

## ENVIRONMENTAL ASSESSMENT

On an Application for an

### OPENCUT MINING AMENDMENT

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.

**COUNTY:** Phillips

**APPLICANT:** Malta Irrigation District

**DATE:** September 2010

**SITE NAME:** Nelson

**LOCATION:** Section 24, T32N, R32E

**PROPOSAL:** The operator has mined approximately 0.8 acres outside of their existing permit boundary. Therefore, the applicant proposes to amend their permit by adding an additional 0.8 acres of mine-level area to the existing 1 acre permit and extend the reclamation date to November 2018. The site would be permitted for a total of 1.8 acres and reclaimed to grassland. There are no other changes proposed for this site.

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 located in the Claggett Formation consisting of dark gray to gray shale and sandstone. The deposit consists of alluvial deposited gravels. The soils are approximately 10” thick with no overburden present. The site receives approximately 12” of rainfall annually.</p> <p>The mine is located in a relatively flat grassland area. Gravel removal to a maximum of 10 feet would alter the topography by lowering the surface and creating 3:1 slopes. The slopes would be graded and blended into the surrounding topography and drainage ways.</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 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.</p>

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<b>2. WATER QUALITY, QUANTITY AND DISTRIBUTION</b>	<p>Nelson reservoir is located approximately 1,100 feet to the west of the permit boundary. There is a relatively large wetland area located approximately 500 feet to the north. There are no identifiable wells located nearby. Surface water is located well below the proposed mining depth of 10 feet.</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> No identifiable cumulative impacts have been identified for this site.</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>Vegetation at this site consists of native rangeland with an average of 70% coverage.</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 eight species of concern in the vicinity of the site:</p> <p><b>Northern Leopard Frog</b> (<i>Rana pipiens</i>) is a frog containing large oval dark spots on their backs. The leopard frog habitat includes low elevation and valley bottom ponds, spillway ponds, beaver ponds, lakes, reservoirs, etc. They eat small invertebrates, including various insects, spiders, leeches, and snails.</p> <p><b>Greater sage-grouse</b> (<i>Centrocercus urophasianus</i>) is the largest of Montana's grouse. In Montana, it ranges primarily in the southwestern and eastern portions of the state. This species does not migrate. Sagebrush is its preferred habitat.</p> <p><b>Piping Plover</b> (<i>Charadrius melodus</i>) is a small bird weighing only about 46 to 63 grams. Its wings, cheek patches crown and breast band are pale grey, while the rest of its body is white, except the tail, which is dark above the white terminal ends and upper tail coverts. The piping plover is migratory and usually arrives in Montana in early may and leaves the state by late August. They like unvegetated sand or pebble beaches on shorelines. They eat fly larvae, worms</p>

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	<p>and various other small insects.</p> <p><b>Long-billed curlew</b> (<i>Numenius americanus</i>) is a large North American shorebird. Adults have a very long bill curved downwards, a long neck and small head. The bird usually feeds in flocks, with food consisting of crabs and various other small invertebrates.</p> <p><b>Common Tern</b> (<i>Sterna hirundo</i>) is a bird containing an orange-red bill tipped in black and orange-red legs. The back, body, and wings are silvery-gray with blackish primaries on the wingtips. The bird is migratory and usually arrives in April or May and leaves in the fall. The bird nests on sparsely vegetated islands in large bodies of water. Their diet consists of small fishes obtained at the surface of the water by diving from the air.</p> <p><b>Black Tern</b> (<i>Chlidonias niger</i>) is a bird with a black body and head, fading to a gray rump. The undertail coverts are white and their upper surface of the wings and tail are dark gray. The bird is migratory and usually arrives in April or May and leaves in the fall. The bird feeds on insects and freshwater fish.</p> <p><b>Burrowing owl</b> (<i>Athene cunicularia</i>) can be identified from other owl species by the fact that they live in the ground. This species is migratory in the northern portion of its range, which includes Montana. They winter south of the U.S.-Mexico border. Burrowing owls are found in open grassland habitat where they nest and roost in abandoned animal burrows.</p> <p><b>Sauger</b> (<i>Sander canadensis</i>) is a fish native to Montana east of the Continental Divide. It inhabits both large rivers and reservoirs, but is mainly a river fish. In the spring, sauger broadcast their spawn over riffles in rivers. Sauger is a highly prized sport fish and in some areas outside Montana it is also commercially fished. Their major food items are insects and small fish.</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 there were a few previously recorded archaeological sites 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 did not recommend a cultural resource inventory for this site.</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>	A county zoning form has been obtained for this site. The county has not indicated that zoning is present in this area.
<b>10. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING</b>	As seen on the aerial photo of the surrounding area, this site is located in a rural area with no nearby residences. <i>Impact:</i> This pit is being sited in this area because of the location of the resource, and to service the needs of the irrigation district.
<b>11. AESTHETICS</b>	The site is located just east of Nelson reservoir and may reduce aesthetics to boaters and fisherman for a limited amount of time while the mine is in operation.
<b>12. QUANTITY/ DISTRIBUTION OF EMPLOYMENT</b>	Existing employees would mainly be utilized for this operation. There is low potential that this project would create a significant number of new jobs. <i>Impacts:</i> New employment opportunities would be limited.
<b>13. INDUSTRIAL, COMMERCIAL, AGRICULTURAL ACTIVITIES AND PRODUCTION</b>	The acreage listed in the proposal would be taken out of pastureland use and put into industrial/commercial use. Upon completion of mining, the land would be reclaimed to grassland. <i>Impacts:</i> Pastureland use would be reduced as stripping and operations progress across the site. When the entire site is opened up for mining and mine-related activities, all agricultural activities would cease.
<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 will increase the opportunities for accidental injury. There are agencies that require specific safety measures are in place. 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.



## PRIVATE PROPERTY ASSESSMENT ACT (PPAA) CHECKLIST

DOES THE PROPOSED AGENCY ACTION HAVE TAKINGS IMPLICATIONS UNDER THE PPAA?

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deprive the owner of all economically viable uses of the property?
	X	4. Does the action deny a fundamental attribute of ownership?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? (If answer is NO, skip questions 5a and 5b and continue with question 6.)
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property?
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally? (If the answer is NO, skip questions 7a-7c)
		7a. Is the impact of government action direct, peculiar, and significant?
		7b. Has the government action resulted in the property becoming practically inaccessible, waterlogged, or flooded?
		7c. Has the government action diminished property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?

Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b.

If taking or damaging implications exist, the agency must comply with § 5 of the Private Property Assessment Act, to include the preparation of a taking or damaging impact assessment. Normally, the preparation of an impact assessment will require consultation with agency legal staff.