

ENVIRONMENTAL ASSESSMENT

On an Application for an

OPENCUT MINING PERMIT or AMENDMENT

This Environmental Assessment (EA) is required under the Montana Environmental Policy Act (MEPA). An EA functions to identify, disclose, and analyze the impacts of a proposed action. This document may disclose impacts that have no legislatively required mitigation measures, or over which there is no regulatory authority.

The state law that regulates gravel mining operations in Montana is the Opencut Mining Act. This law and the rules adopted hereunder place operational guidance and limitations on a project during its lifetime, and provides for the reclamation of land affected by opencut mining operations.

Local governments and other state agencies may have authority over different resources and activities under their regulations. Approval or denial of this Opencut Application will be based on a determination of whether or not the proposed operation complies with the Opencut Mining Act and the Rules adopted hereunder.

Applicant: Bullock Contracting, LLC

SITE NAME: Zuelke Pond

LOCATION: Section 32, T2N, R2E

COUNTY: Gallatin

DATE: August 2009

Type and Purpose of Action: Proponent has applied for a 21.8-acre permit. The ranchland, pasture land, and native floodplain site is located on relatively flat ground just south of the landowner's home. Sloan Ditch, which is controlled by a headgate from the nearby Darlington Ditch, flows along the east boundary of the proposed permit area. Portions of the south and west boundary are bounded by a boundary fence. The proponent proposes to mine gravel using loaders and excavators. The proponent would screen the gravel and use dump/haul trucks to move the gravel offsite.

Proponent states the maximum depth of mining would be 25 feet and that approximately 250,000 cubic yards of mine material would be removed. The site would be constructed as a recreational and wildlife pond during excavation of mine materials and would have emergent and marsh wetland features along the newly constructed banks upon completion. These areas would serve as wildlife habitat including nesting, brooding and loafing habitat for waterfowl. These areas would have the additional benefit of providing medium for wetland plants to propagate and afford long-term water quality benefits.

Once mining is complete the site would be reclaimed to pastureland and a pond. An acceptable Plan of Operation and a reclamation bond to ensure that reclamation is completed to meet state standards by October 2012 have been submitted.

IMPACTS ON THE PHYSICAL ENVIRONMENT

RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
1. TOPOGRAPHY, GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:	<p>The site is located in the historical floodplain of the Madison River and consists of a top layer of silty, sandy loam from 6" to 36" and sandy gravel/cobble to an undefined depth.</p> <p><i>Impacts:</i> Irreversible and irretrievable removal of gravel from the site. There would be a small impact to the quantity and quality of soils from</p>

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	<p>salvaging, stockpiling, and re-soiling activities, but this would not impair the capacity of the soils to support full reclamation.</p> <p>There are no identified unusual topographic, geologic, soils, or special reclamation considerations that would lead to reclamation failure. The proposed operation is located in sands and gravels of an alluvial nature. The soils are 6 to 36 inches deep and are of a sandy loam texture. The topsoil would be stripped and stockpiled separately and after regarding, 18 inches of topsoil would be evenly replaced. Microorganisms should invade the site.</p>
<p>2. WATER QUALITY, QUANTITY AND DISTRIBUTION</p>	<p>The Madison river is located approximately 950 feet to the west and 120 feet from the Darlington ditch. The Sloan ditch is the east boundary of the permit and several other smaller ditches are nearby.</p> <p><i>Impacts:</i> The proposed activities would have a minimal effect on the quantity and quality of the surface and groundwater resources. The site would be mined to a depth of 25 feet which is approximately 18 to 20 feet into the water table.</p> <p>The site is a high groundwater area that, according to the landowner, fluctuates between approximately 5 to 7 feet below native ground in the main permit area. Groundwater would be pumped in order to excavate gravels below the static groundwater level. These flows would be discharged into a grassy swale that would effectively remove any sediment prior to entering surface waters of the Sloan Ditch approximately one mile down gradient. Depending on the pumping rate necessary, irrigation diversion rates would be monitored in order to maintain historical flow rates in the downstream irrigation ditches. There are 3 wells within ½ mile of the permit area; however, all are more than ¾ of a mile from the main permit area where the groundwater pumping would occur. These wells are relatively shallow (25 to 75 feet) with static groundwater elevations ranging from 5 to 8 feet.</p> <p>Special precautions would be taken to prevent contamination of the groundwater. Vehicles and equipment would be refueled with a fuel truck and safe fueling procedures would be followed. Any accidental spills or leaks from equipment would be excavated and contaminated materials would be properly disposed of. No waste or trash other than clean fill would be disposed of at the site.</p> <p>While working with large, disturbed slopes, best management practices such as silt fences, hay bales, water bars and slope stabilization fabric common in the logging business would be used to control erosion and prevent sediment from running off site.</p> <p>With these precautions, and considering the distance to the closest groundwater wells, the quality and quantity of the groundwater should not be adversely impacted.</p>
<p>3. AIR QUALITY</p>	<p>Air quality standards are based upon the Clean Air Act of Montana and pursuant rules and are administered by the DEQ Air Resources Management Bureau (ARMB). Its program is approved by the</p>

