

## ENVIRONMENTAL ASSESSMENT

SITE NAME: Logan Hill

APPLICANT: John McDonnell

LOCATION: SE of Sec 3, T1N R2E

COUNTY: Gallatin

**PROPOSED ACTION: John McDonnell proposes to mine 30,000 yards of gravel from an 8.3-acre site about 2 miles south of Logan, Montana. The product would be used to construct and do maintenance on a cutoff road contracted by the Montana Department of Transportation (MDT), and for local commercial projects. Reclamation would be completed to rangeland by June 2012. The reclamation bond would be \$29,391.**

A: Significant Unavoidable Impacts    B: Insignificant as a result of conditioned mitigation    C: Insignificant as proposed  
L: Long term Impacts    S: Short Term Impacts

						<b>POTENTIAL IMPACTS</b>					
						A	B	C	L	S	EXPLANATION
<b>PHYSICAL ENVIRONMENT</b>											
1. <u>TOPOGRAPHY</u>								X	X		The site is in the rolling hills of western Gallatin County. Some of the site had been previously mined by the landowner and Gallatin County. The site is in two levels with about 20 feet elevational difference. A vertical sandstone and clay highwall separate the levels. Mining and final reclamation would reduce the vertical highwall to a 3:1 or 4:1 slope.
2. <u>GEOLOGY</u> ; Stability								X	X		The 25-foot thick gravel deposit sits on a 5-foot thick stratum of soft sandstone and clay. This gravel was mined by the county and the landowner. The landowner also mined, mainly sand, below the sandstone/clay stratum. The result is a two-tiered pit that opens to the west. The bottom level daylights in a coulee and the upper level ends at the vertical edge of the sandstone.
3. <u>SOILS</u> ; Quality, Distribution								X		X	The county salvaged and stockpiled soil a small distance to the north during previous mining. For the most part less than 6 inches of soil and overburden are available for salvage or replacement on about 4 acres of the site. The remaining 4+ acres has no more than 6 inches of soil and a maximum of 36 inches of overburden. An average of 8 inches of material would be available for reclamation over the entire site. Soil salvage would result in minimal adverse impacts to the soil and reclamation of the site.  Average annual precipitation is about 14 inches.
4. <u>WATER</u> ; Quality; Quantity; Distribution								X		X	A well was drilled in 2006 a small distance away from the site. It was abandoned when no water was struck after drilling to 300 feet. No groundwater would be impacted. Some of the site would drain internally and a portion of the lower level would daylight to the lower access road. There would be little runoff and it would not reach any surface water. There would be no impact to water quality or quantity from mining.
5. <u>AIR</u> ; Quality								X		X	The crusher would have air quality permits. Fugitive dust would be controlled with the use of water trucks. Air quality impacts would be minimal.

				POTENTIAL IMPACTS			
	A	B	C	L	S	EXPLANATION	
6. <u>UNIQUE, ENDANGERED, FRAGILE, or LIMITED</u> environmental resources						None.	
<b>BIOLOGICAL ENVIRONMENT</b>							
1. <u>VEGETATION</u> ; quantity, quality, species			X		X	The pre-mine vegetation consists of mixed grassland with some sagebrush, which is typical of plains rangeland. Mining would have minimal impact because of the short duration of the project. The site would be seeded with a dryland mix. Reclamation would increase productivity a little because the previously disturbed area would also be reclaimed.	
2. <u>TERRESTRIAL, AVIAN, and AQUATIC</u> ; species and habitats			X		X	There is scattered sign that deer and antelope have used the site. Although there is some sagebrush, it does not provide any special sage grouse habitat. Mining would have minimal impact because some of area has been previously disturbed, because of the small additional area that would be disturbed, and because of the relatively short timeframe for disturbance.	
3. <u>AGRICULTURE</u> ; grazing, crops Production			X		X	Mining would result in a minimal short term reduction of vegetation for grazing.	
<b>HUMAN ENVIRONMENT</b>							
1. <u>SOCIAL</u> ; structures and mores			X		X		
2. <u>CULTURAL</u> uniqueness/diversity			X		X		
3. <u>POPULATION</u> ; quantity/diversity			X		X	The site is several miles south of Logan. No homes are visible from this site in any direction.	
4. <u>HOUSING</u> ; quantity/distribution			X		X		
5. <u>HUMAN HEALTH &amp; SAFETY</u>			X		X		
6. <u>COMMUNITY &amp; PERSONAL INCOME</u>			X		X		
7. <u>EMPLOYMENT</u> ; quantity, distribution			X		X	Mining this site would provide short term employment for about 3 employees and an unknown number of contractors.	
8. <u>TAX BASE</u> ; state/local tax revenue			X		X		
9. <u>GOVERNMENT SERVICES</u> ; Demand			X		X		
10. <u>INDUSTRIAL, COMMERCIAL and AGRICULTURAL</u> activities			X		X		
11. <u>HISTORICAL and ARCHAEOLOGICAL</u>			X		X	A walkover of the area did not reveal any artifacts or signs of occupation. No signs were evident at depth in the previously disturbed area. If during operations resources were to be discovered, activities would be halted and temporarily moved to another area until SHPO was contacted and the importance of the site was determined.	
12. <u>AESTHETICS</u>			X		X		

						<b>POTENTIAL IMPACTS</b>					
						A	B	C	L	S	EXPLANATION
13. <u>ENVIRONMENTAL PLANS</u> and <u>GOALS</u> ; local and regional								X		X	
14. <u>DEMANDS</u> on <u>ENVIRONMENTAL RESOURCES</u> of land, water, air and energy								X		X	
15. <u>TRANSPORTATION</u> ; networks and traffic flows								X		X	This material would be used for construction of a cutoff road near Logan and some commercial construction jobs.

**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.

**PUBLIC INVOLVEMENT:** Landowner, Natural Heritage Program, State Historic Preservation Office

**OTHER GROUPS OR AGENCIES CONTACTED OR WHICH MAY HAVE OVERLAPPING JURISDICTION:** Air Resources Management Bureau, Mining Safety and Health, Gallatin County Commissioners, Gallatin County Weed Board

**ALTERNATIVES CONSIDERED:** Denial

**RECOMMENDATIONS CONCERNING PREPARATION OF AN EIS:** Unnecessary, No Significant Impacts

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

Prepared by Jo Stephen, 4/07