

MT DEQ

Final Environmental Assessment

Proposed OP#00201 Montana Frontier Sandstone, LLC

Table of Contents

COMPLIANCE WITH THE MONTANA ENVIRONMENTAL POLICY ACT.....	1
PROPOSED ACTION	1
PURPOSE AND NEED.....	1
SUMMARY OF PROPOSED ACTION	1
FIGURE 1: MFS JONES QUARRY PROPOSED PERMIT AREA LOCATION.....	2
FIGURE 2: PROPOSED PERMIT DISTURBANCE AREA.....	3
TABLE 1: SEED MIX.....	4
SUMMARY OF POTENTIAL PHYSICAL AND BIOLOGICAL IMPACTS.....	5
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE	5
FIGURE 3: SOILS MAP FOR THE JONES QUARRY	6
TABLE 2: TYPICAL SOIL PROFILES	6
2. WATER QUALITY, QUANTITY, AND DISTRIBUTION	7
FIGURE 4: PROPERTY OWNERS AND WELLS ADJACENT TO THE PROPOSED PERMIT AREA.....	7
3. AIR QUALITY	8
4. VEGETATION COVER, QUANTITY AND QUALITY	9
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS	10
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES	10
FIGURE 5: WETLANDS IN AND ADJACENT TO THE PROPOSED PERMIT AREA	11
7. HISTORICAL AND ARCHAEOLOGICAL SITES.....	12
8. AESTHETICS.....	12
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY	12
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES.....	13
11. HUMAN HEALTH AND SAFETY	13
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION.....	14
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT.....	14
14. LOCAL AND STATE TAX BASE AND TAX REVENUES	15
15. DEMAND FOR GOVERNMENT SERVICES.....	15
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS	16
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES.....	16

18.	DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING	16
19.	SOCIAL STRUCTURES AND MORES	17
20.	CULTURAL UNIQUENESS AND DIVERSITY.....	17
21.	PRIVATE PROPERTY IMPACTS	17
22.	OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES.....	18
	ALTERNATIVES CONSIDERED	18
	PUBLIC INVOLVEMENT	18
	RESPONSE TO PUBLIC COMMENTS	18
	OTHER GOVERNMENTAL AGENCIES WITH JURSDICTION.....	19
	CUMULATIVE EFFECTS	19
	NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS	19
	TABLE 3: SUMMARY OF POTENTIAL IMPACTS THAT COULD RESULT FROM OPERATING PERMIT #00201.....	21
	SUMMARY	23
	CITATIONS	24

**Hard Rock Mining Bureau
ENVIRONMENTAL ASSESSMENT**

COMPANY NAME: Montana Frontier Sandstone, LLC

OPERATING PERMIT: Pending Operating Permit #00201, Current Small Miner Exclusion Statement (SMES) site #44-023

LOCATION: Reitz Rd, Harlowton, MT S10, T07 S, R15 E

COUNTY: Wheatland 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

Montana Frontier Sandstone, LLC, (MFS) is requesting an operating permit (Operating Permit # 00201) to operate a hard rock mine at the area that was previously disturbed under SMES #44-023 near the town of Harlowton in Wheatland County, Montana.

PURPOSE AND NEED

DEQ determined that the application for Operating Permit No. 00201 is complete and compliant on March 30, 2021. When an application for an 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 March 30, 2021, sets forth DEQ's determination that the MFS 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.

SUMMARY OF PROPOSED ACTION

Background:

MFS has applied for an operating permit to incorporate a current site disturbed under a SMES, the Jones Quarry, and additional area surrounding the site into proposed Operating Permit #00201.

Location:

The Jones Quarry is approximately 5 miles south of Harlowton, MT. The access road is located off Reitz Road, which is at mile marker 40 on US 191 heading south from Harlowton.

