

MT DEQ

Draft Environmental Assessment

OP#00189 Venture Stone, LLC Proposed Amendment 001

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**Hard Rock Mining Bureau
ENVIRONMENTAL ASSESSMENT**

COMPANY NAME: Venture Stone, LLC

OPERATING PERMIT: Operating Permit #00189

LOCATION: Cascade County, generally south and west of Great Falls, MT

Site 1: Township 18 North, Range 4 East, Sections 20, 21, 28, and 29

Site 2: Township 18 North, Range 3 East, Sections 13, 14, 15, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, and 29

Site 3: Township 18 North, Range 4 East, Sections 20, 28, 29, 30, and 32

Site 4: Township 18 North, Range 4 East, Sections 33 and 34 and Township 17 North, Range 4 East, Sections 3 and 4

Site 5: Township 18 North, Range 6 East, Section 32 and Township 17 North, Range 6 East, Sections 5, 6, 7, 8, 17, 18, and 19

Site 6: 795 Ulm Vaughn Road, Great Falls

Proposed Site 7: Township 20 North, Range 01 East, Sections 3, 4, 9 and 10

Proposed Site 8: Township 20 North, Range 01 East, Sections 14 and 23

Proposed Site 9: Township 19 North, Range 02 East, Section 23

Proposed Site 10: Township 18 North, Range 02 East, Sections 13 and 18

Proposed Site 11: Township 19 N, Range 04 East, Sections 24, 25, and 26, and Township 19 North, Range 05 East, Section 19

Site 12: Township 20 North, Range 01 East, Section 02

COUNTY: Cascade County

PROPERTY OWNERSHIP: FEDERAL ___ STATE ___ PRIVATE X _

COMPLIANCE WITH THE MONTANA ENVIRONMENTAL POLICY ACT

Under the Montana Environmental Policy Act (MEPA), Montana agencies are required to prepare an environmental review for state actions that may have an impact on the human environment. The proposed action is considered to be a state action that may have an impact on the human environment and, therefore, the Department of Environmental Quality (DEQ) must prepare an environmental review. This environmental assessment (EA) will examine the proposed action and alternatives to the proposed action, and disclose potential impacts that may result from the proposed and alternative actions. DEQ will determine the need for additional environmental review based on consideration of the criteria set forth in Administrative Rules of Montana (ARM) 17.4.608.

PROPOSED ACTION

DEQ would approve an application to amend Operating Permit #00189 (Amendment 001) for Venture Stone, LLC (Venture Stone) to add 5 sites near the town of Great Falls, Montana to their multi-site permit.

PURPOSE AND NEED FOR PROPOSED ACTION

DEQ determined that the application for Amendment 001 to Operating Permit No. 00189 is complete and compliant on August 6, 2020. When an application for a proposed amendment to an operating permit is complete and compliant, DEQ is required under Section 82-4-337(d), Montana Code Annotated (MCA), to detail in writing the substantive requirements of the Metal Mine Reclamation Act (MMRA) and how the proposed action complies with those requirements. The compliance determination finalized on August 6, 2020, sets forth DEQ's determination that the Venture Stone proposed operating permit amendment application complies with the substantive requirements of the MMRA. The proposed operating permit amendment would be issued under the MMRA, Title 82, chapter 4, part 3, MCA.

APPLICANT'S PROPOSED ACTION

Background:

Venture Stone (the applicant) has applied for Amendment 001 to incorporate proposed Sites 7 – 11 into Operating Permit #00189. Venture Stone currently operates 7 sites under a multi-site permit, Sites 1-6 and Site 12. The option of applying for Amendment 001 to add Site 7 was a corrective action identified in violation letter that DEQ issued on May 16, 2019 to Venture Stone. The violation letter was initiated by DEQ for mining at the site without first obtaining a final operating permit.

Location:

The proposed sites are in Cascade County, approximately 13 miles south and west of Great Falls, MT (Figure 1: proposed sites in red, existing sites in green).

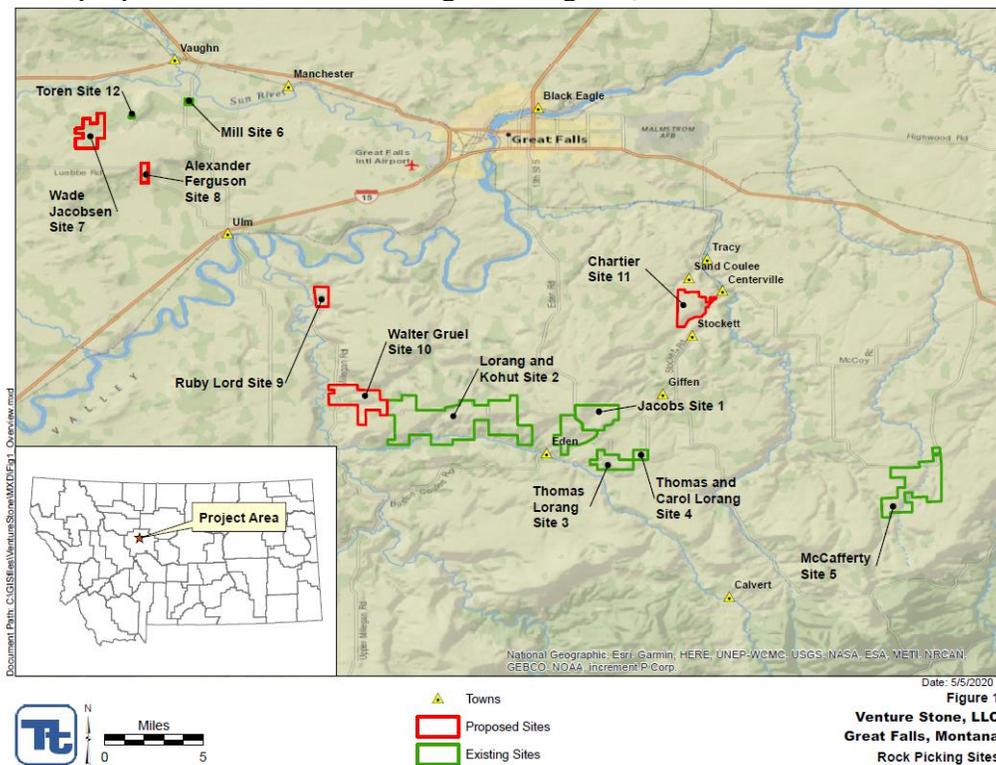


FIGURE 1: PROPOSED PERMIT AREA LOCATION

Analysis Area:

The area being analyzed as part of this environmental review includes the proposed permit area locations (Figures 1-5) as well as immediate downstream water sources and neighboring lands surrounding the permit area as reasonably appropriate for the impacts being considered.

