March 8, 2019

RE: Notice of Availability of a Final Environmental Assessment and Decision Document for an Application for an Operating Permit from Glacier Stone Supply LLC, in Flathead County for Two Quarry Sites

Dear Reader:

Glacier Stone Supply LLC (Glacier) submitted an Operating Permit Application to the Department of Environmental Quality (DEQ) seeking authorization to operate two rock quarries on private property in Flathead County. The rock quarries are in close proximity to each other and are located in portions of Section 4, Township 27 North, Range 24 West and Government Lot 9 approximately three miles Northwest of Marion, MT.

Rock would be removed from the two sites using heavy equipment such as bulldozers, loaders, and backhoes. Generally, the rock would be quarried from rock outcrops and/or talus slopes. The quarry operations, however, may include possible drilling and blasting.

Access to the proposed quarry sites would be by way of public and private roads. Roads constructed to access the quarries would be reclaimed at closure or left for private access at the request of the property owner. The mine life is projected to be up to twenty-five years.

DEQ issued a draft environmental assessment on the application on June 12, 2018. Today, DEQ is issuing a final environmental assessment which includes responses to comments received on the draft environmental assessment. The operating permit application and final environmental assessment can be viewed at DEQ offices located at 1520 E. 6th Ave., in Helena, MT or on DEQ’s website http://deq.mt.gov/Public/ea/hardrock

For information on the EA, contact me at the information belos

Herb Rolfes
Operating Permit Section Supervisor
Hard Rock Mining Bureau
(406) 444-3841 or email at hrolfes@mt.gov
Sincerely,

[Signature]

Herb Rolfes  
Operating Permit Section Supervisor  
Hard Rock Mining Bureau  
(406)444-3841 or email at hrolfes@mt.gov
COMPANY NAME: Glacier Stone Supply LLC
PROJECT: Glacier Stone Mine (Canyon Creek/Glacier Mountain Site)
PERMIT: 00190
LOCATION (lat, long): 48.128319, -114.687801  COUNTY: Flathead
PROPERTY OWNERSHIP: Private

TYPE AND PURPOSE OF PROPOSED ACTION:

On April 27, 2017, Glacier Stone Supply, LLC (Glacier Stone) applied for an operating permit to authorize the mining of rock products on privately owned, leased property in Flathead County, Montana (MT). The site is located about three miles northwest of Marion, MT (See Figure 1). The mine would be located within the N½ of the SE¼ of Section 4, Township 27 North, Range 24 West and Government Lot 9. Glacier Stone is a supplier of architectural and landscape stone.

Glacier Stone has previously conducted rock mining operations at the site under Small Miner Exclusion Statement (SMES) #07-027 that was issued in 2015. SMES #07-027 covered an operation consisting of mining at two sites (Canyon Creek and Glacier Mountain) located in close proximity to each other. Glacier Stone is applying for an operating permit to cover the mining operations conducted at these sites because the disturbance area has grown beyond 5 acres--the size limitation for operating under a SMES. If issued, the operating permit would cover the Canyon Creek and Glacier Mountain sites, including landings and roadways. The option of applying for an operating permit was a corrective action identified in a December 27, 2016, Department of Environmental (DEQ) violation letter. The violation letter was issued by DEQ to Glacier Stone for operating two SMES sites within 1 mile of each other and for having disturbance between the two sites that exceeded the 5-acre SMES limitation.

Proposed Action
Glacier Stone proposed to obtain an operating permit for its current disturbance and expand its current mining activities at the Canyon Creek and Glacier Mountain sites that have been previously excluded from the operating permitting requirements of the Metal Mine Reclamation Act under SMES #07-027. The proposed disturbance area is 30 acres, not including the access road within the permit boundary. The access road encompasses 1.5 acres. The proposed 30 acres of mine disturbance is smaller than the 45 acres that are
proposed to be encompassed by the permit boundary. Only 13 acres would be disturbed at any one time due to concurrent reclamation (See Figure 2).

Figure 1. Quarry location (red circle) referenced to the town of Marion (black circle). Little Bitterroot Lake is at the left side of the image. Pleasant Valley Road is located between Little Bitterroot Lake and the Glacier Stone site location.
Figure 2. Area to be quarried at the Canyon Creek site with the proposed up to 50-foot top removal (enclosed in red). The Glacier Stone Mine is composed of the Canyon Creek site and the Glacier Mountain site. Glacier Mountain site is enclosed in yellow.

The quarry sites would be expanded by removing vegetation, stripping and stockpiling available soil for future reclamation use, and removing overburden or waste rock to access the desired rock materials. Generally, the materials to be quarried are rock outcrops and talus slopes. The upper elevation of the Canyon Creek Site would be lowered by up to fifty feet (See Figure 2). Depending on the product being produced, rock may be removed by various methods ranging from picking, drilling, and blasting followed by excavation and hauling, ripping with a bulldozer or excavator followed by removal, or drilling and sawing with diamond saws and splitting blocks followed by removal.

A rock or stone collection site would be worked with hand bars and other hand tools, or with loaders, backhoes or other similar equipment that would lift rock and stones from the ground surfaces, or from under thin soil layers. The rock materials would be sorted, stockpiled and placed on pallets for removal. The rock products would be loaded onto trucks and shipped to Glacier Stone’s Kalispell plant operation using existing roads. The access roads are depicted on Exhibit A in Glacier Stone’s Application.
The proposed mining activities would occur for up to 25 years. Operation hours would be from 6:30 a.m. to 4:00 p.m. Monday through Friday. No night or weekend operations are proposed. If blasting were used, it would be infrequent, averaging approximately once per year.

Soil is expected to be shallow or non-existent over much of the proposed site. Where salvageable amounts of soil are encountered, soils would be salvaged and stockpiled. Slopes in the area are very steep and rocky and may prevent salvaging of all soil resources due to equipment limitations and safety. Current and past mining of the rock outcrops have produced very little salvageable soil to date. Notwithstanding the general lack of salvageable soil material, Glacier Stone’s proposed reclamation plan would require Glacier Stone to salvage all available, and safely accessible, soil material for reclamation.

Glacier Stone’s proposed reclamation plan also requires the site to be reclaimed to a landscape dominated by rock rather than soil. Rock dominated habitats are abundant in the area due to the mountainous terrain, geology, and glaciation. The undisturbed native ground is gravelly loam with less than one to two inches (generally less than an inch) of slightly decomposed plant material. The reclamation of mining disturbance to a landscape dominated by rock under Glacier Stone’s proposed reclamation plan would provide comparable utility and stability to that which existed prior to mining and to areas adjacent to the quarries, achieving the reclamation standard set forth in Section 82-4-336(9)(a), Montana Code Annotated (MCA).

Despite the limited salvageable soil, Glacier Stone has successfully reclaimed areas disturbed under SMES #07-027 to a condition that provides comparable utility and stability as adjacent areas, including the establishment of trees. Reclamation of the rock collection sites would consist primarily of smoothing disrupted ground surfaces, replacing any soil material that had been removed and stockpiled, and seeding sites where rock has been removed.

The type of rock collection proposed by Glacier Stone would not generally create open pits or highwalls, but would instead generally only disturb the ground from which rock had been removed. If rock faces are created, Glacier Stone at closure would scale back the highwalls if necessary for stability and safety. Rock highwalls would be reclaimed as rock faces blending in with the surrounding topography. If quarrying results in upslope raveling of scree or loose rock, that destabilized slope would be revegetated or otherwise stabilized. The quarry floor would be graded, covered with growth media, and revegetated. All cut slopes and/or highwalls in unconsolidated materials within the proposed permitted site would be graded/sloped to conform to the surrounding or adjacent topography and to ensure free draining surface water.

Overburden and waste rock, if present, would be graded to conform to natural topography, against the quarry highwall (if present) to match and blend with existing topography. Coarse rock would not be revegetated but would remain as a rubble or scree feature. Access roads would remain for future access by request of the landowner. Quarry roads would be recontoured and reclaimed upon mining completion.
Analysis Area:
The area being analyzed as part of this environmental review includes Sections 35 and 36, Township 28 North, Range 25 West; Sections 32 and 33, Township 28 North, Range 24 West; Sections 03, 04, 05, 08,09, and 10, Township 27 North, Range 24 West and areas adjacent thereto that may be impacted by the proposed operation.

The proposed disturbance area is a ridge less than a mile to the east of Little Bitterroot Lake. Little Bitterroot Lake has medium density subdivisions with parcels averaging between one and two acres between the eastern shoreline and Pleasant Valley Road. East of Pleasant Valley Road, the subdivisions are low density, with parcels ranging from 20 acres to several hundred acres (See Figure 3).

The proposed site has been logged in the past and has had various quarrying operations as well as limited livestock grazing. Most recently, the site has been quarried by Glacier Stone Inc. under SMES #07-027.

SUMMARY OF POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS:
The following assessment has been prepared by DEQ.

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 project site contains formations of Belt Supergroup including the Burke Formation. These rock formations have been quarried at the site since 2005 under SMES #07-027 and the resulting slopes are stable. Glacier Stone has performed reclamation on part of the disturbance created under SMES #07-027 and that reclamation is stable.

Rock quarried under this plan would consist of various rock types and mineralogy. The rock may be found at or near the surface (such as talus) or in-place (such as bedded metasediments, sandstone, schist, shale, limestone, basalt, rhyolite, marble, etc.).

**Direct Impacts**

No fragile or unstable geologic features are present at the land surface. Surface disturbance and rock extraction from the quarry would modify the topography at the project site. The ridge on which the Canyon Creek quarry is located would be lowered in elevation by up to 50 feet and flattened. The height of the feature is approximately 450 feet from the base of the west slope of the hill to the top of the hill where Canyon Creek quarry is located.

Generally, the materials to be quarried are rock outcrops and/or talus slopes. Thus, soil is expected to be shallow or non-existent over much of the proposed site. Glacier Stone would be required to salvage all available soil material that can be safely salvaged, to stockpile the salvaged soil material, and to use the stockpiled soil material in reclaiming the site. However, the limited amount of existing soil limits the amount of soil that would be available for reclamation of the site. The disturbed area would be reclaimed to a condition of comparable stability and utility, blending with the rock outcrops and talus slopes that are widely distributed in the area. Thus, the limited soil availability should not impair reclamation of the disturbed site to a post-mine land use with comparable stability and utility. The reclamation of mining disturbance to a landscape dominated by rock under Glacier Stone’s proposed reclamation plan would provide comparable utility and stability to that which existed prior to mining and to areas adjacent to the quarries, achieving the reclamation standard set forth in Section 82-4-336(9)(a), MCA.

Impacts are expected to be minor 1) due to the limited area to be disturbed, 2) due to the limited area to be disturbed at any one time, and 3) due to concurrent reclamation.

**Secondary Impacts:**

The disturbance would increase the potential for erosion until vegetation is reestablished which would be a minor impact due to the limited area of disturbance, the limited soil available to erode, and concurrent reclamation.

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?
The project area receives approximately 21.82 inches of precipitation annually (USGS StreamStats, 2017). No baseline water quality and quantity measurements in the greater project area have been collected by DEQ. National Wetland Inventory delineated wetlands are not located within the proposed project perimeter (MTNHP, 2017).

Depth to water at the site was interpolated from the depth of the nearest well, which is located approximately ½ mile northwest of the proposed permit area. An estimate of the top elevation of the aquifer associated with this well, based on the elevation of the wellhead of about 4140 feet above mean sea level (amsl), is about 3960 feet amsl. The elevation of the permit area varies from 4400 - 4900 feet amsl. Therefore, the permit area ranges from 440 to 940 feet above the aquifer. The two proposed quarry sites are separated by a dry valley (elevation 4400', or about 100' lower than the northwest quarry and 400' lower than the southeast quarry) which shows no evidence of stream flow, springs, or seeps. Thus, Glacier Stone would not encounter groundwater during operations and would not impact groundwater.

**Direct Impacts:**
Based on multiple site visits by DEQ inspectors, small amounts of sediment that had discharged outside the proposed permit boundary were present. There is no indication that runoff could reach Little Bitterroot Lake, due to existing sediment control (berms and sediment control structures) as well as the rocky nature of the native and reclaimed ground that allows for rapid infiltration of runoff and snowmelt. The nearest on-site disturbance from the lake is about one mile in a direct line. There would be no direct flow path from the Glacier Mountain site to Little Bitterroot lake as runoff would enter the deep ravine, a natural catchment basin, between the two sites where it would infiltrate. The flow path from the Canyon Creek site would take a circuitous route of about three miles, if flow were able to travel that far, to the lake. No impacts to surface water resources are expected.

DEQ concludes that sediment will not travel from the site to Little Bitterroot Lake because of various filters that exist along the potential flow path.

1. The flow path to the lake (2.95 miles) appears to promote settling of any transported sediment prior to reaching the lake.
2. There is porous gravel / coarse rock in the immediate area of the disturbance. Runoff from most areas within both quarry sites would drain into areas where the land surface is composed of coarse rock. A large natural catchment basin exists downgradient from both the Canyon Creek and the Glacier Mountain disturbance areas. Runoff entering this area would infiltrate into the subsurface and slowly drain away, providing for deposition of any transported sediment within this coarse rock filter area.
3. There is a sediment catchment in the flow path from the proposed disturbance area to the north of the Glacier Mountain site and several berms on the permit perimeter that stop the transport of sediment in a storm event. Only a small portion of the north quarry area is within the northern watershed. The majority of the north quarry would drain toward the coarse rock natural basin to the south.
4. There are wetlands, vegetation, roads and other man-made structures between the permit area and Little Bitterroot Lake.

Sediment from storm water runoff coming off the permit area may travel beyond the permit boundary, but the above filters (primarily vegetation and areas of coarse rock) would limit the transport from tens to hundreds of feet beyond the permit boundary.

The applicant would be bound to all applicable state and federal rules regarding water quality and quantity. The applicant has additionally agreed to the condition of using appropriate best management practices (BMPs) throughout the project site to reduce the risk of erosion and sediment transport to surface waters. There would be minimal risk of degradation to surface or ground water resulting from this project because of the distance to surface water and the water table. There would be some modifications to storm water run-off patterns due to changes in topography and storm water control BMPs.

