adjacent to Lower Quarry 1 that is run by the landowner and is not part of the proposed permit area.

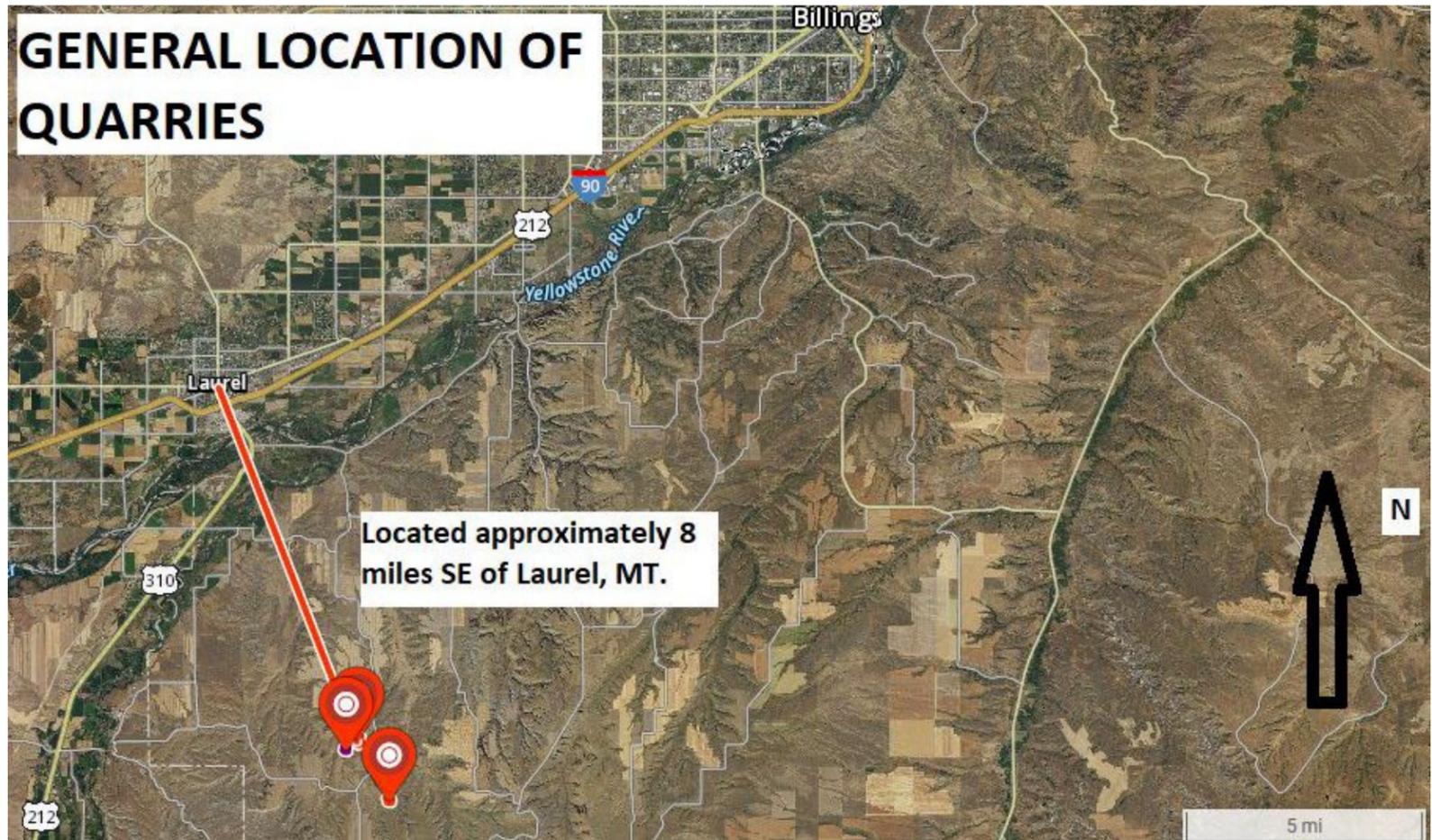


FIGURE 1: PROPOSED PERMIT AREA LOCATION

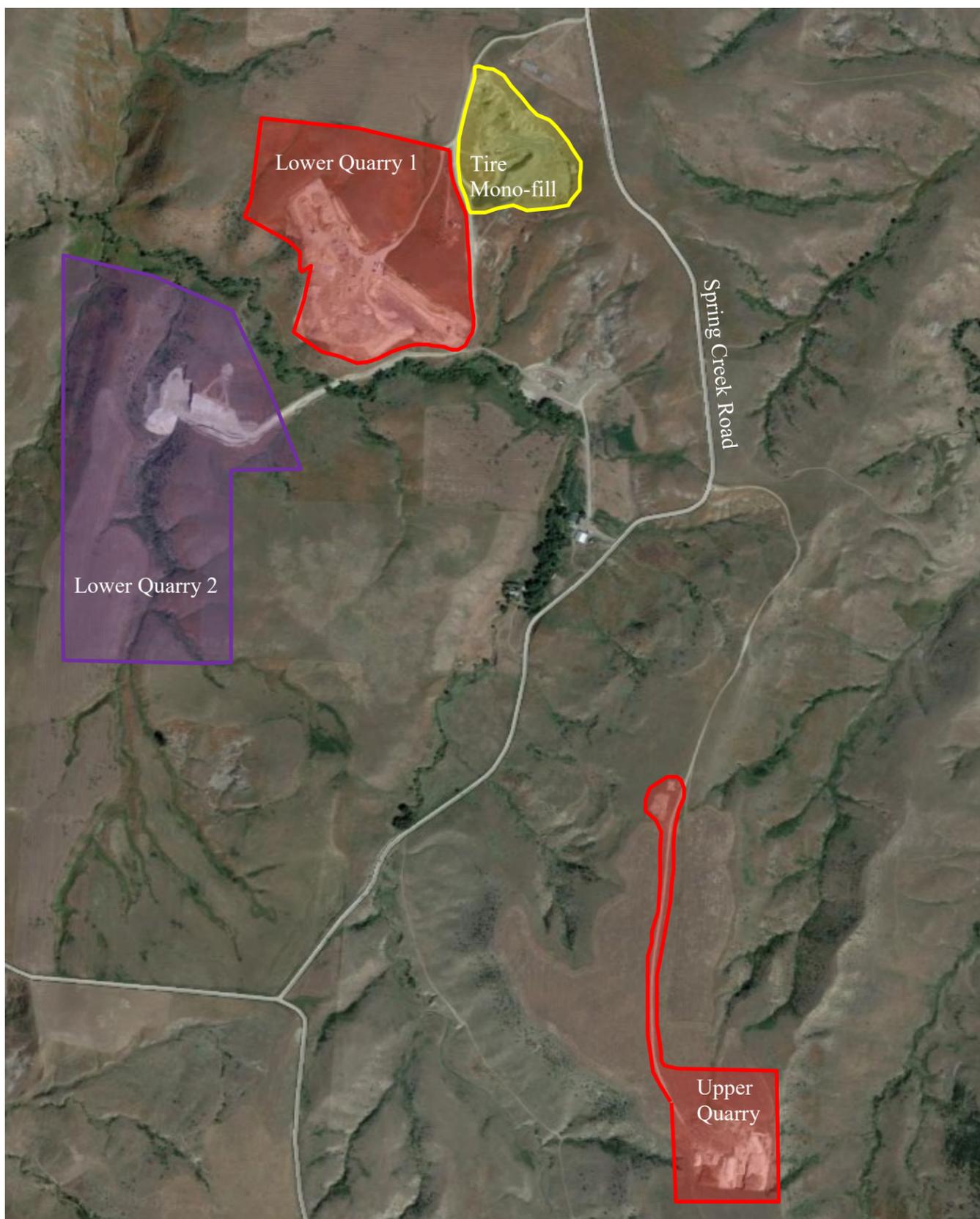


FIGURE 2: PROPOSED QUARRY LOCATIONS

Analysis Area:

The area being analyzed as part of this environmental review includes the proposed permit area (Figure 3) as well as immediate downstream water sources and neighboring lands surrounding the permit area as reasonably appropriate for the impacts being considered.

