MT DEQ

Draft
Environmental Assessment

Amendment 002 for OP#00184 Grupo Cementos De Chihuahua
Table of Contents

COMPLIANCE WITH THE MONTANA ENVIRONMENTAL POLICY ACT ......................... 3
PROPOSED ACTION .................................................................................................................... 3
PURPOSE AND NEED FOR PROPOSED ACTION ................................................................. 4
APPLICANT’S PROPOSED ACTION ......................................................................................... 4

Figure 1: Proposed Permit Area Location ............................................................................. 5
Figure 2: Proposed OP #00184 Permit Areas for Amendment 002 ................................ 6
Table 1: Proposed Permit and Disturbance Areas ................................................................. 7
Table 2: Final Seed Mix .......................................................................................................... 9

SUMMARY OF POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS ....................... 9
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE .............................. 9
2. WATER QUALITY, QUANTITY, AND DISTRIBUTION ............................................ 10
3. AIR QUALITY .................................................................................................................. 12
4. VEGETATION COVER, QUANTITY AND QUALITY ................................................ 12
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS ............................. 13
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES ........................................................................................................................... 14
7. HISTORICAL AND ARCHAEOLOGICAL SITES ......................................................... 14
8. AESTHETICS .................................................................................................................... 15
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY .................................................................................................................................. 16
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES ...................................... 16
11. HUMAN HEALTH AND SAFETY .............................................................................. 17
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION .................................................................................................................................. 17
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT ........................................ 17
14. LOCAL AND STATE TAX BASE AND TAX REVENUES ..................................... 18
15. DEMAND FOR GOVERNMENT SERVICES ............................................................. 18
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS ........................ 19
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES .................................................................................................................................. 19
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING .......... 20
19. SOCIAL STRUCTURES AND MORES ..................................................................... 20
20. CULTURAL UNIQUENESS AND DIVERSITY ............................................................. 20
21. PRIVATE PROPERTY IMPACTS ................................................................. 21
22. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES .... 21
   ALTERNATIVES CONSIDERED ............................................................. 21
   PUBLIC INVOLVEMENT ........................................................................ 22
   RESPONSE TO PUBLIC COMMENTS .................................................. 23
   OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION ................. 23
   DNRC LEASE STIPULATIONS REFERENCED IN THIS EA .................. 23
   CITATIONS .......................................................................................... 24
   NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS .... 25

   TABLE 3: SUMMARY OF POTENTIAL IMPACTS THAT COULD RESULT FROM OPERATING PERMIT #00184, AMENDMENT 002 ................................................................. 26

   SUMMARY ............................................................................................ 28
   DNRC Findings ..................................................................................... Error! Bookmark not defined.
Montana Department of Environmental Quality
Air, Energy & Mining Division
Hard Rock Mining Bureau

Montana Department of Natural Resources and Conservation
Trust Land Management Division
Minerals Management Bureau

ENVIRONMENTAL ASSESSMENT

COMPANY NAME: Grupo Cementos De Chihuahua (GCC)
OPERATING PERMIT: Operating Permit #00184
LOCATION: 6.4 miles southeast of Geyser, MT
Township 16 N, Range 10 E, Sections 2, 3, 4, 9, 10, and 11
COUNTY: Judith Basin County
PROPERTY OWNERSHIP: FEDERAL ___ STATE _X_ 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) and the Department of Natural Resources and Conservation (DNRC) must prepare an environmental review. This joint 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 an amendment (Amendment 002) for Operating Permit #00184 for Grupo Cementos De Chihuahua (GCC) - Geyser Mine to increase the permitted disturbance area and expand the Permit Boundary in order to add to the life of the mine by expanding the ore volume for extraction. The GCC – Geyer Mine provides gypsum for their cement making process at their Trident Plant. DNRC, under its requirements for its State of Montana non-metalliferous leases in N2NE4 of Section 10 and NW4 and N2SW4 of Section 11, T16N, R10E, has to review the mining operating plan proposal (Amendment 002). DNRC Minerals Management Bureau has to decide whether to approve the “proposed-action” alternative, or to approve the no-action alternative, or to approve the proposed action with additional mitigation measures.
PURPOSE AND NEED FOR PROPOSED ACTION
DEQ determined that the application for Amendment 002 to Operating Permit #00184 is complete and compliant on November 16, 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 November 16, 2020, sets forth DEQ's determination that the GCC – Geyser Mine proposed operating permit amendment 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:
GCC – Geyser (the applicant) has applied for an operating permit amendment 002 that would add 305.8 acres to the existing Permit Boundary and increase the permitted disturbance area by 37.06 acres. This amendment would add to the life of the mine by expanding the ore volume available for extraction. The life of mine would be estimated to provide two more years of gypsum for use by GCC. The GCC – Geyser Mine was originally permitted in 2013.

