

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: Mark Haldorson

COUNTY: Richland

SITE NAME: Haldorson OC Pit

DATE: September 2013

LOCATION: Section 1, Township 23 North, Range 59 East

PROPOSAL: The applicant proposes to permit a new, long-term gravel pit to mine, screen, crush, stockpile and transport 450,000 cubic yards of gravel from a 18.0-acre site located approximately 5 miles southwest of Fairview, Montana and 5.3 miles northeast of Sidney, Montana. The site is located west of railroad tracks and an irrigation ditch, and north of an oil pad.

A reclamation bond would be held by DEQ to ensure that final reclamation of the site to rangeland/pasture would be completed by October 2020. 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:	<p>Site topography consists of flat cropland. The geology of the site consists of alluvial terrace deposits which contain well rounded and well sorted gravel, sand and silt.</p> <p>The onsite soils consist of sandy loams. The operator will replace 18 inches of soil and 18 inches of overburden in the mine-level area, and 18 inches of soil in the facility area. The site receives approximately 14 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>

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2. WATER QUALITY, QUANTITY AND DISTRIBUTION	<p>Water would be used for dust control and would be obtained from an offsite source located in excess of 1,000 feet from 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>
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 cropland. 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 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>
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:	<p>The Montana Natural Heritage Program (MNHP) lists the following 11 species of concern in the vicinity of the site:</p> <p>Pale-spiked Lobelia (<i>Lobelia spicata</i>) is a herbaceous perennial with unbranched stems. Flowers are 7-12 mm long and are born on short, 2-5 mm long stalks in a sparingly branched, narrow, crowded inflorescence. Each flower has 5 narrow sepals that are 5-9 mm long and a light blue, tubular, 4-10 mm long corolla that flares into a spreading 2-lobed upper lip and a 3-lobed lower lip. The ovary is below the base of the corolla and matures into a nearly globose capsule that is 3-5 mm high. It flowers in late July to early August.</p> <p>Whooping Crane (<i>Grus americana</i>) is the tallest bird of North America, reaching nearly 1.5 meters in height. The vocalization of the Whooping Crane is the feature that defines its common name. The loud resonating calls may be heard up to two miles away. The sexes appear similar; adult plumage is snowy-white overall, with males generally larger than females. The Whooping Crane has been observed in grain and stubble fields as well as wet meadows, wet</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT

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	<p>prairie habitat, and freshwater marshes that are usually shallow and broad with safe roosting sites and nearby foraging opportunities. Migrants feed primarily in a variety of croplands. The Whooping Crane breeds monogamously with the same mate throughout life.</p> <p>Least tern (<i>Sternula antillarum</i>) is the smallest tern in North America, averaging 21 to 24 cm long with a wingspan of 51 cm. Its diminutive size, yellow bill, and white forehead are distinctive. The sexes are virtually identical. Least terns nest on unvegetated sand-pebble beaches and islands of large reservoirs and rivers in northeastern and southeastern Montana. Sites with gravel substrate provide the most suitable sites for nesting. Generally the least tern consumes small fishes (generally less than 9 cm long), but sometimes eats crustaceans or insects.</p> <p>Paddlefish (<i>Polyodon spathula</i>) is an ancient mostly cartilaginous fish with smooth skin and a close relative of the sturgeon. It grows up to 150 pounds or more. They are readily identifiable by the long paddle-like snout, long, tapered gill covers, and the backbone bent up into the upper lobe of the tail fin. Spawning migrations are tied closely with the timing of spring highwater. Although young of the year paddlefish will “bite” at small food particles, they eventually switch to filtering for food.</p> <p>Pallid Sturgeon (<i>Scaphirhynchus albus</i>) is the larger species of sturgeon found east of the continental divide. It grows to about 60 pounds. Little is known about this rare fish. This sturgeon uses the Yellowstone River during spring and summer and the Missouri River below the confluence of the Yellowstone in the fall and winter. The Pallid sturgeon consumes minnows and bugs.</p> <p>Shortnose Gar (<i>Lepisosteus platostomus</i>) is a fish native to Montana and is found at only one location--the dredge ponds below Fort Peck Reservoir. Shortnose gar may reach a size and weight of about 31 inches and about 3.5 pounds. This prehistoric-appearing fish is cylindrically shaped, with an elongated bony head and snout containing one row of sharp, conical teeth. The dorsal fin is located well posterior and the pectoral and pelvic fins have no spots. The skin is covered with diamond shaped ganoid scales arranged in oblique rows, providing a very protective surface armor. Color varies from brownish or olive-green on the dorsal surface lightening to yellow on the sides and white on the belly. Gars are predaceous. They are spring, broadcast spawners. They have several unusual features including rectangular scales found only in primitive fishes, and a gas bladder that can function like a lung. Gars can survive in waters that have very little oxygen where most other fish would perish. Gar eggs are poisonous to humans.</p> <p>Sturgeon Chub (<i>Macrhybopsis gelida</i>) is a native minnow found in the eastern Montana prairie river drainages. They have small eyes and many external papillae on their bodies and fins. They feed mostly on small invertebrates living on the bottom substrate.</p> <p>Sicklefin Chub (<i>Macrhybopsis meeki</i>) is one of the rarest fishes in Montana. It is found in large, turbid streams in the plains region of Montana. It is similar to the sturgeon chub in appearance except that its pectoral fins are strikingly long. They have a conspicuous barbell at each corner of the mouth. They are a bottom feeder which locates its food primarily by taste.</p>