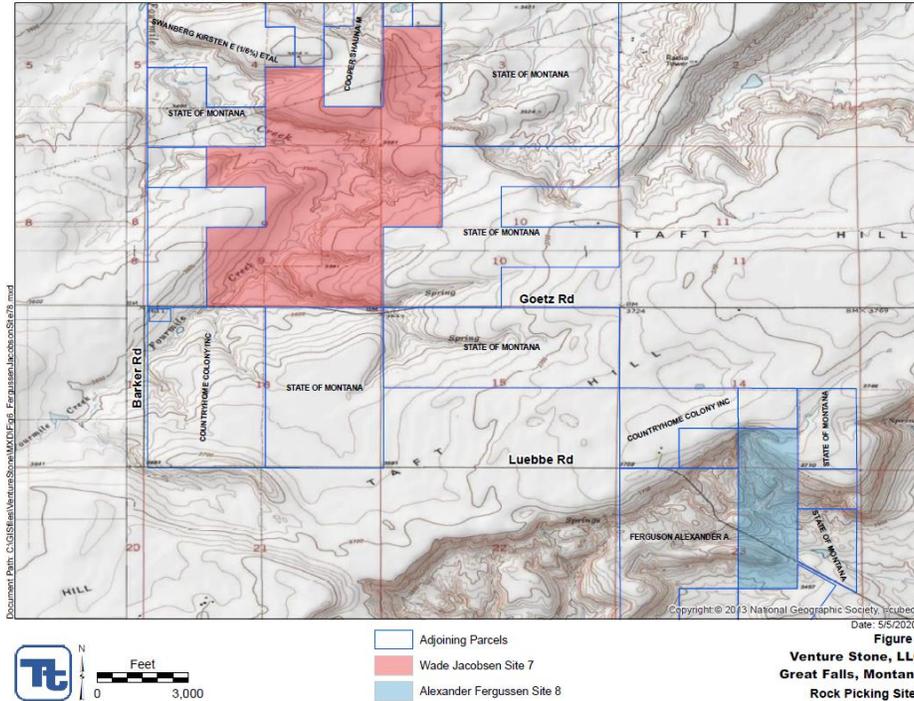


FIGURE 2: PROPOSED PERMIT AREAS FOR SITES 7 AND 8

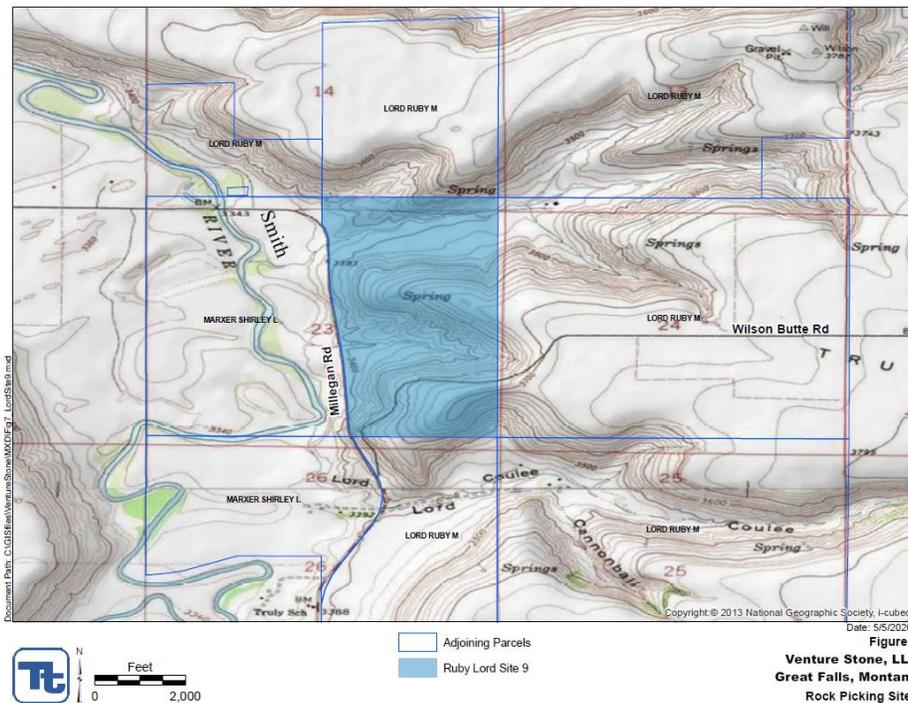
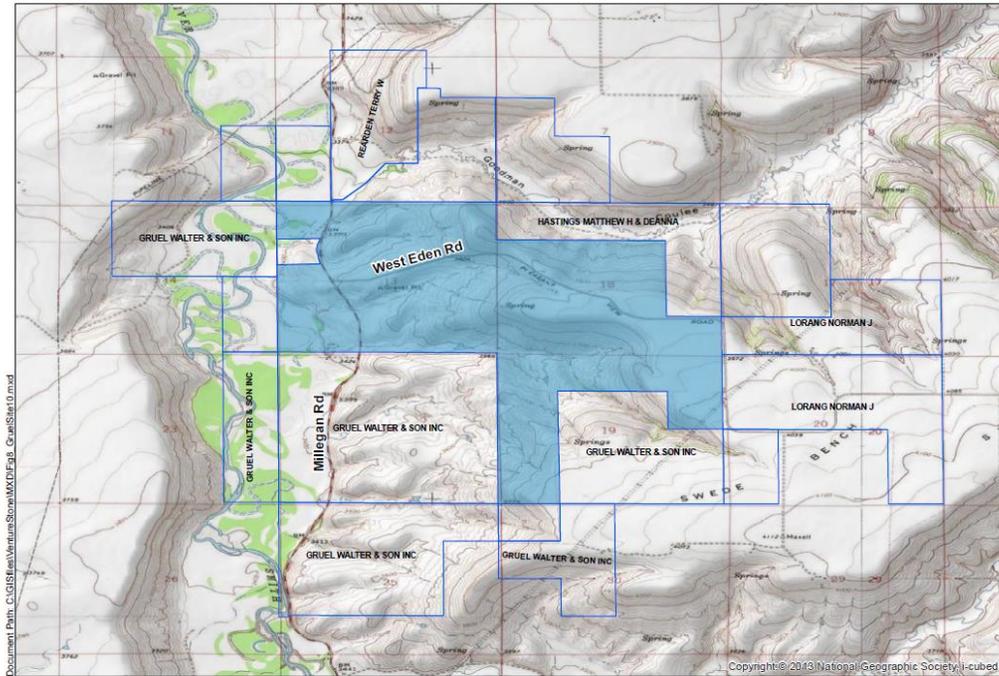


