

## ENVIRONMENTAL ASSESSMENT

### On an Application for an OPENCUT MINING PERMIT

The Montana Department of Environmental Quality (DEQ) prepared this Environmental Assessment (EA) in accordance with requirements of 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 thereunder place operational guidance and limitations on a project during its lifetime, and provide 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 thereunder. The DEQ approval of this application would not relieve the operator from the obligation to comply with any other applicable federal, state, or county statutes, regulations, or ordinances. The operator is responsible for obtaining any other permits, licenses, approvals, etc. that are required for any part of the proposed operation.

**APPLICANT:** Madison County Road Department

**COUNTY:** Madison

**SITE NAME:** Cameron

**DATE:** October 2015

**LOCATION:** Section 25, Township 7 South, Range 1 West

**PROPOSAL:** The applicant proposes to permit a new, long-term gravel pit to mine, screen, crush, stockpile and transport 180,000 cubic yards of gravel from a 9.8-acre site located 0.4 miles east of Cameron, Montana. The site includes historic unpermitted opencut disturbance that is being permitted by Madison County.

The Madison County Road Department would be liable to reclaim the site to rangeland/pasture by 2045. This application contains all items required by the Opencut Mining Act and its implementing rules. Proponent commits to properly conducting opencut operations and would be legally bound by the permit.

### IMPACTS ON THE PHYSICAL ENVIRONMENT

RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
<b>1. TOPOGRAPHY, GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:</b>	<p>The site is situated on the end of an alluvial fan formed by depositions from Mill Creek (to the northeast) and Bear Creek (to the south and west). The native ground surface in the area is relatively flat. According to the USGS topographic map for the general area surrounding the site, the ground surface slopes gently to the northwest at a grade of approximately 1 percent. Bear Creek flows in a northwesterly direction and approaches within 1,500 feet of the proposed site (to the southwest). Unnamed ephemeral drainages pass within about 250 feet from the proposed southwest permit boundary and flow from southeast to northwest.</p> <p>The onsite soils consist of gravelly sandy loams. The operator would replace 13 inches of soil and no overburden for final reclamation.</p> <p>The site receives approximately 12 inches of precipitation per year.</p> <p><i>Impacts:</i> An irreversible and irretrievable removal of gravel from the site would occur. A small impact to the quantity and quality of soils from salvaging, stockpiling, and resoiling activities also would occur, but this would not impair</p>

<b>IMPACTS ON THE PHYSICAL ENVIRONMENT</b>	
<b>RESOURCE</b>	<b>POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
	the capacity of the soils to support full reclamation. There are no unusual topographic, geologic, soil, or special reclamation considerations that would prevent reclamation success.
<b>2. WATER QUALITY, QUANTITY AND DISTRIBUTION</b>	<p>Water would be obtained from an offsite source and would be stored onsite. There is no surface water within 1,000 feet of the site.</p> <p><i>Impacts:</i> The proposed activities would have a minimal effect on the quantity and quality of the surface and groundwater resources.</p> <p><i>Cumulative:</i> Cumulative impacts would be negligible.</p>
<b>3. AIR QUALITY</b>	<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 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>Fugitive dust is that which blows off the pit floor, stockpiles, gravel roads, farm fields, etc. It is considered to be a nuisance but not harmful to health.</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.</p>
<b>4. VEGETATION COVER, QUANTITY AND QUALITY</b>	<p>There are no known rare or sensitive plants or cover types present in the site area. Onsite vegetation consists of bluebunch wheatgrass, western wheatgrass, blue grama, smooth brome, cheatgrass, yellow sweetclover; and provides approximately 70% cover in undisturbed areas. The vegetation would be removed as soil is stripped and the site would be replanted with plant species compatible with the proposed reclaimed use.</p> <p><i>Impacts:</i> No long term detrimental impacts to the vegetation would occur.</p>
<b>5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:</b>	<p>Although the area is used primarily for pasture, it also supports populations of deer, rodents, song birds, 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 to similar habitat.</p>
<b>6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:</b>	<p>The Montana Natural Heritage Program (MNHP) lists the following two species of concern in the vicinity of the site:</p> <p><b>Great Blue Heron</b> (<i>Ardea herodias</i>) is the largest heron in North America, 60 cm tall and 97 to 135 cm long. Its upper parts are gray, and the fore-neck is streaked with white, black, and rust-brown. Great Blue Herons breed from southern Alaska southeast across central Canada to Nova Scotia and south to Guatemala, Belize, and the Galapagos Islands. Most Montana nesting colonies are in cottonwoods along major rivers and lakes; a smaller number occur in riparian ponderosa pines and on islands in prairie wetlands. Great Blue Herons eat mostly fish but also amphibians, invertebrates, reptiles, mammals, and birds.</p>