Location:
GCC proposes the Amendment 002 expansion approximately east of the current Geyser gypsum mine area. The gypsum mine is in Judith Basin County, approximately 6.4 miles southeast of Geyser, MT (Figure 1). The current mine is located in Sections 3, 4, 9, and 10, Township 16 North, Range 10 East. The access road is located roughly 6.4 miles southeast from Geyser on Hwy 87. The actual mine site is located approximately one mile east from Lone Tree Road (County Road 106).
Analysis Area:
The area being analyzed as part of this environmental review includes the proposed amendment area (Figure 2) as well as immediate downstream water sources and neighboring lands surrounding the permit area as reasonably appropriate for the impacts being considered.
Scope of Activity:
The site is currently operated under the approved Operating Permit 00184. The proposed amendment would be a continuation of the existing gypsum mine from west to east. The mined area would occur in a sequence with soil and overburden stripped and stockpiled separately. Then the gypsum deposit would be mined out and backfilled with the overburden into the area and reclaimed with topsoil and a DEQ/DNRC approved final seed mix. The ore stockpile and truck load out area would be located in the active quarry area directly west of the active mining. As the mine develops from west to east the load out area would move to the east closer to active mining. No ore stockpiles would be left post mine. At any one time an average of 10,000 tons of gypsum could be stockpiled at the west end of the active quarry area. The trucks would continue to use the existing haul route as currently used to transport gypsum ore to the Trident Plant. 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 373.1 acres and the proposed disturbance area would be 73.56 acres.
### Table 1: Proposed Permit and Disturbance Areas

<table>
<thead>
<tr>
<th>Quarry Name</th>
<th>Disturbance Area</th>
<th>Permit Boundary Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acreage within existing permit 00184 area</td>
<td>36.5 acres</td>
<td>67.3 acres</td>
</tr>
<tr>
<td>Amendment 002</td>
<td>37.06 acres</td>
<td>305.8 acres</td>
</tr>
<tr>
<td>Total</td>
<td>73.56 acres</td>
<td>373.1 acres</td>
</tr>
</tbody>
</table>

Activities at the sites would be a continuance of the current practice of mining gypsum. The access roads to the original mine site were pre-existing from Amendment 1 for mining access. No roadway has previously been present on the State land in the N2NE4 of Section 10 prior to gypsum mining. GCC created additional roadway to access State land in the N2NE4 of Section 10. New access roads are proposed to extend to the east in the N2NE4 of Section 10 and the NW4 of Section 11 (See Figure 2). The mine road areas on State land will be reclaimed.

No facilities would be constructed at the Amendment 002 sites. The quarrying would involve open pit techniques, with the rock typically broken loose by equipment rather than blasting. The sites would require grading and reclamation at closure, including mine-related roadways on State land. The quarry would be excavated to an average elevation of approximately 12 feet below the present surface, depending on the amount of overburden to be removed. Based on a 3:1 stripping ratio of overburden to ore, the maximum amount of soil and overburden that would be removed is 21 feet. The Geyser Mine is anticipated to provide gypsum ore up to 25,000 tons per season. Mining occurs on demand during the year. Approximately year round 3-6 truckloads of over-the-road dump truck loads of material would be removed from the site each day to the Trident Plant (500-600 truckloads per year).

The GCC-Geyser Mine does not use any water for active mining. Stormwater is managed with control structures and best-management practices (BMPs) such as rip-rap, slash filters, ditches and berms and seeding would be continued to be used. The mine is not expected to intercept any major groundwater sources or develop into a pit that captures water as the pit rock is fractured and porous rock underlying the gypsum deposit. The current mine is situated on a ridge feature which is not expected to contain any springs or groundwater flows. If water were to be captured in the pit, GCC commits to draining the water through trenching/piping to a constructed sediment/infiltration pond. No groundwater dewatering is planned for the Geyser Mine. Sediment basins or diversion berms would be employed in the case of excess storm water. Sediment basins would be developed to handle a 24-hour, 10-year precipitation event and would be equipped with spillways in case of overflow. All stormwater would be contained on-site and no release of stormwater is proposed. Seeding would be done on all disturbances to reduce erosion and runoff potential. No fuel or other industrial liquid would be permanently stored on-site.