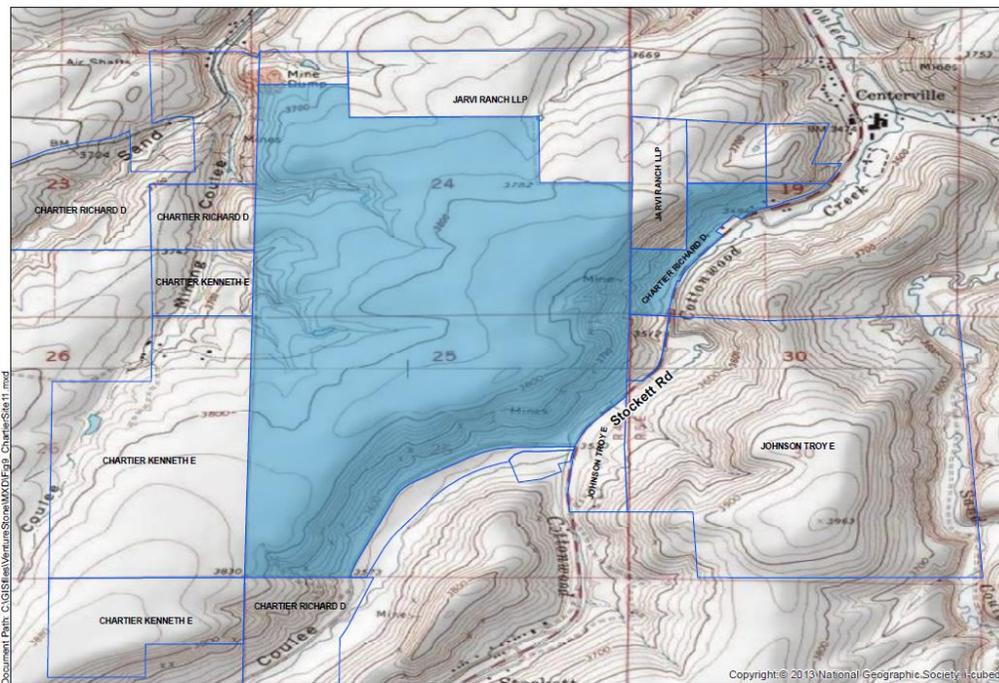
FIGURE 3: PROPOSED PERMIT AREA FOR SITE 9



Adjoining Parcels
 Walter Gruel Site 10

Figure 8
Venture Stone, LLC
Great Falls, Montana
Rock Picking Sites

FIGURE 4: PROPOSED PERMIT AREA FOR SITE 10



Adjoining Parcels
 Richard Charter Site 11

Figure 9
Venture Stone, LLC
Great Falls, Montana
Rock Picking Sites

FIGURE 5: PROPOSED PERMIT AREA FOR SITE 11

Scope of Activity:

Three of the five proposed sites are currently operating without a permit. The proposed permit and disturbance boundaries and 5-year disturbance areas for each of the existing and proposed sites are outlined below in Table 1. The total operating permit boundary area with the proposed sites would be 13,742.3 acres and the proposed disturbance area would be 370 acres.

Site Number	Site Status	Total Area (acres)	Permitted Disturbance Area	Current Disturbance	Proposed (5-year) Disturbance
1	Existing	1,016.7	944.7	20	50
2	Existing	5,137.7	4,922.7	50	75
3	Existing	995.9	928.9	10	20
4	Existing	759.1	759.1	0	0
5	Existing	2,260.6	2,152.6	20	50
6*	Existing	39.0	39.0	7.5	10
7	Proposed, operating without permitting	763.3	763.3	25	50
8	Proposed	161.3	161.3	0	20
9	Proposed, operating without permitting	295.1	295.1	20	50
10	Proposed, operating without permitting	1,376.6	1,376.6	10	20
11	Proposed	917.3	917.3	0	20
12	Existing	20.0	20.0	5	5
Total	N/A	13,742.3	13,280.6	167.5	370

TABLE 1: EXISTING AND PROPOSED PERMIT AND DISTURBANCE AREAS

Activities at the proposed sites would be a continuance of the current practice at the existing sites: harvesting surface sandstone rocks, mostly lichen-encrusted ("moss rocks") of the Cretaceous Kootenai, and Blackleaf Formations. Only light-weight equipment would be used in off-road areas and only small surface rocks would be collected, no highwalls or open pits would be produced. Surface rock would be removed using hand tools, an excavator, or backhoe and transported to a palleting/staging area using a skid-steer loader. The palleted rock would then be loaded onto trucks for shipping off-site. The access roads to the sites were pre-existing and are used by the landowners for land access; no additional roads or facilities would be constructed at the sites.

Duration of Activity:

Mining activity would be seasonal and would generally take place from March to December, although work may be performed in January and February, weather permitting. The sites would operate from 8 AM to 5 PM, Monday through Friday, weather permitting. The estimated life of mine for the proposed sites is ten years.

Personnel and Equipment:

If Amendment 001 were approved, Venture Stone would employ an average of four people at the existing and proposed rock picking sites, and three people at the existing processing site. Surface rock would be removed using hand tools, an excavator, or backhoe and transported to a palleting/staging area using a skid-steer loader. The palleted rock would then be loaded onto trucks for shipping off-site.

Reclamation Plan:

The mine sites would be in use as pastureland during mining and would be reclaimed for use as pasture grassland for grazing and farmland after mining is completed. The access roads would be

left intact post-mine as requested by the landowners. All other mining disturbances would be reclaimed. Disturbances would be discontinuous as ground would generally only be disturbed where rocks are removed. Livestock would be excluded from reclaimed ground until reclamation is achieved. Venture Stone would practice concurrent reclamation when possible, and would grade, scarify, and seed or plant areas no longer needed for mining activities within one year of the cessation of such activities on that area. Venture Stone would complete reclamation activities no more than two years after completion or abandonment of the operation.

The maximum depth of disturbance would be 1 foot or less. Topsoil would not be stripped before disturbance, and fill would not be placed before grading. After grading, the ground would be scarified. Reclaimed areas would be seeded with the approved seed mix. Noxious weeds would be controlled following revegetation.

Seed Variety	Pure Live Seed (PLS), pounds per acre	Percentage
Critana thickspike wheatgrass	11	44.9
Secar bluebunch wheatgrass	6	24.5
Lodorn green needlegrass	5	20.4
Sandberg bluegrass	0.5	2.0
Annual ryegrass	2	8.2
Total	24.5	100

TABLE 2: APPROVED SEED MIX

SUMMARY OF POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS:

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

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

The intensity of the impacts is measured using the following:

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

1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE

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

Geology

Site specific geology is described below.

Site 7

The sandstone from Site 7 is largely from the Vaughn Member of the Blackleaf Formation. This formation is described as having black carbonaceous shale, light gray, greenish to calcareous siltstone, middle dark gray shale with thin limestone interbeds, and lower fine-grained sandstone.

Sites 8 – 10

Sites 8 through 10 are predominantly of the Flood Member of the Blackleaf Formation. The upper part to this formation consists of medium gray, cliff-forming fine- to medium-grained chert-rich, quartzose sandstone. These sites also have portions of Kootenai Formation which is described as red, maroon, and olive gray mudstone, tan or gray siltstone, calcareous concretions, limestone beds, and several prominent sandstone beds.

Site 11

The rock at Site 11 is primarily from the fourth member of the Lower Cretaceous Kootenai Formation. The formation is characterized by dusky-red- to pale-reddish-brown-weathered, and

locally light-brownish gray-weathered, fine- to medium-grained, platy, thin- to medium-bedded sandstone mixed with very dark-reddish-brown-weathered mudstone (Vuke, 2000).