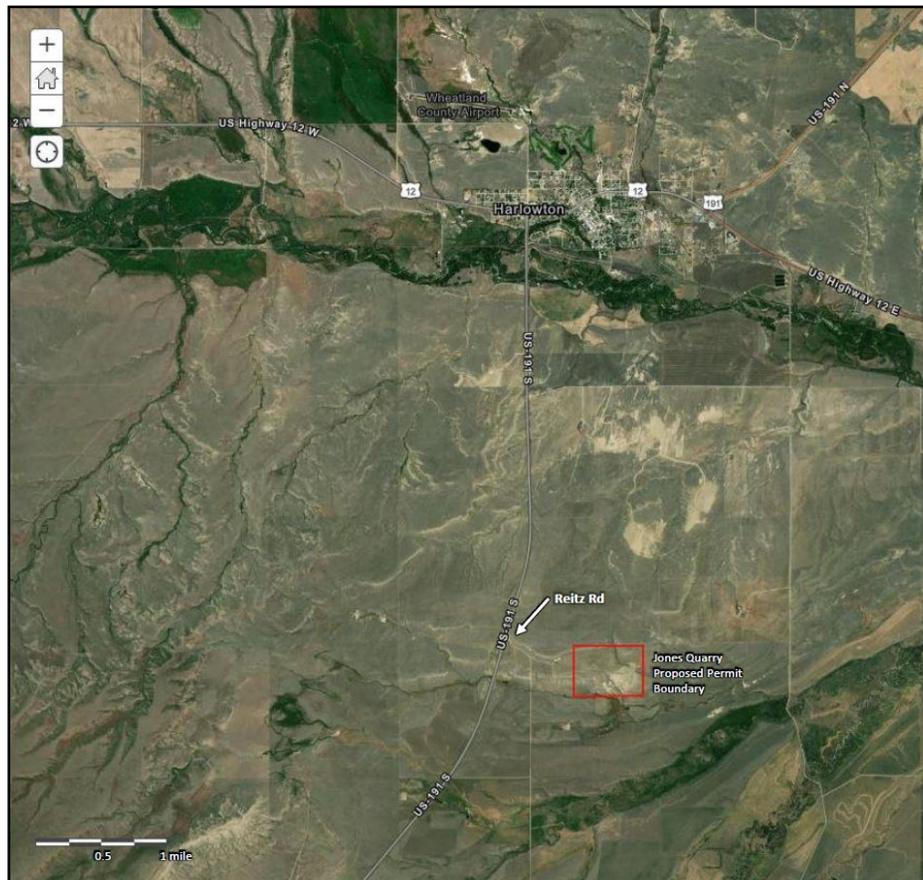


FIGURE 1: MFS JONES QUARRY PROPOSED PERMIT AREA LOCATION

Analysis Area:

The area being analyzed as part of this environmental review includes the immediate project area (Figure 1) as well as immediate downstream water sources and neighboring lands surrounding the analysis area as reasonably appropriate for the impacts being considered.

MFS is applying for an operating permit at their existing mine site, the Jones Quarry, currently being operated under SMES #44-023, because land disturbance at the site has grown beyond the 5-acre SMES limitation. The option of applying for an operating permit was a corrective action identified in a December 6, 2019, DEQ violation letter and a condition of an administrative order on consent (AOC) related to a DEQ enforcement action. The violation letter and subsequent enforcement action were initiated by DEQ to MFS for disturbing land in excess of 5 acres.

Scope of Activity:

The site is currently operated under SMES #44-023, however, due to the requirements of the AOC, the SMES would be closed upon issuance of Operating Permit #00201. The proposed permit area would be 133 acres. The proposed 5-year disturbance area is 65.7 acres, 38.3 acres more than the

current disturbance of 27.4 acres (Figure 2).

