

**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:** Knerr Inc.

**COUNTY:** Sanders

**SITE NAME:** Hillcrest Ranch

**DATE:** November 2011

**LOCATION:** Section 15, T21 N, R29 W

**PROPOSAL:** The Operator currently holds a 5.3 acre permit, and proposes to increase the mine area by 7 acres for a total of 12.3 acres. The Operator also proposes to change a portion of the area’s post mining land use to commercial, with the remaining area designated as wildlife habitat and livestock grazing. The Operator proposes to mine, screen, wash, stockpile and transport 53,000 cubic yards of gravel from the site, located approximately 2 miles southeast of Thompson Falls. The permit would also include a concrete plant. This is a backlog application that has been processing for many years. The pit had expanded in the past without obtaining an amendment. Past inspection reports have indicated a spotted knapweed problem at this site. This amendment would bring the operation into compliance. Reclamation activities are currently underway at this site.

A reclamation bond would be held by DEQ to ensure that final reclamation of the site to commercial, wildlife habitat, and livestock grazing would be completed by November 2011. 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.

<b>IMPACTS ON THE PHYSICAL ENVIRONMENT</b>	
<b>RESOURCE</b>	<b>POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
<b>1. TOPOGRAPHY, GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:</b>	The site is located approximately one mile north of the Clark Fork River on what appears to be a stream terrace. Slopes range from 0 to 4 percent. The onsite soils consist of gravelly ashy silt loam. The operator will replace 6 inches of soil and 0 inches of overburden. The site receives approximately 20 inches of precipitation per year.  <i>Impacts:</i> An irreversible and irretrievable removal of gravel from the site has occurred. An impact to the quantity and quality of soils from salvaging,

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
	stockpiling, and resoiling activities have also occurred. Some soil has been lost due to mining activities; therefore, organic material should be incorporated into the upper 6" of those areas that lack soil, and subsequently supplemented with fertilizer. There are no unusual topographic, geologic, or special reclamation considerations that would prevent reclamation success.
<b>2. WATER QUALITY, QUANTITY AND DISTRIBUTION</b>	<p>Several wells are located within 1,000 feet of this site. There is no surface water within 1,000 feet of the site. Water will be used in the wash plant and settling ponds during operations.</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>
<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 sparse slender wheatgrass and predominantly Spotted knapweed. The vegetation has been removed as soil was stripped. The site will be replanted with plant species compatible with the proposed reclaimed uses.</p> <p><i>Impacts:</i> Spotted knapweed needs to be controlled at this site. Once it is under control, no long term detrimental impacts to the vegetation should occur.</p>
<b>5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:</b>	<p>Although the area was used primarily for pasture/grassland, 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 expansion 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 13 species of concern in the vicinity of the site:</p> <p><b>Bald eagle</b> (<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</p>

**IMPACTS ON THE PHYSICAL ENVIRONMENT**

<b>RESOURCE</b>	<b>POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
	<p>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><b>Northern Goshawk</b> (<i>Accipiter gentilis</i>) is a fairly large hawk with a long tail having a broad, dark sub-terminal band and three to four narrower dark bands, rounded wing tips, and a conspicuous pale eyebrow. The eyes of adults are deep ruby-red and the feet are yellow. The Northern Goshawk is the largest and heaviest bodied of the three North American accipiters. The species is generally considered a year-round resident or partial migrant in Montana as Northern Goshawks have been observed in transit during every month of the year. Northern Goshawks in Montana tend to nest predominately in mature large-tract conifer forests with a high canopy cover (69%), relatively steep slope (21%) and little to sparse undergrowth.</p> <p><b>Lewis’s woodpecker</b> (<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><b>Clark’s Nutcracker</b> (<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><b>Cassin’s Finch</b> (<i>Carpodacus cassinii</i>) is the largest of the North American <i>Carpodacus</i> 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> <p><b>Westslope Cutthroat Trout</b> (<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><b>Bull trout</b> (<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>