Soil

Site specific descriptions of surface soils, the section of soil that would be impacted by the proposed actions, are included below. The prevalent soils at each site are displayed in table 3.

Site	Soil	Percent	Description
7	Marmarth clay loam	37.9	Clay loam
	Abor-Yawdim clays	16.5	Clay-silty clay
8	Abor-Yawdim clays	41.6	Clay-silty clay
	Lisam-Rock outcrop	28.3	Clay-weathered bedrock
9	Yawdim-Rock outcrop complex	32.0	Clay loam-weathered bedrock
	Korent loam	20.5	Loam-very fine sandy loam
	Tally fine sandy loam	19.3	Fine sandy loam
10	Bitton and Roy soils	34.3	Cobbly clay, brown-grayish brown, moist
	Absarokee clay loam	11.1	Clay, grayish brown, moist
	Absarokee-Sinnigam complex	9.6	Clay loam unweathered bedrock
11	Bitton and Roy soils	46.2	Cobbly clay, brown-grayish brown, moist
	Ipano-Ticell loams	23.8	Loam-unweathered bedrock

TABLE 3: PREVALENT SOILS IN THE PROPOSED SITES

Site 7

The soil at site 7 is predominantly Marmarth clay loam, which typically has a clay loam Soil Horizon A about 7 inches deep. Abor-Yawdim clay is found on about 17% of site 7. The surface of Abor-Yawdim clay is a clay layer roughly 6 inches deep.

Site 8

Site 8 is approximately 40% Abor-Yawdim clay, with a surface clay layer approximately 6 inches deep. Another 30% of the site is Lisam-Rock outcrop, which typically has a surface A horizon of 5 inches of clay underlain by a C layer of clay from 5 to 12 inches deep. Rock outcrops cover about 40% of Lisam-Rock outcrop complex soils.

Site 9

Roughly one-third of the soil at site 9 is Yawdim-Rock outcrop complex. This soil is about 20% rock outcrop, with a thin (3 inch) surface A horizon of clay loam and a C horizon of silty clay loam from 3 to 16 inches deep. The site is also about 20% Korent loam and 20% Tally fine sandy loam. Korent loam generally has a 9-inch-deep layer of loam at the surface, while the surface of Tally fine sandy loam is characterized by a 7-inch-deep layer of fine sandy loam.

Site 10

Bitton and Roy soil is the predominant soil at site 10, with a 7-inch-deep horizon of stony loam at the surface. The site consists of approximately 10% Absarokee clay loam and 10% Absarokee-Sinnigam complex. The surface of both soil types is typically 8 inches of clay loam.

Site 11

Site 11 is composed of nearly 50% Bitton and Roy soil, with a 7-inch surface horizon of stony

loam. Ipano-Ticell loam is the other prevalent soil type at the site, with an A horizon of loam about 8 inches deep.

Direct Impacts:

At the mining and processing sites, very little soil would be disrupted. The rocks that would be harvested are surface rocks, and the depressions left by rock removal would generally be less than 1 foot deep. No topsoil would be stripped prior to mining. After cessation of mining, the disturbance and surrounding area would be graded, scarified, and seeded. Erosion would be prevented through appropriate placement of Best Management Practices (BMP)s and practicing concurrent reclamation whenever possible.

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

Secondary Impacts:

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

2. WATER QUALITY, QUANTITY, AND DISTRIBUTION

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

Groundwater

There are several domestic and stock water wells located on or near Sites 7 – 11. There would be no mining or excavation beyond removal of surface stone, which would have an anticipated disturbance depth of up to one foot, so groundwater impacts from mining would not be expected.

Surface Water

The closest body of water to Site 7 is Fourmile Creek, which runs from the northwest corner through to the southwest corner of the proposed permit boundary. Fourmile Creek is also the closest body of water to Site 8 and is located 8.3 miles northwest of the proposed permit boundary. The proposed permit boundaries of Sites 9 and 10 are both 0.1 miles east of the Smith River. Millegan Road (MT S330-W) acts as a boundary between Site 9 and the Smith River, and the majority of Site 10 and the Smith River. The proposed permit boundary of Site 11 is 0.1 mile west of Cottonwood Creek.

Direct Impacts:
Groundwater

There would be no acid rock drainage associated with the waste rock or overburden and no other source of objectionable discharge to groundwater. No water would be used for processing or during the mine operation, except what would be used for dust control, which would be hauled from off-site or obtained from landowners. No blasting would occur on site, so there would be no source of nitrates related to mining that could contaminate groundwater. Groundwater quality would not be impacted by sediment; however, it could be impacted by other by-products of operation, including spilled fuel. In the case of a fuel spill, the contaminated soil would be removed and disposed in accordance with the proposed Spill Control and Countermeasure Plan. The applicant would be bound to all applicable state and federal rules regarding groundwater quality and quantity. Impacts to groundwater would be short-term and minor and would not be significant as a result of the proposed operations.

Surface Water

Rainfall in the Great Falls area is limited and averages 12.88 inches per year. BMPs found in the applicant's Spill Control and Countermeasure Plan would reduce opportunity for spilled petroleum products from leaving the permitted disturbance area and impacting nearby surface water. No petroleum products would be stored onsite. Any surface water that may leave the site during a heavy storm event could carry sediment from disturbed soils, but soil disturbance on site is limited and BMPs will be used to control runoff as appropriate (Table 4). Impacts to surface water would be short-term and minor and would not be significant as a result of the proposed operations (Table 4).

Secondary Impacts:

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

3. AIR QUALITY

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

Dust would not be expected to be produced during mining, since no road construction, blasting, stripping, excavating, or crushing would be performed. Dust produced by plowing or scarification of the soil surface during reclamation would be controlled by watering as needed. The quantity of water used for dust control would be dependent on environmental conditions such as rainfall, wind, time of year, and overall surface conditions.

Gaseous products of combustion (oxides of nitrogen and carbon monoxide) would result from this operation, specifically from gas and diesel fuel-fired equipment.

Direct Impacts:

There would be some exhaust fumes produced by the on-site equipment. The level of gaseous emissions from the site would be minimal due to the small number of fuel-fired equipment in use at the sites. The applicant would be expected to maintain compliance with Montana laws regarding the need to take reasonable precautions to control airborne particulate matter according to ARM 17.8.308. Impacts to air quality would be short-term and minor and would not be significant as a result of the proposed operations (Table 4).

Secondary Impacts:

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

4. VEGETATION COVER, QUANTITY AND QUALITY

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

The predominant vegetation found at proposed Sites 7 - 11 and surrounding areas is Great Plains Mixedgrass Prairie, cultivated crops, pasture/Hay, and Great Plains Shrubland.

Great Plains Mixedgrass Prairie is typically dominated by Western Wheatgrass (*Pascopyrum smithii*) and Thickspike Wheatgrass (*Elymus lanceolatus*), Green Needlegrass (*Nassella viridula*), Blue Grama (*Bouteloua gracilis*), and Needle and Thread (*Hesperostipa comata*) as co-dominant species.