The Amendment 002 would expand the permit boundary to cover an area which includes the North Fork Surprise Creek and some tributaries. If a drainage needs to be crossed, a properly sized culvert would be installed. During excavation, overburden would be kept away from drainage banks to prevent any sediment getting into the watershed. All excavations would drain internally away from drainage areas. Sediment basins could be needed to be installed downslope of areas accessed by the haul road. These sediment basins would be developed to handle a 24-hour, 10-year
precipitation event and would be equipped with spillways in case of overflows. GCC has been approved for a Storm Water Protection Plan Permit.

Dust would be managed through use of a water truck to control dust on mine areas as required by the private landowner. The water would come from the private landowner’s stock pond. Magnesium chloride may be used as necessary. The haul road would be used by a maximum of 6 haul trucks and two passenger vehicles round trips per day.

**Duration of Activity:**
Mining activity would occur Monday thru Friday from 7 am – 6 pm, occasionally there would be work on the weekends. The Geyser mine would not be operated starting from as early as September and ending in June. Transport of ore occurs year-round from the site.

**Personnel and Equipment:**
The quarry would continue to employ 4-6 people. Onsite equipment may include a loader, dozer, an excavator and haul truck. Mining is done with one excavator with a jackhammer attachment, one loading excavator, several haul trucks, and a loader. Several maintenance vehicles may be present on the private land portion of the operation. Service trucks bring fuel to the operation using mobile tanks. No fuel is stored on-site.

**Reclamation Plan:**
The mine sites would be reclaimed as native grassland post mine. The access roads on private land would be left intact post-mine as requested by the landowner. All other mining disturbances would be reclaimed. Concurrent reclamation would be conducted as possible 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. An average soil depth of 17 inches is expected. Reclaimed mine areas would receive an average of 17 inches of topsoil. Soil salvaged would be used for post-mine reclamation. Reclaimed areas would be seeded with the approved seed mix, Final Seed Mix (Table 2). Seed would be certified as weed free and noxious weeds would be controlled following revegetation.
TABLE 2: FINAL SEED MIX

<table>
<thead>
<tr>
<th>Final Seed Mix</th>
<th>Lbs. per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>('Sodar')-can be used as a replacement for ‘Critana’</em></td>
<td><em>(8.4)</em></td>
</tr>
<tr>
<td>Agropyron dosystachyum / ‘Critana’ thickspike wheatgrass</td>
<td>8.5</td>
</tr>
<tr>
<td>(Agropyron riparium / ‘Sodar’ streambank wheatgrass)</td>
<td><em>(8.4)</em></td>
</tr>
<tr>
<td>Agropyron spicatum / ‘Secar’ bluebunch wheatgrass</td>
<td>9.3</td>
</tr>
<tr>
<td>Agropyron trachycaulum / ‘Pryor, Revenue’ slender wheatgrass</td>
<td>5.5</td>
</tr>
<tr>
<td>Lolium multiflorum / annual ryegrass</td>
<td>1.9</td>
</tr>
<tr>
<td>Poa annua / 'Sherman' big bluegrass</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25.7</strong></td>
</tr>
</tbody>
</table>

*('Sodar')-can be used as a replacement for ‘Critana’

**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 second amendment is in an area on the northeast flank of the Lone Tree Dome. The gypsum bed is mapped as occurring in the Heath Shale of the Mississippian Big Snowy Group. A prominent ridge of cross-bedded reddish sandstone about 170 feet up-section to the north of the gypsum exposure is basal Amsden Formation (Mississippian-Pennsylvanian). The gypsum is 6-7 feet thick and dips north at 15 degrees. The amount of soil and overburden that would need to be removed is about six to seven feet. Soil would be stockpiled to the east of mining activities.