*Secondary Impacts:*
There would be no secondary impacts to water quality, quantity, and distribution that would be created by direct impacts analyzed above due to the distance to surface water and ground water.

### 3. AIR QUALITY

*Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?*

**Direct Impacts:**
DEQ reviewed the proposed activities at the quarry and has determined that the potential emissions from equipment used at the site are less than the applicable threshold for requiring a Montana Air Quality Permit (Administrative Rules of Montana [ARM] 17.8.743(1)(b)). However, Glacier Stone would still be subject to the following emission standards, which apply to both permitted and unpermitted facilities:

**ARM 17.8.304(2) Visible Air Contaminants** – No person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

**ARM 17.8.308(1) Particulate Matter, Airborne** – No person shall cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control emissions of airborne particulate matter are taken. Such emissions of airborne particulate matter from any stationary source shall not exhibit an opacity of 20% or greater averaged over six consecutive minutes, except for emission of airborne particulate matter originating from any transfer ladle or operation engaged in the transfer of molten metal which was installed or operating prior to November 23, 1968.

**ARM 17.8.308(2) Particulate Matter, Airborne** - No person shall cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
To satisfy “reasonable precautions” provisions, Glacier Stone would employ a number of control measures to reduce emissions, as necessary, including but not limited to the application of chemical dust suppressant and/or water on haul roads and access roads and the prompt revegetation of disturbed areas.

Sampling and pre-monitoring is not required under the Clean Air Act of Montana or the corresponding administrative rules. An air quality permit is not required for the Glacier stone operations. Ambient air quality monitoring for such operations is typically not required by DEQ, even for sources that are required to obtain an air quality permit.

The quarried material is inert. The particulate matter potentially released during operation would be regulated as particulate matter – primarily as Particulate Matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}). Potential emissions are expected to be less than the permit threshold requirement, and dust control is required to meet the reasonable precautions provisions. Therefore, because particulate would be emitted at levels below the permitting threshold and controlled, DEQ does not believe that particulate matter would be hazardous to nearby residents.

Concurrent reclamation would limit the potential for blowing dust from the operating area. The rock fragments left in the soils would also limit blowing dust.

*Secondary Impacts:*
Secondary impacts to air quality that could be created by the direct impacts analyzed above would be minimal due to the limited extent of the proposed work.

**4. VEGETATION COVER, QUANTITY AND QUALITY:**

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

Approximately 66% of the proposed project site is forested (USGS StreamStats, 2017). A May 23, 2017, search of the Montana Natural Heritage Program database identified two vegetative species of special concern or occurrence within the project area. *Acorus americanus* (Sweetflag) is found in shallow water. The proposed project area has no standing water and would not impact this species. *Silene spaldingii* is found in open mesic grasslands. The proposed project area is a dry, steeply sloped, rocky hill with xeric soils and would not support this species. Disturbed vegetation would be reclaimed after mining ceases with a DEQ approved native seed mix.

*Direct Impacts:*
Vegetation cover on the permitted disturbance area would be removed prior to mining. The area would be revegetated as mining is completed. While the total proposed disturbance area is 30 acres, only 13 acres would be disturbed at any one time due to concurrent reclamation.

*Secondary Impacts:*
Land disturbance at the site may result in propagation of noxious weeds. If an operating permit is granted, weed control during and after work would be a requirement. Weed control would be included in the reclamation bond calculation prepared by DEQ.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:
Is there substantial use of the area by important wildlife, birds or fish? Any wetlands? Species of special concern?

A May 23, 2017, search of the Montana Natural Heritage Program database identified occurrences for nine species of concern, including on threatened species. Four of the identified species have a habitat requirement for open water (e.g. fish). There is no open water or National Wetland Inventory delineated wetlands located within the proposed project boundary.

The proposed project area is primarily Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest with some Rocky Mountain Mesic Montane Mixed Conifer Forest and Rocky Mountain Lower Montane, Foothill, and valley Grassland.

Terrestrial species of concern that have been identified near the study area are discussed below.

Townsend’s Big-eared Bat (*Corynorhinus townsendii*) – Townsend’s big-eared bats are widely distributed in western North America and are commonly identified in forested habitat. These mammals use caves and abandoned mines as maternity roots. Eighty-seven percent of Montana is considered breeding range for this species. Therefore, impacts to this species should be minimal.

Little Brown Myotis (*Myotis lucifugus*) – Little Brown Myotis is the most common bat species in Montana. These bats are residents year-round and are found in a variety of habitats across a large elevation gradient. They commonly forage over water. Known maternity roosts in Montana are primarily buildings. Therefore, impacts to this species should be minimal.

Bald Eagle (*Haliaeetus leucocephalus*) – The Bald Eagle is primarily a species of riparian and lacustrine habitats (forested areas along rivers and lakes), especially during the breeding season. This bird is a resident species in the forested, mountainous areas of the state. Important year-round habitat includes wetlands, major water bodies, spring spawning streams, ungulate winter ranges, and open water areas. Therefore, impacts to this species should be minimal due to habitat constraints and existing disturbances that have taken place.

Fisher (*Pekania pennant*) – Fishers occur primarily in dense coniferous or mixed forests, including early successional forests with dense overhead cover. Optimal conditions for Fishers are forest tracts of 245 acres or more, interconnected with other large areas of suitable habitat. Fishers are managed in Montana as a furbearer with a limited harvest of seven animals. Therefore, impacts to this species should be minimal due to habitat constrains and existing disturbances that have taken place.

**Direct Impacts:**
The proposed activities are partly in an area previously disturbed. Impacts to habitat for species of concern would be minimal because previous mining activities, logging, and
subdivisions for homes have already altered the vegetation and land surface. The project would be limited to an additional proposed disturbance of 17.5-acres. Please see Figure 3 showing the location of the subdivisions with respect to the proposed disturbance areas.

Lynx is the only threatened or endangered species identified in the project area. The proposed permit area is less than a mile to the east of Little Bitterroot Lake. Little Bitterroot Lake has medium density subdivisions with parcels averaging between one and two acres between the eastern shoreline and Pleasant Valley Road. East of Pleasant Valley Road, the subdivisions are low density with parcels ranging from 20 acres to several hundred acres. In addition to not providing lynx desirable habitat because of the proximity to human activity, lynx are not known to depend on such rocky areas and are not obligate users of this habitat type. There is no boreal forest habitat within the permit boundary. The probability of any lynx occurring in the proposed permit area is considered very low. Any such occurrence would be a transient individual passing through the area.

The proposed permit area and adjacent areas do not provide habitat for Townsend’s Big-eared bats, Little Brown Myotis, Bald Eagles, Fisher, Common Loons, or Great Blue Herons. The Montana Natural Heritage Program website was reviewed for the presence of T&E species within or near the proposed permit area.

Secondary Impacts:
Secondary Impacts are not expected due to the limited area of proposed disturbance and existing disturbances that have taken place in the area.

6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:
_Are any federally listed threatened or endangered species or identified habitat present?_

A May 23, 2017 search of the Montana Natural Heritage Program database identified one federally listed threatened or endangered species or habitat within the greater proposed project area.

Canada Lynx (_Lynx canadensis_) – The Canada Lynx is listed as a threatened animal by the United States Forest Service. However, on January 11, 2018, the United States Fish and Wildlife Service announced the completion of a scientific review of the Canada lynx in the contiguous United States. The review concludes that the Canada lynx may no longer warrant protection under the Endangered Species Act and should be considered for delisting due to recovery.
The Canada lynx is a North American boreal and subalpine forest carnivore whose populations are strongly tied to its primary prey, the snowshoe hare. The southern margins of both their ranges extend into the northwest part of Montana and are dependent on dense vegetation and deep snow.

**Direct Impacts:**
The proposed activities would not impact any threatened or endangered species because of the limited scope of the project and because of the other uses of the surrounding area. The proposed permit area is less than a mile to the east of Little Bitterroot Lake. Little Bitterroot Lake has medium density subdivisions with parcels averaging between one and two acres between the eastern shoreline and Pleasant Valley Road. East of Pleasant Valley Road, the subdivisions are low density with parcels ranging from 20 acres to several hundred acres.

In addition to not providing lynx desirable habitat because of the proximity to human activity, lynx are not known to depend on such rocky areas and are not obligate users of this habitat type. There is no boreal forest habitat within the permit boundary. The probability of any lynx occurring in the proposed permit area is considered very low. Any such occurrence would be a transient individual passing through the area.

The proposed permit area and adjacent areas do not provide habitat for Townsend’s Big-eared bats, Little Brown Myotis, Bald Eagles, Fisher, Common Loons or Great Blue Herons.

**Secondary Impacts:**
There would be no secondary impacts to threatened or endangered species due to the limited scope of the project and existing disturbances that have taken place in the area.

7. **HISTORICAL AND ARCHAEOLOGICAL SITES:**
Are there any historical, archaeological or paleontological resources present?

The Montana Historical Society determined on January 18, 2017, that, based on the ground disturbance in the area, (mining, logging, road, and construction), a cultural resource inventory is unwarranted.

**Direct Impacts:**
The proposed mining activities are similar to activities conducted at the site under the SMES submitted to the Hard Rock Mining Bureau in 2005. No historical or archaeological sites have been identified in the proposed permit area. Therefore, no impact to historical and archaeological sites would occur.

**Secondary Impacts:**
There are no secondary impacts to historical and archaeological sites that would be created due to the existing disturbances and lack of identifiable sites.

8. AESTHETICS

*Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?*

The proposed project area consists of two sites one of which (Canyon Creek) is a prominent topographic feature and is visible from populated and scenic areas. The upper elevation of the two sites would be lowered by up to 50 feet. While viewshed aesthetics would be impacted by the proposed operations, the visual disturbance would not dominate the landscape. Disturbance at the site would be a rocky outcrop during mining operations and would be a vegetated plateau post reclamation. The duration of mining activities in the operating permit application is up to 25 years. Glacier Stone has proposed that mining disturbance would be limited to a total of 13 acres at any one time and Glacier Stone currently reports 12.4 disturbed acres in their operating permit application. Three figures (Figures 4-6) from Google Maps 3D are provided below to show the view of the proposed permit area from the north and from the west across Little Bitterroot Lake. These figures show disturbance resulting from the SMES activities at the proposed permit area as well as other adjacent disturbance in the surrounding area (e.g. roads and buildings).

Figure 4. View of proposed permit area from the north.
Most construction equipment produces noise in a decibel range in the upper 70s to lower 80s at a distance of 50 feet (https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm). The decibel level drops off with distance at about 6 decibels with doubling of distance, and at ten times the distance drops the intensity by 20 decibels (http://hyperphysics.phy-astr.gsu.edu/hbase/Acoustic/isprob2.html). The EPA has determined that a 24-hour exposure of 70 decibels is the level of environmental noise which prevents measurable hearing loss over a lifetime (https://archive.epa.gov/epa/aboutepa/epa-identifies-noise-levels-affecting-health-and-welfare.html). This level would be reached at a distance of about 150 feet from the source. Levels of 45 decibels are associated with indoor activities and 55 decibels with certain outdoor areas where human activity takes place. At a distance of about 800 feet from the source this decibel level would be met.
Proposed Glacier Stone operations would consist of excavator and truck operation. The excavator and truck operation would generate noise levels of a typical small-scale construction operation. DEQ expects Glacier Stone’s equipment to produce noise in a decibel range in the upper 70s to lower 80s at a distance of 50 feet. The decibel level drops off with distance at about 6 decibels with doubling of distance, and at ten times the distance drops the intensity by 20 decibels. The closest residence to the proposed permit area is approximately 2,900 feet away.

Glacier Stone plans to blast once every few years, if needed. The resulting noise would be greater than typical operations, but very limited in frequency. All operations would occur during daylight hours. The noise levels in the area would be essentially the same as the noise levels that have existed with ongoing operations under the SMES at this site since approximately 2005. Other mining appears to have occurred in this area as far back as 1994.

**Direct Impacts:**

Modifications to topography, lighting, and noise impacts from mining operations would be minimal because of the limited proposed permit area and operating hours. Impacts to visual resources would be minimal due to the existing SMES disturbances and partially restricted view of the sites. The Canyon Creek quarry disturbance would be visible from Little Bitterroot Lake, located west of the proposed site. Other neighboring residents and visitors may be able to see the disturbance from the Canyon Creek and Glacier Mountain quarries during the life of the mine and during reclamation.

The long-term viewshed of residents and visitors would be modified because of lowering the hill on which the Canyon Creek quarry is located. There are hills in higher elevation to the east which would limit the viewshed of the site. Continued mining under the proposed operating permit would create additional disturbances and lower the elevation of the proposed disturbance area by up to 50 feet at the end of mine life. These disturbances would be more pronounced than what currently exits but mainly limited to the views from Little Bitterroot Lake. Impact to the viewshed would be offset by a hill directly behind (to the east) of the area of proposed mining. See Figures 4 through 6 that show the existing viewshed and disturbance created by the SMES.

**Secondary Impacts:**

Further impacts to area aesthetics would be minimal due to the limited scope of the project.

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

*Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project?*

The proposed project would not use any limited resources in the area.

**Direct Impacts:**
DEQ searched several active mapping applications, including its interactive map and the DNRC public geographic information system. This search did not find any nearby commercial activities or projects demanding the use of the limited environmental resources of land, water, air, or energy that would be impacted by the proposed project. DEQ does not predict that the quality of water at Little Bitterroot Lake will be impacted by Glacier Stone’s proposed quarry operation.

Secondary Impacts:
No secondary impacts to environmental resources of land, water, air, or energy would result due to the limited scope of this project.

10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:
Are there other activities nearby that will affect the project?

Direct Impacts:
No impacts on other environmental resources are likely to occur due to the limited scope of this project.

Secondary Impacts:
No secondary impacts to other environmental resources would result due to the limited scope of this project.