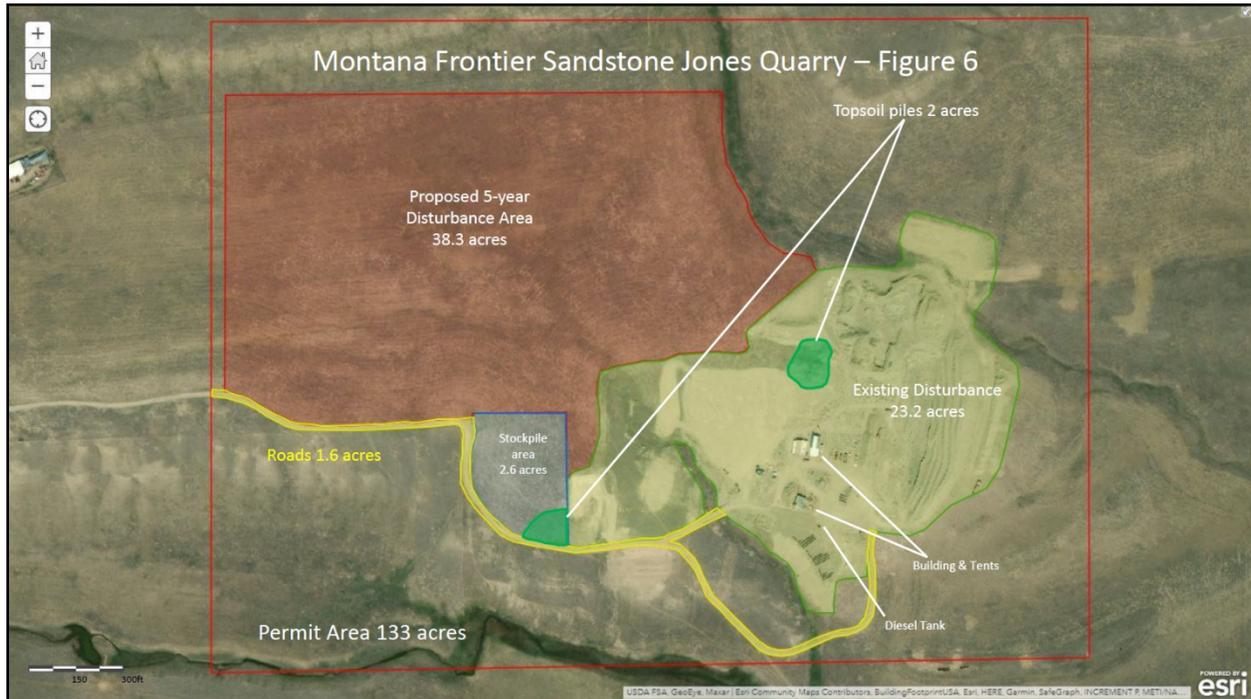


FIGURE 2: PROPOSED PERMIT DISTURBANCE AREA

Activities at the sites would be a continuance of the current practice of mining dimensional sandstone. No additional roads or facilities would be constructed on site. The product uses for the sandstone removed from the proposed permit area are decorative rock used for landscaping and masonry. The quarrying would include an open pit that would be reclaimed at closure. A rock breaker would be used on the quarry site to produce the desired product size. No blasting or crushing would be conducted on site. Approximately five truckloads of material would be removed from the site each week. Each truck would carry about 32 tons of rock materials.

Duration of Activity:

Mining activity would take place year-round, with hours of expected operation Monday through Friday up to 24 hours per day. The lease agreement for the site expires in 2029, with the option for a 10-year renewal at the end of the agreement. The anticipated life of mine is 25 years.

Personnel and Equipment:

The quarry would employ 10-14 people on site during working hours. Excavation equipment would be used to mine the product and dump trucks would be used to transport the sandstone from the mining area to the pallet and rock breaker area. A diesel-powered generator would be used to power the rock breaker. A mini excavator would be used to place material on the pallets and a skid-steer would be used to load the pallets on flatbed semi-trucks at the pallet area.

Reclamation Plan:

The mine area would be reclaimed as pasture grassland. The access road would be left intact

postmine as requested by the landowner, however all other mining disturbances would be removed or reclaimed in place. The mine buildings, outhouse, standup tent and breaker tent were on the site before MFS started operations and would remain for landowner use post-mining. Concurrent reclamation would be conducted to minimize surface disturbance at the site.

Soil and overburden would be salvaged and replaced into the areas that it originally came from. All soil material would be stripped about 10 feet ahead of any disturbance. Soil Material (A and B horizon) would be salvaged and stockpiled separately from any overburden (soil depth on site ranges from 3-7 inches: an average soil depth of 5 inches is expected). Reclaimed mine areas would receive an average of 5 inches of topsoil. Soil salvaged would be used for reclamation post mine. All reclamation would be graded to match existing topography and slopes would be no greater than 3 horizontal to 1 vertical slope (3:1).

Reclaimed areas would be seeded with the approved seed mix (Table 1). Seed tags would be saved and copies submitted to DEQ with the mine’s Annual Progress Report. Seedbed preparation would include drilling or broadcast seeding in the spring or fall with the seed being harrowed/dragged/raked/tracked into the ground immediately after seeding. Where seed drilling is not possible, the pounds per acre seeding rate would double. Reseeding would occur until 15% vegetative cover has established.

Seed Mix Species	Percent Composition in Mix
Bluebunch Wheatgrass	30-50%
Idaho Fescue	20-30%
Needle and Thread	20-30%
Western/Thickspike Wheatgrass	10-20%
Prairie Junegrass, Blue Grama, Threadleaf Sedge	10-20%
Forbs (Including Eriogonum, Lupine, Milk Vetches, Fringed Sagewort)	10-20%
Total lbs./acre used (drilled seed)	24.5 lbs/acre PLS

TABLE 1: SEED MIX

SUMMARY OF POTENTIAL PHYSICAL AND BIOLOGICAL IMPACTS

The impact analysis will identify and analyze direct and secondary impacts of the proposed operation. 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 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 Claggett Shale formation, which occurs as brown, fissile shale containing numerous lenticular fine-grained sandstone beds. The formation thickness varies from 180 ft up to 300 ft. A sandstone interval in the middle of the formation forms a distinct bench in areas of low dip, while a distinct ridge forms where dips are steeper. Locally, the formation contains orange-weathering, oval, commonly fragmented, calcareous, septarian concretions (Wilde and Porter, 2001).

The climate for the proposed permit area is dry and relatively sunny with a mean annual precipitation of 14.85 inches (USGS StreamStats, 2021). The proposed disturbance is composed of Yamacall loam (Soil ID 450B), while existing disturbance is both Yamacall loam and Delpoint-Cabbert complex (Soil ID 437D) (Figure 3).