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
	<p><b>Lake Trout</b> (<i>Salvelinus namaycush</i>) are native in the St. Mary and Missouri River drainages and have been introduced to a few other scattered mountain lakes, Flathead Lake, and Fort Peck Reservoir. In Montana, the lake trout of Flathead Lake have achieved trophy status, growing to 42 pounds. Lake trout inhabit very deep, cold lakes, living in water up to 200 feet deep. They spawn in the fall on the rocky substrate of the shoreline. They scatter or broadcast their spawn, a rarity in the trout group. Small lake trout feed on plankton and aquatic invertebrates but fish over 2 to 3 pounds eat a fish diet.</p> <p><b>Grizzly Bear</b> (<i>Ursus arctos</i>) has a massive head with a prominent nose, rounded inconspicuous ears, small eyes, short tail a large, powerful body, and a noticeable hump above the shoulders. No true migration occurs, although Grizzly Bears often exhibit discrete elevational movements from spring to fall, following seasonal food availability. In Montana, Grizzly Bears primarily use meadows, seeps, riparian zones, mixed shrub fields, closed timber, open timber, sidehill parks, snow chutes, and alpine slabrock habitats. Grizzly Bears are opportunistic and adaptable omnivores.</p> <p><b>Fisher</b> (<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><b>Wolverine</b> (<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>A <b>Millipede</b> (<i>Orophe cabinetus</i>) - no information is available for this species at this time.</p> <p><b>Diamond Clarkia</b> (<i>Clarkia rhomboidea</i>) is a rare plant in Montana found along the lower Clark Fork River drainage. Common Clarkia is an annual with mostly unbranched stems that are 15-50 cm tall. The few leaves are opposite and have 1-3 cm long petioles and lance-shaped to elliptic, entire-margined, 2-7 cm long blades. The few flowers are borne in a loose, narrow, nodding inflorescence which terminates the stem; the 4 separate petals are spoon-shaped, 5-10 mm long, and rose-purple, often with purple dots. Flowering occurs in late May-June. Habitat consists of open forest slopes with gravelly soils in the montane zone.</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 two sites have been discovered previously on this property. In addition to the sites, a few cultural resource inventories have been previously conducted in the area. A pedestrian survey of the area by DEQ personnel did not reveal any artifacts or signs of occupation. No signs were

<b>IMPACTS ON THE PHYSICAL ENVIRONMENT</b>	
<b>RESOURCE</b>	<b>POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
	evident at depth in the previously disturbed area. SHPO feels there is a low likelihood that cultural properties will be impacted and therefore feel a recommendation for a cultural resource inventory is unwarranted at this time. <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.
<b>8. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY</b>	There are no unusual demands on land, water, air or energy anticipated as a result of this project. <i>Impacts:</i> Negligible impacts to land, water, air, or energy would occur.

<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>	City/county zoning clearance has been obtained.
<b>10. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING</b>	As seen on the aerial photo of the surrounding area, there are several nearby residences to the south and east of the site, within approximately one mile. <i>Impact:</i> This commercial pit was sited in this area because of the location of the resource, and to provide materials for projects in the area.
<b>11. AESTHETICS</b>	The site is located in a gravel pit area. However, reclamation would return the area to a visually acceptable landscape. This project is considered to be short-term, as reclamation is currently underway.
<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 has been taken out of pastureland use. Upon completion of mining, the land would be reclaimed to a commercial area, wildlife habitat and livestock grazing. <i>Impacts:</i> Pastureland production has been reduced as soil stripping and operations have progressed across the site. The entire site is currently opened up for mining and mine-related activities.
<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.

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
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.

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

**23. Magnitude and Significance of Potential Impacts:** This proposal is not likely to create impacts of significance due to mitigation, restrictions, and oversight mandated by the Opencut Mining Act and pursuant rules and the Montana Clean Air Act.

**24. Recommendation for Further Environmental Analysis:** [ ] EIS [ X ] No Further Analysis

**EA Prepared By:** Kenley Stone Opencut Mining Program Environmental Specialist  
Name Title

**EA Reviewed By:** Chris Cronin Opencut Mining Program Supervisor  
Name Title

## 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.



<b>Legend</b>	
	PERMIT BOUNDARY
	PROPOSED PERMIT BOUNDARY
	UTILITIES

**KNERR INC, HILLCREST RANCH SITE**  
**SEC 15, T21N, R29W**  
 Dalynn Dole 07/29/2010  
 Aerial Photo NRIS 2009

Minnesota Department of  
**ENVIRONMENTAL QUALITY**  
**Industrial and Energy Minerals Bureau**  
 Openair Mining Program