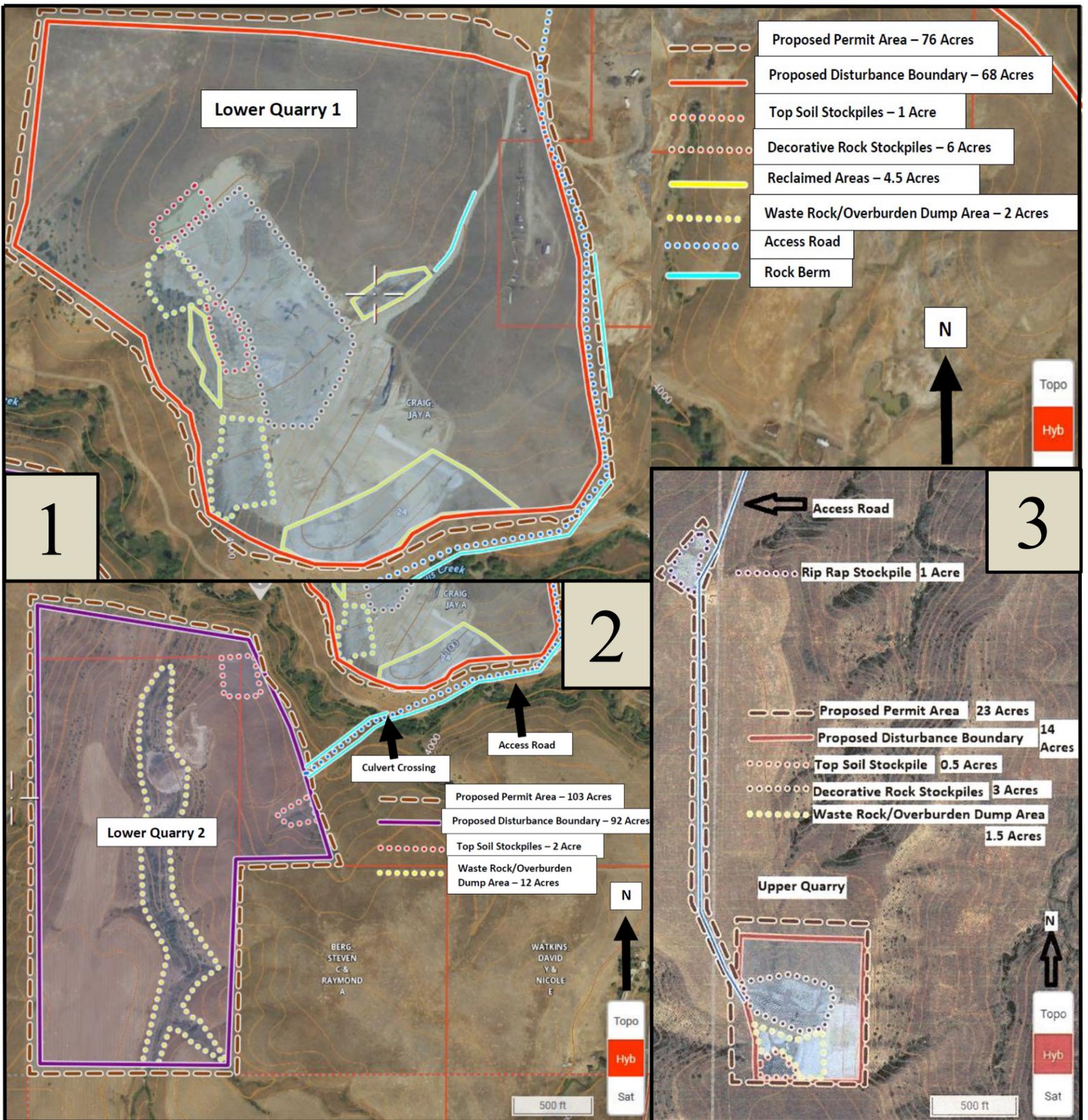


FIGURE 3: PROPOSED OP #00198 PERMIT AREAS FOR 1) LOWER QUARRY 1, 2) LOWER QUARRY 2, AND 3) UPPER QUARRY

Scope of Activity:

The sites are currently operated under SMES #03-009, #03-010, and #03-016, however, the SMES would be closed upon issuance of Operating Permit #00198. The proposed permit boundaries and 5-year disturbance areas for each of the sites are outlined below in Table 1; the total permit boundary area would be 202 acres and the proposed disturbance area would be 174 acres.

Quarry Name	Proposed Disturbance Area	Permit Boundary Area
Lower Quarry 1	68 acres	76 acres
Lower Quarry 2	92 acres	103 acres
Upper Quarry	14 acres	23 acres
Total	174 acres	202 acres

TABLE 1: PROPOSED PERMIT AND DISTURBANCE AREAS

Activities at the sites would be a continuance of the current practice of mining dimensional sandstone. The access roads to the sites were pre-existing and are used by the land owner for land access; no additional roads or facilities would be constructed at the sites. The quarrying would include open pits at each site that would require grading and reclamation at closure. The sandstone removed from the proposed permit area would be marketed as decorative rock used for landscaping and retaining walls. A crusher and screen plant would

be set up at Lower Quarry 1 to produce decorative ground cover rock. Approximately 10 over-the-road dump truck loads of material would be removed from the site each week (2 per weekday).

