

## 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:** Bates Group, Inc

**COUNTY:** Richland

**SITE NAME:** Hardy Scoria Quarry #1

**DATE:** October 2011

**LOCATION:** Section 23, Township 27 North, Range 55 East

**PROPOSAL:** The applicant proposes to permit a new, short-term gravel pit to mine, screen, crush, stockpile and transport 115,000 cubic yards of gravel from a 21.6-acre site located approximately four miles southwest of Culbertson, Montana. The site has a small landowner pit onsite that would be encompassed within this proposed permit's boundaries.

A reclamation bond would be held by DEQ to ensure that final reclamation of the site to Rangeland/Pasture would be completed by November 2015.

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 rolling topography with narrow drainages and scoria knobs transitioning to flat rangeland.</p> <p>The geology of the site consists of red, pink, orange, black and yellow, resistant metamorphosed sandstone, siltstone and shale of the Fort Union Formation. The bedrock was baked by a natural burning of adjacent coal bed.</p> <p>The onsite soils consist of Lambert Ringling complex and Shambo Loams. The operator will replace 12" of mine level and 18" of facility level soil and 6" inches of mine-level overburden.</p> <p>The site receives approximately 13.4 inches of precipitation a 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,</p>

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	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.
<b>2. WATER QUALITY, QUANTITY AND DISTRIBUTION</b>	<p>Ephemeral drainages are located within 1,000 feet of the proposed site. No other surface water was identified within 1,000 feet of the proposed site. The Operator would purchase water from the town of Culbertson for dust control and store it onsite in a water tank.</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 for this site 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 blue grama, prairie junegrass, sandberg bluegrass, prairie sandreed, western wheatgrass and other short grasses and forbs; and provides approximately 75% 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>
<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, antelope, 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 four 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</p>

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	<p>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><b>Whooping Crane</b> (<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 call is described as a clear, loud, bugling "bKAAAH", high-pitched and longer than that of the Sandhill Crane. 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. Black primaries, not visible when the wings are folded, contrast with the otherwise white plumage. The long legs are dark gray to black, while the feet are lighter in color, nearly to light tan. The Whooping Crane has been observed in grain and stubble fields as well as wet meadows, wet 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 generally probes in the mud or sand in or near shallow water. During summer the Whooping Crane feeds on insects, crustaceans, and berries. The Whooping Crane breeds monogamously with the same mate throughout life. Breeding behavior of the Whooping Crane, which includes an elaborate mating dance, begins in late winter and increases with the coming of the spring migration.</p> <p><b>Eastern Red Bat</b> (<i>Lasiurus borealis</i>) is a moderately-sized lasurine (7 to 15 g) with long pointed wings and heavily-furred interfemoral membrane. Pelage overall is reddish, lighter on the belly than the back. The Eastern Red Bat migrates through eastern Montana, particularly along wooded and riparian areas. In other parts of its range, it is reported to prefer elm, box elder, wild plum, willow, hawthorn, sumac, and a variety of other woody plants for roosting, and hibernates in woodpecker holes, tree foliage, and under loose bark. Eastern Red Bat feeds on flying insects in wooded areas, often on moths. These bats tend to be solitary, roosting singly or in female-litter groups, usually in foliage or tree cavities (1 to 6 m above ground but also at ground level) near habitat edges or water.</p> <p><b>Townsend's big-eared bat</b> (<i>Corynorhinus townsendii</i>) is a bat with very large ears joined at the base, prominent lumps on the nose, absence of large white spots in the pelage and a dorsal pelage that is darker at the tips than the base. The bat lives year-round in Montana. Habitat consists of caves, abandoned mines, abandoned buildings, etc. and it feeds on various nocturnal flying insects found near the foliage of trees and shrubs.</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>	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. Based on the lack of inventory and the ground disturbance

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	<p>required by this undertaking SHPO feels that this project has the potential to impact cultural properties and therefore recommends that a cultural resource inventory be conducted in order to determine whether or not sites exist and if they will be impacted.</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>	No zoning clearance has been obtained or is needed for this scoria site.
<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 commercial pit is being sited in this area because of the location of the resource, and to provide scoria for the oil industries needs.</p>
<b>11. AESTHETICS</b>	<p>The site is located in a common 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 short-term, i.e., planned to take four years to complete.</p> <p>The Operator would work 24/7 365 days a year.</p>
<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>
<b>13. INDUSTRIAL, COMMERCIAL, AGRICULTURAL ACTIVITIES AND PRODUCTION</b>	<p>The acreage listed in the proposal would be taken out of rangeland use. Upon completion of mining, the land would be reclaimed to rangeland/pastureland.</p> <p><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/pastureland activities would cease.</p>
<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</b>	Any industrial activity will increase the opportunities for accidental injury.



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 INFORMATION**

OPERATOR NAME: BATES GROUP, INC.  
 SITE NAME: HARDY SCORIA QUARRY #1  
 LOCATION / DESCRIPTION: 223.32TH. RD., P.M.#4  
 ALL-LESS SEINE  
 RICHLAND  
 COUNTY: RICHLAND  
 MATERIAL TO BE MINED: SCORIA

**COORDINATE TABLE**

MAP ID	LATITUDE(N)	LONGITUDE(W)	DESCRIPTION
CENTER	48.08313	-104.56949	CENTER PERMIT AREA
#1	48.08148	-104.57154	PERMIT BOUNDARY
#2	48.08148	-104.56834	PERMIT BOUNDARY
#3	48.08478	-104.56834	PERMIT BOUNDARY
#4	48.08478	-104.57154	PERMIT BOUNDARY
#5	48.08478	-104.57154	NON-BONDED BOUNDARY
#6	48.08305	-104.57154	NON-BONDED BOUNDARY
#7	48.08400	-104.56888	NON-BONDED BOUNDARY
#8	48.08305	-104.56888	NON-BONDED BOUNDARY
#9	48.08400	-104.56834	NON-BONDED BOUNDARY
#10	48.08478	-104.56834	NON-BONDED BOUNDARY

NOTES:  
 1. COORDINATES, LEGAL DESCRIPTION, AND PROPERTY OWNER INFORMATION PROVIDED BY BATES GROUP, INC.  
 2. MAP COORDINATES WERE COLLECTED USING A HANDHELD GPS DEVICE.  
 3. MAP AREAS WERE DETERMINED BASED ON THE COORDINATES PROVIDED.



NOTES:  
 1. STRAW WATTLES / COIR LOGS WILL BE PLACED IN THE NATURAL DRAINAGE EAST OF THE EXISTING ROAD AT THE GENERAL LOCATION NOTED.  
 2. CALCIUM CHLORIDE AND OR MAGNESIUM CHLORIDE WILL BE PLACED ON THE INTERNAL MINE ROAD FOR DUST CONTROL.  
 3. AERIAL PHOTOGRAPH IS APPROXIMATE.

**MAIN PERMIT AREA SITE PLAN**

REVISIONS	
BY/AS	DATE

DESIGNED BY: KLS  
 DRAWN BY: KLS  
 CHECKED BY: KLS  
 DATE: 8/11/11  
 JOB NO: 811-18-02  
 FILE NUMBER: NA

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**HARDY QUARRY #1**  
 RICHLAND COUNTY, MONTANA  
**MAIN PERMIT AREA SITE PLAN**

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