**Direct Impacts:**
At the mining and processing sites, soil horizons would be disrupted. Topsoil thickness ranges from 0 to 24 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 17 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). All BMPs would be identified in the mine site’s Storm Water Pollution Prevention Plan, which was approved on August 25, 2020 by DEQ Water Protection Bureau Permit MTR000691.

USDA-NRCS Web Soil Survey information indicates soils on state land in the Amendment 002 area may experience moderate to severe erosion if disturbed, have low resistance to compaction, and have some high soil puddling components. NRCS notes, for this area, Cheadle stony loam has poor reclamation suitability due to water and wind erosion, droughtiness, and rooting depth. Skaggs clay loam is well suited to reclamation. However, except for the gypsum bed, which would be mined, the soils there would have a moderate to high resilience and restoration potential.

Road/cross country travel on state land is restricted to dry or frozen conditions, unless roads are constructed to all weather standards, (See DNRC Lease Stipulation E in list on page 23). DNRC also reserved the right to restrict or preclude activity on its mineral lease during conditions that may produce accelerated erosion, (See Stipulation K on page 23).

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” and Table 3. Impacts to the geology, soil quality, stability and moisture would be short-term and minor and therefore would not be significant.

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

The Croff ranch is located west of the mine area and uses a cistern to obtain its water. One spring and a five-foot deep stock well are located over a mile away from the proposed action. The spring and the stock well (>2000 feet away) are not expected to be hydrologically connected to the mine disturbance. Groundwater has not been encountered in the current workings and would not be expected for the proposed disturbance areas.

Surface Water

An ephemeral tributary of Lone Tree Creek is in the area to the south of the original permit boundary. North Fork Surprise Creek, and several of its tributaries, run through permit boundary. The Lone Tree Creek tributary is 275 feet south of the closest permit boundary. The closest planned mine disturbance is located 500 feet away and 60 feet above this stream channel.

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. Groundwater quality would not be impacted by sediment with the use of equipment 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 18.2 inches per year. No water is used in the mining operation. Stormwater controls such as rip-rap, slash filters, ditches, berm would prevent erosion from storm events and GCC commits to ensure that all stormwater stays within the permitted boundary. Sediment basins would be developed to handle a 24-hour, 10-year precipitation event and would be equipped with spillways in case of overflow. All stormwater would be contained on site and no release of stormwater is planned. Seeding would be done on all disturbances to reduce erosion and runoff potential. This includes haul road slopes, diversion ditches and berms.

The proposed action would expand the permit boundary to cover an area which includes the North Fork Surprise creek, and some tributaries. Where drainages need to be crossed, an appropriately sized culvert would be installed to protect water quality. During excavation of the quarry, overburden would be kept away from drainage banks to prevent any sediment getting into the watershed. All excavations would drain internally away from drainage areas.

Accumulation of stagnant water in the development area, to the extent that it serves as a host or
breeding ground for mosquitoes or other disease-bearing or noxious insect life, would not be allowed. No fuel is stored on-site and is brought in via mobile tanks in service trucks.

**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. A water truck would be used to control dust on mine areas as needed. Any water needed for dust control would come from the landowner’s stock pond. Magnesium chloride may be used as necessary to supplement the dust control. The haul road would have a maximum of six ore trucks and two-passenger vehicle round trips per day, so excessive dust would not be expected. 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 is 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 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.

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

### 4. VEGETATION COVER, QUANTITY AND QUALITY

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

The vegetation of the permit and surrounding areas is of the Rocky Mountain Lower Montane Grassland type dominated by Rough Fescue (Fescue campestris) and Idaho Fescue (Festuca
Idahoensis) as co-dominant species. Bluebunch and Western Wheatgrass are also commonly found with this eco-type.

**Direct Impacts:**
Due to the nature of the proposed expansion, impacts to vegetative cover, quantity or quality resulting from this proposed expansion would be minimal and of short duration. Disturbed vegetation would be concurrently reclaimed with a native seed mix approved by DNRC and DEQ. Land disturbance at the site may result in propagation of noxious weeds. Any surface disturbances would be reclaimed and seeded with an appropriate seed mix (see Table 2). The project area would be subject to the Judith Basin Noxious Weed Management Plan. Leafy spurge occurs in the current mine area and proposed Amendment 002 area. Henbane has also been found in the current mine area. Implementation of the weed management plan would result in decreased establishment of noxious weeds. DNRC’s lease requirement for washing of vehicles prior to entry onto state property would also assist this decrease, See Stipulation B, in list on page 23 below. On state land the company is responsible for noxious weed control after operations cease and DNRC is satisfied that noxious weeds are sufficiently addressed. Impacts to vegetative cover, quantity or quality resulting from this project would be short-term and minor and would not be significant (Table 3).