Duration of Activity:

Mining activity would be seasonal and would generally take place from March to December, although work may be performed in January and February, weather permitting. The site would operate 12 hours per day, 6 days per week under normal conditions. The applicant would mine the sites until December 31, 2025. Final reclamation would be completed by December 31, 2027.

Personnel and Equipment:

The quarry would employ five people on a seasonal basis. Excavators would remove overburden and waste rock and load it into off-road haul trucks. The off-road haul trucks would transport the material to the waste rock dump area, where dozers would push the material over the edge of the dump. Excavators would load merchantable rock into the crushing and screening plant (ground cover rock) and would load the large merchantable rocks onto over-the-road haul trucks. The ground cover rock would be loaded onto the over-the-road haul trucks with a wheel loader. The over-the-road haul trucks would haul the product off site for sale or use.

Reclamation Plan:

The mine sites would be reclaimed as pasture grassland for grazing and farmland. The access roads would be left intact post-mine as requested by the landowner, but may be decreased in size if requested by the landowner. All other mining disturbances would be reclaimed. Concurrent reclamation would be conducted as possible in order to minimize surface disturbance at the site.

All open pit areas, rock faces, and highwalls would be re-sloped to a 2.5:1 or gentler slope. Waste rock dump areas and other disturbed land, not including rock faces/high walls, would be re-sloped to match adjacent land. The slopes would be formed so as to prevent water from collecting into a channel that could cause erosion and any pits would be graded to be free draining. High walls would be scaled back so that there are no high walls remaining. All final grading would be made with non-noxious, nonflammable, noncombustible solids. All stockpiles and waste rock areas would be shaped to match the surrounding topography so as not to leave any drops, ledges, holes, or unstable ground that may pose a threat to people or animals. Topographic lows would be filled so that there is a more level post-mining landscape and the land would be shaped so that it would shed water to prevent ponding. A minimum of 6 inches of topsoil would be placed on top of slopes. Reclaimed areas would be seeded with the approved seed mix, Native Dryland Mix (Table 2). Seed would be certified as weed free and noxious weeds would be controlled following revegetation.

Seed Variety	Pure Live Seed (PLS), pounds per acre
Slender Wheatgrass – Pryor	14
Fescue, Sheep – Azure	11.5
Thickspike Wheatgrass – Critana	8.5
Western Wheatgrass – C) Rosana	8.5
Total	40 minimum

TABLE 2: NATIVE DRYLAND 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 rock to be quarried occurs in the Mowry Formation and was formed during the Upper Cretaceous period approximately 145 million years ago. It is described as very fine- to fine-grained sandstone beds that are highly silicified, very hard quartzite. There is a two-foot-thick bed of bentonite overlying much of the sandstone formation (Lopez, 2000). The proposed permit area is along a sloped face of the formation within relatively gentle rolling terrain. Shale outcrops are found on the steepest slopes off the ridges. The ridges and drainage ways slope steeply to the bottom of the main valleys. The mean annual precipitation in the proposed permit area is 16.75 inches (USGS StreamStats, 2019). SK Geotechnical, a geotechnical engineering firm, conducted an inspection at the sites in November 2019 and determined there was no indication of natural salt sources or accumulated salt deposits at any of the three sites. There are no visible sulfides, iron staining or other effects of chemical weathering on the rocks.

The majority of the soils in Lower Quarry 1 and Lower Quarry 2 are either Maginnis channery clay loam (73.5% and 71.7%, respectively) or Amherst-Maginnis channery clay loam (20.8% and 28.3%, respectively). The soils in the Upper Quarry are Absarokee clay loam (89.2%) and Maginnis-rock outcrop complex (10.8%) (WebSoilSurvey, 2018). Table 3 provides a description of the prevalent soils and soil compositions at the sites.

Soil Type	Typical Profile	Soil Composition			
		Lower Quarries 1 and 2		Upper Quarry	
		Maginnis channery clay loam	Amherst-Maginnis channery clay loam	Absarokee clay loam	Maginnis-rock outcrop complex
Maginnis	A – 0 to 2 inches: channery clay loam C – 2 to 10 inches: very channery clay loam R – 10 to 60 inches: bedrock	80%	25%	7%	35%
Amherst	A – 0 to 5 inches: channery clay loam Bt – 5 to 16 inches: gravelly clay loam R – 16 to 60 inches: bedrock	-	65%	8%	-
Absarokee	A - 0 to 3 inches: clay loam Bt - 3 to 14 inches: clay loam Bk - 14 to 24 inches: channery clay loam Cr - 24 to 33 inches: bedrock R - 33 to 60 inches: bedrock	-	10%	85%	-
Lismas	A – 0 to 2 inches: clay C – 2 to 10 inches: clay Cr – 10 to 60 inches: bedrock	8%	-	-	10%
Rock outcrop	N/A	12%	-	-	55%

