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: Knife River

COUNTY: Musselshell

SITE NAME: Tranel

DATE: October 2012

LOCATION: Section 5 & 6, T11 N, R25 E

PROPOSAL: The applicant proposes to permit a new, long-term gravel pit to mine, screen, crush, stockpile and transport 170,000 cubic yards of gravel from a 19.4-acre site located 18 miles north of Roundup at the junction of Highways 87 and 244. Electric power lines and power poles are adjacent to the south boundary of the site. Oil and gas wells and associated structures are located approximately 800 feet south of the site. A Montana Department of Transportation sand and gravel stockpile is located approximately 1000 feet east of the site.

A reclamation bond would be held by DEQ to ensure that final reclamation of the site to rangeland/pasture would be completed by October 2017. 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 on a nearly level plain south of the Flatwillow Creek drainage. The geology is quaternary alluvium deposited in a broad braided plain below the Little Snowy Mountains. The onsite soils consist of loam and gravelly loam over very gravelly sandy loam. The operator would replace 12 inches of soil and 12 inches of overburden. The site receives approximately 13 inches of precipitation per year. *Impacts:* 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

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	**POTENTIAL IMPACTS AND MITIGATION MEASURES**
	topographic, geologic, soil, or special reclamation considerations that would prevent reclamation success.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION	There are no nearby streams or wetlands. There are three ponds located ¾ mile to the east. Water would be used onsite for dust control and would be provided by the landowner from a private well. *Impacts:* The proposed activities would have a minimal effect on the quantity and quality of the surface and groundwater resources. *Cumulative:* Cumulative impacts by the proposed action on resources would be negligible.
3. AIR QUALITY	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. 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. 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. *Impacts:* Air quality standards as set by the federal government and enforced by the ARMB would allow minimal detrimental air impacts.
4. VEGETATION COVER, QUANTITY AND QUALITY	There are no known rare or sensitive plants or cover types present in the site area. Onsite vegetation consists of western and crested wheatgrasses, smooth brome, sagebrush and yellow sweet clover; and provides approximately 90% 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. *Impacts:* No long term detrimental impacts to the vegetation would occur.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:	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. *Impacts:* The proposed mine is expected to temporarily displace some species and it is likely that the site would be re-inhabited following reclamation to similar habitat.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:	The Montana Natural Heritage Program (MNHP) lists the following 10 species of concern in the vicinity of the site: **Greater sage-grouse** (*Centrocercus urophasianus)* is the largest of Montana's grouse. In Montana, it ranges primarily in the southwestern and eastern portions of the state. This species does not migrate. Sagebrush is its preferred habitat. **Long-billed curlew** *(Numenius americanus*) is a large North American shorebird. Adults have a very long bill (4.4–8.6 in) curved downwards, a long neck and small head. It is the largest nesting sandpiper in North America. Migration northward from wintering grounds is in March-April. Its summer breeding range includes all of Montana. Nests on the ground in dry prairies and moist meadows, usually in flat area with short grass. Fairly opportunistic feeding on various insects (grasshoppers, beetles, caterpillars, etc.) and some berries. During migration also feeds on crayfishes, crabs, snails, and toads.

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RESOURCE	**POTENTIAL IMPACTS AND MITIGATION MEASURES**
	Black-billed Cuckoo *(Coccyzus erythropthalmus)* is a 31 centimeter-long bird with a stout slightly decurved bill, zygodactyl feet, grayish-brown dorsum, white venter (except tail), and a long tail that is patterned on the underside in gray with white feather tips. The bill is usually all dark, and may show yellow at the base of the lower mandible. There is a reddish eye ring. Black-billed cuckoos are summer residents and a nocturnal migrant. They typically arrive in Montana from early to mid-Jun and depart before October. They are found most often in riparian cottonwoods, green ashes, and American elms with a shrubby understory of willows, box elders, and alders. **Red-headed Woodpecker (***Melanerpes erythrocephalus***)** is a medium sized woodpecker averaging 9.25 inches in length. The completely red head (in adults) and the white wing patches (on secondaries) are both diagnostic features separating the Red-headed Woodpecker from any other woodpecker. Red-headed Woodpeckers are said to arrive in Montana in mid-May and leave in mid-September. They are usually found along major rivers having riparian forest associated with them. They nest in holes in live trees, dead stubs, utility poles, or fence posts. Individuals typically nest in the same tree or cavity in successive years. Red-headed Woodpeckers eat insects and other invertebrates, berries and nuts, sap, and the young and eggs of birds. Often they will flycatch, or forage on the ground and in trees (dead wood) and shrubs. Rarely will they drill into trees for insects. **Veery** *(Catharus fuscescens)* 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. **Sage thrasher** *(Oreoscoptes montanus)* 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. **Brewer's sparrow** *(Spizella breweri)* 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. **Baird's sparrow** *(Ammodramus bairdii)* is a prairie songbird. In summer it is found in Montana, most commonly east of the Continental Divide. It migrates to the Southwestern U.S. and Northern Mexico for winter. This bird depends upon dry, shortgrass prairie habitat with small, scattered shrubs and matted vegetation. **McCown's longspur** *(Calcarius mccownii)* is a medium-sized sparrow. The eastern three-quarters of Montana make up a portion of its summer range. Mccown's longspur spends its winters from Nebraska and Colorado southward. It is found in shortgrass prairies, native grasslands, pastures, and agricultural areas. **Chestnut-collared longspur** *(Calcarius ornatus)* is a small, sparrow-like songbird. The eastern two-thirds of Montana, east of the rocky mountain front, make up a portion of its summer range. Species winters from Colorado and Kansas south to Texas and northern Mexico. Dry elevated prairies and short-grass plains are its preferred habitats.

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	**POTENTIAL IMPACTS AND MITIGATION MEASURES**
	Impacts: 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.
7. HISTORICAL AND ARCHAEOLOGICAL SITES	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. The SHPO does not feel that a cultural resource inventory is warranted at this site at this time. *Impacts:* 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.
8. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY	There are no unusual demands on land, water, air or energy anticipated as a result of this project. *Impacts:* Negligible impacts to land, water, air, or energy would occur.

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	**POTENTIAL IMPACTS AND MITIGATION MEASURES**
9. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS	County zoning clearance has been obtained. The site is not zoned.
10. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING	As seen on the aerial photo of the surrounding area, there are no nearby residences. *Impact:* This commercial pit is being sited in this area because of the location of the resource, and to service highway projects and the growing oil and gas development in this area of the county.
11. AESTHETICS	The site is located in a common rangeland/pasture 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 5 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. *Impacts:* 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/pasture use. Upon completion of mining, the land would be reclaimed to rangeland/pasture. *Impacts:* Rangeland/pasture 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 actives, all rangeland/pasture 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.

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	**POTENTIAL IMPACTS AND MITIGATION MEASURES**
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	*Impacts:* 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, Musselshell County Commission, and Musselshell County Weed Control Board.

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

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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.