

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.

APPLICANT: Powell County

COUNTY: Powell

SITE NAME: Murphy

DATE: January 2012

LOCATION: Section 21, T15 N, R13 W

PROPOSAL: The Operator has applied for an amendment to add 4.5 acres to their 0.25-acre permit for the purpose of expanding the mine area. The total permitted area would be 4.8 acres. The 4.5-acre proposed amendment area is an addition that encompasses the entire existing permitted area in all directions. The operation will continue to mine to the east, west and north. The applicant proposes to mine, screen, crush, stockpile and transport 48,400 cubic yards of gravel from the site located approximately 7 miles west of Ovando. The Operator has mined outside of their permitted area with a total of 3.7 acres of disturbance. The proposed permit area is part of a US Fish and Wildlife Service wildlife habitat conservation easement with a 5.0 acre exemption for a gravel pit.

Powell County would be liable to reclaim the site to grazing/grassland and a landowner stockpile by January 2031. 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
1. TOPOGRAPHY, GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:	The site is located in a gently sloping area at the southern end of the Swan Mountain Range on what appears to be a stream terrace. The onsite soils consist of gravelly loam soils. The operator will replace 18 inches of soil and no overburden. The site receives approximately 17 inches of precipitation per year. <i>Impacts:</i> An irreversible and irretrievable removal of gravel from the site has occurred. A small impact to the quantity and quality of soils from salvaging, stockpiling, and resoiling activities have also occurred, 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.

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
2. WATER QUALITY, QUANTITY AND DISTRIBUTION	<p>The proposed pit is located approximately 500 feet east of a meandering branch of Cottonwood Creek. Numerous small ponds and lakes populate the area ½ mile to the west of the site. Water will be used onsite for dust abatement and would be transported in from an offsite location.</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 of the proposed action on resources would be negligible.</p>
3. AIR QUALITY	<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>
4. VEGETATION COVER, QUANTITY AND QUALITY	<p>There are no known rare or sensitive plants or cover types present in the site area. Onsite vegetation consists of pasture species including green needle grass, various wheat grasses and bunch grasses, and fringed sagewort in the undisturbed areas, with approximately 95% cover. The disturbed areas contain weeds such as cheatgrass, woolly mullein, and small amounts of knapweed. The vegetation has been removed as soil has been 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>
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, coyotes, foxes, raptors, insects and various other animal species. Population numbers for these species are not known.</p> <p><i>Impacts:</i> The 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>
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:	<p>The Montana Natural Heritage Program (MNHP) lists the following 16 species of concern in the vicinity of the site:</p> <p>Trumpeter Swan (<i>Cygnus buccinator</i>) are the largest waterfowl in North America. The adult Trumpeter Swan is entirely white, with black feet, legs, and bill. Trumpeter Swans breeding in Montana are non-migrants. They spend both the breeding season and the winter in southern Montana's lakes, ponds, and streams of the Red Rock Lakes National Wildlife Refuge. Dominant foods consist of submerged aquatic plant species.</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT

RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
	<p>Bald eagle (<i>Haliaeetus leucocephalus</i>) is a bird of prey found in North America that is most recognizable as the national bird and symbol of the United States of America. This sea eagle has two known sub-species and forms a species pair with the white-tailed eagle. Its range includes most of Canada and Alaska, all of the contiguous United States and northern Mexico. It is found near large bodies of open water with an abundant food supply and old-growth trees for nesting.</p> <p>Long-billed curlew (<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>Great Gray Owl (<i>Strix nebulosa</i>) are the largest owl species in North America. They have a wingspan over 4 feet with a body length of up to 27 inches. They can weigh over 2 pounds. Great Gray Owls have a large, rounded, half-domed head with a flat face and no ear tufts. Their eyes are yellow, but look rather small due to the ringed facial disks. The bill is mostly yellow with a black patch below separating white lores that give Great Gray Owls their classic bow-tied appearance, and the plumage is mostly gray with patches of whites and browns. They are a resident species in Montana, both during the breeding season and in winter. Great Gray Owls are known to use lodgepole pine/Douglas-fir for habitat in Montana. They usually forage in open areas where scattered trees or forest margins provide suitable sites for visual searching. Small mammals, especially rodents (i.e. voles) are the dominant prey.</p> <p>Lewis’s woodpecker (<i>Melanerpes lewis</i>) is a medium sized woodpecker, approximately 10 to 11 inches in length. Lewis’s woodpeckers are quieter than other woodpeckers as they usually only call during the breeding season. Important habitat features include an open tree canopy, a brushy understory with ground cover, dead trees for nest cavities, dead or downed woody debris, perch sites and abundant insects.</p> <p>Black-backed Woodpecker (<i>picoides arcticus</i>) are at the large end of the medium-sized woodpeckers. The back of the head, neck, back, and wings (upperparts) are all black and the chin, throat, breast and belly (underparts) are white. Black-backed Woodpeckers are a resident species in Montana, where their breeding range encompasses their year-round range. The habitat of Black-backed Woodpeckers in Montana is early successional, burned forest of mixed conifer, lodgepole pine, Douglas-fir, and spruce-fir. The bulk of the diet of Black-backed Woodpeckers is wood-boring beetle larvae.</p> <p>Cassin’s Finch (<i>Carpodacus cassinii</i>) is the largest of the North American Carpodacus finches. Adult males have rose-red coloration on the head throat and upper breast, the crown is bright pinkish-red contrasting with the paler nape and back. Females have an overall brownish plumage. Cassin’s Finches are short-distance elevational or latitudinal migrants in some parts of their range, the movements somewhat irregular and possibly dependent on food supply. Cassin’s Finches occur in every major forest type and timber-harvest regime in Montana, including riparian cottonwood, but are especially common in ponderosa pine and postfire forests; they occur less often in lodgepole pine, sagebrush, and grassland. Foods include seeds, especially of grasses, composites, conifers, alders, and birches, as well as buds, leaves, and invertebrates. In general a single-brooded species has 4 to 5 eggs per clutch, with an incubation period of 12 to 14 days.</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT

RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
	<p>Westslope Cutthroat Trout (<i>Oncorhynchus clarkii lewisi</i>) is one of two subspecies of native cutthroat found in the state. It has been designated as Montana’s state fish. Westslope cutthroat trout require cold water and seek out gravel substrates in riffles and pool crests for spawning habitat.</p> <p>Bull trout (<i>Salvelinus confluentus</i>) is threatened species of fish that can be found in the Clark Fork and Flathead drainages of western Montana. Sub-adult and adult fluvial bull trout reside in larger streams and rivers and spawn in smaller tributary streams, whereas adfluvial bull trout reside in lakes and spawn in tributaries. Bull trout can grow to lengths of 37 inches and weights of 20+ pounds.</p> <p>Fisher (<i>Martes pennanti</i>) is a medium-sized mammal with a long, low stocky body and relatively long and heavily furred tail. The fisher occupies dense coniferous or mixed forests and tends to reside in tree hollows, under logs, in ground or rocky crevices or in the branches of conifers. The fisher’s diet consists of small mammals, birds and fruit.</p> <p>Wolverine (<i>Gulo gulo</i>) is a bear-like mustelid with massive limbs and long, dense, dark brown pelage, paler on the head, with two broad yellowish stripes extending from the shoulders and joining on the rump. Wolverines are limited to alpine tundra and boreal and mountain forests in the western mountains. They feed on a variety of roots, berries, small mammals, birds’ eggs and young, fledglings, and fish. They may attack moose, caribou, and deer hampered by deep snow.</p> <p>Canada Lynx (<i>Lynx Canadensis</i>) is a medium sized cat with silver-gray to grayish-brown upperparts and a white belly and throat. Lynx have long legs and a relatively short, compact body. Lynx inhabit subalpine forests and avoid large openings, but often hunt along edges in areas of dense cover. The Lynx’s primary food consists of the snowshoe hare, although they also diet on squirrels and other small mammals.</p> <p>Western Pearlshell (<i>Margaritifera falcata</i>) is Montana's only coldwater trout stream mussel, and the only native mussel found on the west-side of the state. The shell of <i>M. falcata</i> is elongate, compressed, dark colored, and slightly concave on the ventral edge, oftentimes erosion marks are prominent on the umbo region. The normal size is 50 to 85 mm with larger older specimens surpassing 10 cm. Sedentary as adults, rarely move more than a few meters. As larvae (glochidia on the fish gills), they use their fish host for dispersal upstream or downstream to other suitable habitats. The species is found in cool and cold running streams that generally have a low to moderate gradient and are wider than 2 m; preferable habitat is stable sand or gravel substrates. Freshwater mussels are mostly filter-feeders, siphoning in floating particulate organic materials (small plant or animal) from the water column and straining out the particles and expel the strained water. Eutrophication due to agricultural runoff and siltation from improper agricultural practices are typical problems for many of the rivers in this species' range; impoundments and diversions are also continued threats.</p> <p>Howell’s Gumweed (<i>Grindelia howellii</i>) is a short-lived perennial in the sunflower family with stems up to 90 cm in length that are woody at the base and clustered on a taproot. Habitats include Vernal moist, lightly disturbed soil adjacent to ponds and marshes, as well as similar human-created habitats, such as roadsides and grazed pastures.</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT	
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	<p>Chaffweed (<i>Centunculus minimus</i>) is a low, annual herb with prostrate or erect stems, 2-10 cm long, that root at the nodes. The alternate leaves, 5-10 mm long, are egg to spoon-shaped with entire margins. Foliage is glabrous. Flowering and fruiting occur in June-September. Habitat includes vernal wet, sparsely vegetated soil around ponds and along rivers and streams in the valleys and on the plains.</p> <p>Hall's Rush (<i>Juncus hallii</i>) is a perennial with erect stems that are 20-30 cm tall. The leaves, which are confined to near the base of the plant, are round and up to 15 cm long with a groove on the side facing the stem. The 2-6 flowers are borne in a loosely congested inflorescence subtended by an erect leaf, or bract. Flowering occurs from July-August. Subalpine parklands and moist meadows and slopes in the montane zone are the preferred habitat.</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>
7. HISTORICAL AND ARCHAEOLOGICAL SITES	<p>The Montana State Historic Preservation Office (SHPO) was notified of the application. It reported that no sites have been discovered previously on this property. 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 feels there is a low likelihood cultural properties will be impacted and therefore, do not recommend a cultural resource inventory 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>
8. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY	<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>