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

5. **TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS**

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

The proposed permit area has habitat for pronghorn antelope, white tailed deer, badger, coyote, ground squirrels, jack rabbits, red fox, crows, ravens and various birds of prey. The Golden Eagle is the only species of concern, or special status species, documented in the study area by MT Natural Heritage Program (MT-NHP). The closest MT-NHP Golden Eagle site to the eastern portion of the Amendment 002 area is greater than ½ mile away. MT-NHP observed this site in 2011 and noted indirect evidence of breeding. The Golden Eagle has a rank of S3 in the State which means it is potentially at risk because of limited and potentially declining numbers extent and/or habitat, even though it may be abundant in some areas.

**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 operation. 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 15 species of vertebrates were listed in the study area as species that could potentially be present based on their range, presence of associated habitats, or predictive distribution model output.

The proposed permit area is not in the general or core habitat areas identified by the Montana Sage Grouse Habitat Conservation Program. MTNHP does not identify any wetland areas located the proposed permit disturbance.

Direct Impacts:
The proposed activity would represent a continuation of the mining that has been occurring since 2013. 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 operation. 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 Montana Cultural Resource Database and file search under the State Historic Preservation Office (SHPO) indicates that no inventoried historical sites, archaeological, or paleontological resources are present within the greater project area. If cultural resources are encountered during operations, they would be reported to SHPO immediately. In 2017, a Class III cultural and paleontological resources inventory was conducted of the area of potential effect on state land in the N2NE4 of Section 10, including the previously approved area of GCC’s operation. Despite a detailed examination, no cultural or fossil resources were identified, and no additional archaeological or paleontological investigative work is recommended. The proposed project would have No Effect to Antiquities as defined under the Montana State Antiquities Act. A formal report
of findings, referenced in CITATIONS below, has been prepared and is on file with the DNRC (Rennie, Patrick, 2017), and the Montana State Historic Preservation Officer.

GCC’s planned expansion into Section 11, T16N R10E resulted in a Class III cultural and paleontological resources inventory on part of the state land in this section in 2020. A Class III cultural and paleontological resources inventory was conducted of the area of potential effect on state land. During the course of examination two isolated, low-profile cairns were identified. Both were situated in the project’s area of potential effect (APE). In order to assess significance and integrity both stone features were fully excavated, mapped, and documented. Neither produced evidence of cultural materials that might suggest their original functions or age of construction. No additional archaeological or paleontological investigative work is recommended. The proposed project will have No Effect to Antiquities as defined under the Montana State Antiquities Act. A formal report of findings has been prepared and is on file with the DNRC (Whitehorn, 2020) and the Montana State Historic Preservation Officer.

If mining excavation uncovers other cultural or paleontological resources, the lessee and/or representative shall stop work in the discovery area and contact DNRC immediately for guidance on how to proceed, (see DNRC Lease Stipulations C1 and C2 in list on page 23 below).

**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 Geyser mine has had an operating permit since 2013. The mine area would continue to be visible from Lone Tree Road, but due to the relative small size of the mine area, homogenous ecological makeup of the surrounding areas, and the fact that this mining is a continuation of existing mining, the visual impact would be negligible. No facilities or structures are planned as part of this permit at this time.

**Direct Impacts:**
A homestead is approximately 2,000 feet west of the original permitted area and Amendment 1 mine-site area. Additional operations would take place further to the east. No other structures are in the area. Aside from possible equipment noise during operations, no detrimental effects from lights, quarry visibility, or other direct impacts are anticipated. Equipment noise might be noticeable to receptors. 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. Any water needed for dust suppression would be brought onsite from the private stock pond in Section 10. 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
• Judith Basin County

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
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.

**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. 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?

Adverse impacts would not be expected on the Industrial, Commercial, Agricultural Activities and Production in the area due to the limited extent of the proposed expansion.

**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?*

Local and state tax base would remain unchanged for the present taxes because no new positions would result from the amendment application. Overall impacts to tax base and to tax revenues would be minimal.