Cultivated crop land is used to produce domestic crops on an annual cycle. Agricultural plant cover may vary depending on the season and rotation cycle.

Pasture/Hay crop land typically has perennial herbaceous cover (e.g. regularly shaped plantings) used for livestock grazing or the production of hay. There are obvious signs of management such as irrigation and haying that distinguish it from natural grasses.

The Great Plains Shrubland ecological system differs from Northwestern Great Plains Mixedgrass Prairie in that shrub cover is more than 10%, although the grass component is similar and may occur where fire suppression in grasslands has allowed shrubs to establish. Dominant shrubs include Serviceberry (*Amelanchier alnifolia*), Skunkbush Sumac (*Rhus trilobata*), Snowberry (*Symphoricarpos*), Silver Buffaloberry (*Sheperdia argentea*), Shrubby Cinquefoil (*Dasiphora fructicosa* ssp. *Floribunda*), Silverberry (*Elaeagnus commutate*) and Horizontal Rug Juniper (*Juniperus horizontalis*). Silver Sage (*Artemisia cana* ssp. *cana*) shrublands may occur on flat alluvial deposits on floodplains, terraces or benches, and alluvial fans.

Site 7

A search of the Montana Natural Heritage Program (MTNHP) identified potential habitat for 8 vascular plant species of concern (SOC): Pointed Broom Sedge (*Carex scoparia*), Crawe's Sedge (*Carex crawei*), Long-sheath Waterweed (*Elodea bifoliata*), Silver Bladderpod (*Physaria*

ludoviciana), Scribner's Ragwort (*Senecio integerrimus* var. *scribneri*), Smooth Goosefoot (*Chemopodium subglabrum*), Schweinitz's Flatsedge (*Cyperus schweinitzii*), and Wood Lily (*Lilium philadelphicum*). No rare or endangered vegetation has been identified at the proposed disturbance area (MTNHP, 2019). 15 noxious weed species have been documented and six biocontrol species have been released in the proposed disturbance area by the MTNHP search. Noxious weeds observed in the area include Whitetop (*Lepidium draba*), Canada Thistle (*Cirsium arvense*), Leafy Spurge (*Euphorbia virgata*), and Spotted Knapweed (*Centaurea stoebe*).

Site 8

A search of the MTNHP identified potential habitat for five vascular plant SOC: Crawe's Sedge (*Carex crawei*), Long-sheath Waterweed (*Elodea bifoliata*), Silver Bladderpod (*Physaria ludoviciana*), Scribner's Ragwort (*Senecio integerrimus* var. *scribneri*), and Smooth Goosefoot (*Chemopodium subglabrum*). No rare or endangered vegetation has been identified at the proposed disturbance area (MTNHP, 2019). 15 noxious weed species have been documented and five biocontrol species have been released in the proposed disturbance area by the MTNHP search. Noxious weeds observed in the area include Canada Thistle (*Cirsium arvense*) and Hoary False-allyssum (*Berteroa incana*).

Site 9

A search of the MTNHP identified potential habitat for 10 vascular plant SOC: Pointed Broom Sedge (*Carex scoparia*), Crawe's Sedge (*Carex crawei*), Beaked Spikerush (*Eleocharis rostellata*), Long-sheath Waterweed (*Elodea bifoliata*), Silver Bladderpod (*Physaria ludoviciana*), Scribner's Ragwort (*Senecio integerrimus* var. *scribneri*), Smooth Goosefoot (*Chemopodium subglabrum*), Schweinitz's Flatsedge (*Cyperus schweinitzii*), Fendler Cat's-eye (*Cryptantha fendleri*), and Wood Lily (*Lilium philadelphicum*). No rare or endangered vegetation has been identified at the proposed disturbance area (MTNHP, 2019). 15 noxious weed species have been documented and six biocontrol species have been released in the proposed disturbance area by the MTNHP search. Noxious weeds observed in the area include Whitetop (*Lepidium draba*), Canada Thistle (*Cirsium arvense*), Leafy Spurge (*Euphorbia virgata*), and Spotted Knapweed (*Centaurea stoebe*).

Site 10

A search of the MTNHP identified potential habitat for 10 vascular plant SOC: Pointed Broom Sedge (*Carex scoparia*), Crawe's Sedge (*Carex crawei*), Beaked Spikerush (*Eleocharis rostellata*), Long-sheath Waterweed (*Elodea bifoliata*), Silver Bladderpod (*Physaria ludoviciana*), Scribner's Ragwort (*Senecio integerrimus* var. *scribneri*), Smooth Goosefoot (*Chemopodium subglabrum*), Letterman's Needlegrass (*Stipa lettermanii*), Schweinitz's Flatsedge (*Cyperus schweinitzii*), Fendler Cat's-eye (*Cryptantha fendleri*), Short-styled Columbine (*Aquilegia brevistyla*), and Wood Lily (*Lilium philadelphicum*). No rare or endangered vegetation has been identified at the proposed disturbance area (MTNHP, 2019). 19 noxious weed species have been documented and six biocontrol species have been released in the proposed disturbance area by the MTNHP search. Noxious weeds observed in the area include Canada Thistle (*Cirsium arvense*), Leafy Spurge (*Euphorbia virgata*), Spotted Knapweed (*Centaurea stoebe*), Field Bindweed (*Convolvulus arvensis*), and Common Hound's-tongue (*Cynoglossum officinale*).

Site 11

A search of the MTNHP identified occurrence of three SOC in or near the proposed permit area: Floriferous Monkeyflower (*Mimulus floribunds*), Slim-pod Venus'-looking-glass (*Triodanis leptocarpa*), and Many-headed Sedge (*Carex sychnocephala*) (MTNHP, 2019). Additionally, the search identified potential habitat for seven vascular plant SOC: Crawe's Sedge (*Carex crawei*), Long-sheath Waterweed (*Elodea bifoliata*), Silver Bladderpod (*Physaria ludoviciana*), Scribner's Ragwort (*Senecio integerrimus* var. *scribneri*), Smooth Goosefoot (*Chemopodium subglabrum*), Schweinitz's Flatsedge (*Cyperus schweinitzii*), and Fendler Cat's-eye (*Cryptantha fendleri*). 13 noxious weed species have been documented and four biocontrol species have been released in the proposed disturbance area by the MTNHP search. Noxious weeds observed in the area include Canada Thistle (*Cirsium arvense*), Leafy Spurge (*Euphorbia virgata*), Spotted Knapweed (*Centaurea stoebe*), Field Bindweed (*Convolvulus arvensis*), and Common Hound's-tongue (*Cynoglossum officinale*).

Direct Impacts:

The activities performed by Venture Stone will result in minimal ground disturbance. Disturbance of any SOC or habitat for SOC would be nominal. Land disturbance at the site may result in propagation of noxious weeds (Table 4). Any surface disturbances would be reclaimed and seeded with an appropriate seed mix (see Table 2). The project area would be subject to the Cascade County Noxious Weed Management Plan and to the 2017 Montana Noxious Weed Management Plan. Impacts to vegetative cover, quantity or quality resulting from this project would be short-term and minor and would not be significant (Table 4).