11. HUMAN HEALTH AND SAFETY:
Will this project add to health and safety risks in the area?

Direct Impacts:
Impacts to human health and safety are not likely to occur due to the limited scope of this project. Most access roads are closed off to the public by a road closure gate. Glacier Stone does not allow public access to the sites.

Dust is not anticipated to be a problem. Generally, crushed aggregate projects include, as part of the project, dust control measures. If dust control is required, Glacier Stone may be required to use a water truck or dust suppressant to meet the reasonable precautions and/or opacity standard identified in the ARMs.

Concurrent reclamation would limit the potential for blowing dust from the operating area. The rock fragments left in the soils would also limit blowing dust. As previously indicated, the proposed operations as described in the application do not anticipate impacts to water or adjacent lands.

Reasonable safeguards have been taken to protect the human health and safety of people recreating on nearby property and use of shared access. There is shared access on the road that enters the northern portion of the Glacier Mountain quarry, but the shared access does not extend into the proposed permit boundary.
Because the quarries are to be reclaimed concurrently there should be no additional impacts to the public beyond what currently exists. There are no additional impacts to the public with approval of this amendment as the site is currently operated under a SMES.

**Secondary Impacts:**
No secondary impacts to industrial, commercial, and agricultural activities and production would result due to the limited scope of the project.

**12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION?**
*Will the project add to or alter these activities?*

**Direct Impacts:**
Adverse impacts would not be expected on the Industrial, Commercial, and Agricultural Activities and Production in the area due to the limited scope of this project. DEQ searched for other projects occurring or under concurrent consideration near the proposed project and none were found.

**Secondary Impacts:**
No secondary impacts to industrial, commercial, and agricultural activities and production would result due to the limited scope of the project.

**13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:**
*Will the project create, move or eliminate jobs? If so, estimated number.*

**Direct Impacts:**
Currently Glacier Stone employs between 40 to 100 people. This is not expected to increase with the proposed action.

**Secondary Impacts:**
No secondary impacts to quantity and distribution of employment would be created due to the limited scope of the project.

**14. LOCAL AND STATE TAX BASE AND TAX REVENUES:**
*Will the project create or eliminate tax revenue?*

**Direct Impacts:**
Some positive, yet limited, impacts to the local and state tax base and tax revenues could result from this project with continued employment of 40 to 100 people.

**Secondary Impacts:**
No secondary impacts to local and state tax base and tax revenues would be created due to the limited scope of the project.

**15. DEMAND FOR GOVERNMENT SERVICES:**
*Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?*
**Direct Impacts:**
Impacts expected on the demand for government services would be minimal due to the limited scope of the project. The existing demands are not expected to increase.

**Secondary Impacts:**
No secondary impacts to the demand for government services would occur due to the limited scope of the project.

16. **LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:**
Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?

**Direct Impacts:**
The entirety of the project would be located on private land. The project is not within the Kalispell city limits where there are some locally adopted environmental plans. These plans apply only in the Kalispell city limits. The area is outside the area covered by the Flathead County Growth Policy. The project is subject to the Flathead County Weed Control District Weed Management Plan. DEQ is not aware of any other locally adopted environmental plans and goals that impact this proposed project or the project area.

**Secondary Impacts:**
No secondary impacts to locally adopted environmental plans and goals that could be stimulated or induced by the direct impacts analyzed above would occur due to the limited scope of the project.

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?

**Direct Impacts:**
The project would be located on private land and at the end of the access road. The proposed operating permit area is about a mile from Little Bitterroot Lake. There is no wilderness areas nearby and there is no access to recreational areas from the site. There would be no impact to recreational potential on the proposed permit area.

**Secondary Impacts:**
Recreators on Little Bitterroot Lake may notice activity and noise from the proposed project due to running of heavy equipment and vehicle traffic. Secondary impacts to access and quality of recreational activities would be minimal due to the limited scope of the project and the distance of almost one mile between the Little Bitterroot Lake and the proposed project area.

18. **DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:**
Will the project add to the population and require additional housing?

**Direct Impacts:**
No impact to population density and housing in the area surrounding the proposed quarries would be expected due to the limited scope of this project. No additional employment is expected beyond what currently exists.

**Secondary Impacts:**
No secondary impacts to population density and housing in the area surrounding the proposed quarries would be expected due to the limited scope of the project.

19. **SOCIAL STRUCTURES AND MORES:**
*Is some disruption of native or traditional lifestyles or communities possible?*

**Direct Impacts:**
No disruption of native or traditional lifestyles would be expected due to the limited scope of the project.

**Secondary Impacts:**
No secondary impacts to native or traditional lifestyles or communities would be expected due to the limited scope of the project.

20. **CULTURAL UNIQUENESS AND DIVERSITY:**
*Will the action cause a shift in some unique quality of the area?*

**Direct Impacts:**
No impacts to cultural uniqueness and diversity would be expected due to the limited scope of the project.

**Secondary Impacts:**
No secondary impacts to cultural uniqueness and diversity would be expected due to the limited extent of the proposed project.

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 will 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 alternative.

The proposed project is located on private land owned by the applicant. DEQ's issuance of an operating permit with conditions would affect the applicant's real property. DEQ has determined, however, that the permit conditions are reasonably necessary to ensure compliance with applicable requirements under the Metal Mine Reclamation Act and to demonstrate compliance with those requirements, or have been agreed to by the applicant.
Therefore, DEQ’s issuance of the operating permit with conditions would not have private property taking or damaging implications.

22. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:
Due to the nature of the proposed mining activities, no further direct or secondary impacts would be anticipated from this project.

ALTERNATIVES CONSIDERED:
In addition to the proposed action, DEQ also considered the “no action” alternative. The “no action” alternative would deny the issuance of the operating permit to the applicant. The applicant would lack the authority to mine rock product on property they own, and would therefore not be able to continue operations started under SMES #07-027 unless able to reduce their operations to less than or equal to five acres of disturbance. Any potential impacts that would be authorized under the operating permit would not occur. However, DEQ does not consider the “no action” alternative to be appropriate because the applicant has demonstrated compliance with all applicable rules and regulations as required for operating permit issuance. The no action alternative forms the baseline from which the impacts of the proposed action can be measured.

PUBLIC INVOLVEMENT:
Scoping for this proposed action consisted of internal and external efforts to identify substantive issues and/or concerns related to the proposed project. Internal scoping consisted of a site visit and review of this environmental assessment by other DEQ staff, External efforts included queries to the following websites/databases/personnel:
- Montana State Historic Preservation Office
- Montana Department of Natural Resources and Conservation
- Montana Department of Environmental Quality
- Flathead County Weed Department
- Flathead County Planning & Zoning Office
- US Geological Society – Stream Stats
- Montana Natural Heritage Program
- Montana Cadastral Mapping Program
- US Department of Agriculture NRCS Soil Survey
- Montana Ground Water Information Center
DEQ staff also discussed the project with concerned citizens by telephone and in person.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION:
The proposed project would be fully within private land. No other governmental agencies are involved with the operating permit application; however, all state and federal rules must be adhered to, which may include other state and federal agency jurisdiction.

CUMULATIVE EFFECTS:
This environmental review is considering the proposed project submitted by the applicant. The cumulative impacts from this decorative rock excavation project include disturbance that was created under the SMES #07-027 and potential disturbance under the proposed operating permit application.
DEQ searched, but did not find information regarding any other federal, state, or private projects within the recent past, or proposed for the near future, that would add to the cumulative effects of impacts related to this project.

**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 the ARM 17.4.608, which are as follows:

1. The severity, duration, geographic extent, and frequency of the occurrence of the impact;
2. The probability that the impact will occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur;
3. Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts;
4. The quantity and quality of each environmental resource or value that would be affected including the uniqueness and fragility of those resources and values;
5. The importance to the state and to society of each environmental resource or value that would be affected;
6. Any precedent that would be set because of an impact of the proposed action that would commit DEQ 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.

The severity, duration, geographic extent and frequency of the occurrence of the impacts associated with the proposed mining activities would be limited. The proposed action would result in the disturbance of about 17 additional acres at the site. The applicant is proposing to continue quarrying decorative stone on an area that has been used by Glacier Stone for the same purpose since approximately 2005. The mine life is proposed to be up to 25 years. The land proposed to be disturbed does not contain unique, endangered, fragile, or limited environmental resources. The surface disturbance would be reclaimed within two years of completion of the mining activities.

The applicant is proposing to quarry rock outcrops and talus slopes using mechanized equipment. Impacts to local topography and the viewshed of nearby residents and visitors would be altered.

As discussed in this Environmental Assessment, DEQ has not identified any significant impacts associated with the proposed mining activities for any environmental resource. DEQ does not believe that the proposed mining activities by the applicant would have any growth-inducing or growth-inhibiting aspects, or contribution to cumulative impacts.

The proposed operating permit site does not contain unique or fragile resources. There would be minor impacts to geology through removal of rock product, although limited in area. The site would be reclaimed to provide comparable utility and stability of adjacent undisturbed areas.
Minor impacts to soil would occur through soil salvage, which would disrupt the soil horizon. Where possible soil would be salvaged and replaced during reclamation, then seeded with a DEQ approved seed mix.

Water resource impacts would be minor as storm water would be controlled through best management practices under a Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity. No water would be used on site except for dust control. There is no surface water to be impacted at the site. Groundwater would not be impacted as the depth to ground water ranges between 440 – 940 feet below ground surface and well below any disturbance to be made by Glacier Stone.

Impacts to air quality would be minor due to the limited area of operation and use of water for dust control.

Impacts to vegetation would be minor due to concurrent reclamation with a DEQ approved seed mix. Weed control would take place and meet Flathead County standards.

There would be minor impacts to terrestrial, avian, and aquatic life and habitats. These impacts would be reduced through concurrent reclamation to comparable utility and stability as adjacent undisturbed land. Impacts during mining would be similar to the impacts that currently exist from mining under a SMES.

Unique, endangered, fragile, or limited environmental resources have been evaluated. There are no unique or endangered fragile resources in the project area.

SHPO has determined that, based on ground disturbance that currently exists, there is no need for a cultural resource inventory. If a resource is discovered, SHPO would be notified immediately and the site left further untouched until a proper evaluation is made.

There would be impacts to viewshed aesthetics as the mining disturbance would be visible from Little Bitterroot Lake, U.S. Highway 2, and along portions of Pleasant Valley Road (among other locations). The upper elevation of the Canyon Creek site would be reduced by up to 50 feet. While viewshed aesthetics would be impacted by the proposed operations, the visual disturbance would not dominate the landscape. Over time disturbances to the viewshed would be less noticeable as revegetation and weathering of rock surfaces occurs.

Demands on environmental resources of land, water, air, or energy would be minor. The impacts from the proposed action would be similar to the disturbance from current actions taking place under a SMES.

Impacts to human health and safety would be minor as access roads would be closed to the public and because the site is on private land. The public is not allowed on the mine site.

As discussed in this Environmental Assessment, DEQ has not identified any long-term or significant impacts associated with the proposed activities on any environmental resource.
Issuance of an operating permit to the applicant 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, amendment, or revision application to conduct additional mining, 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 Metal Mine Reclamation Act. Issuance of the operating permit to the applicant 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 mining activities by the applicant would have any growth-inducing or growth-inhibiting aspects that would 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 operation is not predicted to significantly impact the quality of the human environment. Therefore, preparation of an environmental assessment is the appropriate level of environmental review under the Montana Environmental Policy Act.

Environmental Assessment Prepared By:
Betsy Hovda
Hard Rock Mining Bureau, DEQ

Environmental Assessment Reviewed By:
Herb Rolfe
Operating Permit Section supervisor
Hard Rock Mining Bureau, DEQ

Approved By:

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

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|              | **MORRISON SHERWOOD \\ WILSON DEOLA PLLP**

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August 2, 2018

Mr. Herb Rolles
Montana DEQ
P.O. Box 209901
Helena, MT 59620
hrolles@mt.gov

Re: **Glacier Stone Environmental Assessment**

Dear Mr. Rolles:

I am writing on behalf of Henry and Diane Bell. This letter constitutes our formal comments on the Glacier Stone Supply Environmental Assessment (EA). Thank you for the courtesy of the two-week extension, and for allowing me access to the files this past week. Elizabeth Erickson with Water and Environmental Technologies (WET) will be providing additional comments and exhibits on the Bell’s behalf, by separate cover.

The EA and proposed permit are deficient under the Montana Environmental Policy Act (MEPA) and the Mental Mine Reclamation Act (MMRA) in a number of regards, as discussed below. More broadly, my recent inspection of the Glacier Stone SMES file at DEQ shows that Glacier Stone is a company that has openly flaunted the small mine exclusion over the past decade, with at least three notices of violation because it exceeded the 5-acre limitation for small mines. The only reason that Glacier Stone is applying for the current permit is because it was in serial violation of the SMES; something that should certainly be noted and discussed in the EA. Given this history, DEQ needs to make a much more detailed analysis of the permit application.

1. **Inadequate Disclosure of Impacts to Neighboring Private Property and Related Property Rights**

The Bel’s property essentially surrounds the Glacier Stone property; as a consequence, they are on the front line of any impacts from the mine. They also have property rights that are adversely affected by the actions of Glacier Stone.
The ownership history is somewhat complicated, so by way of background, we provide the following information. In 2004 the Jarvis property on which the quarry is located was owned by Stolar Lumber (SL). SL had a contract with Bill Gorton to quarry rock from approximately 1994 to 2004. Bill Gorton had a one-man shop. He took out about one truck and trailer load per week. Subsequently, SL gave the contract to Glacier Stone for quarrying.

In the fall of 2005, Mr. Jarvis purchased the SL quarry property of 120 acres and applied for the SME. In 2006, the property known as the Trudeau property was purchased from Jim Stahl, and an easement road from Pleasant Valley Road cut across this Trudeau property to the mine entrance on the Jarvis property. Glacier Stone leased both the Trudeau and Jarvis properties. In the summer of 2010, Mr. Trudeau signed his property back to Glacier Bank in lieu of foreclosure.

