ENVIRONMENTAL ASSESSMENT
September 11, 1997

Project Name: Wye #1 site **Proposed Implementation Date: August 14, 1997**
Proponent: Johnson Brothers Contracting, Inc.
Type and Purpose of Action: The applicant proposes to increase the size of its existing permitted mine from 2 to 18 acres and to crush, stockpile and haul a total of 100,000 cubic yards of sand and gravel from the pit which is located 7 miles west of the town of Missoula. The expansion is underway and will result in the expansion of a pasture. No other changes to the existing permit are proposed at this time.
Location: NW¼ SW¼ Sec. 27, T14N, R20W **County: Missoula**

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?	**[Y] The site is located in a scenic but otherwise unremarkable area. The mine is located on a glacial outwash plain re-worked by the Clark Fork River at the west end of the Missoula Valley. The mine site was last inundated by Lake Missoula 10,000 years ago. The deposit consists of stratified layers of alluvium and glacial outwash sand, gravel and cobbles that cover the deeper bedrock. The land is a high river terrace above the Clark Fork river.** **The Clark Fork River occupies the broad, flat Missoula Valley which was caused by a down-dropped fault block between the rocks of the Bitterroot and Coeur D'alene Mountains to the west and the Sapphire Range to the east. The 70 to 90 million year old Cretaceous granitic rocks of the Bitterroot Mountains and the 800 million to 1.2 billion year old Precambrian rock of the Missoula group Belt Series argillites and quartzites of the Sapphire Mountain Range were sculpted into their present profiles by alpine glaciers. The billion year old Precambrian rock of the Belt Series sandstone and limestone rocks surround the deposit in towering walls sculpted by alpine glaciers.** **All soil material will be salvaged and stockpiled away from the affected land. Following mining, grading and ripping, the soils will be replaced on the pond slopes and seeded. Microbes will re-colonize the soil.**

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?	**[N] Butler Creek is located 1 mile to the east which will not be impacted directly by mining. The site will be mined to a depth of 20 feet which is well above the groundwater.** **Special precautions will be taken to minimize possible contamination of the groundwater. All fuel and bulk lubricants will be kept out of the pit area or kept in earthen bermed containment vessels. A portable crusher and other equipment with fuel tanks are used in various places within the site. 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.** **Impacts of the proposed expansion are not likely to cause any measurable change in the groundwater quality or water levels on property surrounding the site. This assumption is based on the fact that mining will not change from the type of operation already approved, and will only result in a larger pasture when reclaimed.**
3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	**[Y] Crushers, loaders and trucking equipment typically cause dusty conditions in disturbed soil sites.** **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 OOO (Nonmetallic Mineral Processing Plants). Subpart OOO sets an opacity limitation on fugitive dust emissions from the gravel crushing and handling operations.**
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be permanently altered? Are any rare plants or cover types present?	**[Y] Vegetation will be stripped off along with the topsoil. Revegetation will replace the native plants with compatible species. There is a moderate infestation of spotted knapweed, a legally defined noxious weed. No rare or endangered plants have been identified in the area.**
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	**[N] Although the area is used primarily for grazing and commercial occupation, it also supports populations of deer, rodents, song birds, coyotes, foxes, insects and various other animal species.** **The proposed mine expansion is not expected to significantly degrade wildlife populations. Seed head gall flies have been introduced to the tract to provide biological control of noxious weeds.**

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?	**[Y] Bald eagles are known to range all along the Clark Fork 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.**
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	**[N] Although there are important cultural values in the general area, much of this site has been previously mined, 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.**
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?	**[Y] The site is visible by local and Interstate traffic. Floodlights from dark period operations increase visibility and awareness of the operation. However, reclamation will return the area to a visually acceptable landscape.** **Noise will not increase from present levels when equipment is active. 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.** **There is noise from the crusher and other noise generating equipment such as truck traffic hauling to various areas of the project. These impacts are 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.**
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?	**[N]**
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other studies, plans or projects on this tract?	**[N]**

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] This proposed expansion is not expected to increase the levels or intensities of these impacts. It therefore should not significantly affect human health. The operator will employ proper precautions to avoid accidents.**
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	**[N]**
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 the current operation has resulted in a reduction in taxable value of property and it is not anticipated that this expansion 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 DEQ staff until such time as the site is successfully reclaimed to the required post-mining use. 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 has been approved 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: The expansion would not be permitted and impacts would not occur at this location. The landowner would be denied use of his mineral deposit at this time.

2. Approval of the Amendment as submitted: The permit will be expanded under the existing Plan of Operation.

23. Public Involvement, Agencies, Groups or Individuals contacted: None

24. Other Governmental Agencies with Jurisdiction, List of Permits Needed: Montana Department of Environmental Quality for Air Quality 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 location of the project, the lack of residential use and the lack of unique wildlife species or habitat..

26. Regulatory impact on private property: The analysis conducted in response to the Private Property Assessment Act indicates no impact since this Plan of Operations would not require "Special Stipulations" in order to comply with the Opencut Mining Act.

Recommendation for Further Environmental Analysis:

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

EA Prepared By: Rod Samdahl Reclamation Specialist
Name Title

Approved By: Jerry Burke Program Coordinator Industrial & Energy Minerals Bureau
Name Title

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Signature Date