

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name: Boyer Site Proposed Implementation Date: March 20, 1996
 Proponent: Bitterroot Rock Products
 Type and Purpose of Action: The applicant proposes to mine, crush and haul 40,000 cubic yards of gravel from a pit located 3 miles north of the town of Darby. There will be 3.2 acres mined and disturbed. The estimated start-up date is March 20, 1996, and will result in the lowering of a bench approximately 25 feet. The pit will be reclaimed to pasture after grading the slopes to at least a 3:1, replacing topsoil and re-seeding.
 Location: NW¼ NW¼ Section 35, T4N, R21W County: Ravalli

N = Not present or No Impact will occur.

Y = Impacts may occur (explain under Potential Impacts).

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are fragile, compactible or unstable soils present? Are there unusual geologic features? Are there special reclamation considerations?	<p>[Y] The proposed mine is located on a glacial outwash bench that has been re-worked by action of the Bitterroot River. The deposit consists of stratified layers of alluvium and glacial outwash sand, gravel and cobbles that cover the deeper bedrock. The slope/aspect on top is fairly level, with a drop-off that faces northeast, sloping at about 40 degrees.</p> <p>The Bitterroot Valley occupies an intermountain fault basin between the granitic batholith rocks of the Bitterroot Mountains to the west and the granitic Sapphire Range to the east. The 70 to 90 million year old Cretaceous granitic rocks of the Bitterroot Mountains to the west were sculpted into their present profiles by alpine glaciers. The Bitterroot River Valley fills the bottom of the intermountain, fault block basin at the south end of the Rocky Mountain Trench.</p> <p>Up to twelve inches (deeper in pockets) of fairly well drained, dark silty loam topsoil overlies the glacial sands and gravels, and local terrace slopes demonstrate reasonably good stability. All soil material will be salvaged and stockpiled away from the affected land. Following mining and grading, soil will be used to re-vegetate the slopes.</p>

<p>2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?</p>	<p>[N] Groundwater is approximately 3-4 feet below ground level at the bottom of the slope to the northeast. The nearest surface water is a small slough adjacent to the proposed expansion. The Bitterroot River is located across the highway ½ mile to the east which will not be impacted directly by mining. The site will be mined to a depth of 25 feet which is at least 3 feet above the groundwater in the area.</p> <p>There are 20 water wells within Section 35 and all are fairly shallow, yielding fairly good amounts of water. The wells range from 25 to 40 feet in depth and average 20 gallons per minute. The static water level there tends to be shallow and water moves through the aquifer quickly.</p> <p>Special precautions will be taken to minimize possible contamination of the groundwater. Any accidental spills or leaks from equipment will be excavated and disposed of. No waste or trash will be disposed of at the site. With these precautions, the quality and quantity of the groundwater should not be adversely impacted.</p>
<p>3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?</p>	<p>[Y] Crushers, screens and trucking equipment typically cause dusty conditions in disturbed soil sites. Water bars, road watering and other dust controls will be used as necessary.</p> <p>Applicable federal regulations for air quality which are implemented by the state are the Standards of Performance for New Stationary Sources, 40 CFR Part 60, Subpart 000 (Nonmetallic Mineral Processing Plants). Subpart 000 sets an opacity limitation on fugitive dust emissions from the gravel crushing and handling operations.</p>
<p>4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be permanently altered? Are any rare plants or cover types present?</p>	<p>[Y] All native vegetation has been replaced with commercial pasture grasses and has irrigated for hay production. The pit created will displace some of the old hay field.</p>
<p>5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?</p>	<p>[N] Although the area is used primarily for ranching, it also supports populations of deer, ducks, geese, rodents, song birds, coyotes, foxes, insects and various other animal species. The proposed mine is not expected to significantly degrade wildlife populations. The Natural Heritage Program literature search and site evaluations have not revealed any other endangered or threatened plant or animal species on site that would be significantly impacted.</p>

<p>6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?</p>	<p>[N] The Natural Heritage Program and site evaluations have not revealed any endangered or threatened plant or animal species. Bald eagles and ospreys are known to range all along the Bitterroot River Valley, but no nesting sites are known on or near the proposed permit area. No adverse effects are anticipated on the eagles as a result of this proposed action.</p>
<p>7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?</p>	<p>[N] Although there are important cultural values in the general area, this site has been previously disturbed by modern man, thus destroying the integrity of resources that may have existed. A surface reconnaissance did not discover any cultural, historical or archeological resources. The operator will give appropriate protection to any values or artifacts discovered in the affected area. If significant resources are found, the operation will be routed around the site of discovery for a reasonable time until salvage can be conducted. The State Historical Preservation Office will be promptly notified.</p>
<p>8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?</p>	<p>[Y] There will be a temporary deterioration of aesthetics while the operation is under way. However, reclamation will return the area to a visually acceptable landscape.</p> <p>Noise levels are generally within the range of 60 to 90 decibels measured on-site, decreasing with distance. As a comparison, sound levels for ordinary activities such as close conversation at 60 decibels and music from a radio at 70 decibels are considered to be moderate. Levels above 90 decibels are severe, and prolonged exposure can lead to hearing loss.</p> <p>Effects from noise and light would be intermittent and of relatively short duration. There is a temporary deterioration of aesthetics while the operation is under way. However, reclamation will return the area to a visually acceptable landscape. The site is located along a stretch of Highway 93, and traffic along the road will be able to see the operation.</p>
<p>9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project?</p>	<p>[N]</p>
<p>10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other studies, plans or projects on this tract?</p>	<p>[N]</p>

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	[Y] Heavy equipment and facilities including trucks, loaders, crushers, asphalt and wash plants will create hazards, but the operator must comply with all MSHA and OSHA regulations.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[Y] The acreage listed in the Type and purpose of Action will be taken out of residential/recreational use and put into commercial use. Upon completion of mining, the land will be reclaimed to a pasture.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N]
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[N] To this date it has not been shown that similar operations of this type have resulted in a reduction in taxable value of property, and it is not anticipated that this operation would alter past assessments.
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc) be needed?	[Y] The operation will require periodic site evaluations by DSL staff. However, these evaluations are usually performed in conjunction with other area operations.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[Y] Zoning approval has been issued by the county.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N]
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N]
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N]
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N]
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N]

22. Alternatives Considered:

1. No Action: Pit would not be permitted and impacts would not occur at this location.

2. Approval of the permit with mitigating conditions: The Plan of Operation has been written with mitigating conditions. Mitigation measures include ground water protection.

23. Public Involvement, Agencies, Groups or Individuals contacted: State Historic Preservation Office, Montana Heritage Program.

24. Other Governmental Agencies with Jurisdiction, List of Permits Needed: Montana Department of Health and Environmental Science, Air Quality Bureau for Air Quality Permit and Water Quality Bureau for Stormwater Discharge Permit; Mine Safety and Health Administration for safety permit; Montana Department of Labor & Industry, Bureau of Safety for safety permit.

25. Magnitude and Significance of Potential Impacts: Impacts are unlikely to be significant because of the small amount of disturbance, short duration of the project, and mitigated measures proposed.

Recommendation for Further Environmental Analysis:

EIS More Detailed EA No Further Analysis

EA Checklist Prepared By: Rod Samdahl Reclamation Specialist
Name Title

Approved By: _____
Name Title

Signature Date

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