TABLE 3: PREVALENT SOILS IN THE PROPOSED PERMIT AREA

Direct Impacts:

At the mining and processing sites, soil horizons would be disrupted. Topsoil thickness ranges from 6 to 18 inches. Topsoil would be stripped prior to mining, stockpiled, and seeded to prevent erosion and weed growth. Salvaged overburden and/or soil would be replaced after mining to an average thickness of 6 inches and then contoured to match the surrounding topography as much as possible. The area would then be seeded. Erosion control would be accomplished using a variety of Best Management Practices (BMPs), including tracking and the use of straw wattles. All BMPs would be identified in the mine site’s Storm Water Pollution Prevention Plan, which is currently under review by DEQ Water Protection Bureau.

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 4). Impacts to the geology, soil quality, stability and moisture would be short-term and minor and therefore would not be significant (Table 4).

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

There are no water wells within 100 feet of the proposed permit area. The nearest well is roughly 1,600 feet southeast of Quarry 1 and 2 (ID: 100297) and is completed at a depth of 35 feet (GWIC, 2019). The nearest well to Quarry 3 is approximately 3,800 feet to the west (ID: 918296). The approximate elevation of the well near Quarry 1 and 2 is approximately 50-100 feet above the elevation at Lower Quarry 1 and Lower Quarry 2, and approximately 200 feet below the elevation of Upper Quarry. Groundwater has not been encountered during the previous mining activity at any of the SMES sites.

Surface Water

The access road between Lower Quarry 1 and Lower Quarry 2 crosses an intermittent stream, Davis Creek. The only other source of surface water in or near the proposed permit area is a spring that emerges south of the tire mono-fill site near Lower Quarry 1. The spring is over 150 feet from the proposed permit boundary.

Direct Impacts:

Groundwater

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, which would be sourced from the on-site well. No blasting would occur on site, so there would be no source of nitrates related to mining that could contaminate groundwater. Groundwater quality would not be impacted by sediment however, it could be impacted by other by-products of operation, including spilled fuel. In the case of a fuel spill, the contaminated soil would be removed and disposed in accordance with the proposed Spill Management and Reporting Policy and Spill Prevention Plan. The applicant would be bound to all applicable state and federal rules regarding groundwater quality and quantity. Impacts to groundwater would be short-term and minor and would not be significant as a result of the proposed operations.

Surface Water

Rainfall in the area is limited and averages 16.75 inches per year. BMPs found in the applicant's Storm Water Pollution Prevention Plan 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 (MPDES), any surface water that may leave the site during a heavy storm event could carry sediment from disturbed soils (Table 4). A culvert is in place at the road crossing Davis Creek to allow water to pass through during flow periods. Straw wattles would be placed on both sides of the road at the creek crossing to prevent sediments from entering the creek. Rock berms would be built between the proposed disturbance area and Davis Creek to prevent impacts from the mine operations. In accordance with the proposed Spill Prevention Plan, a 2-foot tall berm would be built around the 1000-gallon mobile fuel tank located in Lower Quarry 1 and 1-foot tall berms would be built around all 55-gallon drums of oil and antifreeze to contain spills. Impacts to surface water would be short-term and minor and would not be significant as a result of the proposed operations (Table 4).

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 or 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 applicant would be expected to maintain compliance with Montana laws regarding the need to take reasonable precautions to control airborne particulate matter according to ARM 17.8.308. The quarry crusher plants are registered with the DEQ Air Quality Bureau as Emission Source Locations. Gaseous products of combustion (oxides of nitrogen and carbon monoxide) would result from this operation, specifically from gas and diesel fuel-fired equipment.

Direct Impacts:

There would be some exhaust fumes and dust produced by the on-site equipment and mine/crusher activity. Dust control 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 4).

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?

Vegetation found at the proposed disturbance area is primarily Great Plains Mixedgrass Prairie and Big Sagebrush Steppe. Typical grasses found in these systems are Western and Thickspike Wheatgrasses, Green Needlegrass, Blue Grama, and Needle and Thread; typical fescues are Rough and Idaho Fescues. Wyoming Big Sagebrush is most commonly associated with the Western Wheatgrass.