_Direct Impacts:_
Local and state tax base would remain unchanged for the present taxes because no new positions would result from the amendment application. Overall impacts to tax base and to tax revenues would be minimal. 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?*

As this is a proposed expansion of an already approved operation, no increase in traffic or drains on other existing governmental services would be anticipated except for required inspections conducted by the DNRC in addition to those already conducted by DEQ.

_Direct Impacts:_
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 existing roads, 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 existing quarry is already operating with an approved plan of operation. The proposed expansion would be covered under the existing operating permit requirements. The Bureau of Land Management released a revised Resource Management Plan for the Lewistown, MT area on July 30, 2020. The BLM’s website https://www.blm.gov/press-release/BLM-releases-Resource-Management-Plans-for-Lewistown-Missoula notes future publication of the plan in the Federal Register. A small amount of BLM land locates about a mile away from the mine expansion area’s proposed eastern permit boundary. DEQ and DNRC are not aware of any other locally adopted environmental plan or goal. The amendment application would not affect any locally adopted environmental plan or goal.

**Direct Impacts:**
DEQ and DNRC are 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?

Access does not exist to the proposed mine expansion area on state land by county road or public highways. The company has an agreement with the local landowner to access the state land by a road through their ranch to the gypsum mining area.

**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?

This proposal is a proposed expansion of an existing operation. All on-site activities would be conducted by current GCC employees. As a result, no impacts on the density and distribution of population and housing would occur.

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:
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 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. 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 existing operation is partly on privately owned land with no restrictions and on state land and mineral estate with lease requirements. The proposed expansion is a continuance of the existing operation and an expansion eastward into new areas of state and privately-owned land.

DNRC’s lease requirements for the mineral lessee, employees, contractors, and operators on its school trust surface and mineral estate also assist in addressing concerns including wildfire prevention and property boundary lines, see Stipulations K, L and N in list on pages 23 to 24 below.

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
The State of Montana would collect a per short ton royalty from quarrying on state-owned land/mineral estate and annual rental payments on its leases. 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
DEQ and DNRC considered two alternatives for the proposed mine expansion Amendment 002, the “no-action” alternative and the “proposed action” alternative. The paragraphs below discuss briefly these considerations.

“No-Action” Alternative
DEQ and DNRC considered the "no action" alternative for GCC’s Geyser gypsum mine. The "no action" alternative would deny the issuance of Amendment 002 to GCC’s Operating Permit. GCC would lack the authority to quarry for minerals on additional state-owned property. Any potential impacts that would be authorized under the proposed quarry expansion would not occur. Additional royalty income to the state common school trust would not be received. Rental income to this trust would decrease.

DEQ does not consider the “no action” alternative to be appropriate because GCC has
demonstrated compliance with all applicable rules and regulations as required for approval of the amendment. The no action alternative forms the baseline from which the impacts of the proposed action can be measured.

“Proposed-Action” Alternative
The proposed-action alternative would allow GCC to expand its gypsum quarrying operation further into its State of Montana non-metalliferous lease in Section 10 and continue into an additional State of Montana non-metalliferous lease in Section 11. Current grazing activities would continue around the quarry area. GCC would be interacting with an additional State of Montana grazing lessee in Section 11. The State common school trust would receive royalty income and rental income.

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 February 3, 2021 and will end on March 3, 2021. 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)
- Judith Basin County
- US Geological Society – Stream Stats
- Montana Groundwater Information Center
- Montana Bureau of Mines and Geology
- Blackfeet Nation Tribe, THPO
- Chippewa Cree Cultural Resources Preservation Dept., THPO
- Fort Belknap Indian Community, THPO
- Confederated Salish & Kootenai Tribes Preservation Dept., THPO
- Northern Cheyenne Tribe, THPO
- The Crow Tribe of Indians, THPO
- Fort Peck Agency, THPO
- Little Shell Cultural Committee
**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 and state land. The Department of Natural Resources and Conservation also has to decide whether or not to approve the plan of operations for its mineral leases. All state and federal rules would be adhered to, which may include other state and federal agency jurisdiction.

