

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: Dean Folkvord

COUNTY: Broadwater

SITE NAME: Folkvord

DATE: June 2011

LOCATION: Section 22, T2 N, R1 E

PROPOSAL: The applicant proposes to permit a new, long-term gravel pit to crush, stockpile and transport 50,000 cubic yards of gravel from a 9-acre site located approximately two miles northwest of Three Forks, and approximately ¾ mile southeast of the intersection of I-90 and US Highway 287. The site currently consists of cropland and rangeland. In addition, the landowner has conducted previous mining activities within the proposed permit boundary totaling approximately 0.7 acres of disturbance. A reclamation bond would be held by DEQ to ensure that final reclamation of the site to rangeland/pasture/native grassland would be completed by October 2033. 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 |
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| 1. TOPOGRAPHY, GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: | <p>The site is located east of the Tobacco Root Mountains on a bench that overlooks the Jefferson River to the southeast. To the west of the proposed permit boundary is a small stream. A buffer will be in place to protect the stream from mining activities. Small wetlands are also located at the toe of the slope on the west side.</p> <p>The onsite soils consist of sandy clay loams. The operator will replace 12 inches of soil and six inches of overburden.</p> <p>The site receives approximately twelve 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 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> |

| IMPACTS ON THE PHYSICAL ENVIRONMENT | |
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| RESOURCE | POTENTIAL IMPACTS AND MITIGATION MEASURES |
| 2. WATER QUALITY, QUANTITY AND DISTRIBUTION | <p>The Jefferson River lies to the south and east of the site. The main channel is approximately 900 feet south of the permit area, and a side channel lies within 100 feet to the east of the site. A small stream and mapped wetlands are located on the west side of the proposed permit boundary. A vegetative buffer of 25 to 50 feet as well as straw wattles will be used to protect the surface water from mining activities. There are no wells located within 1,000 feet of the site. The estimated water table is approximately 20 feet below ground surface. Mining is not planned to occur into the water table. Opencut operations will not cause the diversion, capture, or use of water.</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 by 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 alfalfa, weeds, and grasses in the undisturbed areas, and provides approximately 80+% cover. 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> |
| 5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: | <p>Although the area is used primarily for cropland, 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> |
| 6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: | <p>The Montana Natural Heritage Program (MNHP) lists the following 15 species of concern in the vicinity of the site:</p> <p>Great Blue Heron (<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</p> |

IMPACTS ON THE PHYSICAL ENVIRONMENT

| RESOURCE | POTENTIAL IMPACTS AND MITIGATION MEASURES |
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| | <p>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. Disturbance by humans and loss of protected colony sites are major threats.</p> <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>Ferruginous hawk (<i>Buteo regalis</i>) is a large bird of prey. Most of Montana is summer range for this raptor. Fall migration begins in August and continues into early September. Young birds will migrate south earlier than, and independent of adults. The habitat of this hawk is described as mixed-grass prairie, shrub-grasslands, grasslands, grass-sagebrush complex, and sagebrush steppe.</p> <p>Golden Eagle (<i>Aquila chrysaetos</i>) is a large predator bird with gold on the head and neck feathers and light brown bands in the tail. Golden Eagles nest on cliffs and in large trees and hunt over prairie and open woodlands. They primarily eat jack rabbits, ground squirrels and carrion, although they will occasionally prey on deer and pronghorn (mostly fawns), waterfowl, grouse, weasels, skunks, and other animals.</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>Burrowing owl (<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>Pinyon Jay (<i>Gymnorhinus cyanocephalus</i>) is a small blue crestless bird about 26-29 cm in total length. They are permanent residents in the state of Montana. Their habitat includes low-elevation ponderosa pine and limber pine-juniper woodlands. They are generally omnivorous, with pine seeds forming an important component of the diet. Juniper berries, wild fruits, agricultural grains, and animal matter are also eaten. Loss of ponderosa pine woodlands is probably the greatest threat to Pinyon Jays in Montana.</p> <p>Clark's Nutcracker (<i>Nucifraga columbiana</i>) is a jay-sized corvid that is crowlike in build and flight, with moderate sexual size dimorphism. The bird is light to medium gray with varying amounts of white around the eyes, on forehead and on chin; white around vent and at base of tail; wings and tail glossy black. The bird has a long, pointed, black bill with short nasal bristles and makes a distinctive grating call audible at great distance.</p> <p>Veery (<i>Catharus fuscescens</i>) is an 18-cm long bird with a reddish brown dorsum, white belly, gray flanks, and a straight slim bill. They are a summer resident in Montana and generally inhabit damp, deciduous forests and riparian habitat. The Veery is primarily a ground forager, with a diet including insects and fruit.</p> |