Forb diversity is typically high. A search of the Montana Natural Heritage Program (MTNHP) identified potential habitat for 1 vascular plant species of concern (SOC), *Ammannia robusta*, although no rare or endangered vegetation has been identified at the proposed disturbance area (MTNHP, 2019). No invasive weed species were identified for the proposed disturbance area by the MTNHP search, although 5 biocontrol insect species were listed as having been introduced to the area. Spotted knapweed was identified on site during a DEQ inspection of Lower Quarry 2 as a SMES site.

Direct Impacts:

Land disturbance at the site may result in propagation of noxious weeds (Table 4). Any surface disturbances would be reclaimed and seeded with an appropriate seed mix (see Table 2). The project area would be subject to the Yellowstone 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 4).

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 proposed permit area has habitat for deer, skunks, foxes, prairie dogs, rabbits, 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 existing SMES operations and nearby tire mono-fill site and residential houses. 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 92 mammal, reptile, invertebrate, bird, and amphibian species of concern (SOC), potential SOC, sensitive, or threatened species. Habitat for these species is common and not unique to the project area. Three SOC, Black-tailed Prairie Dog, Yellow-billed Cuckoo, and Greater Sage Grouse, have been observed near the project area. The proposed permit area is adjacent to, but not in, the general habitat area identified by the Montana Sage Grouse Habitat Conservation Program (Figure 3). Golden Eagles, another SOC, are likely to occur in or near the project area. There have not been observations of species of concern within the proposed permit boundary (MTNHP, 2019). MTNHP does not identify any wetland areas located the proposed permit boundaries, however the wetland mapping is incomplete in that area. An intermittent stream, Davis Creek, is located between Lower Quarry 1 and Lower Quarry 2 and may be a potential wetland area.