**DNRC LEASE STIPULATIONS REFERENCED IN THIS EA**
Stipulations on the State mineral leases, the EA, and the commitments that GCC has made address potential concerns. The lease stipulations referenced in this Environmental Assessment are listed below:

B. Lessee shall be responsible for controlling any noxious weeds introduced by lessee's activity on state-owned land and shall prevent or eradicate the spread of those noxious weeds onto land adjoining the leased premises. The lessee's methods of control must be reviewed and approved by the Department's Area Field Office that has jurisdiction for that locale. The lessee’s annual report shall include a section addressing weed control activities and status over the reporting period. Lessee remains responsible for weed control after operations cease, and until the Department is satisfied that noxious weeds are sufficiently addressed.

All vehicles must be washed, particularly the underside, prior to entry onto the property to minimize the spread of noxious weeds.

C. 1. The Department has conducted a Class III intensity inventory for possible cultural and paleontological resources of the N2NE4, Sec. 10, T16N, R10E and did not locate any surficial resources. If mining excavation uncovers cultural or paleontological resources, the lessee and/or representative shall stop work in the discovery area and contact DNRC immediately for guidance on how to proceed.

C. 2. The Department has conducted a Class III intensity inventory for possible cultural and paleontological resources of the NW4, N2SW4, Sec. 11, T16N, R10E and found two cultural sites. Documentation and excavation of these two sites has been completed by the DNRC archaeologist. If mining excavation uncovers cultural or paleontological resources, the lessee and/or representative shall stop work in the discovery area and contact DNRC immediately for guidance on how to proceed.

E. Vehicular traffic is restricted to existing roads, and to dry or frozen conditions, unless roads are constructed to all-weather standards.

K. The Department reserves the right to restrict or preclude any activity on the lease premises during periods of adverse weather and other conditions which may attribute to accelerated erosion, fire hazard, disruption of seasonal wildlife use, or other adverse resource impacts, or any other conditions, which in the opinion of the Department will have an unmitigated adverse effect or a significant loss of revenue on Trust land.
L. The lessee, and employees, including contractors, and/or operators shall comply with any requirements of fire restriction stages, if implemented, unless they obtain an exemption that may be issued by the Lewistown Unit Manager after field review. No use would be allowed should the fire restrictions rise to the level of closure.

The lessee and employees, including contractors, and/or operators shall have a fire extinguisher, shovel and/or pulaski and a backpack pump in vehicles and equipment and shall meet spark arrester requirements in Montana Rule 36.10.126 (see attached). A water tank with a minimum capacity of 200 gallons and ability to pump water or a water truck shall be available at the exploration site/mine if fire hazard reaches “High.” The lessee is responsible for fires that may result from use of the authority given here.

N. Property line surveys and demarcations may be required prior to mechanized operations in the vicinity of property boundaries. When completed, approved by TLMD, and filed with the county, two copies of the survey(s) shall be sent to the TLMD. The mineral lessee would be responsible for the cost of these surveys.

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.

The proposed expansion is a continuance of an existing operation currently located on private land. Impacts from this proposed expansion would be short lived and would be fully reclaimed by the conclusion of operations. DEQ and DNRC searched, but did not find information regarding any other federal, state, or private proposed projects or expansions within the recent past or proposed for the near future that would add to the cumulative effects of impacts related to this proposed expansion.

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 would not be significant.

CITATIONS

Geyser Mine Operating Permit #00184 Amendment No. 2. Dated September 24, 2020.