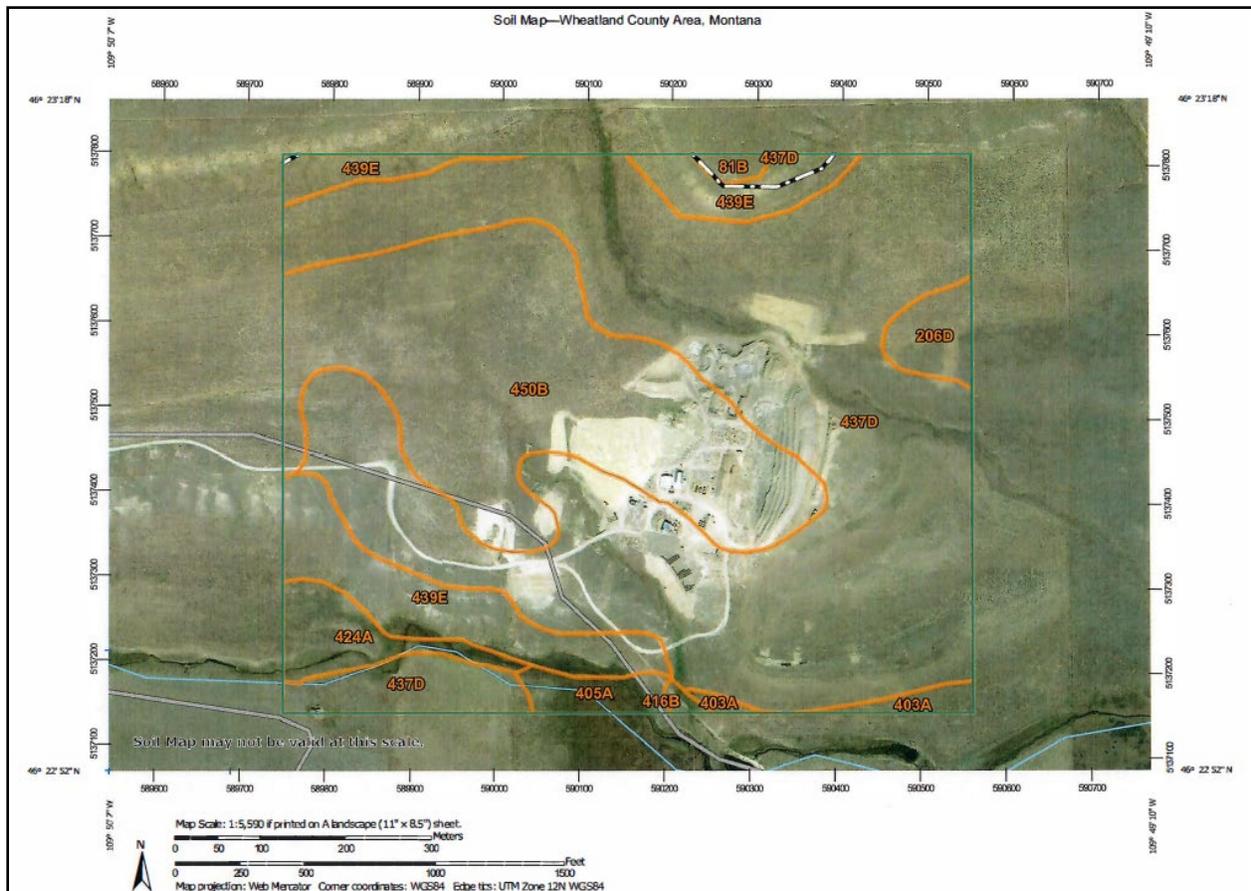


FIGURE 3: SOILS MAP FOR THE JONES QUARRY

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

Soil Horizon	Yamacall loam	Delpoint-Cabbart complex
A	0-3 inches Loam	0-3 inches Loam
Bw	3-11 inches Loam	3-7 inches loam
Bk1	11-25 inches Loam	(Bk) 7-27 inches loam
Bk2	25-60 inches Loam	
Cr	-	27-60 inches bedrock

TABLE 2: TYPICAL SOIL PROFILES

Direct Impacts:

At the mining and processing site, the soil horizons listed in Table 2 would be disrupted. Topsoil and overburden would be salvaged separately for reclamation. Salvaged topsoil would be seeded to prevent erosion and preserve soil quality. Salvaged overburden and/or soil would be replaced after mining and then contoured to match the surrounding topography. The area would then be seeded to promote soil stability and moisture. Erosion control would be accomplished using a variety of BMPs, including berms, diversion ditches, sediment ponds, and other sediment control structures as needed. 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, as soil quality would not be impacted by the proposed operation. Surface soil disturbance could allow for the establishment of weeds. Weed control would be required to control the spread of noxious weeds caused by surface soil disturbance and is further addressed in Section 4. Vegetation Cover, Quantity and Quality (Table 3).