| IMPACTS ON THE PHYSICAL ENVIRONMENT | |
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| RESOURCE | POTENTIAL IMPACTS AND MITIGATION MEASURES |
| | <p>Sage thrasher (<i>Oreoscoptes montanus</i>) is a medium-sized, long-tailed songbird. Its summer range includes all but north central and northwest Montana. This bird winters in the southwestern states and Northern Mexico. It is considered a sagebrush obligate in Montana. Its abundance is generally positively correlated with the amount of sage cover and negatively correlated with grass cover.</p> <p>Brewer's sparrow (<i>Spizella breweri</i>) 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 sparrows are closely associated with sagebrush, preferring dense stands broken up with grassy areas.</p> <p>Grasshopper sparrow (<i>Ammodramus savannarum</i>) is a small sparrow that inhabits grasslands and marshes. The birds migrate to the southern United States, Mexico, Central America and the Caribbean. They forage on the ground in vegetation, mainly eating insects and seeds.</p> <p>Bobolink (<i>Dolichonyx oryzivorus</i>) is a small new world blackbird and the only member of the genus <i>Dolichonyx</i>. These birds migrate to Argentina, Bolivia and Paraguay. Bobolinks forage near the ground, and mainly eat seeds and insects. They prefer tall prairie grass and other open areas with dense grass, but can also be found in hay fields.</p> <p>Greater short-horned lizard (<i>Phrynosoma hernandesi</i>) has a broad and flattened body, short spines crowning the head, a spiny back, and maximum total length of 6 inches. It ranges across much of Montana, mostly east of the Continental Divide. Habitat reports mention individuals on ridge crests between coulees, and in sparse, short grass and sagebrush with sun-baked soil.</p> <p>A Subterranean Amphipod (<i>Stygobromus puteanus</i>) Descriptive information is not yet available for this species.</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 that 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 | County zoning clearance has been obtained. |
| 10. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING | As seen on the aerial photo of the surrounding area, there are no nearby residences. <i>Impact:</i> This commercial pit is being sited in this area because of the location of the resource, to provide material for a highway project, and to provide materials for future projects. |
| 11. AESTHETICS | The site is located in a common cropland area transitioning to river bottom. 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 22 years to complete. There are no nearby residences; therefore, hours of operation will be from 7 am to 7 pm, seven days a week. |
| 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 cropland use. Upon completion of mining, the land would be reclaimed to rangeland/pasture, native grassland, and internal roads. <i>Impacts:</i> Cropland 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 cropland 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. |