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>
<thead>
<tr>
<th>Potential Impact</th>
<th>Affected Resource and Section Reference</th>
<th>Severity$^1$, Extent$^2$, Duration$^3$, Frequency$^4$, Uniqueness and Fragility (U/F)</th>
<th>Probability$^5$ impact would occur</th>
<th>Cumulative Impacts</th>
<th>Measures to reduce impact as proposed by applicant</th>
<th>Significance (yes/no)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erosion of disturbed soil</td>
<td>Soil 1. Geology</td>
<td>S-high: All proposed disturbance area could be susceptible to erosion. E-high: Total surface disturbance would be 81 acres over the next 5 years. D-Ultil 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.</td>
<td>Possible</td>
<td>Erosion would add to cumulative impacts associated with potential erosion on existing roads, the adjacent tire mono-fill, and mined surfaces.</td>
<td>GCC 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.</td>
<td>No</td>
</tr>
<tr>
<td>Weed propagation associated with surface disturbance</td>
<td>Soil &amp; Vegetation 1. Geology 4. Vegetation</td>
<td>S-high: All disturbed surfaces would be susceptible to weed propagation. E-medium: Total surface disturbance would be 81 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.</td>
<td>Possible</td>
<td>Weed propagation from this project would add to any other area weeds that already exist within and near the proposed project area.</td>
<td>Weed control would be a requirement of the operating permit. The project would be subject to the Judith Basin Noxious Weed Management Plan. GCC would be expected to follow the approved reclamation plan.</td>
<td>No</td>
</tr>
<tr>
<td>Surface water</td>
<td>Water 2. Water Quality, Quantity, and Distribution</td>
<td>S-low: Surface water is 500 feet from the proposed disturbance area. E-low: Confined to North Fork Surprise 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.</td>
<td>Possible</td>
<td>Some sediment from the project could add to any other sediment entering North Fork Surprise Creek during stormwater runoff events.</td>
<td>GCC 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.</td>
<td>No</td>
</tr>
<tr>
<td>Potential Impact</td>
<td>Affected Resource and Section Reference</td>
<td>Severity(^1), Extent(^2), Duration(^3), Frequency(^4), Uniqueness and Fragility (U/F)</td>
<td>Probability(^5) impact will occur</td>
<td>Cumulative Impacts</td>
<td>Measures to reduce impact as proposed by applicant</td>
<td>Significance (yes/no)</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-------------------------------</td>
<td>-------------------</td>
<td>--------------------------------------------------</td>
<td>---------------------</td>
</tr>
</tbody>
</table>
| Dust and equipment exhaust | Air Quality 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, stockpile and quarry 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. | Dust suppression would be provided by the mine site’s water truck. OEM exhaust controls would be utilized on mechanized equipment. | No |
| Displacement of fragile resource (Species of Concern) | 6. Unique, endangered, fragile, or limited resources | \(S\)-medium: 81 acres of disturbance; surrounding area is suitable habitat. 
\(E\)-medium: Total surface disturbance would be 81 acres. 
\(D\)- Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment. 
\(F\)-During mining activity, which is expected to occur during weekday shifts for life of mine. 
\(U/F\)-Unique. | Unlikely | There are no species of concern in the vicinity of the project area. | 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 operation is an extension of the currently Operating Permit #00184. Due to the level of disturbance, severity, duration, geographic extent, and frequency of the occurrence of the impacts associated with the proposed activities would be limited. GCC is proposing to quarry up to 73.56 total acres with a life of mine of about 2 years. The quarry activities would result in removal of gypsum material from the mine sites.

DEQ has not identified any significant impacts associated with the proposed activities for any environmental resource. Approving Operating Permit #00184 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 #00184 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.

Environmental Review Prepared By:
Theodore Lewis and Craig Jones, Environmental Science Specialist
Hard Rock Mining Bureau, DEQ

Teresa Kinley, Geologist, Minerals Management Bureau, TLMD, DNRC

Environmental Assessment Reviewed by:
Millie Olsen, Environmental Science Specialist, Hard Rock Mining Bureau - DEQ
Herb Rolfes, Operating Permit Section Supervisor, Hard Rock Mining Bureau - DEQ
DNRC MMB TLMD Staff and Dustin Lenz, Land Use Specialist, DNRC NE Land Office

Approved By:

[Signature]
Dan Walsh, Bureau Chief
Hard Rock Mining Bureau, DEQ

02/08/2021
DNRC FINDINGS

Alternative Selected
After reviewing the Environmental Assessment, I have selected the “Proposed Action” Alternative, to issue operating plan approval to GCC Three Forks, LLC to mine gypsum on state land in the delineated areas of the N2NE4, Section 10 and the NW4 of Section 11, T16N, R10E. I believe this alternative can be implemented in a manner that is consistent with the long-term sustainable natural resource management of the area and can also generate revenues for the common school trust on both sections.

Significance of Potential Impacts
I conclude all identified potential impacts are minimal. They will be mitigated by utilizing the stipulations on the State of Montana non-metalliferous leases, NM-2011-18 and NM-2012-20, other requirements, and commitments by GCC, Three Forks, LLC.

Need for Further Environmental Analysis
I concur that preparation of an Environmental Assessment provides the appropriate level of environmental review under the Montana Environmental Protection Act.

Approved By:

[Signature]
Trevor E. Taylor, Bureau Chief
Minerals Management Bureau, DNRC

[Date]