Impacts to geology, soil quality, stability, and moisture would not be significant. Impacts to geology and soil quality would not be expected. Any impacts to the soil stability and moisture would be short term, as they would not last beyond the proposed 25-year mine life, and minor, because impacts would be noticeable but would be relatively small and would not affect the integrity or function of the resource (Table 3).

Secondary Impacts:

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 is one residential well within 0.5 miles of the proposed permit area (Figure 4). The static water level of nearby well GWIC ID #165451 is reported as 130 feet below ground surface. The well is located at a similar elevation to the quarry site. MFS would develop the Jones Quarry to a maximum depth of 50 feet below surface. Based on the location, adjacent well information, 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.



FIGURE 4: PROPERTY OWNERS AND WELLS ADJACENT TO 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.

Impacts to water quality, quantity, and distribution would not be significant as a result of the proposed operations (Table 3). Any impacts to water quality would be short term, as they would not last beyond the proposed 25-year mine life, and minor, because impacts would be noticeable but would be relatively small and would not affect the integrity or function of the resource. No impacts to water quantity and distribution would be expected.

Secondary Impacts:

No secondary impacts to groundwater quality, quantity, or distribution would be expected.

Surface Water

The nearest surface water resources to the mine are a small pond approximately ¼ mile south of the southwest corner of the proposed permit boundary and Lebo Creek, a perennial stream that is located about ½ mile from the southern border of the proposed permit boundary and flows perpendicular to that boundary. Two ephemeral drainage wetland areas are found in the northeast corner and southern border of the proposed permit area (Figure 5).

Direct Impacts:

Rainfall in the area is limited and averages 14.85 inches per year. BMPs such as diversion ditches and sediment ponds 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 not be significant as a result of the proposed operations. Any impacts would be short term, as they would not last beyond the proposed 25-year mine life and minor, because impacts would be noticeable but would be relatively small and would not affect the integrity or function of the resource (Table 3). Impacts to wetland areas are further discussed in Section 6. Unique, Endangered, Fragile, or Limited Environmental Resources.

Secondary Impacts:

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, or hauling 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. An air quality permit is not required as the diesel generator used on site is Tier V EPA certified.

Direct Impacts:

There would be some exhaust fumes and dust produced by the on-site equipment and mine activity. Dust control would be employed to meet particulate emission requirements required by law. The level of gaseous emissions from the site would be minimal due to the small number of fuel-fired equipment in use at the site.

Impacts to air quality would not be significant as a result of the proposed operations. Any impacts would be short term, as they would not last beyond the proposed 25-year mine life and minor, because impacts would be noticeable but would be relatively small and would not affect the integrity or function of the resource (Table 3).

Secondary Impacts:

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, Introduced Upland Vegetation – Annual and Biennial Forbland, and Cultivated Crops. Typical grasses found in the Great Plains Mixedgrass Prairie are Western and Thickspike Wheatgrasses, Green Needlegrass, Blue Grama, and Needle and Thread; fescues are Rough and Idaho. Forb diversity is typically high in this system. Introduced Upland Vegetation has been significantly altered by introduced annual and biennial forbs such as knapweed, oxeye daisy, Canada thistle, leafy spurge, pepperweed, and yellow sweetclover. Cultivated croplands are used for the production of crops – in this area, typically grains, legumes, and corn (MTNHP, 2021).

A search of the Montana Natural Heritage Program (MTNHP) identified an occurrence of one vascular plant species of concern (SOC), Small Dropseed (*Sporobolus neglectus*). Range of the Small Dropseed is poorly documented in Montana, and what sites are documented are widely scattered. The species is present in valley and plains grasslands and is found in both natural and disturbed habitat. Additionally, potential habitat for 8 vascular plant SOC was identified at the proposed disturbance area (MTNHP, 2021). Spotted Knapweed, Canada Thistle, and Field Bindweed, all noxious weeds, have been observed near the proposed mine site (MTNHP, 2021).

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 Wheatland County Weed Management Control Plan. Vegetative habitat found within the proposed permit area is common throughout the larger ecosystem. Vegetation within the proposed permit area has most likely been impacted by prior use for mining and pasture grazing.

Impacts to vegetative cover, quantity or quality resulting from this project would not be significant. Any impacts would be short term, as they would not last beyond the proposed 25-year mine life and minor, because impacts would be noticeable but would be relatively small and would not affect the integrity or function of the resource (Table 3).