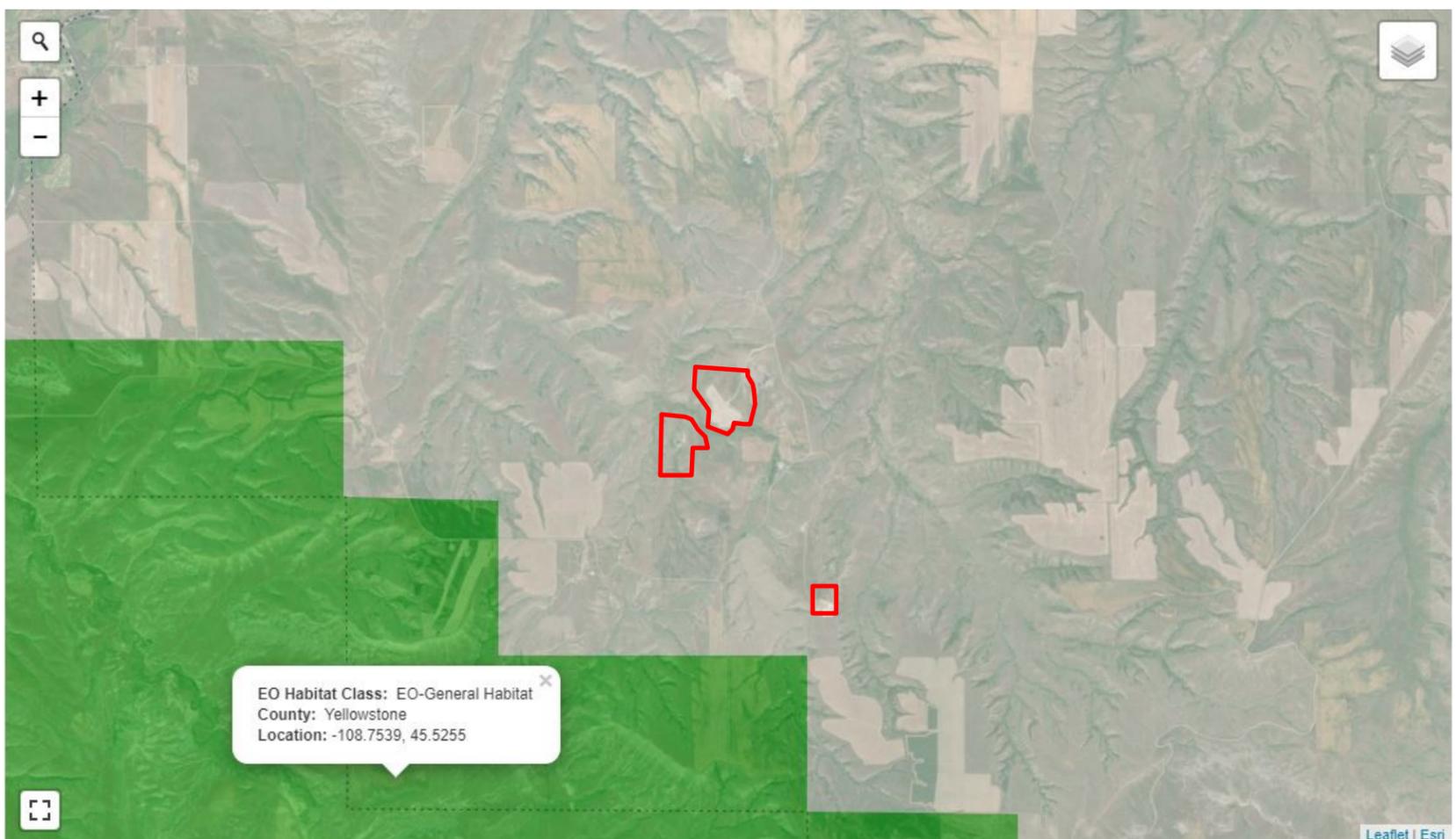


FIGURE 3: SAGE GROUSE CONSERVATION GENERAL HABITAT AREA (GREEN) AND PROPOSED QUARRY PERMIT AREAS (RED)

Direct Impacts:

The proposed activity would represent a continuation of the mining that has been occurring since at least 2006 under several different SMES. HBCI would commit to protecting Davis Creek from further disturbance by roads or sediment through the use of straw wattles and rock/sediment berms. Impacts would potentially include temporary displacement of animals, 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. Animals have most likely been previously displaced by the existing SMES operations, nearby tire mono-fill site, and residential houses. Impacts to unique, endangered, fragile or limited environmental resources would be short-term and minor and would not be significant (Table 4).

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 greater project 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 sites would be located on private land. The sites are remote, with very low population density in the nearby area. The nearest resident to Lower Quarry 1 and Lower Quarry 2 is the landowner located about 0.3 miles to the southeast of the proposed Lower Quarry 1 boundary and 0.5 miles east of the proposed Lower Quarry 2 boundary. Lower Quarry 1 is visible to the landowner's house and from the adjacent Spring Creek Road. The next closest residential house is located about 0.8 miles southwest of the proposed Lower Quarry 2 boundary and about 1.3 miles northwest of the proposed Upper Quarry boundary. Lower Quarry 1 and Lower Quarry 2 are visible from the residential house. The Upper Quarry is on a hill that is 200-300 feet above the surrounding topography and would be visible to a home about 1.5 miles to the west of the site and from Spring Creek Road to the south of the site.

The crusher would be the source of the loudest noise on site. When in operation, noise levels are 99 dB at 1-meter distance. Lights would also be used for the operation when daylight is not available during the normal hours of operation.

The primary land use for the area adjacent to the permit area is for agriculture, livestock grazing, and a tire mono-fill operation. The applicant has not reported aesthetic issues related to site operations.

Direct Impacts:

The impact from noise and lights would remain the same as under existing operations at the sites. The proposed project would likely be visible to the surrounding population and to viewers located at observation points that are unobstructed by topography or vegetation. The impacts from noise and light are minor due to the relatively small scale of operations, the proposed use of equipment and the hours of operation, and the distance of the quarry from public roads and private residences. Impacts to aesthetics would be short-term and minor and would not be significant.

Secondary Impacts:

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

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. An onsite 1000-gallon mobile fuel tank is used to store diesel fuel. Any water needed for dust suppression would be brought in by water truck from off-site. No water is needed for current operations beyond dust suppression. The proposed permit operations would not expand any use of resources.

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 by the following:

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

Except for the current quarry operations, the surrounding land use is agriculture, livestock grazing, and a tire mono-fill operation. These land uses would likely continue without influence by the proposed quarry operations.

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. Few, if any, members of the public would be in the general proximity during mine operations. A fence would be located at the entrance to the permit areas, with a sign reading “Danger – Mine Site – Authorized Access Only.”

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 possible 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 and industry in the greater project area, however all disturbance related to this project would be reclaimed at the conclusion of the project. The proposed operation sites are currently being operated under SMES. There are other existing SMES sites and one Operating Permit site in the area that co-exist with the current SMES operations at the proposed sites. Additionally, there is a tire mono-fill site adjacent to the proposed Lower Quarry 1 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 sites are currently operating under SMES. The workforce is not expected to either increase or decrease as a result of the proposed permitting action.

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 stone and 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 SMES to the proposed 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.

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 sites are all located off Spring Creek Road, a dirt surface road maintained by Yellowstone County Road Department.