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	<p>Environmental Protection Agency (EPA). These rules and standards are designed to be protective of human health and the environment.</p> <p>Air quality permits would be required on the processing equipment before installment. Machinery, such as generators, crushers and asphalt plants, are individually permitted for allowable emissions. Best Available Control Technology (BACT) is the usual standard applied.</p> <p><i>Impacts:</i> Air quality standards as set by the federal government and enforced by the ARMB would allow minimal detrimental air impacts. No crushing or asphalt plants would be used at this site. Only a screen would be used.</p>
4. VEGETATION COVER, QUANTITY AND QUALITY	<p><i>Impacts:</i> All vegetation would be lost during soil salvage operations but would be re-established following mining. The operation would result in the creation of a pond and the site would be replanted with grass species compatible with the proposed reclaimed use.</p> <p>The Montana Natural Heritage Program has identified the following species of concern that could possibly be located in this area.</p> <p>Erigeron parryi (Parry's Fleabane) grows on skeletal, limestone soils of ridge crests, slopes and outcrops at 5,200 to 6,200 feet. Similar habitat does not appear to exist at the mine site but exists within ½ mile to one mile of the site.</p> <p>Delphinium bicolor ssp. calcicola (Limestone larkspur) is a perennial plant 10-30 cm tall arising from deep roots. It grows in shortgrass prairie and grass-sagebrush communities on limestone-derived soils, usually with coarse fragments at the surface, or on limestone outcrops. Similar habitat does not appear to exist at the mine site but exists within ½ mile to one mile of the site.</p> <p>No other rare plants or cover types were identified during a ground search.</p> <p><i>Impacts:</i> Possible impact to these species would be minimal due to lack of habitat impacted that supports the above-mentioned species.</p>
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:	<p>Although the area is used primarily for pasture, it also supports populations of deer, rodents, song birds, pheasants, coyotes, foxes, raptors, insects and various other animal species. Population numbers for these species are not known.</p> <p><i>Impacts:</i> The proposed mine is expected to temporarily displace some individual species and it is likely that the site would be re-inhabited following reclamation. The mining timeframe is short and additional water/wetland habitat would be created by this project.</p>
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:	<p>The Montana Natural Heritage Program has identified the following species of concern that could possibly be located in this area.</p> <p>Spizella breweri (Brewer's Sparrow) is a songbird strongly associated with sagebrush over most of its range. In summer it is found across Montana. This species migrates to the Southwestern U.S. and Northern Mexico for winter. Brewer's Sparrow is closely associated with sagebrush, preferring dense stands broken up with grassy areas. Similar habitat does not appear to exist at the mine site, but exists</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT

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	<p>within ½ mile to one mile of the site.</p> <p>Myotis thysanodes (Fringed Myotis) is a bat that prefers desert shrublands, sagebrush-grassland, and woodland habitats. Similar habitat does not appear to exist at the mine site but exists within ½ mile to one mile of the site.</p> <p>Corynorhinus townsendii (Townsend's Big-eared Bat) is a medium-sized bat with extremely long ears and a small glandular outgrowth on each side of the snout. The distribution of this bat is correlated largely with rocky situations where caves or abandoned mine tunnels are available. This species does not seem to utilize crevices in such sites, and may occasionally inhabit old buildings. In the Trans-Pecos, this is probably the most characteristic bat of caves and mines. Similar habitat does not appear to exist at the mine site, but exists within ½ mile to one mile of the site.</p> <p>Canis lupus (Gray Wolf) is the largest of the wild dogs. In Montana, its range is predominately the western mountainous portion of the state. This species is not migratory but may move seasonally following migrating ungulates within its territory. The gray wolf exhibits no particular habitat preference except for the presence of native ungulates within its territory on a year round basis. The opencut operation would disturb a relatively small area. Abundant similar habitat exists in the area.</p> <p><i>Impacts:</i> Few of the listed species likely reside onsite due to lack of suitable (preferred) habitat. Also, the disturbance area would be small and large areas of similar or required habitat is located in the general area. Possible impact to these species would be minimal.</p>
<p>7. HISTORICAL AND ARCHAEOLOGICAL SITES</p>	<p>The State Historic Preservation Office (SHPO) reports no previously recorded historic or archaeological sites in the area and did not recommend the need for a cultural resource inventory.</p> <p>A walkover of the area by DEQ personnel did not reveal any artifacts or signs of occupation.</p> <p><i>Impacts:</i> If during operations resources were to be discovered, activities would be temporarily moved to another area or halted until SHPO was contacted and the importance of the resources was determined.</p>
<p>8. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY</p>	<p><i>Impacts:</i> Impacts to land, water, air, and energy would be relatively small. Water would be used for dust control.</p>

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
9. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS	This area is currently under temporary zoning by Gallatin County but a Conditional Use Permit (CUP) has been granted by the County for this project. The CUP addresses the plans and goals of the Gallatin County Growth Policy.
10. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING	As seen on the aerial photo of the surrounding area this is a rural, non-residential area. <i>Impact:</i> This pit is being sited in this area because of the location of the resource, and the need to supply local infrastructure needs (Manhattan bridge replacement). Identified residences and landowners within ½ mile of this site have signed a form stating they have no objections with the use of this gravel pit for the above stated project.
11. AESTHETICS	The site is located away from residences and commercial businesses.
12. QUANTITY/ DISTRIBUTION OF EMPLOYMENT	<i>Impacts:</i> There would likely be temporary employment services generated from this operation. However, it is likely many of the employees could be transferred within the company from other sites.
13. INDUSTRIAL, COMMERCIAL, AGRICULTURAL ACTIVITIES AND PRODUCTION	<i>Impacts:</i> Pastureland production would be reduced on the site for the life of the permit and thereafter. There would be a temporary loss of grazing on approximately 10 acres of land until the site is successfully reclaimed and a permanent loss of grazing on approximately 11 acres due to the construction of the pond. Reclamation of portions of the site may occur while mining is ongoing, which would increase pasture/rangeland.
14. LOCAL, STATE TAX BASE AND TAX REVENUES, PERSONAL AND COMMUNITY INCOME	Local, state and federal governments would be responsible for appraising the property, setting tax rates, collecting taxes, etc., from the companies, employees, or landowners benefiting from this operation.
15. DEMAND FOR GOVERNMENT SERVICES	Limited oversight by DEQ officials that are generally conducted in concert with other area activity.
16. HUMAN HEALTH AND SAFETY	Any industrial activity would increase the opportunities for accidental injury. There are agencies that require specific safety measures be in place. If followed there is no reason to believe that significant safety issues would be present.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES	This area does not inhibit the use of the identified resources. The site would not restrict access to public lands and should not affect quality of recreational or wilderness activities due to distance from public land.

Portions of the information contained within this Environmental Assessment were taken directly from the environmental assessment submitted by the operator.

18. Alternatives Considered:

- A. Denial Alternative: The Department would deny an application that does not comply with the Act and Rules. No impacts to the natural or human environment would occur.
- B. Proposed Action Alternative