Secondary Impacts:

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

5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS

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

The proposed sites 7 through 11 are in rural areas and tend to harbor both large and small mammals including deer, elk, rabbits, and badgers. Site seven is the only site with surface water within the proposed boundary; Venture Stone would not mine within 100 feet of the surface water.

Site 7

Five avian and terrestrial SOC have been observed in or near the proposed permit area: Burrowing Owl (*Athene cunicularia*), Golden Eagle (*Aquila chrysaetos*), Great Blue Heron (*Ardea herodias*), Grizzly Bear (*Ursus arctos*), and Chestnut-collared Longspur (*Calcarius ornatus*). Three aquatic SOC were also identified: Brassy Minnow (*Hybognathus hankinsoni*), Northern Redbelly Dace (*Chrosomus eos*), and Brook Stickleback (*Culaea inconstans*). Potential habitat was identified in or near the proposed permit area for an additional 69 terrestrial and avian SOC, and one aquatic SOC.

Site 8

Twelve avian and terrestrial SOC have been observed in or near the proposed permit area: Burrowing Owl (*Athene cunicularia*), Long-billed Curlew (*Numenius americanus*), Black-tailed

Prairie Dog (*Cynomys ludovicianus*), Golden Eagle (*Aquila chrysaetos*), Chestnut-collared Longspur (*Calcarius ornatus*), Grizzly Bear (*Ursus arctos*), Great Blue Heron (*Ardea herodias*), Veery (*Catharus fuscescens*), Ferruginous Hawk (*Buteo regalis*), Sharp-tailed Grouse (*Tympanuchus phasianellus*), Lewis's Woodpecker (*Melanerpes lewis*), and American White Pelican (*Pelecanus erythrorhynchos*). Potential habitat was identified in or near the proposed permit area for an additional 61 terrestrial and avian SOC.

Site 9

Twelve avian and terrestrial SOC have been observed in or near the proposed permit area: Veery (*Catharus fuscescens*), Great Blue Heron (*Ardea herodias*), Long-billed Curlew (*Numenius americanus*), Pileated Woodpecker (*Dryocopus pileatus*), Golden Eagle (*Aquila chrysaetos*), Short-eared Owl (*Asio flammeus*), Northern Leopard Frog (*Lithobates pipiens*), Loggerhead Shrike (*Lanius ludovicianus*), Lewis's Woodpecker (*Melanerpes lewis*), Sharp-tailed Grouse (*Tympanuchus phasianellus*), American White Pelican (*Pelecanus erythrorhynchos*), and Northern Goshawk (*Accipiter gentilis*). Potential habitat was identified in or near the proposed permit area for an additional 61 terrestrial and avian SOC.

Site 10

Eleven avian and terrestrial SOC have been observed in or near the proposed permit area: Long-billed Curlew (*Numenius americanus*), Golden Eagle (*Aquila chrysaetos*), Great Blue Heron (*Ardea herodias*), Short-eared Owl (*Asio flammeus*), Ferruginous Hawk (*Buteo regalis*), Northern Leopard Frog (*Lithobates pipiens*), Loggerhead Shrike (*Lanius ludovicianus*), Sharp-tailed Grouse (*Tympanuchus phasianellus*), American White Pelican (*Pelecanus erythrorhynchos*), and Northern Goshawk (*Accipiter gentilis*). Potential habitat was identified in or near the proposed permit area for an additional 78 terrestrial and avian SOC.

Site 11

Five avian and terrestrial SOC have been observed in or near the proposed permit area: Long-billed Curlew (*Numenius americanus*), Golden Eagle (*Aquila chrysaetos*), Short-eared Owl (*Asio flammeus*), Peregrine Falcon (*Falco peregrinus*), and Franklin's Gull (*Leucophaeus pipixcan*). Potential habitat was identified in or near the proposed permit area for an additional 73 terrestrial and avian SOC.

Direct Impacts:

Impacts to wildlife and birds would potentially include temporary displacement of the animals, although habitat found within the project area is common throughout the larger ecosystem. The activities performed by Venture Stone will result in minimal ground disturbance and have no effect on the overstory or timber, and therefore, should not affect species that rely on these for habitat. Any displaced animals could find other suitable habitat nearby and return to the project area shortly after the project conclusion. Impacts to terrestrial and avian life and habitat would be short-term and minor and would not be significant. Site seven is the only site with surface water within the proposed permit boundary. Venture Stone would not mine within 100 feet of the surface water, so no impact on aquatic life would be expected.

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the

human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to terrestrial, avian, or aquatic life or habitats that could be stimulated or induced by the direct impacts analyzed above would be expected.

6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

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

Sites 7 – 11 do not contain habitat for any of the five listed endangered species in Montana (Black-footed Ferrets, Least Terns, Pallid Sturgeons, White Sturgeons, or Whooping Cranes). The Bald Eagle (*Haliaeetus leucocephalus*), a Species of Special Concern, has been observed at or around Sites 7, 8, 9, and 10. Wetland areas have been identified in Sites 7, 10, and 11.

Direct Impacts:

The rock picking operation performed by Venture Stone is generally done along ridgelines. There will be minimal ground disturbance, and no disturbance to the overstory or trees. Therefore, habitat disturbance for the Bald Eagle would be minimal. Venture Stone would not mine within 100 feet of the surface water, so impacts on wetland areas would be minimal. Impacts to unique, endangered, fragile or limited environmental resources would be short-term and minor and would not be significant (Table 4).

Secondary Impacts:

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

7. HISTORICAL AND ARCHAEOLOGICAL SITES

Are any historical, archaeological or paleontological resources present?

The proposed mine sites are entirely located on private land. The Montana State Historical Preservation Office (SHPO) completed file searches on all lands included in this amendment and has reported historical roads from the 1930's and later. Those roads still in use by the landowners. A tipi ring, historic mining, and lithic material were also reported. A historical railroad listed was part of the search area, but does not pass through the proposed permit boundaries.

Direct Impacts:

If archaeological or historical resources are encountered during operations, the operator would provide appropriate protections for any resources identified in the permit area. The operator would route equipment around the site of discovery, and promptly notify SHPO. The site would remain undisturbed until a proper evaluation is made. Impacts to historical, archaeological, or paleontological resources would be long-term and minor and would not be significant.

Secondary Impacts:

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

8. AESTHETICS

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

The proposed mine sites would be located on private land. The sites are remote, with very low population density in the nearby area. The primary land use for the permit areas and the areas adjacent to the permit areas is for agriculture and livestock grazing. The applicant has not reported aesthetic issues related to site operations at similar existing sites. There would be no permanent structures or open pits.

Very minimal noise would result from the proposed operations, although some heavy machinery would be used. Venture Stone would operate the sites Monday – Friday, 8 AM – 5 PM, weather permitting. No mining would occur outside of daylight hours. The highest predicted noise level for equipment operated on site would be 95 dba at 50 feet. No blasting is planned at this time and no “air blasts” or exceedances of peak levels is expected. All equipment would be operated with appropriate mufflers in accordance with MCA 61-9-403 and 61-9-435.