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	<p>Blue Sucker (<i>Cyprinus elongates</i>) is a fish that appears to inhabit only the larger streams, primarily the Missouri and Yellowstone rivers. It has an elongated shape, long dorsal fin and slate-blue coloration. It grows to slightly larger than 10 pounds. They prefer water with low turbidity and swift current. They feed mainly on aquatic insects.</p> <p>Sauger (<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 are a highly prized sport fish and in some areas outside Montana are also a commercial fish. Their major food items are insects and small fish.</p> <p>Spiny Softshell Turtle (<i>Apalone spinifera</i>) is primarily a riverine species, occupying large rivers and river impoundments, but it also occurs in lakes, ponds along rivers, pools along intermittent streams, bayous, irrigation canals, and oxbows. It usually is found in areas with open sandy or mud banks, a soft bottom, and submerged brush and other debris. Adult females can reach 52 centimeters in carapace length, but much less in adult males (which average about 10 centimeters shorter). The shell of the spiny softshell is flattened (pancake-like), with flexible edges and covered with leathery skin; the snout is tubular; the tail is thick and long.</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 there have been two previously discovered sites within the designated search locale. A pedestrian survey of the area by DEQ personnel did not reveal any artifacts or signs of occupation. 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>
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 two nearby residences. One residence is located approximately 550' to the north of the site and another residence is located 350 feet to the south of the proposed site.

IMPACTS ON THE HUMAN POPULATION	
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	<i>Impact:</i> This commercial pit is being sited in this area because of the location of the resource, and to service booming oil industries gravel needs.
11. AESTHETICS	The site is located in a common cropland 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 seven years to complete.
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 cropland. <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, but would be restored as the site is reclaimed.
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. County commissioners, local planning department, MDT, DNRC, DEQ ARMB and Water Protection Bureau, local citizens and interest groups.

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.

SITE MAP HALDORSON O C PIT

Legal = Ptn. of
Lots 1 & 2,
Sorensen Minor Subd.
Sec. 1, T23N, R59E, PMM



Scale 1" = 320'

LEGEND

- 6 Coordinate ID points
- Pit boundary
- - - Property lines
- Soil pits
- - - Mine level area
- GM = growth media



- Notes:**
1. All six (6) corners marked with a steel rod and red ribbon, except #6 which is marked with red ribbon in an old fence. Ground frozen when markers installed.
 2. All wells within 1000 ft. are shown w/well log #.
 3. There are no wells within the mine level area.
 - 4 Stockpile site is for finished, crushed materials.
 5. There is no stockpile site for raw materials. Mined materials will go directly to crusher.

Specialized Engineering & Illustration, PLLC
7/30/13

Section 2 Section 1