Around July 2011, Mr. Russell purchased the Trudeau property from Glacier Bank and contracted with Glacier Stone to continue mining the Trudeau/Russell property. Due to a disagreement, this contract ended after less than a year, and Mr. Russell continued to mine as a small, one-man mining operation much as Bill Gorton had done on the SL property. Glacier Bank foreclosed on the Trudeau/Russell property and Henry and Diane Belk purchased the Trudeau/Russell property in February 2016.

The location of the Belks' properties is best illustrated in Glacier Stone's Exhibit A, "Glacier Stone Mine Permit and Land Ownership" map. The Belks have a reciprocal access easement on a road through the center of the mining property. Glacier Stone, in turn, has a reciprocal easement through what is now the Belks property to the immediate south of the Glacier Stone quarry that is the subject of its current permit application. That road is roughly shown by the dashed red line on Glacier Stone's Exhibit A. I have attached as Exhibit 1 a modified version of that map, showing the continuation of the actual road easement through the length of the mine property. Glacier Stone, however, has now blocked that access through its mining activities, and the Belks are considering their legal options. Needless to say, the presence of a private access easement through the middle of a mine raises serious issues concerning safety, and the viability of the current mine plan. The draft EA should thoroughly evaluate the mine's impacts on the Belks' property and property rights.

Instead, the EA contains no discussion of the impacts to neighboring property owners, including the Belks, nor does it discuss the access easement that the Belks have through the mine site. Glacier Stone has repeatedly interfered with the Belks' access easement as well as trespassed on other neighboring property of the Belks. The Belks have had to initiate legal action in the past to address these actions. Has MSHA been contacted by DEQ about the presence of a private access easement through the middle of an active mine site?

MEPA requires that agencies take a "hard look" at potential impacts of proposals. Russell County Fish and Game v. DSL, (1995), 273 Mont. 371, 903 P.2d 1362. "Implicit in the requirement that an agency take a hard look at the environmental consequences of its
Comment Response WIL-1

DEQ is aware that a reciprocal easement agreement was signed by predecessors in interest to the Belks and Glacier Stone. Disputes regarding the existence and enforcement of easements held by property owners within the permit area and adjacent areas may be resolved in a civil action before a court. DEQ is not a court and does not have the authority to adjudicate competing claims regarding private property. As the commenter noted, the Belks are apparently considering their legal options and have initiated legal actions in the past regarding legal access.

However, Section 82-4-336(10), Montana Code Annotated (MCA), requires a reclamation plan to provide sufficient measures to ensure public safety. From that standpoint, DEQ has considered whether the Belks’ have legal access and the use of which would present a safety risk due to Glacier Stone’s proposed quarry operation. DEQ has reviewed the reciprocal access agreement, Glacier Stone’s Exhibit A, and map provided by the commenter. Based on its review of these documents, DEQ does not believe that the Belks’ have road easement that goes “through the length of the mine property” or “through the mine site.” As indicated on the map attached to the reciprocal access agreement, the location of the easement owned by Belks’s is depicted on the Amended and Restated Reciprocal Easement Declaration dated August 30, 2007. As previously indicated, DEQ’s action on Glacier Stone’s application for an operating permit is not the proper forum to adjudicate the Belks’s asserted access easement because DEQ is not a court and has no authority to adjudicate private property claims.

Comment Response WIL-2

Proposed mining rates are a function of several factors which are beyond the scope of this EA.

Comment Response WIL-3

Glacier Stone is proposing to blast less than once a year at the site. The EA has been updated to address noise and to mention the frequency of blasting.

Comment Response WIL-4

Comment WIL-4 acknowledges that quarrying has been occurring in the area since at least 1994. Another commenter, Water and Environmental Technologies, provided a series of aerial photographs which document a progression of rock product mining within and near the proposed operating permit application permit area. The 2004 aerial photograph documents at least 2 quarry sites within the field of view. More are apparent in the 2009 photograph. The EA has been updated.

Comment Response WIL-5

See comment response to WET-3 for a discussion on soils in the proposed permit area.

DEQ took an enforcement action by issuing a violation letter that set forth corrective actions Glacier Stone could take to return to compliance. Glacier Stone’s application for an operating permit is a corrective action to the violation identified in 2016.

Comment Response WIL-6

The MMRA does not require land to be reclaimed to its pre-mining condition. 82-4-336 (9)(a), MCA, requires that the reclamation plan “provide for the reclamation of all disturbed land to comparable utility and

actions is the obligation to make an adequate compilation of relevant information, to analyze it reasonably, and to consider all pertinent data.” Clark Fork Coalition v. Montana DEQ (2006), 209 MT 467, ¶ 47.

Indeed, MEPA explicitly requires that environmental review take into account the impact to private property and private property rights. One of MEPA’s “purposes” is to “protect the right to use and enjoy private property free of undue government regulation.” § 71-1-102 (2), MCA. Environmental impact statements must evaluate “any regulatory impacts on private property rights, including whether alternatives that reduce, minimize, or eliminate the regulation of private property rights have been analyzed.” § 75-1-201 (1) (b) (vi) (D), MCA. Here, the EA completely fails to discuss in any way the impacts to the Belks’ property, or to their road easement.

2. Section by Section Evaluation of Environmental Impacts

The following are comments tracking specific sections of the Draft EA.

WIL-2

Page 418, 1st paragraph, first sentence: ...proposed 54-foot top removal. This permit is requested for 25 years. Why will it take 25 years to remove 50 vertical feet of what is currently about 1 acre on the top of the mountain?

WIL-3

Page 418, 2nd paragraph, last sentence: One of the options for removing rock is blasting. Yet, the EA has no discussion of the level of noise or the impacts from blasting.

WIL-4

Page 518, last paragraph: This paragraph is not accurate. The site has never had “various quarrying operations.” Bill Clotten quarried the property from about 1994 in a one-man operation and took out probably 1 truck per week, when he was quarrying. Prior to the purchase by Jarvis of the Sloth property, mining was very limited, any person viewing the Sloth property would not know that mining was occurring on that property. Please reference the 2004 Google Earth photo submitted with the WET Comments.

SECTION 1: Geology

Page 618, last paragraph, third sentence: “...limited amount of existing soil...” There is no existing soil because Glacier Stone has already removed the soil from their previous mining operations from 2005 after Jarvis purchased the property. In late 2009 or early of 2011 the Belks met with DEQ representative Pat Plantsburg and Glacier Bank representative Steve Cummings. Later in 2011, the Belks met with DEQ representative Amanda Miller. Both Pat Plantsburg and Amanda Miller stated to the Belks on separate occasions that Glacier Stone should be mining under the operators permit and that it had violated the SMES parameters. As noted below, DEQ did not take formal action on this apparently ongoing violation until 2016.

WIL-5

Page 618, last paragraph, fourth sentence: “...much of the disturbed area will be reclaimed to that similar to what existed pre-mining...” The EA needs to be more specific about how much

WIL-6
is “much of the disturbed area.” Reclamation should be to the condition of the property at the
time Glacier Stone began its operations. All the soil removed and casing of this cymeve has
been done under Glacier Stone mining operations. See Google Earth photo progression from
2004 to 2017 submitted with the WET Comments.

SECTION 2: Water Quality

Page 7/18, first paragraph, second sentence: “No baseline water quality ... collected.” The LBLA has had Water and Environmental Technologies collecting and analyzing water samples in Little Bitterroot Lake yearly for approximately the last 15 years. The failure of the EA to discuss potential impacts to Little Bitterroot Lake, or why there weren’t the impacts to Little Bitterroot Lake, is most egregious. See related documentation submitted by Water and Environmental Technologies on behalf of the Belks.

PAGE 7/18, second paragraph, first and second sentences: “The closest groundwater... west.”

Page 7/18, second paragraph, second sentence: “Depth... 300 (not being ground surface).” This statement is not accurate as it ignores the spring on the Belks’s property in close proximity to the mine site. The Belks have a drilled water table to that spring and the spring water is used for their residential purposes. Additionally, the Belks have recently drilled a well, but the water right to this well was not submitted until July 18, 2018, long after this report was created. This well is also used for the Belks’s residential purposes. A copy of the well log is attached to the WET comments. There is also a wetland area at the beginning of the Belks property where the Jarvis entrance road begins (near Pleasant Valley Road). This wetland is directly below the mining area. This is not listed in this report.

SECTION 3: Air Quality

Page 8/18, direct impacts: The dust clouds that roll off the roads from mining operations are
equally as bad as those of the disturbed area.” DEQ has revised the EA to clarify that all land disturbed by Glacier Stone will be reclaimed to this standard. See response to comment WIL-21.

Comment Response WIL-7

See response to comment WET-5. The EA has been updated.

Comment Response WIL-8

See WET comment response discussing depth to groundwater, WET-5. The spring and wetland on the Belks’s property are approximately ½ mile from the quarry site, and do not appear to be directly downgradient. No impacts from sediment are likely. Given that the quarry is not proposed to require groundwater pumping and will remain above the water table, no hydrogeologic changes that might impact the spring or wetland are predicted.

Comment Response WIL-9

See response to comment WET 6. Also see “Air Quality” section of EA.

Comment Response WIL-10

See response to WIL-6 and WIL-21.
Comment Response WIL-11
See comment response WIL-8 and WET-5.

Comment Response WIL-12
Comment Noted.

Comment Response WIL-13
See comment response WET-7.

Comment Response WIL-14
DEQ acknowledges that viewshed aesthetics would be impacted by the proposed operations. DEQ has modified its analysis in light of this comment.

Comment Response WIL-15
DEQ acknowledges the high quality of water in Little Bitterroot Lake. DEQ does not predict that the quality of Little Bitterroot Lake will be impacted by Glacier Stone’s proposed quarry operation. See comment response WET-5.

Comment Response WIL-16
DEQ does not believe that the Belks have an easement directly through the quarry. See comment response WIL-1.
Comment Response WIL-17
DEQ provided Code Compliance Officer for the Flathead County Planning and Zoning Office an electronic copy of the Draft EA. The Code Compliance Officer indicated that there were no County regulations or plans applicable to the quarrying activities to be conducted under the proposed permit (Personal communication of Betsy Hovda). Furthermore, DEQ has reviewed the Flathead County Growth Policy, including the Little Bitterroot Lake Neighborhood Plan that was adopted in February of 1996. The quarries operated by Glacier Stone are not located within the area encompassed by the Little Bitterroot Lake Neighborhood Zoning District. Figure WIL-1 below shows the location of the approximate proposed permit boundary in relation to the perimeter of the zoning district.

![Figure WIL-1. Boundary of the Little Bitterroot Lake Neighborhood Plan](image)

Comment Response WIL-18
Comment noted.

Comment Response WIL-19

Comment Response WIL-20
In the proposed reclamation plan, Glacier Stone commits to seeding all soil stockpiles and road berms as they are constructed, to grading, re-soiling and seeding an area no longer needed for quarry related activities within one year of cessation of such activities in that area, and to completing final reclamation within two years of completing its quarry activities as required by 82-4-336(3), MCA.
Comment Response WIL-21

The reclamation plan does not merely state that the area would be reclaimed to rock habitat. A description of Glacier Stone’s proposed operation is set forth on page 8 of its application. It states that a rock or stone collection site would be worked by laborers with hand bars and other hand tools, or with loaders, backhoes, or other similar equipment that would lift rock and stones from the ground surfaces, or from under thin soil layers, and stockpile or pallet them for removal.

Reclamation would consist primarily of smoothing disrupted ground surfaces, re-applying any topsoil that had been salvaged and stockpiled, and seeding sites where rock had been removed. The proposed reclamation activities have been used in areas north of the Canyon Creek quarry as shown in Figure WIL-2 and WIL-3 and were taken in August 2018.

Glacier Stone has successfully reclaimed areas that it disturbed under SMES #07-027 as depicted in the photos below. Little soil was salvaged in the areas shown. Rather, rock was collected from the ground surfaces or from below thin soil layers. The soil and fines material left in place have been sufficient to re-establish vegetation. Pine trees ranging from 6-inches to 4-feet tall are growing in areas that were previously disturbed at this property and subsequently reclaimed to rocky habitat. There are areas at the proposed mine site where reclamation to rocky habitat was completed in 2013 and a diverse population of vegetation, including pine trees, has become established. The photos were taken in 2018. Of course, Glacier Stone will be required to salvage all available soil where possible. Slopes in the area are very steep and rocky and may prevent salvaging of all soil materials due to equipment limitations and safety concerns. The salvaged soil would be re-spread and seeded at reclamation. Thus, it is expected that the areas that were forested prior to rock being collected and quarried would eventually be reforested post-reclamation.

Comment Response WIL-22

The proposed quarry operation is not expected to create open pits or highwalls. However, the proposed reclamation plan addresses reclamation of highwalls, in the unlikely event that they are created.

Quarries would be reclaimed by scaling back highwalls, if necessary, for stability and safety. Rock highwalls would be reclaimed as rock faces — blending in with the surrounding topography. If quarrying results in upslope raveling of scree or loose rock, that destabilized slope would be revegetated or otherwise stabilized. The quarry floor would be graded, covered with soil material, and revegetated. All cut slopes and/or highwalls in unconsolidated materials within the proposed permitted site would be graded/sloped to conform to the surrounding or adjacent topography to ensure natural, free draining of surface water to prevent any pit/quarry ponds/lakes.
5. EIS Necessary

Based on the paucity of the information in the EA, DEQ cannot conclude as it preliminarily has that this mine permit does not justify an environmental impact statement (EIS). Indeed, an EIS is required because:

- The mine covers an area of over 40 acres, will have a life of 25 years and will leave permanent scars on the landscape. (Satisfying ARM 17.4.608 (1)(a) (“severity, duration, geographic extent, and frequency of occurrence.”)

- The EA does not demonstrate that impacts to Little Bitterroot Lake will not occur, satisfying ARM 17.4.608 (1)(b) (“probability that the impact will occur if the proposed action occurs, or conversely, reasonable assurance . . . that the impact will not occur.”)

- The EA does not adequately evaluate a wide array of environmental resources, as outlined above, but evidence we have provided demonstrates potential impacts to these resources, satisfying ARM 17.4.608 (1)(d & e).