Direct Impacts:

The sites are currently in operation as SMES sites. 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 Spring Creek 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 sites are on private land which have been used in the past for dryland grazing and agriculture. The mine operations would be subject to the Yellowstone 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 with active mining activities taking place. There are no recreational or wilderness areas in the proposed permit boundaries.

Direct Impacts:

No direct access to or quality of recreational or 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?

Yellowstone County is the most populous county in Montana, with a population of 147,972 as of the 2010 census. Population density in the county is approximately 56 inhabitants per square mile, although the proposed permit area is located in a rural area where the population is sparse. As noted above in "Section 13, Quantity and Distribution of Employment," the proposed operation would not be expected to increase or decrease the local population or employment of HBCI.

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 owned by Jay and Twila Craig. Due to the absence of historical or culturally significant sites and the low population density nearby, 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 quarry sites have been actively mined since at least 2006 and have previously been used for grazing and agriculture. Due to the topography and location, the proposed permit boundary has limited other use. No impacts to cultural uniqueness and diversity 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 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 Jay and Twila Craig. 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 MMRA 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 HBCI. HBCI 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 HBCI 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.

External scoping is ongoing and includes a public comment period which began will end on April 3, 2020. External scoping efforts also included queries to the following websites, databases, and/or personnel:

- Montana Department of Environmental Quality
- Montana Cadastral Mapping Program
- USDA NRCS Soil Survey
- Montana Natural Heritage Program
- Montana State Historic Preservation Office
- 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)
- Yellowstone County
- US Geological Society – Stream Stats
- Montana Groundwater Information Center
- Montana Bureau of Mines and Geology

RESPONSE TO PUBLIC COMMENTS

Scoping for this proposed action will include a 30-day public comment period. 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 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.

Projects regulated by the DEQ Hard Rock Mining Bureau that are located near the proposed project site include:

- Four Hard Rock Mining, active or inactive (un-reclaimed) SMES operations are located at or within 5 miles of the proposed permit boundary
 - Three sites that would be incorporated into the proposed operating permit
 - #03-009 – Jay Craig
 - #03-010 – TFR Construction, Inc.
 - #03-016 – Yellowstone Valley Rock Supply, LLC
 - #03-007 – Donnes Construction
- One Hard Rock Mining Operating Permit, OP#00171 held by Tom Gauger, is located within 5 miles of the proposed permit boundary

Additionally, a Class III Tire Mono-fill (MT DEQ License #394; regulated by the DEQ Solid Waste Management Section) is directly adjacent to the proposed permit boundary.

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 4. 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 4: SUMMARY OF POTENTIAL IMPACTS THAT COULD RESULT FROM OPERATING PERMIT #00198

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 -high: Total surface disturbance would be 174 acres over the next 5 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, the adjacent tire mono-fill, and mined surfaces.	HBCI would manage erosion control using a variety of Best Management Practices (BMP). All BMPs would be identified in the Storm Water Pollution Prevention Plan for the proposed mine site.	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 174 acres. Land at the mine site and in the immediate project area that would be susceptible to weed propagation. 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 Yellowstone County Weed Management Control Plan and the 2017 Montana Noxious Weed Management Plan. HBCI would be expected to follow the approved reclamation plan.	No
Surface water	Water 2. Water Quality, Quantity, and Distribution	S -low: Surface water (intermittent stream Davis Creek) is 100 feet from the proposed disturbance area. E -low: Confined to Davis Creek. 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 Davis Creek during stormwater runoff events.	HBCI would manage stormwater runoff using a variety of Best Management Practices (BMP). All BMPs would be identified in the Storm Water Pollution Prevention Plan for the proposed mine site.	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 operations 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.	Dust suppression would be provided by the mine site's water truck. 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-medium: 174 acres of disturbance; surrounding area is suitable habitat.</p> <p>E-medium: Total surface disturbance would be 174 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 weekday shifts for life of mine.</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 SMES, tire mono-fill, and agricultural land.	None.	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 quarry sites are currently operated under SMES #03-009, #03-010, and #03-016. Due to the level of disturbance, the applicant proposed that the three sites and surrounding area be included into the proposed Operating Permit #00198. The severity, duration, geographic extent, and frequency of the occurrence of the impacts associated with the proposed activities would be limited. HBCI is proposing to quarry up to 174 total acres with a life of mine of about 5 years. The quarry activities would result in removal of sandstone material from the mine sites.

DEQ has not identified any significant impacts associated with the proposed activities for any environmental resource. Approving Operating Permit #00198 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 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 Operating Permit #00198 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, at this time, 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

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