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: Grant & Robert Spoklie

COUNTY: Sheridan

SITE NAME: Friedrich Gravel Pit

DATE: May 2013

LOCATION: Section 31, T34 N, R56 E

APPROVED PERMIT: #2276 (formerly #323, Sheridan County)

Type and Purpose of Action: The applicant has applied for an assignment of Sheridan County permit #321 and an amendment to add 2.5 acres to the existing 3.0 acre permit for the purpose of expanding the mine area. The total permitted area would be 5.5 acres.

Site Description: The 2.5 acre proposed amendment area is an addition directly adjacent and to the south of the existing permitted area. The operation will continue to mine to the south. The site is located 3 miles south of Antelope. Highway 16 is located 250 feet east of the site. Antelope Creek is located 680 feet northwest of the site and Folsom Coulee is located 1,050 feet south of the site. A wetland is located 50 to 100 feet west of the site's west and northwest boundaries. The Operator will maintain a 50 foot undisturbed vegetation buffer in the permit area along the west and northwest boundaries.

Potential Impacts and Mitigation: Use of the amendment area would not cause substantial impacts on the physical environment and human population. Proponent would be legally bound by their permit to reclaim the site to rangeland/pasture by October 2032.

A reclamation bond would be held by DEQ to ensure that final reclamation of the site to rangeland/pasture would be completed by October 2032.

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 topography is a gently rolling bench above the Antelope Creek floodplain. The geology is Quaternary alluvium-colluvium that includes deposits in alluvial fans, on alluvial terraces, and in glacial outwash channels. The onsite soils consist of Wabek gravelly sandy loam. The operator will replace 12 inches of soil and no 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 topographic, geologic, soil, or special reclamation considerations that would prevent reclamation success.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION	Antelope Creek is located 680 feet northwest of the site. A wetland is located 50 to 100 feet west of the west and northwest boundaries. Folsom Coulee is 1,050 feet south of the site. Water will be used on site for dust control and would be obtained from a source greater than 1,000 feet from the permit boundary. *Impacts:* The proposed activities would have a minimal effect on the quantity and quality of the surface and groundwater resources. *Cumulative:* Cumulative impacts of the proposed action 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 smooth brome, crested wheatgrass, yellow sweet clover, 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. *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, 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 individual species and it is likely that the site would be re-inhabited following reclamation to similar habitat.

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	**POTENTIAL IMPACTS AND MITIGATION MEASURES**
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:	The Montana Natural Heritage Program (MNHP) lists the following four species of concern in the vicinity of the site: **Whooping Crane** *(Grus americana)* 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 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. **Nelson's Sparrow** *(Ammodramus nelson)* is a small sparrow averaging 5-inches in length. The eyebrow and malar stripe are an obvious orange-buffy color, sharply defined. The ear coverts are gray and the crown is gray striped with brown borders streaked with black. The upper parts are a rich olive-brown and the back is dark with distinct white streaks. The tail is brown and sharply tapered. The breast, flanks and sides are buffy-orange and the abdomen is white. Although very little migratory or habitat information currently exists for this bird, they seem to prefer wetlands. **Northern Redbelly Dace** (*Phoxinus eos)* is a Montana small minnow. Its maximum size is about 3 inches. The Northern Redbelly Dace is olive to dark brown above; the lower side and belly are yellow or silvery except on adult males during summer when the lower side is red. Northern Redbelly Dace are found in clear, cool, slow-flowing creeks, ponds and lakes with aquatic vegetation, including filamentous algae, and sandy or gravelly bottoms interspersed with silt. As with many small native stream fishes, Northern Redbelly Dace could be adversely affected by stream channelization, reductions to discharge, changes in water quality and temperature, and introductions of non-native predatory fishes. **Pearl Dace** *(Margariscus margarita)* is a fish native to both the eastern and northern drainages within the glaciated plains of Montana. It has a dark back, sides that are dusky-silver, and white underside. They prefer small cool streams either clear or turbid. They eat a variety of aquatic organisms including insects, crustaceans, worms, and small fish. *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 a few historic or archaeological sites have been previously recorded within the designated search locale. A pedestrian survey of the area by DEQ personnel did reveal signs of historic farm occupation. No signs were evident at depth in the previously disturbed mine area. SHPO recommends that a cultural resource inventory be conducted at this site in order to determine whether or not sites exist and if they would be impacted.

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	**POTENTIAL IMPACTS AND MITIGATION MEASURES**
	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	Sheridan 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 provide resources for facility roads and drill pads in this area that serve the need for domestic oil and gas production.
11. AESTHETICS	The site is located in a common pastureland 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 19 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 pastureland use. Upon completion of mining, the land would be reclaimed to rangeland/pasture. *Impacts:* Pastureland 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 pastureland 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 the Operator to implement specific safety measures. 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	*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, Sheridan County Commission, Sheridan County Planner, and Sheridan County Weed Coordinator.

21. Other Governmental Agencies which May Have Overlapping or Sole Jurisdiction include, but may not be limited to: Sheridan County Commission or County Planning Department (zoning), Sheridan 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: Don Jackson — 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.

SITE MAP

Grant & Robert Spoklie
Friedrich Gravel Pit
S31, T34N, R56E
5.5 Acre Permit Area
Drafted by: JMR 2/21/12
Revised: 12/5/12
Sheridan County, MT
Aerial Photo NRIS 2011

LEGEND

- **Boundary Coordinates**
- **Proposed Permit Boundary**
- **Soil Stockpile**
- **Existing Mine Area**
- **50' Vegetation Buffer**

SCALE : 1" = 300'

0' 300' 600'

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