- Finally, as noted above and in WET’s report, the permit potentially conflicts with both local and Federal laws and regulations, satisfying ARM 17.4.608 (g).

In summary, the EA fails to fully evaluate the potentially significant impacts from the issuance of an operating permit to Glacier Stone. The final EA should determine that an EIS is required and DEQ should fully evaluate the impacts that this mine will have on the neighboring property owners and on the pristine resources of Little Bitterroot Lake and its surroundings.

Sincerely,

David K. W. Wilson, Jr.

Cc: Henry and Diane Bell
Bruce A. Fredriksen
Elizabeth Edshorn, WET

Other areas disturbed but not quarried would also be revegetated. Overburden and waste rock, if present, would be graded to conform to natural topography, against the high wall to match and blend with existing topography. Coarse rock would not be revegetated but would remain as a rubble or scree feature. Soil or overburden that could support vegetation, or rock that could be covered with salvaged soil, would be revegetated. Any quarry that is below the level of the adjacent ground would be sloped to conform to the surrounding or adjacent topography to ensure free draining quarry floors during final site reclamation.

The proposed reclamation plan satisfies the reclamation requirements set forth in 82-4-336(9)(b), MCA. It provides for the scaling back of highwalls and stabilization of upslope scree or loose rock for stability and safety. It further provides for the grading of cut slopes and highwalls in unconsolidated material and the grading of overburden and waste rock against the highwall to mitigate post reclamation visual contrasts between reclamation lands and adjacent lands. In addition, revegetation of the quarry floor and other areas disturbed, but not quarried, would reduce post-reclamation visual contrasts in addition to providing wildlife habitat. Any remaining highwall or rubble or scree feature left remaining would provide comparable habitat as currently existing rocky outcrops and talus slopes. The quarry floor would be graded to provide a free draining topography to avoid the creation of a quarry pond. It is not anticipated that the proposed quarry operation will create an open pit of any significant size. The use of any backfill, in addition to the grading of overburden and waste rock against the highwall provided in the proposed reclamation plan, is not necessary to achieve the reclamation standards set forth in 82-4-336(9)(c), MCA.

Comment Response WIL-23

Under 82-4-335(9), MCA, DEQ may not issue an operating permit to a person if 1) that person’s failure, or the failure of any firm or business association of which that person was a principal or controlling member, to comply with the Metal Mine Reclamation Act (MMRA) or its operating permit has resulted in receipt of bond proceeds by DEQ or completion of reclamation by its surety or DEQ; 2) that person has not paid a penalty; 3) that person has failed to post a reclamation bond; or 4) that person has failed to comply with an abatement order issued by DEQ. Glacier Stone has not committed any of the failures that are subject to the “bad actor” provision of 82-4-335(9), MCA.

In order to get an operating permit, Glacier Stone would be required to post a performance reclamation bond for all disturbed acreage within the operating permit boundary. Once the SMES area is included in the operating permit, Glacier Stone will be required to reclaim the SMES areas, at closure, in accordance with its approved reclamation plan. The reclamation plan must satisfy the reclamation standards set forth in 82-4-336, MCA.

Comment Response WIL-24

While the permit area would cover 40 acres, Glacier Stone’s proposed quarry activity would disturb 30 acres over the 25-year life of the quarries. Because of concurrent reclamation, Glacier Stone would be permitted to have 13 acres disturbed and unreclaimed at any one time. Visual impacts would last significantly beyond the 25-year life of the mine due to the length of time it will take to produce mature trees. DEQ does not predict impacts to Little Bitterroot Lake. See response to comment WET-5. The proposed quarry operation does not conflict with local laws or formal plans. See response to WIL-17. DEQ has considered impacts to the other environmental resources in the context of the criteria set forth in ARM 17.4.608 and as determined that preparation of an EIS is not required.
There are two existing Glacier Stone quarries within the proposed disturbance area. Glacier Stone has disturbed 4.21 acres at the Glacier Mountain quarry, which is on the northwestern side of the proposed permit area. Glacier Stone has disturbed 8.2 acres at the Canyon Ridge quarry, which is on the eastern side of the proposed permit area. (See Exhibit B- Glacier Stone Mine Area and Stormwater from the Plan of Operations application). Thus, the total existing disturbance is 12.41 acres. The proposed disturbance area is 30 acres, not including the access road within the permit boundary, which is 1.5 acres. The proposed 30 acres of disturbance is smaller than the 45 acres that would be encompassed by the permit boundary. However, only 13 acres would be disturbed at any one time due to concurrent reclamation.

If Glacier Stone wishes to disturb more acreage, it would be required to apply for an amendment or revision to its operating permit. DEQ would conduct another environmental review on a permit amendment application.

DEQ is aware that Glacier Stone disturbed more than five acres under SMES #07-027, exceeding the five-acre disturbance limit applicable to small miner exclusion statements. DEQ issued a violation letter for the violation and continues to pursue corrective action to address the violation. If Glacier Stone exceeds the 30 acres of permitted disturbance (plus 1.5 acres of access road) without first obtaining an amendment or revision increasing the permitted area of disturbance, DEQ will issue a violation letter and may take additional enforcement action.

Generally, the materials to be quarried are existing rock outcrops and/or talus slopes. Three photographs of existing undisturbed ground showing the lack of soil materials are included in Appendix E of Glacier Stone’s application. In addition, Glacier Stone submitted a report entitled “Custom Soil Resource Report for Flathead County Area and Part of Lincoln County, Montana, and Flathead National Forest Area, Montana – Glacier Stone Soil Survey” (May 2017) documenting the naturally occurring limited soil resources. The report delineated the following map units within the proposed disturbance area:

- 35F Courville-Stevie-Winfall complex, 30 to 50 percent slopes (0-1 inches of slightly decomposed plant material underlain by gravelly loam with some silt and ash)
- 211G Combest-Sharrott-Rock outcrop complex, 40 to 85 percent slopes (0-2 inches slightly decomposed plant material)
- 223F Pleasant Valley-Winfall, dry-Rock outcrop complex, 30 to 50 percent slopes (0-1 inches of slightly decomposed plant material)
- 633F Rockhill-Rock outcrop-Pleasant valley complex, 15 to 50 percent slopes (0-1 inches slightly decomposed plant material)

As indicated, the soil profiles of these map units have mostly 0-1 inches of slightly decomposed plant material underlain by gravelly loam with some silt and ash. As a consequence, the past mining of the rock outcrops and talus slopes have produced very little salvageable soil to date. Notwithstanding the general lack of salvageable soil material, Glacier Stone’s proposed reclamation plan would require Glacier Stone to salvage all available soil material for reclamation, although some soil material may not be safely salvaged due to equipment limitations for equipment operating on steep slopes and rock terrain.

Glacier Stone’s proposed reclamation plan requires the site to be reclaimed to rock habitat (a landscape dominated by rock rather than soil). Rock dominated habitats are abundant in the area due to the mountainous terrain, geology, and glaciation. The undisturbed native ground is gravelly loam with less than one to two inches (generally less than an inch) of slightly decomposed plant material. The reclamation of mining disturbance to rock habitat under Glacier Stone’s proposed reclamation plan would provide comparable utility and stability to that which existed prior to mining and to areas adjacent to the quarries, achieving the
4. Page 6 of 18, Section 1. Geology and Soil Quality, Stability and Moisture

- Please define and provide additional detail documenting that reclamation completed under SMES #07-027 by Glacier Stone is "stable". In general, more detail on reclamation to date under the SMES is needed.
- Direct Impacts, paragraph #1 notes no fragile or unstable geologic features are present at the land surface. Is this based on visual observation, literature research, or other lines of evidence?
- Are there unstable subsurface features that could result in a high wall failure or other structural failures in surface features once competent rock is removed from the proposed mining area?
- In keeping with Comment #3 above, Paragraph #2 notes limited soil resources are present at the site, but then goes on to say there is probably enough to reclaim the site post-mining. These statements contradict one another. The quantity of topsoil/overburden has not been defined, but likely is not sufficient to reclaim the site. Additional work is needed to determine the quantities of soil that will be required to perform reclamation, and a formal reclamation plan is needed to ensure an un-reclaimed site does not result post-mining due to a lack of available cover soil.

5. Page 7 of 18, Water Quality, Quantity, and Distribution

The following statement in the EA is found in the first paragraph of this section, "No baseline water quality and quantity measurements in the greater project area have been collected."

Baseline sampling is necessary at this site to support the EA and issuance of a permit as the following questions require definitive answers:

- What is the depth to water within the permitted acreage of the mine?
- Is there potential for metals to be released to surface water during snow melt and rain events?
- Could surface water releases affect area water resources?
- Is there potential for metals to be released to ground water and subsequent migration in the fractured bedrock system in and around the mine?
- What specific best management practices ( BMPs) /storm water controls will be implemented as part of this agreement noted in the EA, to ensure the mine does not degrade water resources?
- Is there a formal /written plan that defines how water encountered at the mine will be managed?

WET has been collecting baseline data on nearby Little Bitterroot Lake for 18 years. A summary of the water quality data in Little Bitterroot Lake from our 2017 Water Quality Monitoring at Little Bitterroot Lake 1999-2017 Summary Report, follows:

The comment letter included a second well log for a new well (GWIC Id 296102, drilled January 2018) located near the first well. This well log shows that saturated clay and gravel were encountered in the upper 22' of the borehole, indicating a localized shallow perched water table near this well. The log then notes the presence of a water-bearing fracture at a depth of 84-85' below surface. No further water is noted on the well log until another fracture was encountered at a depth of 300 to 301'. Water bearing fractures were again encountered between 368' and 400'. The well was screened between 340' and 380'. Referencing this well log rather than the one cited in the draft EA, bedrock groundwater may occur at depths below 84' (elevation 4056') near the well. This does not change the conclusions from the draft EA, as the quarries would still be located 350' to 850' above the groundwater table. See Figure WET-1 for relative location of well GWIC ID 296102 with respect to the proposed permit area for Glacier Stone. The ephemeral drainage depicted in Figure WET-1 would intercept groundwater flow between the proposed disturbance area and well GWIC 296102.
The geology at the site is composed of clean quartzite and shows no evidence of visible sulfides, iron staining, or other effects of chemical weathering for potential acid generation or release of metals. Thus, a potential for metals to be released to surface water or groundwater is not predicted.

Based on multiple site visits by DEQ inspectors, small amounts of sediment that had discharged outside the proposed permit boundary were present. Because Glacier Stone is quarrying rock at the two sites, its mining operations are essentially creating large depressions in porous material, preventing most of the storm runoff that would transport sediment from leaving the quarry area. Moreover, the perimeter of the site was walked (where accessible) by DEQ inspectors and was otherwise observed by DEQ staff on several occasions. The existing sediment control (berms and sediment control structures) and the rocky nature of the native and reclaimed ground allows for rapid infiltration of runoff and snowmelt both within the permit boundary and just outside the permit boundary.

Moreover, DEQ does not predict that sediment will travel from the site to Little Bitterroot Lake because of various filters that exist along the flow path. A large natural catchment basin exists downstream from both the Canyon Creek and Glacier Mountain disturbance areas. The catchment basin is clearly shown as the area devoid of vegetation that exists between the two quarry sites depicted on Figure WET-2. This catchment basin is composed of porous gravel/coarse rock. Any runoff carrying sediment from the two quarry sites would infiltrate into the subsurface and slowly drain away, providing for deposition of any transported sediment with this coarse rock filter.

Only a small portion of the north quarry areas is within a watershed to the north. There is also a catchment basin in this flow path. Several berms located within the permit area will stop the transport of sediment in a storm event. DEQ considered a potential northern flow path, but dismissed it as very unlikely as a contaminant transport of sediment because of these filters. The majority of the north quarry will drain toward the coarse rock basin at the head of the longer southern flow path. As discussed above, it is predicted that any flow of water carrying sediment from the north quarry would infiltrate in the coarse rock, depositing any sediment into the subsurface.

Even if flow were to escape the catchment basins, which it is not expected to do, the flow would not reach Little Bitterroot Lake. The distance between the nearest disturbance that would be caused by the quarry operations and the lake is approximately one mile in a direct line. Runoff would have to take a circuitous route to reach Little Bitterroot Lake. The flow path from the proposed disturbance area would be about three miles long. This flow path is depicted on Figure WET-2. This pathway is also porous and vegetated, promoting the settling of any transported sediment prior to reaching Little Bitterroot Lake.
The EA states: “The closed groundwater well (GWIC ID 294835) is located 0.35 miles away, to the west (GWMC, 2017). Depth to water in this well is 500 feet below ground surface. There are no surface water bodies, seeps, or springs within the proposed permit boundary.”

The well log for GWIC ID 294835 is attached. Contrary to the 0.35 foot depth to water cited in the EA, ground water was encountered at 150 feet and the static water level in the well is listed as 3 feet below ground surface. In addition, the site’s have drilled a new well (log is attached - GWIC #296162) on their property adjacent to the mine operation. Saturated sediments were encountered during drilling in the 1 to 22 foot interval with additional water present as noted in the 84 to 85 foot interval. Static water in this well is at 6 feet, indicating much shallower ground water in this area. Although no springs may exist within the permit boundary, a spring does exist on the adjacent Sol property. This spring has a long history of providing potable water at this site.

The EA goes on to state: “There would be minimal risk of degradation to surface or ground water resulting from this project because of the distance to surface water and to the water table.” It is difficult to make this statement as the aquifer beneath the site is much shallower that indicated and impacts from surface infiltration would be difficult to predict and impossible to detect with no baseline sampling. We recommend baseline sampling of all area wells and springs before permitting further mining activity to ensure impacts to groundwater resources have not been occurring and will not occur in the future.