Direct Impacts:

The impacts from noise are minor due to the non-invasive nature of proposed mining operations, the proposed use of equipment and the hours of operation, and the distance of the proposed activities from public roads and private residences. Impacts to aesthetics would be short-term and minor and would not be significant.

Secondary Impacts:

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

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

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

Proposed mining operations would use diesel fuel power for equipment. Any water needed for dust suppression would be brought in by water truck from off-site or obtained from the landowners. No water would be needed for operations beyond dust suppression on roads and during reclamation.

Direct Impacts:

Any impacts on the demand on environmental resources of land, water, air, or energy would be

short-term and minor and would therefore not be significant as a result of the proposed operations.

Secondary Impacts:

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

10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES

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

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

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

The surrounding land use is agriculture and livestock grazing. These land uses would likely continue without influence by the proposed quarry operations.

Direct Impacts:

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

Secondary Impacts:

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

11. HUMAN HEALTH AND SAFETY

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

The applicant would be required to adhere to all applicable state and federal safety laws. Industrial work such as the work proposed by the applicant is inherently dangerous. The Mine Safety and Health Administration (MSHA) has developed rules and guidelines to reduce the risks associated with this type of labor. Few, if any, members of the public would be in the general proximity during mine operations. All normal access points or where picking occurs along established roads will be signed to prohibit public entry. There would be no open pits, highwalls, or other ground

hazards on site.

Direct Impacts:

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

Secondary Impacts:

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

12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION

Would the proposed operation add to or alter these activities?

Direct Impacts:

As noted in the cumulative impacts analysis below, this project would add to the impacts of mining and industry in the greater project area, however all disturbance related to this project would be reclaimed at the conclusion of the project. Impacts on the industrial, commercial, and agricultural activities and production in the area would be minor and short-term, and would not be significant.

Secondary Impacts:

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

13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT

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

The sites would be operated by Venture Stone employees working on currently permitted sites in the area, an average of four employees per year at the rock picking sites and three employees per year at the processing site (Site 6). The workforce is not expected to either increase or decrease as a result of the proposed permitting action.

Direct Impacts:

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

Secondary Impacts:

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

result of the proposed work.

14. LOCAL AND STATE TAX BASE AND TAX REVENUES

Would the proposed operation create or eliminate tax revenue?

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

Direct Impacts:

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

Secondary Impacts:

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

15. DEMAND FOR GOVERNMENT SERVICES

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

The sites are all on private land. No substantial increase in traffic or requirement for other government services is anticipated.

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:

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

16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS

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

The sites are on private land which have been used in the past for dryland grazing and agriculture. The mine operations would be subject to the Cascade County Weed Management Control Plan and to the 2017 Montana Noxious Weed Management Plan. There are no known zoning or other restrictions in place.

Direct Impacts:

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

Secondary Impacts:

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

17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES

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

The site is located on private property with active agricultural activities taking place. There are no recreational or wilderness areas in the proposed permit boundaries. The First People's Buffalo Jump State Park is adjacent to proposed Site 8 and less than 2 miles from proposed Site 7. Access to the state park would not be limited by the proposed activities.

Direct Impacts:

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

Secondary Impacts:

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

18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING

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

Cascade County is the fifth-most populous county in Montana, with a population of 81,327 as of the 2010 census. Population density in the county is approximately 30 inhabitants per square mile, although the proposed permit areas are rural areas where the population is sparse. As noted above in "Section 13, Quantity and Distribution of Employment," the proposed sites would not be expected to increase or decrease the local population or employment of Venture Stone.

Direct Impacts:

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

Secondary Impacts:

Based on the definition in ARM 17.4.603(18), secondary impacts are further impacts to the human

environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action. No secondary impacts to density and distribution of population and housing would be expected as a result of the proposed work.

19. SOCIAL STRUCTURES AND MORES

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

Direct Impacts:

The proposed operations would occur entirely on private land. Due to the absence of identified culturally significant sites and the low population density nearby, no disruption of native or traditional lifestyles would be expected.

Secondary Impacts:

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

20. CULTURAL UNIQUENESS AND DIVERSITY

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

Direct Impacts:

There are no unique qualities that would be affected by the proposed operations. The proposed sites are used for grazing and agriculture and will continue that use during and after proposed operations. No impacts to cultural uniqueness and diversity would be expected from the proposed operations.

Secondary Impacts:

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

21. PRIVATE PROPERTY IMPACTS

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

The proposed sites would be on private land. DEQ has determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements under the MMRA and

demonstrate compliance with those requirements, or have been agreed to by the applicant. Therefore, DEQ's issuance of an Operating Permit would not have private property-taking or damaging implications.

22. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES

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

ALTERNATIVES CONSIDERED

In addition to the proposed actions, DEQ also considered the "no action" alternative. The "no action" alternative would deny the request to amend the Venture Stone Operating Permit No. 00189. Venture Stone would lack the authority to mine any of the proposed sites. Any potential impacts that would be authorized under the operating permit at the proposed sites would not occur. However, DEQ does not consider the "no action" alternative to be appropriate because Venture Stone has demonstrated a willingness to comply with all applicable rules and regulations in the submitted proposal as required for permit issuance. The no action alternative forms the baseline from which the impacts of the proposed action can be measured.

PUBLIC INVOLVEMENT

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

External scoping is ongoing and includes a public comment period which began will end on September 28, 2020. External scoping efforts also included queries to the following websites, databases, and/or personnel:

- Montana Department of Environmental Quality
- Montana Cadastral Mapping Program
- USDA NRCS Soil Survey
- Montana Natural Heritage Program
- Montana State Historic Preservation Office
- Montana Department of Natural Resource and Conservation (DNRC)
- Montana Department of Transportation
- United States Department of Interior Bureau of Land Management (BLM)
- United States Forest Service (USFS)
- Cascade County
- US Geological Society – Stream Stats
- Montana Groundwater Information Center
- Montana Bureau of Mines and Geology

RESPONSE TO PUBLIC COMMENTS

Scoping for this proposed action will include a 30-day public comment period. Public will be notified of the opportunity for comment through a DEQ-issued press release and posting on the

DEQ website. Substantive public comments received will be considered before DEQ issues the final EA.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION

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

CUMULATIVE EFFECTS

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

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

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

- One Hard Rock Mining Operating Permit site is located within 5 miles of proposed permit boundaries.
 - ES Stone and Structure Operating Permit #00163 Site 20 is less than 1 mile from the proposed Site 7 permit boundary and about 2 miles from proposed Site 8 permit boundary.

Several DEQ-regulated Open Cut sand/gravel mine sites are also located near the proposed permit areas. No other DNRC, BLM, or USFS regulated projects were identified in the project vicinity. DEQ considered all impacts related to this project and secondary impacts that may result. Cumulative impacts related to this project are identified in the Table 4. Cumulative impacts related to this project would not be significant.

NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS

When determining whether the preparation of an environmental impact statement is needed, DEQ is required to consider the significance criteria set forth in ARM 17.4.608, which are as follows:

1. The severity, duration, geographic extent, and frequency of the occurrence of the impact;
2. The probability that the impact would occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact would not occur;

3. Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts;
4. The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values;
5. The importance to the state and to society of each environmental resource or value that would be affected;
6. Any precedent that would be set because of an impact of the proposed action that would commit the department to future actions with significant impacts or a decision in principle about such future actions; and
7. Potential conflict with local, state, or federal laws, requirements, or formal plans.

TABLE 4: SUMMARY OF POTENTIAL IMPACTS THAT COULD RESULT FROM AMENDMENT 001 TO OPERATING PERMIT #00189

Potential Impact	Affected Resource and Section Reference	Severity ¹ , Extent ² , Duration ³ , Frequency ⁴ , Uniqueness and Fragility (U/F)	Probability ⁵ impact will occur	Cumulative Impacts	Measures to reduce impact as proposed by applicant	Significance (yes/no)
Erosion of disturbed soil	Soil 1. Geology	<p>S-low: Very little soil is disrupted for rock harvesting and depth of disturbance is one foot or less.</p> <p>E-medium: Total surface disturbance would be dispersed over 160 acres over the next 5 years.</p> <p>D-Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment.</p> <p>F-During occasional storm events.</p> <p>U/F-Not unique or particularly fragile.</p>	Possible	Erosion would add to cumulative impacts associated with potential erosion on existing roads, crop/pastureland, and mined surfaces.	Venture Stone would manage erosion control using a variety of Best Management Practices (BMP).	No
Weed propagation associated with surface disturbance	Soil & Vegetation 1. Geology 4. Vegetation	<p>S-high: All disturbed surfaces would be susceptible to weed propagation.</p> <p>E-medium: Total surface disturbance would be 160 acres. Land at the mine site and in the immediate project area that would be susceptible to weed propagation.</p> <p>D- Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment.</p> <p>F-Twice: After excavation and after reclamation.</p> <p>U/F-Not unique or particularly fragile.</p>	Possible	Weed propagation from this project would add to any other area weeds that already exist within and near the proposed project area.	Weed control would be a requirement of the operating permit. The project would be subject to the Cascade County Weed Management Control Plan and the 2017 Montana Noxious Weed Management Plan. Venture Stone would be expected to follow the approved reclamation plan.	No
Surface water	Water 2. Water Quality, Quantity, and Distribution	<p>S-low: Disturbance would be limited to 100 ft or further from any surface water.</p> <p>E-low: Confined to Fourmile Creek, which runs through proposed Site 7.</p> <p>D- Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment.</p> <p>F-During occasional storm events.</p> <p>U/F-Not unique or particularly fragile.</p>	Possible	Some sediment from the project would add to any other sediment entering Fourmile Creek during stormwater runoff events.	Venture Stone would manage stormwater runoff using a variety of Best Management Practices (BMP).	No

Potential Impact	Affected Resource and Section Reference	Severity ¹ , Extent ² , Duration ³ , Frequency ⁴ , Uniqueness and Fragility (U/F)	Probability ⁵ impact will occur	Cumulative Impacts	Measures to reduce impact as proposed by applicant	Significance (yes/no)
Dust and equipment exhaust	Air 3. Air Quality	<p>S-low: Dust and other particulate would be generated during reclamation and driving on/off site. Engines would produce some exhaust fumes.</p> <p>E-medium: Dust and exhaust fumes would be generated in proximity of moving/working equipment, during travel on existing roads, and during grading/scarification of reclaimed land.</p> <p>D- Until mining operations cease, and disturbed land is graded, scarified and seeded.</p> <p>F-Often: During reclamation operations and some driving on/off site.</p> <p>U/F-Not unique or particularly fragile.</p>	Certain	Dust and exhaust would add to the cumulative impacts from other vehicles/engines operating in the area and to potential natural wildfire smoke moving through the area.	Dust suppression would be provided by the mine site's water truck as needed. OEM exhaust controls would be utilized on mechanized equipment.	No
Displacement of fragile resource (Species of Concern)	6. Unique, endangered, fragile, or limited resources	<p>S-medium: 160 acres of disturbance; surrounding area is suitable habitat.</p> <p>E-small: Total surface disturbance would be 160 acres. Disturbed areas would be scattered and potential for animal habitat would remain.</p> <p>D- Until disturbed land is fully reclaimed, including additional growing seasons for vegetation re-establishment.</p> <p>F-During mining activity, which is expected to occur during weekday shifts for life of mine.</p> <p>U/F-Unique.</p>	Probable	Displacement of Species of Concern as a result of this project would add to the cumulative impacts associated with the adjacent agricultural land.	None.	No
Disturbance of historical and cultural resources	8. Historical and Cultural Resources	<p>S-low: Few cultural resources were found in previous surveys of the proposed permit areas.</p> <p>E- small: Total surface disturbance would be 160 acres. Disturbed areas would be scattered.</p> <p>D- Permanent</p> <p>F-During mining activity, which is expected to occur during weekday shifts for life of mine.</p> <p>U/F-Unique.</p>	Possible	Disturbance of historical and cultural resources as a result of this project would add to the cumulative impacts associated with the adjacent agricultural land.	If unlisted archaeological or historical resources are encountered during operations, the operator would provide appropriate protections for any resources identified in the permit area. The operator would route equipment around the site of discovery, and promptly notify SHPO. The site would remain undisturbed until a proper evaluation is made.	No

1. Severity describes the concentration at which the impact may occur. Levels used are low, medium, high.
2. Extent describes the land area over which the impact may occur. Levels used are small, medium, and large.
3. Duration describes the time period over which the impact may occur. Descriptors used are discrete time increments (day, month, year, and season).
4. Frequency describes how often the impact may occur.
5. Probability describes how likely it is that the impact may occur without mitigation. Levels used are: impossible, unlikely, possible, probable, certain

SUMMARY

Venture Stone has proposed to add five sites to current Operating Permit #00189. The severity, duration, geographic extent, and frequency of the occurrence of the impacts associated with the proposed sites would be limited. Venture Stone is proposing to harvest surface sandstone and moss rock on up to 160 total acres with a life of mine of about five years. The proposed activities would result in removal of sandstone material from the mine sites.

DEQ has not identified any significant impacts associated with the proposed activities for any environmental resource. Approving Amendment 001 to Operating Permit #00189 does not set any precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions. If the applicant submits another application, DEQ is not committed to issuing those authorizations. DEQ would conduct an environmental review for any subsequent authorizations sought by the applicant that require environmental review. DEQ would make a permitting decision based on the criteria set forth in the MMRA. Approving Amendment 001 to Operating Permit #00189 does not set a precedent for DEQ's review of other applications for operating permits, including the level of environmental review. The level of environmental review decision is made based on a case-specific consideration of the criteria set forth in ARM 17.4.608.

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

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

Environmental Review Prepared By:

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