Secondary Impacts:

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, rabbits, foxes, skunks, 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 past mining activities at the site. Any displaced animals could find other suitable habitat nearby and return to the project area shortly after the project conclusion.

Impacts to terrestrial, avian, and aquatic life and habitat would not be significant. There are no aquatic habitats in the proposed permit area, so no impact on aquatic life would be expected. Any impacts to terrestrial and avian life and habitat would be short term, as they would not last beyond the proposed 25-year mine life and minor, because impacts would be noticeable but would be relatively small and would not affect the integrity or function of the resource.

Secondary Impacts:

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 71 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 Long-billed Curlew, Ferruginous Hawk, Greater Sage-Grouse, Greater Short-horned Lizard, Sharp-tailed Grouse, and Northern Redbelly Dace. The Bald Eagle, a Species of Special Concern, has also been observed near the proposed permit area. Although the Greater Sage-Grouse has been observed near the proposed permit area, the area is not located within designated Montana Sage Grouse Habitat.

Small areas of Freshwater Emergent Wetlands and Riparian Emergent Wetlands have been identified in the proposed permit area (Figure 5). A section of Riparian Emergent Wetland was impacted by past mining disturbance. Proposed future disturbance (Figure 2) does not impact any of the designated wetland areas.

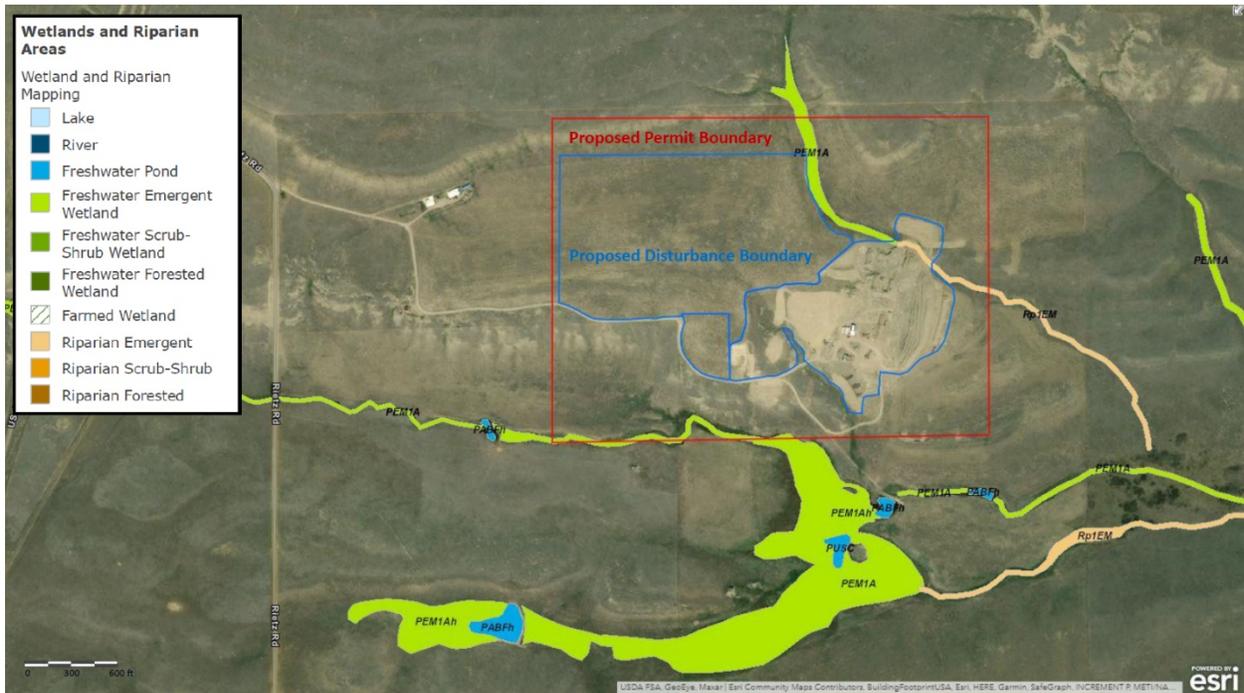


FIGURE 5: WETLANDS IN AND ADJACENT TO THE PROPOSED PERMIT AREA

Direct Impacts:

Impacts would potentially include temporary displacement of animals, including species of concern (Table 3), although habitat within the project area is common throughout the larger ecosystem and any displaced animals could find other nearby suitable habitat and return to the project area shortly after the project conclusion. MFS commits to no further impacts to wetlands within the proposed permit area.

Impacts to unique, endangered, fragile or limited environmental resources would not be significant. Any impacts would be short term, as they would not last beyond the proposed 25-year mine life and minor, because impacts would be noticeable but would be relatively small and would not affect the integrity or function of the resource (Table 3).