6. Page 7 of 8, Section 3 Air Quality

The statements in this section notting. “minimal particulate will be produced or become airborne during operations...” is not supported by data or any scientific literature. It is likely false. The operations plan summarized on page 3 of the EA states: “the quarry sites would be expanded by removing vegetation, stripping and stockpiling available soil, and removing overburden and waste rock... Depending on the product being produced, rock may be removed by methods [ranging] from handpicking, drifting and blasting, followed by excavation and hauling, stripping, or a bulldozer or excavator followed by removal.” All of these activities have the potential to impact air quality:

- Other than the use of hand tools to quarry rock, the remaining activities will include the use of heavy equipment and/or explosives.
- Each of these activities will generate dust that will require at a minimum, a dust management plan.
- Particulates are likely to become airborne and be deposited in the wind stream around the mine.
- Has DEQ or Glacier Stone, LLC collected samples to determine the composition of the materials that will be quarried?
- Would released particulates be considered hazardous to nearby residents, mine personnel, or other users of the area public lands?
- The final statement in this section recognizes dust will be generated on haul roads and during mining, and notes dust suppression measures should be taken. Has a formal / written dust suppression plan been submitted for DEQ approval as part of the permitting process? None is mentioned in the EA.

Finally, Glacier Stone will be required to obtain coverage under the Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity. Glacier Stone has already implemented many of the best management practices that may be required under the Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity. The berms that it has constructed along the hauls and around the main operations area as required by the Mine Safety and Health Administration (MSHA) also function as berms for water control. In addition, Glacier Stone has already constructed roadside ditches with turnouts to decrease the volume of water along the roadway to minimize the sediment discharged.

Based on the above, DEQ predicts that sediment from storm water running off the permit area may travel beyond the boundary. However, the filters discussed above (primarily coarse, porous ground and vegetation) would limit the transport to tens or hundreds of feet beyond the permit boundary and would not reach Little Bitterroot Lake.

In addition, the DEQ Water Protection Bureau has notified Glacier Stone that they are required to apply for permit coverage under the Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity (MSGP) at the Canyon Creek Quarry: MTUS002002.

In a December 11, 2018, letter to DEQ’s Water Protection Bureau, Glacier Stone, Inc. committed in writing to the following:

1. Implement/maintain additional BMP’s to minimize discharge of sediment and non-sediment pollutants from the site.
2. Submit a Notice of Intent (NOI) package to the DEQ to obtain coverage under the MSGP.
3. Complete NOI-SWI form.
4. Submit a Storm Water Pollution Prevention Plan (SWPPP).
5. Submit all related permitting fees and/or expenses.
6. Identify/document all pollutant sources at the Canyon Creek Quarry.

Comment Response WET-6
DEQ reviewed the proposed activities at the quarry and has determined that the potential emissions from the equipment are less than the applicable threshold for requiring a Montana Air Quality Permit (ARM 17.8.743(1)(b)). However, Glacier Stone would still be subject to the following emission standards which apply to both permitted and unpermitted facilities:

- **ARM 17.8.304(2)** Visible Air Contaminants - No person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

- **ARM 17.8.308(1)** Particulate Matter, Airborne - No person shall cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control emissions of airborne particulate matter are taken. Such emissions of airborne particulate matter from any stationary source shall not exhibit an opacity of 20% or greater averaged over six consecutive minutes, except for emission of airborne particulate matter originating from any transfer ladle or operation engaged in the transfer of molten metal which was installed or operating prior to November 23, 1968.

- **ARM 17.8.308(2)** Particulate Matter, Airborne - No person shall cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

To satisfy “reasonable precautions” provisions, Glacier Stone would employ a number of control measures to reduce emissions, including but not limited to, the application of chemical dust suppressant and/or water on haul roads and access roads and the prompt revegetation of disturbed areas.

Comment Response WET-7

See Sections 5 and 6 of the Final Environmental Assessment. Canadian Lynx is the only threatened or endangered species identified in the project area. As indicated in the Draft EA, the proposed permit area is less than a mile to the east of Little Bitterroot Lake. Little Bitterroot Lake has medium density subdivisions with parcels averaging between one and two acres between the eastern shoreline and Pleasant Valley Road. East of Pleasant Valley Road, the subdivisions are low density with parcels ranging from 20 acres to several hundred acres. In addition to not providing lynx desirable habitat because of the proximity to human activity, lynx are not known to depend on rock habitats and are not obligate users of this habitat type. The probability of any lynx occurring in the proposed permit area is considered very low. Any such occurrence would be a transient individual passing through the area.

The Final EA discusses habitat requirements and availability for Townsend’s Big-eared Bat, Little Brown Myotis, Bald Eagles, and Fisher. Common Loons or Great Blue Herons require open water for their habitat. There is no open water in the proposed permit boundary.

The Montana Natural Heritage Program website was reviewed for the presence of T&E species within or near the proposed permit area.

The USFWS was not consulted, nor was it required to be consulted, on the EA for this proposed operating permit.
Samples should be acquired from the waste rock and quarry rock at the site, to determine which materials might be released as dust / particulate to the airshed.

Dust monitoring and/or modeling should be completed to determine if wind patterns might carry metals-laden dust to residential areas in Marion or nearby residences.

WET-10

10. Page 13 of 18, Section 16, Locally Adopted Environmental Plans and Goals

This section notes the need for compliance with the Flathead County Weed Control District Management Plan, but no others.

- Flathead County requires a storm water permit for all disturbances where more than five cubic yards of material will be disturbed, or the disturbance will exceed 1,000 square feet. http://www.kalispell.com/273/Stormwater-Management-Permits
- Flathead County also issues conditional use permits for sand and gravel mining. The County may recognize rock quarries as a similar activity and may require a conditional use permit for the operations described in the EA (see Chapter 9, Flathead County Growth Control Policy, Sand and Gravel Resources http://flatheadmt.gov/Planning/Zoning/documents/17-Chapter9sandGravelResources.pdf).
- Glacier Stone, LLC should apply for and receive approval or a waiver for these permits as deemed applicable by Flathead County, before the mine permit is considered by DG.

In summary, the EA provided is inadequate to evaluate the impacts from the issuance of an operating permit for Glacier Stone LLC to expand their mining operation at this site.

Sincerely,

Elizabeth Erickson
Principal Hydrogeologist
Water & Environmental Technologies
Moonlight Professional Building
480 East Park Street
Butte, MT 59701
(406) 782-5200

Comment Response WET-8

Section 8 of the Final Environmental Assessment indicates that noise impacts would be minimal due to limited scope of the proposed project.

Most construction equipment produces noise in a decibel range in the upper 70s to lower 80s at a distance of 50 feet (https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm). The decibel level drops off with distance at about 6 decibels with doubling of distance, and at ten times the distance drops the intensity by 20 decibels (http://hyperphysics.phy-astr.gsu.edu/hbase/Acoustic/isprob2.html). The EPA has determined that a 24-hour exposure of 70 decibels is the level of environmental noise which prevents measurable hearing loss over a lifetime (https://archive.epa.gov/epa/aboutepa/epa-identifies-noise-levels-affecting-health-and-welfare.html). This level would be reached at a distance of about 150 feet from the source. Levels of 45 decibels are associated with indoor activities and 55 decibels with certain outdoor areas where human activity takes place. At a distance of about 800 feet from the source this decibel would be met.

Proposed Glacier Stone operations would consist of excavator and truck operation. The excavator and truck operation would generate noise levels of a typical small-scale construction operation. DEQ expects Glacier Stone's equipment to produce noise in a decibel range in the upper 70s to lower 80s at a distance of 50 feet. The decibel level drops off with distance at about 6 decibels with doubling of distance, and at ten times the distance drops the intensity by 20 decibels. The closest residence to the proposed permit area is approximately 2,900 feet away.

Glacier Stone plans to blast once every few years, if needed. The resulting noise would be greater than typical operations, but very limited in frequency. All operations would occur during daylight hours. The noise levels in the area would be essentially the same as the noise levels that have existed with ongoing operations under the SMES at this site.

Visual impacts resulting from the proposed action are discussed in the Final EA Section 8.

Comment Response WET-9

See comment response WET-6 for air quality. Dust is not anticipated to be a problem. Generally, crushed aggregate projects include, as part of the project, dust control measures. If dust control is required, Glacier Stone would be required to use a water truck or dust suppressant or other reasonable precautions to meet the reasonable precautions and/or opacity standard.

Concurrent reclamation would limit the potential for blowing dust from the operating area. The rock fragments left in the soils would also limit blowing dust. As previously indicated, the proposed operations as described in the application do not anticipate impacts to water or adjacent lands.

Comment Response WET-10

Flathead County does not require its own storm water permits.

https://kalispell.com/273/Stormwater-Management-Permits discusses requirements for projects within the Kalispell City limits. This project is not within the Kalispell City limits; therefore the information contained at https://kalispell.com/273/Stormwater-Management-Permits does not specifically apply to Glacier Stone’s operation. See also response to comment WIL-17.

The proposed operating permit is not a sand and gravel mining project.

The proposed operating permit is not for a construction/demolition activity.

Flathead County was provided with a copy of the draft EA for this operating permit application and did not provide any comments.

See response to comment WET-5 for storm water.
Glacier Stone EA Review

Attachments:
GWIC 28G930 Well Log
GWIC 29G100 Well Log
Aerial Imagery Over Time (Sheets 1 through 5)
Attachments
## MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the boundaries and limits, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground (Water) Information Center (GWC) database for this site. Acquiring water rights in the unit owner's responsibility and is NOT accomplished by the filing of this report.

### Site Name:
DAVIDSON, ANDREW & JODY ANI

### GPRC ID:
2B435

### Section 1: Well Driller(s)
1) DAVIDSON, ANDREW & JODY ANI (MAIL)
   150 CHAPILLAR PL SE
   CALGARY AB T2E 0B3 [11/7/2015]

### Section 2: Location

### Section 3: Proposed Use of Water
DOMESTIC (1)

### Section 4: Type of Work
Drilling New Well
Status: NEW WELL

### Section 5: Well Completion Date
Date well completed: Saturday, October 17, 2015

### Section 6: Well Construction Details

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### Section 7: Well Test Data

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### Section 8: Remarks
- During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the excess of the well casing.

### Section 9: Well Log

#### Geologic Source
Unassigned

#### Screen Sections

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#### Completion Materials

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#### Annular Space (Gasketed Hole)

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### Driller's Certification
All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

**Name:** JAMES CHAMBERS
**Company:** CHAMBERS DRILLING COMPANY

**License No:** RWC-102

**Date Completed:** 11/7/2015

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<tr>
<th>Comment Code</th>
<th>Document #03-Little Bitterroot Lake Association</th>
<th>Response</th>
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| 27 June 2018 | Herb Rolfes
Operating Permit Section Supervisor
Hard Rock Mining Bureau
Department of Environmental Quality
P.O. Box 2000901
Helena, Mt. 59620-0901
(406) 444-3841
hrolfes@mt.gov
CC: Betsy Hovda
CC: Dan Walsh |

Dear Mr. Rolfes,

We can ALL agree that Little Bitterroot Lake is one of the
MOST beautiful, clean and pristine lakes in the United States...

Overview

This letter and attached petition express broad, united and immediate community concerns with regard to problems and possible omissions in the Department of Environmental Quality (DEQ) Draft Environmental Assessment for an Application for an Operating Permit 00190 from Glacier Stone Supply LLC. Permit 00190 is for Two Quarry Sites in close proximity to Little Bitterroot Lake in Marion, Montana.

The Little Bitterroot Lake Association (LBLA) and the entire Community are stewards of our lake. The LBLA mission statement demands we fully review ALL actions that may impact our lake and ensure it is protected from damage. We are a non-profit organization, dedicated to the proper care and stewardship of Little Bitterroot Lake.
We appreciate the mission of the Department of Environmental Quality, and understand you are also charged with protecting our environment (and our lake) "as guaranteed by our State Constitution."

And we believe that those who own and manage Glacier Stone Supply LLC will whole heartedly agree that proper protection of our Lake and its Watershed is good business.

Background

We understand that Glacier Stone Supply LLC has applied for a Major Mining Operation as described in an Operating Permit Application (00190) to the Department of Environmental Quality (DEQ). We support, appreciate and wish no harm on Glacier Stone Supply LLC or any of our local businesses.

It is our understanding that the Glacier Stone Supply LLC request as covered under the DEQ Operating Permit will dramatically expand two rock quarries, one of which is within a mile of Little Bitterroot Lake.

Details and Concerns

The approval of this application will significantly change their current operation.

With reference to Glacier Stone Supply's June 13, 2017 submission to you and your DEQ assessment, this new request for mining will cover up to 45 acres (a significant increase from the current 5 acre limit), 50 feet maybe cut off the top of the mountain, and extend operations for 25 years. Their request for increased activity will make this work so large that it will be covered under the Major Mining Act.

Presentations made by Glacier Stone Supply and conclusions made in the DEQ Assessment regarding the impact to our area and Little Bitterroot Lake Watershed appear to be incomplete and in some cases inaccurate. The DEQ Assessment states, "There would be minimal risk of degradation to surface or groundwater resulting from this project because of the distance to surface water..." "The proposed disturbance area is a ridge less than a mile east of Little Bitterroot Lake."
The DEQ Assessment on page 7 explains that there is no problem because of the distance from the site to the lake. This logic appears erroneous.

According to the widely used and acclaimed Montana Lake Book "A watershed can extend for miles" and "Lake Protection MUST extend to the entire Watershed."

The facts are that neither Glacier Stone Supply’s application nor the DEQ Assessment appears to incorporate significant or accurate consideration of the Little Bitterroot Lake Watershed.

Known to those of us who live near the site, there are seasonal streams/creeks that run from the site to our lake. One is quite voluminous. Because of its heavy flow it is one of the first to open up the ice from shore.

The DEQ should be concerned and study this water flow and others, yet it has been reported that none of the DEQ principle assessment authors have made a physical inspection of the site. We invite you to come to our lake and see our concerns for yourself.

Petition

The DEQ Assessment, as it stands runs counter to acceptable guidance on protecting our Lake and its Watershed as set forth by the State of Montana. Based on the above facts the Board of Directors of the Little Bitterroot Association issued the attached petition.

On Friday night June 22nd we began gathering signatures for the petition. In just a few days we collected well over 70 signatures. There is immediate and broad based concern in our community.