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	<p>Disturbance by humans and loss of protected colony sites are major threats. <b>Long-billed curlew</b> (<i>Numenius americanus</i>) is a large North American shorebird. Adults have a very long bill (4.4–8.6 in) curved downwards, a long neck and small head. It is the largest nesting sandpiper in North America. Migration northward from wintering grounds is in March-April. Its summer breeding range includes all of Montana. Nests on the ground in dry prairies and moist meadows, usually in flat area with short grass. Fairly opportunistic feeding on various insects (grasshoppers, beetles, caterpillars, etc.) and some berries. During migration also feeds on crayfishes, crabs, snails, and toads.</p> <p><i>Impacts:</i> None of the listed species have been found on this site. Even if suitable habitat did exist on this site, the disturbance area would be small and large areas of similar or identical habitat surrounds the site. The possible impact to these species would be minimal.</p>
<b>7. HISTORICAL AND ARCHAEOLOGICAL SITES</b>	<p>The Montana State Historic Preservation Office (SHPO) was notified of the application. It reported that no have been discovered previously within the designated search locale. A pedestrian survey of the area by DEQ personnel did not reveal any artifacts or signs of occupation. No signs were evident at depth in the previously disturbed area. SHPO does not feel that a cultural resource inventory is warranted at this site at this time.</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>
<b>8. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY</b>	<p>There are no unusual demands on land, water, air or energy anticipated as a result of this project.</p> <p><i>Impacts:</i> Negligible impacts to land, water, air, or energy would occur.</p>

<b>IMPACTS ON THE HUMAN POPULATION</b>	
<b>RESOURCE</b>	<b>POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
<b>9. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS</b>	County zoning clearance has been obtained.
<b>10. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING</b>	<p>As seen on the aerial photo of the surrounding area, there are no nearby residences.</p> <p><i>Impact:</i> This county pit is being sited in this area because of the location of the resource, and to service the roads in this part of the county.</p>
<b>11. AESTHETICS</b>	The site is located in a common pastureland area. There would be a temporary alteration of aesthetics while mining is under way. However, reclamation would return the area to a visually acceptable landscape. This project is considered to be long-term, i.e., planned to take 30 years to complete.
<b>12. QUANTITY/ DISTRIBUTION OF EMPLOYMENT</b>	<p>Existing employees would mainly be utilized for this operation. There is low potential that this project would create a significant number of new jobs.</p> <p><i>Impacts:</i> New employment opportunities would be limited.</p>

IMPACTS ON THE HUMAN POPULATION	
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<b>13. INDUSTRIAL, COMMERCIAL, AGRICULTURAL ACTIVITIES AND PRODUCTION</b>	The acreage listed in the proposal would be taken out of pastureland use. Upon completion of mining, the land would be reclaimed to pastureland. <i>Impacts:</i> Pastureland production would be reduced as soil stripping and operations progress across the site. When the entire site is opened up for mining and mine-related activities, all pastureland activities would cease, but would be restored as the site is reclaimed.
<b>14. LOCAL, STATE TAX BASE AND TAX REVENUES, PERSONAL AND COMMUNITY INCOME</b>	Local, state and federal governments would be responsible for appraising the property, setting tax rates, collecting taxes, etc., from the companies, employees, or landowners benefitting from this operation. Following reclamation, it is assumed the tax base would revert to pre-mine levels.
<b>15. DEMAND FOR GOVERNMENT SERVICES</b>	Limited oversight by DEQ Opencut Program personnel would be conducted in concert with other area activity when in the vicinity.
<b>16. HUMAN HEALTH AND SAFETY</b>	Any industrial activity would increase the opportunities for accidental injury. There are agencies that require the Operator to implement specific safety measures. If followed there is no reason to believe that significant safety issues would be present.
<b>17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES</b>	This activity would not inhibit the use of the identified resources.
<b>18. NATIVE CULTURAL CONCERNS</b>	<i>Impacts:</i> None identified.

**19. 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. Approval Alternative: The Department would approve an application that complies with the Act and Rules. Impacts of this application are addressed in the body of the EA.

**20. Public Involvement, Agencies, Groups or Individuals contacted:** Montana State Historic Preservation Office, Montana Natural Heritage Program. County commissioners, local planning department DNRCE, DEQ and ARMB.

**21. Other Governmental Agencies which May Have Overlapping or Sole Jurisdiction include, but may not be limited to:** Madison County Commission or County Planning Department (zoning), Madison County Weed Control Board, MSHA and OSHA (worker safety), DEQ ARMB (air quality) and Water Protection Bureau (groundwater and surface water discharge; stormwater), DNRC (water rights), and MDT (road access).

**22. Regulatory Impact on Private Property:** The analysis done in response to the Private Property Assessment Act indicates no impact. The Department does not plan to deny the application or impose conditions that would restrict the use of private property so as to constitute a taking.

**23. Magnitude and Significance of Potential Impacts:** This proposal is not likely to create impacts of significance due to mitigation, restrictions, and oversight mandated by the Opencut Mining Act and pursuant rules and the Montana Clean Air Act.