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
9. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS	<p>County zoning clearance has been obtained. The site location is under Conservation Easement with the US Fish and Wildlife Service. However, easement provisions allow an expansion of the existing pit to 5 acres.</p>
10. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING	<p>As seen on the aerial photo of the 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 provide materials for local road construction and repair.</p>
11. AESTHETICS	<p>The site is located in an active gravel operation, surrounded by rangeland 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 19 years to complete. Hours of operation will occur between 6 am and 8 pm, Monday through Friday.</p>

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
12. QUANTITY/ DISTRIBUTION OF EMPLOYMENT	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.
13. INDUSTRIAL, COMMERCIAL, AGRICULTURAL ACTIVITIES AND PRODUCTION	The acreage listed in the proposal would be taken out of rangeland use. Upon completion of mining, the land would be reclaimed to grazing/grassland and a small landowner stockpile. <i>Impacts:</i> Rangeland 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 rangeland activities would cease.
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 benefitting from this operation. Following reclamation, it is assumed the tax base would revert to pre-mine levels.
15. DEMAND FOR GOVERNMENT SERVICES	Limited oversight by DEQ Opencut Program personnel would be conducted in concert with other area activity when in the vicinity.
16. HUMAN HEALTH AND SAFETY	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.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES	This activity would not inhibit the use of the identified resources.
18. NATIVE CULTURAL CONCERNS	<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, US Fish and Wildlife Service, Powell County commissioners.

21. Other Governmental Agencies which May Have Overlapping or Sole Jurisdiction include, but may not be limited to: Powell County Planning Department (zoning), Powell 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.

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.

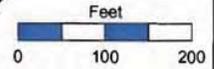
If taking or damaging implications exist, the agency must comply with § 5 of the Private Property Assessment Act, to include the preparation of a taking or damaging impact assessment. Normally, the preparation of an impact assessment will require consultation with agency legal staff.



Open Cut Mining Permit Application

Operator Name: Powell County -- Site Name: Murphy

Site Map -- T15N-R13W-Sec21



Note:

Mine - Level Area = 1.2 Acres

All area within the proposed permit boundary and not delineated as mine level area is classified as facility area

Approx Center Location
Lat: N 47.046359
Long: W 113.259486

Facility Area (Typ.)

Map ID # 2

15' Excavation Setback from center of power pole alignment

Extents of Landowner Maneuvering Area Via Existing Access Approach

Map ID # 1

MAIN PERMIT AREA 4.8 ACRES

Soil for Reclamation of Landowner Stockpile

Location of Landowner Stockpile (Access Via Woodworth Approach)

Telephone Pole / Line

Map ID # 3

Area of topsoil stockpile consolidation

Map ID # 4

WOODWORTH RD

Legend

- ◇ Observation Locations
- Water Well
- ▭ Proposed Permit Bndy
- ▭ Powell Cnty Ownership
- Mine Permit Features**
- ▭ Existing Murphy Pit Bndy (0.3 Ac)
- ▭ Conveyor
- ▭ Trailers
- ▭ Boulders
- ▭ Gravel Mine Level Area (1.2 Ac)
- ▭ Screen
- ▭ Gravel
- ▭ Sand
- ▭ Soil

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