PRIVATE PROPERTY ASSESSMENT ACT (PPAA) CHECKLIST

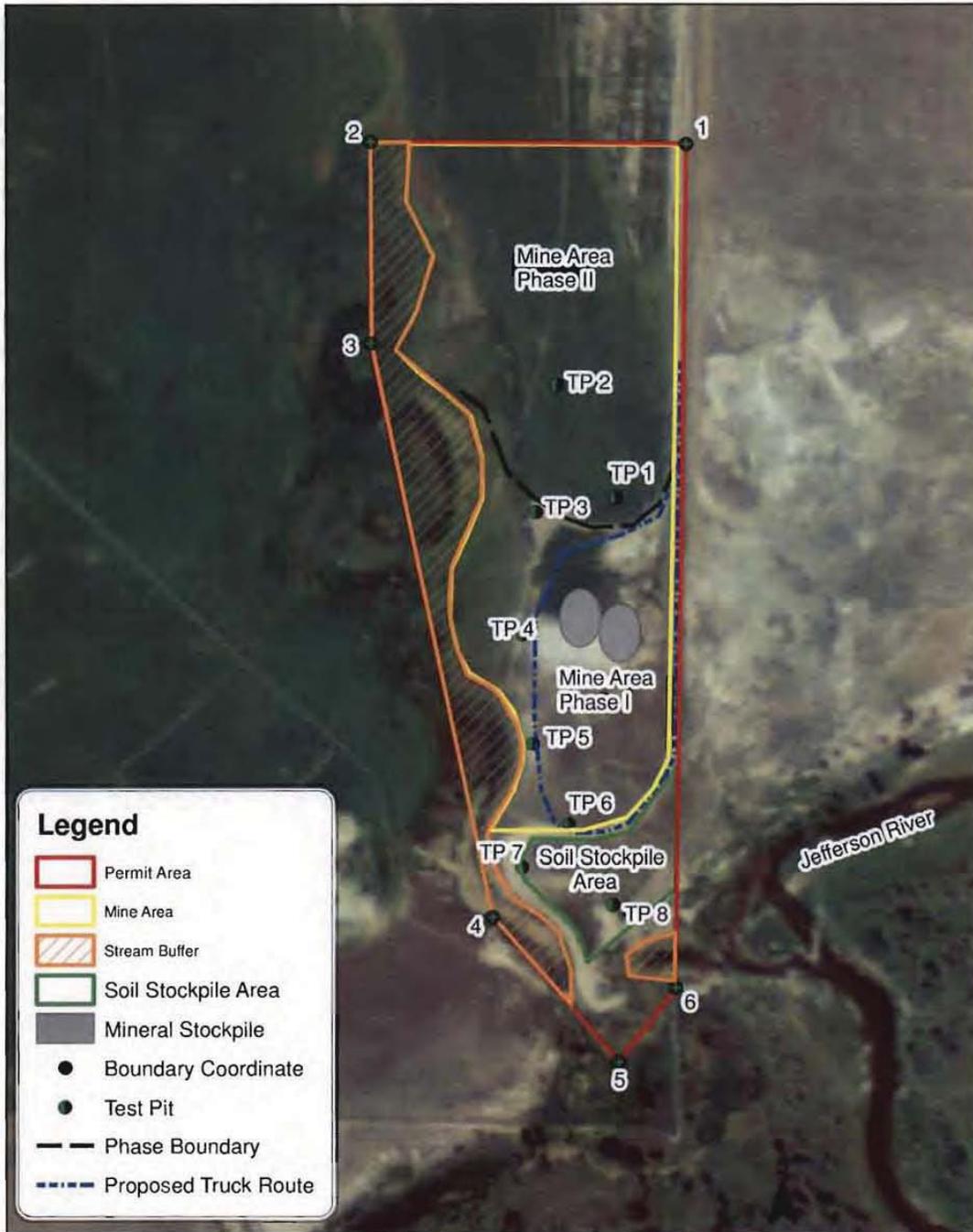
DOES THE PROPOSED AGENCY ACTION HAVE TAKINGS IMPLICATIONS UNDER THE PPAA?

| 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.

Dean Folkvord



Legal Description: SE1/4 of the NE1/4, Section 22 T2N R1E PMM
Aerial Photo NRIS 2009

0 100 200 400 Feet

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CHK'D BY: MEG
APPR. BY: MEG
DATE: 06/2011

THREE FORKS

SITE MAP

FOLKVORD

RECEIVED

PROJECT NO. N14940.002
JUN 17 2011
FIGURE NUMBER
FIG. 2

DEQUEMB