Secondary Impacts:

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

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 (SHPO) indicates that no inventoried historical sites, archaeological, or paleontological resources are present within the proposed permit area. Based on previous ground disturbance, SHPO indicates that there is a low likelihood that cultural properties would be impacted by the proposed project.

Direct Impacts:

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

Secondary Impacts:

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 site is remote, with low population density in the nearby area. The nearest resident, the landowner of the permit area, is located about 0.1 miles west of the proposed permit boundary. Due to the topography of the area, the quarry site is not visible from the next nearest residence located about 0.8 miles northeast of the proposed permit boundary.

The primary land use for the area adjacent to the permit area is for agriculture (wheat), livestock grazing and other dimensional stone mining operations. To date, no aesthetic issues related to site operations have been reported by the applicant.

Direct Impacts:

The impact from noise and lights would remain the same as under existing operations at the site. 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 2). The impacts from noise and light are minor due to the relatively small scale of operations and the distance of the quarry from private residences.

Impacts to aesthetics would not be significant. Any impacts would be short term, as they would not last beyond the proposed 25-year mine life and minor, because impacts would be noticeable but would be relatively small and would not affect the integrity or function of the resource.

Secondary Impacts:

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 generator which powers the rock breaker. An onsite 500-gallon mobile fuel tank is used to store diesel fuel. Any water needed for dust suppression would be supplied by the landowner's 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 not be significant as a result of the proposed operations. Impacts would be short term, as they would not last beyond the proposed 25-year mine life and minor, because impacts would be noticeable but would be relatively small and would not affect the integrity or function of the resource.

Secondary Impacts:

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
- Wheatland County
- United States Department of Interior Bureau of Land Management
- United States Forest Service

Aside from the current quarry operations, the surrounding land use is agriculture, livestock grazing and other dimensional stone mining operations.

Direct Impacts:

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

Secondary Impacts:

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 Jones Quarry site is located on private land that is signed as “No Trespassing.” The quarry area is gated and fenced and no public access would be allowed to the proposed permit area.

Direct Impacts:

Impacts on human health and safety resulting from the proposed operation would not be significant. No impacts to public health and safety would result from the proposed action. However, impacts on worker human health and safety would be involved during mining operations, but would be short term, as they would not last beyond the proposed 25-year mine life and minor, because impacts would be noticeable but would be relatively small.

Secondary Impacts:

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. The proposed operation site is currently being operated under a SMES. There are other existing SMES and Operating Permit sites in the area that co-exist with the current SMES operations at the proposed site.

Impacts on the industrial, commercial, and agricultural activities and production in the area would not be significant. Any impacts would be short term, as they would not last beyond the proposed 25-year mine life and minor, because impacts would be noticeable but would be relatively small and would not affect the integrity or function of the resource.

Secondary Impacts:

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 under a SMES. The workforce is not expected to either increase or decrease as a result of DEQ approving the proposed permitting action. The workforce may decrease if the proposed action is denied.

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. Denial of the operating permit could result in the loss of jobs.

Secondary Impacts:

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 operations to the proposed permit operations, and no change in tax revenues would be anticipated. Denial of the operating permit could result in loss of jobs and subsequently loss of tax revenue. Continued operation of the site under an Operating Permit would result in impacts to the local and state tax base and tax revenues, but the impacts would not be significant. Any impacts would be short term, as they would not last beyond the proposed 25-year mine life and minor, because impacts would be noticeable but would be relatively small and beneficial.

Secondary Impacts:

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 of Reitz Road, an unpaved surface road maintained by Wheatland County Road Department.

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 Reitz Road, and may cause impacts to the road surface or to traffic patterns.

Impacts on demand for government services would not be significant. Any impacts would be short term, as they would not last beyond the proposed 25-year mine life and minor, because impacts would be noticeable but would be relatively small and would not affect the integrity or function of the resource.

Secondary Impacts:

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 Wheatland 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:

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, nor is there access to recreational or wilderness areas nearby.

Direct Impacts:

No impacts to direct access to or quality of recreational or wilderness activities would be expected from the proposed operation.

Secondary Impacts:

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?

Wheatland County is the thirteenth-least populated county in Montana, with a population of 2,168 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 MFS.

Direct Impacts:

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

Secondary Impacts:

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, therefore no impacts to social structures and mores are anticipated.

Secondary Impacts:

No secondary impacts to social structures and mores would 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 site has been actively mined since at least 2013 and had previously been used for pasture grazing. Due to the topography and location, the proposed permit area has limited other use. No impacts to cultural uniqueness and diversity would be expected from this project.

Secondary Impacts:

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 Gordon Jones. DEQ has determined 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 for the regulated person (Gordon Jones)'s private property.

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 are anticipated from these proposed activities.