Request

We believe that there are numerous questions and possibly serious problems with this expansion of operations. Due diligence demands that we pause and evaluate the circumstances of this change in order to ensure that our lake is safe. We all must be confident that we are doing the right thing.
To that end, we request a more complete impact study of the Site, the Watershed, and a competent review of the effect on Little Bitterroot Lake Water Quality.

To ensure Glacier Stone's Mine is and remains safe please add the following to your final Report:

1) A full and complete analysis and review of the Mine and the associated Little Bitterroot Lake Watershed. The Watershed review will identify all possible contamination concerns by the Mine for our Lake. Glacier Stone will fund the analysis. The study will include seasonal conditions, such as rapid spring runoff. LBLA will manage and report the analysis.

2) Each year Glacier Stone will fund lake water analysis in order to determine if there is any contamination from the Mines. LBLA will manage and report the analysis.

3) A Bond will be held by the DEQ from Glacier Stone Supply in order to ensure remediation if contamination should such occur.

This is one of the cleanest most beautiful lakes in the United States. It deserves our protection. Thank you for your help in ensuring that our children can enjoy this treasure for years to come...

Follow-up

At your earliest convenience we request a meeting to follow-up with additional details and concerns.

LBLA Board of Directors
P.O. Box 1003
Marion, Mt. 59925

Comment Response LBL-1

A watershed assessment for Little Bitterroot Lake is beyond the scope of this environmental assessment. The Environmental Assessment analyzed the proposed operating permit activities and disclosed the impacts to surrounding environment.

Comment Response LBL-2

Requirements for future water lake sampling and analysis is beyond the scope of the Montana Metal Mine Reclamation Act (MMRA).

Comment Response LBL-3

The MMRA requires DEQ to hold a bond sufficient for reclamation of disturbance permitted in accordance with the approved reclamation plan. Bonds must be based on reasonable foreseeable impacts.
Board Member Contact
Dan Handlin
CaptainDanNW@centurytel.net
406 854-9444

CC'd
Senator District 007
Jennifer Fielder
PO Box 2558
Thompson Falls, Mt. 59873-2558
Sen.Jennifer.Fielder@mt.gov

Representative District 013
Bob Brown
PO Box 1907
Thompson Falls, Mt 59873-1907
(406) 827-9894 p
(406) 242-0141 s
<table>
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<th>Document #03-Little Bitterroot Lake Association</th>
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<tr>
<td><strong>LBL-4</strong></td>
<td>ADDENDUM No. 1 to Little Bitterroot Lake Association Letter dated 27 June 2018 &lt;br&gt;Reference to Glacier Stone Supply Permit 00190 &lt;br&gt;And the Associated Draft Environmental Assessment &lt;br&gt;Dear Mr. Wolfes, &lt;br&gt;Below is our first Addendum to your Draft Environmental Assessment for an Application &lt;br&gt;(Operating Permit 00190) for Glacier Stone Supply LLC. &lt;br&gt;We are submitting this “final” additional set of questions and concerns in our continuing effort &lt;br&gt;to ensure that our Lake and its Watershed are protected. We remain very concerned with &lt;br&gt;numerous portions of your Assessment. With this submission we ask for a six month delay of &lt;br&gt;your comment period. The reason is quite simple; we need more time to study and respond to &lt;br&gt;the impact of this major mining proposal and its effect on our community and lake. The current &lt;br&gt;cutoff date is just too short and does not allow the community enough time to properly &lt;br&gt;respond. &lt;br&gt;Questions: &lt;br&gt;1) Page 7 section 2 - Direct Impacts, states that no baseline water quality or quantity data in the greater &lt;br&gt;project area have been collected. This section further states that there will be minimal impact to surface &lt;br&gt;water in the area due to the distance to surface water (approx. 1 mile to the lake). &lt;br&gt;This statement is not supported by estimates of storm water run-off volumes, flow rates, frequencies, &lt;br&gt;and consideration for larger than average storm events, drainage characteristics or evaluation of &lt;br&gt;particulate size or transport distance of sediment produced in the project disturbance area. &lt;br&gt;Will the DEQ require that the applicant collect this information to quantify the impact of surface water &lt;br&gt;run-off on the downstream drainage and Little Bitterroot Lake?</td>
<td></td>
</tr>
<tr>
<td><strong>LBL-5</strong></td>
<td>2) Page 7 section 2 - Direct Impacts, states that there would be some modifications to storm water run-&lt;br&gt;off patterns due to changes in topography. &lt;br&gt;Has the applicant or the DEQ assessed the nature and extent of these changes? &lt;br&gt;Is there potential that a larger storm water catchment area will be produced and hence higher volume &lt;br&gt;storm water flows may occur with potential for greater erosion and generation of sediment which may &lt;br&gt;injure total suspended solids discharged into Little Bitterroot Lake?</td>
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</table>

**Comment Response LBL-4**<br>The MMRA does not require the applicant to collect storm water run-off volumes, flow rates, frequencies, <br>and consideration for larger than average storm events, drainage characteristics, or evaluation of particulate <br>size, or transport distance of sediment produced in the project disturbance area for an operating permit <br>application. No off-site hydrologic impacts are anticipated. See comment response to WET-5. |

**Comment Response LBL-5**<br>The changes mentioned in the draft EA are considered to be minor and not affect the watershed. There would <br>not be a change in the water catchment area for Little Bitterroot Lake as a result of proposed mining activities. <br>See comment response to WET-5.
Response to Comments on the Public Draft EA

LBL-6
3) Page 7 section 3 - Direct impacts, states that road dust should be minimal due to the use of road watering or dust suppressant. A study conducted by the U.S. EPA indicates that the use of some dust suppressants may increase Total Suspended Solids in surface water run-off.

Will the applicant specify whether water or suppressants will be used and if suppressants will be used, what type of suppressant will be used?

EPA dust suppressant study source:
https://www.epa.gov/region9/damage/ParticulateSuppression-fy12008.pdf

LBL-7
4) Page 11 section 6, states that the proposed project will not use any limited resources in the area.

Where will water for the project be sourced?

LBL-8
5) Page 27 paragraph 6, states that there would be minor impacts to terrestrial, avian and aquatic life and habitats.

What are the expected impacts to aquatic life and is the statement referring to Little Bitterroot Lake aquatic life or some other area?

Has the DEQ quantified these impacts and if not, will they request that the applicant quantify any impacts?

LBL-9
6) Based upon Google Earth imagery, there is a small pond which appears to be a historic wetland which may now host a small dam on the west end.

As the distance to this possible wetland is less than 0.5 miles from the Glacier Mountain site, has the applicant or the DEQ assessed possible storm water run-off impacts on the area?

LBL-10
7) The EA states that reclamation will be carried out but indicates that there is minimal soil present to be stockpiled for use in re-establishing plant life. Vegetation is present in most application areas (as per the EA up to 60% of the proposed project site is forested) and it is possible that any disturbance of this thin soil layer and associated vegetation will eliminate near term potential for soils and plant life to be reestablished. This will in turn increase the potential for mobilization of sediment during storm water run-off events which may in turn produce higher total suspended solids discharging to the lake.

Comment Response LBL-6
The MMRA does not require the use of dust suppressant for road maintenance. The applicant would apply dust suppressant as needed. See comment response WET-6

The final EA notes under Air Quality that Glacier Stone would employ a number of control measures to reduce emissions, as necessary, including but not limited to the application of chemical dust suppressant and/or water on haul roads and access roads and the prompt revegetation of disturbed areas.

Comment Response LBL-7
Water for the project will be hauled in from off-site.

Comment Response LBL-8
There are no expected impacts to any aquatic life from mining activities.

Comment Response LBL-9
There are no expected run-off impacts to any wetlands from mining activities. See comment response WET-5

Comment Response LBL-10
See comment response WET-3
Comment Response LBL-11

See comment responses WET-3 and WET-5

Comment Response LBL-12

A surface water management plan is beyond the scope of this EA as off-site hydrologic impacts are not
anticipated. Storm water run-off from the proposed mine site would be regulated by DEQ’s Water Protection
Bureau. See comment response WET-5

Comment Response LBL-13

The environmental review of the proposed operating permit application did not indicate that the impacts
would rise to a level of significance which would require that an EIS. The significance determination in the
Draft EA remains the same.
ADDENDUM No. 2 to Little Bitterroot Lake Association Letter dated 27 June 2018
Reference to Glacier Stone Supply Permit 00190
And the Associated Draft Environmental Assessment

Dear Mr. Rollin,

Below is our second Addendum to your Draft Environmental Assessment for an Application (Operating Permit 00190) for Glacier Stone Supply LLC.

We are submitting this additional set of questions in our continuing effort to ensure that our Lake and its Watershed are protected. We remain very concerned with numerous portions of your Assessment. Our focus in Addendum No.2 is on Glacier Stone’s Operating Plan. We believe it is insufficient.

Questions:

1) It appears that there are at least two primary water flows from the mining area. Both flow into our lake. Does Glacier Stone have a detailed Storm Water Pollution Plan? If not, would you please ensure that it does?

2) Air quality at the mining site and on the roads associated with the site is a problem. We have eyewitness accounts of major dust clouds over the roads and along the ridge from the mine to Idaho Hill Road. We ask that you involve DEQ Air Quality Regulators in an analysis of this problem. Individuals who have visited the site also observe very problematic air quality issues. Perhaps in your inspections you have noted this too? We do not believe there is an adequate plan in place by Glacier Stone to deal with Air Quality and we ask you to make this part of your analysis. Please ensure that Glacier Stone has a specific dust mitigation plan and the permit ensures continued monitoring. Our observations are of a much smaller operation than is planned by this expanded permit. Please take that into account.

Comment Response LBL-14
See comment response WET-5.

Comment Response LBL-15
Reasonable precautions have been taken to protect the human health and safety of people recreating on nearby property and use of shared access. See comment response WET-6.
3) Glacier Stone is working within a patch of our shoreline which is solid with homes. We ask you to include in your permit noise mitigation strategies for their expanded operation. Specific and limited daylight and weekday operations should be written into their permit. We are now living with their noise and it is a problem.

4) There are wetlands in close proximity and below some of the permitted site. We have witnessed these ourselves. Material that is not wholly contained within the site will likely contaminate the wetlands and watershed. An analysis of these known wetlands has been accomplished. We request the DEQ to study the wetlands and watershed. We request that Glacier Stone be held accountable for the current and increasing problem. We ask for a sediment settlement plan and program to ensure places are built to accept the sediment from the site and mitigate it.

5) It appears that blasting will be a part of this new operation. The residual effects of blasting on our environment have not been adequately evaluated. We request restrictions on blasting for the peace and serenity of our community and a plan to mitigate the adverse effects on our environment.

6) Because Glacier Stone exceeded their current 5 acre limit, we are concerned that they may again exceed the permitted acreage of this EA. In order to ensure there is no confusion on what is permitted for mining, we request that the DEQ clearly delineate the allowed acreage and provide specific boundary lines and total acreage allowed to be mined on a map. We request that Glacier Stone include in their plan specific agreement not to exceed the permitted area as mapped. We request the DEQ explain the ramifications if Glacier Stone violates these aforementioned boundaries.

7) Because Glacier Stone has gone bankrupt, been violated for mining a larger area then allowed, has adversely changed the look and environment of our watershed, and has not engaged the community in a positive way - we believe that their way of doing business could pose future challenges to us individually, our community and the environment. Our request is that this permit be very specific to the responsibilities required of Glacier Stone. A significant bond amount and more than yearly inspections by DEQ are requested. We have read their operating plan and find it weak. Should you grant an operating permit please ensure that it provides more detailed instructions and plans to protect us individually, our community and the watershed.

8) We do not believe adequate reclamation is delineated in this EA. We request that the ENTIRE mining operation be reclaimed not just the future area of disturbance. We request an adequate bond for compliance be required in the permit.

Comment Response LBL-16
See comment response WET-6.

Comment Response LBL-17
No off-site hydrologic impacts are anticipated. See comment response WET-5.

Comment Response LBL-18
Blasting would occur less than once a year at the proposed mine site.

Comment Response LBL-19
Exhibit B of the application shows the permit and disturbance boundaries.

Comment Response LBL-20
Violations of permit conditions would be addressed in accordance with DEQ’s enforcement policies and guidelines. Bond requirements are addressed above. See comment response to LBL-3. The site would be inspected at a minimum of once per year.

Comment Response LBL-21
See comment response LBL-3.
Comment Response WIL-22

Comment noted. DEQ reviewed the section and maintains that no significant impacts are anticipated.

Comment Response WIL-23

No off-site hydrologic impacts are anticipated. See comment response WET-5. The applicant has agreed to cease pushing waste rock over the edge of the cliff pictured. Personal communication with Glacier Stone dated July 27, 2018.
ADDENDUM No. 3 to Little Bitterroot Lake Association Letter dated 27 June 2018
Reference to Glacier Stone Supply Permit 00190
And the Associated Draft Environmental Assessment

Dear Mr. Rolfe,

Below is our third Addendum to your Draft Environmental Assessment for an Application (Operating Permit 00190) for Glacier Stone Supply LLC.

We are submitting this additional set of Google Historical Photos in our continuing effort to ensure that our Lake and its Watershed are protected. Our focus in Addendum No.3 is to provide an historical visual view of Glacier Stone’s impact on our Environment and Watershed.