ALTERNATIVES CONSIDERED

In addition to the proposed actions, DEQ also considered a "no action" alternative. Under the "no action" alternative, DEQ would deny the issuance of the Operating Permit to MFS. MFS 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.

PUBLIC INVOLVEMENT

Public involvement for this proposed action consisted of internal and external efforts to identify substantive issues and/or concerns related to the proposed operation. Notice of the application for an operating permit was published November 4, 2020. Public involvement included a public comment period which ended on June 18, 2021.

Internal review of the environmental assessment document was completed by DEQ staff. The internal review 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)
- Wheatland County
- US Geological Society – Stream Stats
- Montana Groundwater Information Center (GWIC)
- Montana Bureau of Mines and Geology (MBMG)

RESPONSE TO PUBLIC COMMENTS

Public involvement for this proposed action included a 30-day public comment period. The public was notified of the opportunity to comment on the Draft EA through a DEQ-issued press release and posting on DEQ's website. All substantive public comments received by DEQ would be addressed in the final EA; however, no public comments were received during the comment period.

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. Thus, impacts from the proposed operation 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:

- Four Hard Rock Mining, active or inactive (un-reclaimed) SMES operations are located at or within 5 miles of the proposed permit boundary.
- Seven Hard Rock Mining Operating Permit sites, six sites of which operate under the same permit, are located within 5 miles of the proposed permit boundary
- Two Open Cut permitted sand/gravel sites are located within 5 miles of 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 3. 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 3: SUMMARY OF POTENTIAL IMPACTS THAT COULD RESULT FROM OPERATING PERMIT #00201

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 -low: All proposed disturbance area could be susceptible to erosion. E -medium: Total surface disturbance would be 65.7 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.	MFS would manage erosion control using a variety of Best Management Practices (BMPs). All BMPs would be identified in the mine site's Storm Water Pollution Prevention Plan.	No
Weed propagation associated with surface disturbance	Soil & Vegetation 1. Geology 4. Vegetation	S -medium All disturbed surfaces would be susceptible to weed propagation. E -medium: Total surface disturbance would be 65.7 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. 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 Wheatland County Weed Management Control Plan and the 2017 Montana Noxious Weed Management Plan. MFS would be expected to follow the approved reclamation plan.	No
Surface water	Water 2. Water Quality, Quantity, and Distribution	S -low: There are two intermittent drainages in/near the permit boundary. The closest perennial body of water is Lebo Creek, more than ½ mile from the permit boundary. E -low: Confined to the intermittent drainages. 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.	MFS would manage stormwater runoff using sediment control structures and a variety of BMPs.	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)
Dust and equipment exhaust	Air 3. Air Quality	<p>S-medium: Dust and other particulate would be generated during mining, loading, and hauling. Engines would produce some exhaust fumes.</p> <p>E-medium: Dust and exhaust fumes would be generated in proximity of moving/working equipment, and from dry exposed soil associated with the quarry area.</p> <p>D- Until mining operations cease, and disturbed land is graded and soiled.</p> <p>F-Daily: During mining and initial reclamation operations.</p> <p>U/F-Not unique or particularly fragile.</p>	Probable	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 as necessary. Original Equipment Manufacturer (OEM) exhaust controls would be utilized on mechanized equipment.	No
Displacement of fragile resource (Species of Concern)	6. Unique, endangered, fragile, or limited resources	<p>S-low: 65.7 acres of disturbance; surrounding area includes suitable habitat.</p> <p>E-low: Total surface disturbance would be 67.5 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>	Possible	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

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. Montana Frontier Sandstone, LLC, is proposing to mine up to 65.7 total acres with a life of mine of about 25 years. The quarry activities would result in removal of material for use as decorative stone.

DEQ has not identified any significant impacts associated with the proposed activities for any environmental resource. Approving Operating Permit #00201 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 #00201 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, DEQ believes that preparation of an environmental impact statement is not required.

Environmental Review Prepared By:

Millie Olsen, Environmental Science Specialist
Hard Rock Mining Program

Environmental Assessment Reviewed by:

Betsy Hovda, Environmental Science Specialist
Herb Rolfes, Operating Permit Section Supervisor
Hard Rock Mining Bureau, DEQ

Approved By:



06/25/2021

Signature

Dan Walsh, Bureau Chief
Hard Rock Mining Bureau, DEQ

Date

CITATIONS

Wilde, Edith M. and Porter, Karen W. Geologic Map of the Harlowton 30' x 60' Quadrangle, Central Montana. Montana Bureau of Mines and Geology, 2001.

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 46.36717 to 46.40183 and Longitude -109.80178 to -109.85615*. Retrieved on 2/26/2021.

Web Soil Survey. <https://websoilsurvey.sc.egov.usda.gov/>. Accessed [02/23/2021].