Legend

2004 Glacier Stone
Sincerely,

Little Bitterroot Lake Association

Submitted on behalf of the LBLA by Dan Handlin
<table>
<thead>
<tr>
<th>Comment Code</th>
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<tr>
<td>-----</td>
<td>Art Vail [<a href="mailto:ahviii@gmail.com">mailto:ahviii@gmail.com</a>]</td>
<td>See comment response WET-5, WET-8, WIL-14, and WIL-23.</td>
</tr>
</tbody>
</table>

From: Art Vail [mailto:ahviii@gmail.com]  
Sent: Wednesday, July 18, 2018 8:38 PM  
To: Rolfes, Herb  
Subject: Glacier Stone application to expand quarry in Marion, MT

Glacier Stone has been operating the quarry that they wish to expand for many years under the small miner's exclusion. This is a joke and a dereliction of duty on your part. If one reads the requirements under this exclusion there is no way they have been in compliance.  
The whole hilltop has been trashed, they have dumped waste material over the cliff destroying the asthetics from the lake, have possibly caused sedimentation into the lake, have caused air (dust) and noise pollution and have done no reclamation.  
Before they are permitted to expand they should be required to reclaim every acre previously quarried, and should be required to post a bond adequate to ensure performance for the expansion.  
They are bad neighbors who don't care about anyone else and need to be held to the strictest degree of compliance with mining regulations.  
Sincerely,  
Art Vail  
1100 North Bitterroot Rd  
Marion, MT 59925  

July 18, 2018
<table>
<thead>
<tr>
<th>Comment Code</th>
<th>Document #05-Shotnick</th>
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<tbody>
<tr>
<td>From: Lauren Shotnik [<a href="mailto:shotnik@earthlink.net">mailto:shotnik@earthlink.net</a>]</td>
<td>Herb, You now have the pictures, petition signatures, and seen the huge scar on the hill top shown clearly on the comparison photos. Our community has worked very hard to be able to live and retire on Bitterroot Lake. If you sign that permit, all our hard work and significant investment will be damaged by impure water and land scars. This will severely impact our property values. It is very quite here on the lake. We hear Loons calling every morning and night. All that will change with a large mine operation going on for the next 25 years. The approval of this mine will dramatically impact environmental resources of land, water and air of Bitterroot Lake. It already has, just look at the pictures. Please add me to the correspondence mailing and emails. Please don’t sign this permit and sleep good tonight. Thank you, Lauren and Craig Shotnik 1110 N. Bitterroot Road Marion, Montana 59925 406-854-2440 <a href="mailto:shotnik@earthlink.net">shotnik@earthlink.net</a></td>
<td>See comment response to WET-5 and WET-8.</td>
</tr>
<tr>
<td>Sent: Thursday, August 02, 2018 12:57 PM</td>
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<tr>
<td>To: Rolfs, Herb <a href="mailto:HRolfs@mt.gov">HRolfs@mt.gov</a></td>
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<tr>
<td>Cc: <a href="mailto:feedback@ios.doi.gov">feedback@ios.doi.gov</a></td>
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<tr>
<td>Subject: Please do not sign Glacier Stone permit</td>
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<tr>
<td>cc: Ryan Zinke</td>
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</table>
SAVE OUR LAKE PETITION

BACKGROUND

Little Bitterroot Lake is one of the MOST pristine lakes in the United States.

The Little Bitterroot Lake Association (LBLA) and the entire Community are stewards of this lake. The LBLA mission statement demands we fully review ALL actions that may impact our lake and ensure it is protected from damage.

This petition is concerned with problems and omissions in the Department of Environmental Quality (DEQ) Draft Environmental Assessment for an Application for an Operating Permit (00190) from Glacier Stone Supply LLC. in Flathead County for Two Quarry Sites.

We understand that Glacier Stone Supply LLC has applied for a Major Mining Operation as described in an Operating Permit Application (00190) to the Department of Environmental Quality (DEQ). We support, appreciate and wish no harm on Glacier Stone Supply LLC or any of our local businesses.

The Glacier Stone Supply LLC request as covered under the DEQ Operating Permit will dramatically expand two rock quarries, one of which is within a mile of Little Bitterroot Lake.

This application will significantly change their current operation.

Their mining will cover up to 45 acres (up from the current 5 acre limit), 50 feet will be cut off the top of the mountain, and operations will extend for 25 years. Their request for increased activity will make this work so large that it will be covered under the Major Mining Act.

Conclusions made in the DEQ Assessment regarding the impact to our area and Little Bitterroot Lake Watershed appears to be inaccurate and incomplete.
The DEQ Assessment states, "The proposed disturbance area is a ridge less than a mile east of Little Bitterroot Lake." "There would be minimal risk of degradation to surface or groundwater resulting from this project because of the distance to surface water."

According to the widely used and acclaimed Montana Lake Book "A watershed can extend for miles" and "Lake Protection MUST extend to the entire watershed."

The DEQ Assessment (page 7) explains that there is no problem because of the distance from the site to the lake. This logic is clearly erroneous.

The facts are that the DEQ Assessment incorporates no significant or accurate consideration of the Little Bitterroot Lake Watershed. Known to those of us who live near the site, there are seasonal streams/creeks that run from the site to our lake. One is known to be quite voluminous. Because of its heavy flow it is one of the first to open up the ice from the shore.

The DEQ should be concerned about this water flow. Unfortunately, it has been reported that none of the DEQ principle assessment authors have even made a physical inspection of the site.

The DEQ Assessment runs counter to acceptable guidance on protecting our Lake and its Watershed as set forth by the State of Montana.

We request a more complete impact study of the site, the watershed, and a competent review of the effect on Little Bitterroot Lake Water Quality. This is one of the cleanest most beautiful lakes in the United States. It deserves our protection.

(Additional considerations include Air Quality, Traffic Safety, Property Values, Bald Eagle Population and the Canadian Lynx.)
We the undersigned believe the Major Mining Operation as described in the DEQ Draft Environmental Assessment for an Application for an Operating Permit (00190) does not FULLY address the possible negative impact to our Community and our LAKE's ecology. We ask that the application NOT be approved until a full and accurate analysis of its environmental impact is completed.

<table>
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<tr>
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<th>RESIDENCE</th>
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<tr>
<td>1. Collin E. Huesly</td>
<td></td>
<td>11425 Hwy 2 West</td>
<td>6/27/16</td>
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<tr>
<td>2. S. Gardin</td>
<td></td>
<td>435 Lodgepole Dr. Marion</td>
<td>6/27/16</td>
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<td>3. Tyler Hilgen</td>
<td></td>
<td>435 Lodgepole Dr. Marion</td>
<td>6/27/16</td>
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<tr>
<td>4. David Larson</td>
<td></td>
<td>1878 Buttecrest Drive, WY</td>
<td>6/27/16</td>
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<td>5. Rob Lee</td>
<td></td>
<td>113 Locke Bay, ORE, MARCH</td>
<td>5/19/18</td>
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<tr>
<td>6. Susan Lorch</td>
<td></td>
<td>705 7th 570</td>
<td>6/23/18</td>
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<td>Signature</td>
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<tr>
<td>Steve</td>
<td>Lack</td>
<td>P.O. Box 135, Kalispell</td>
<td>MT</td>
<td>59903</td>
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<tr>
<td>Steve</td>
<td>Lack</td>
<td>1016 E. 20th St.</td>
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<td>Steve</td>
<td>Lack</td>
<td>1206 East 2nd St.</td>
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<tr>
<td>Steve</td>
<td>Lack</td>
<td>944 E. 2nd St.</td>
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<tr>
<td>Robert</td>
<td>Ashworth</td>
<td>175 Boorman Ln., Kalispell</td>
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<td>104</td>
<td>Ashworth</td>
<td>175 Boorman Ln., Kalispell</td>
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<td>Pat</td>
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<td>Pat</td>
<td>Ashworth</td>
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<tr>
<td>Gabe</td>
<td>Knudsen</td>
<td>6200 E. 17th Ave.</td>
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<td>Gabe</td>
<td>Knudsen</td>
<td>6200 E. 17th Ave.</td>
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<tr>
<td>D. Hearn</td>
<td></td>
<td>1200 Indian Crk Rd.</td>
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<td>D. Hearn</td>
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<td>1200 Indian Crk Rd.</td>
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<tr>
<td>Paula</td>
<td>Robertson</td>
<td>1055 Indian Creek Trail-Kyle</td>
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<tr>
<td>Terry</td>
<td>Melvin</td>
<td>940 N. Bitterroot Rd. Marion, MT</td>
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<tr>
<td>Floyd</td>
<td>Jones</td>
<td>1055 N. Bitterroot Rd.</td>
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<td>Chris</td>
<td>Sauzier</td>
<td>940 N. Bitterroot Rd.</td>
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<tr>
<td>W.K.</td>
<td>Hommes</td>
<td>925 Griz Ln.</td>
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Ruth Skaggs 4853 Ashley Lake Rd Klamath 59920
PETITION STATEMENT

We the undersigned believe the Major Mining Operation as described in the DEQ Draft Environmental Assessment for an Application for an Operating Permit (00190) does not FULLY address the possible negative impact to our Community and our LAKE's ecology. We ask that the application NOT be approved until a full and accurate analysis of its environmental impact is completed.

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<tbody>
<tr>
<td>Bruce Appleton</td>
<td>Dr. A. Adams</td>
<td>2477 Pleasont Valley Rd.</td>
<td>6/23/18</td>
<td></td>
</tr>
<tr>
<td>Dean Hazuka</td>
<td>Dr. G. Hayle</td>
<td>180 W. Hiawatha</td>
<td>6/23/18</td>
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<tr>
<td>Valerie Kao</td>
<td>Valerie Kao</td>
<td>870 Lodgepole Dr.</td>
<td>6/23/18</td>
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<tr>
<td>Kim Williams</td>
<td>Kim Williams</td>
<td>5500 Creek Rd.</td>
<td>6/23/18</td>
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<tr>
<td>Orville McAll</td>
<td>730 Pleasant Valley</td>
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<td>6/23/18</td>
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<tr>
<td>Teresa Hickey</td>
<td></td>
<td>40 Evernia St.</td>
<td>6/23/18</td>
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<tr>
<td>Bob Wager</td>
<td></td>
<td>230 Esther Lane Way</td>
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</tbody>
</table>
Nancy E. Krause 80 Bitterroot C/O 6/23

Spencer Hale 1307 Marion Hubert Spur, 59925
Nancy Hale 450 Dollar Hill Rd, 59925

Wanda L. Bissell 450 Dollar Hill Rd, 59925

Leslie Darezzo P.O. Box 5401, Raysore, MT 59935

Arthur H. Vance, III 1100 N. Bitterroot Rd, Marion, MT 59925

Richard Edwards 1072 Kelsey Rd, Marion, MT 59925

Lily M. Brower Lily M. Brower 350 Pleasant Valley Rd, Marion, MT 59935
PETITION STATEMENT

We the undersigned believe the Major Mining Operation as described in the DEQ Draft Environmental Assessment for an Application for an Operating Permit (00190) does not FULLY address the possible negative impact to our Community and our LAKE's ecology. We ask that the application NOT be approved until a full and accurate analysis of its environmental impact is completed.

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<tr>
<td>Gary P. Jackson</td>
<td></td>
<td>305 Lodgepole Dr. Marion, MT 59925</td>
<td>6/29/18</td>
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<td>Pam Jackson</td>
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<td>Darcy Gross</td>
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<td>Charlotte May</td>
<td></td>
<td>295 Lodgepole Dr. Marion, MT 59925</td>
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(Additional considerations include Air Quality, Traffic Safety, Property Values, Bald Eagle Population and the Canadian Lynx.)

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<tr>
<td>JERRY JENSEN</td>
<td>J. JENSEN <a href="mailto:JR@HOTMAIL.COM">JR@HOTMAIL.COM</a></td>
<td></td>
</tr>
<tr>
<td>GARRY &amp; CAROL CHURCH</td>
<td></td>
<td>GARY CHURCH CARL CHURCH</td>
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<tr>
<td>NICK LIENTZ</td>
<td>R. LIENTZ</td>
<td>Nlee L. Lienzsch</td>
</tr>
<tr>
<td>NEELE LIEBENROTH</td>
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<td>Nlee LIEBENROTH</td>
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<tr>
<td>LEE &amp; Bob Pearce</td>
<td>Jms Pearce Rbeer</td>
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<tr>
<td>AUDREY K. KNIGHT</td>
<td><a href="mailto:AKnight49@gmail.com">AKnight49@gmail.com</a></td>
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<tr>
<td>GARY &amp; Sweeney, JR.</td>
<td>GARY &amp; Sweeney</td>
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<tr>
<td>JAY L. DOBEY</td>
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<td>T. Jerome DOBEY</td>
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<tr>
<td>DOUGLAS HILL</td>
<td>02/27/18</td>
<td>T. HILL</td>
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<tr>
<td>KEVIN JERALD</td>
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<tr>
<td>ROBIE FENN</td>
<td>06/28/18</td>
<td>ROBBIE</td>
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<tr>
<td>Jack Kriese</td>
<td></td>
<td>1270 Pleasant Valley Rd</td>
<td>6/26/15</td>
<td><a href="mailto:scot@kriese.com">scot@kriese.com</a></td>
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<tr>
<td>Diane Bell</td>
<td></td>
<td>1570 Pleasant Valley Rd</td>
<td>6/26/15</td>
<td><a href="mailto:bellid@gmail.com">bellid@gmail.com</a></td>
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<tr>
<td>Henry Bell</td>
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<tr>
<td>Jodel Napari</td>
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<td>Theresa Napari</td>
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<tr>
<td>Billy Butterfield</td>
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<tr>
<td>Janine Presson</td>
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<td>06/28/18</td>
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<td>John Presson</td>
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<tr>
<td>Gary Presson</td>
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<tr>
<td>Judith Lucian</td>
<td></td>
<td>10 NELSON LANE</td>
<td>06/28/18</td>
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</tr>
<tr>
<td></td>
<td>LUCIANO</td>
<td>MARION, MT</td>
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Return to Dan Handlin 80 Bitterroot Cove Ct. Marion, Mt. 59925
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<tr>
<td></td>
<td>David Engel</td>
<td>6/25/18</td>
<td></td>
<td><a href="mailto:david.engel@cox.net">david.engel@cox.net</a></td>
</tr>
<tr>
<td>2</td>
<td>H. Engel</td>
<td>6-25-18</td>
<td></td>
<td><a href="mailto:hengel2@cox.net">hengel2@cox.net</a></td>
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<tbody>
<tr>
<td>1 CRAIG SLOWIK</td>
<td></td>
<td>110 N BITTERROOT RD, MARION, MT</td>
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<tr>
<td>2 Lauren Sholtz</td>
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<td>1110 N Bitterroot Rd, Marion, MT</td>
<td>6-28-2018</td>
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