

CHECKLIST ENVIRONMENTAL ASSESSMENT
FINALProject Name: Beech site Proposed Implementation Date: March, 1996Proponent: Polson Ready Mix

Type and Purpose of Action: The applicant proposes to mine, crush, wash, stockpile and transport 30,000 cubic yards of sand and gravel from a 2 acre pit located adjacent to the town of Paradise. The estimated start-up date is March, 1996 and will result in the expansion of an old gravel pit. The pit will be dug into a glacial outwash terrace and will be reclaimed to grassland after grading the slopes to at least a 3:1, replacing all topsoil and re-seeding.

Location: SW¼ SW¼ Section 21, T19N, R25WCounty: Sanders

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
<p>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>	<p>[Y] The proposed mine is located on a relatively level glacial outwash terrace left from the last great release of water from the Glacial Lake Missoula around 12,000 years ago. The deposit consists of stratified layers of alluvium and glacial outwash sand, gravel and cobbles that cover the deeper Precambrian rocks. The billion year old Precambrian rock of the Belt Series sandstone, mudstone and limestone rocks, sometimes injected with black basalt, forms both the Coeur d'Alene mountain range south of the highway and the Cabinet range north of the highway.</p> <p>Up to 12 inches of fairly well drained, dark clay 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, grading and ripping, the overburden (if any) and soils will be replaced, disked and seeded to stabilize the soil and prevent erosion. Microbes will re-colonize the soil.</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?

[N] The nearest pre-mining surface water is the Clark Fork River located $\frac{1}{4}$ to the southwest, which will not be impacted directly by mining. The site will be mined to a depth of 20 feet, which is substantially above the groundwater in the area.

Groundwater quality in the area is very high with good porosity and permeability in the sands and gravels. There are four water wells in section 21 that were drilled 40 to 360 feet in depth. The static water level in the wells is quite variable, ranging from 15 to 106 feet because of different locations and the depth to bedrock in the area. The mine will remove approximately 12 feet of material. The applicant is required to keep mining operations at least three feet above the water level.

Fuel, lubricants and chemicals will not be stored in the pit area, and any accidental spills or major leaks from equipment operating in the pit will immediately be excavated and removed from the site. Therefore, the quality and quantity of the groundwater should not be impacted.

Water usage for a project of this size during crushing would typically be 15,000 gallons per day. This includes dust control on the crusher, conveyors, roads and facility areas. All water will be obtained from a source well on site.

	<p>[Y] All gravel crushing operations produce fugitive dust and other particulate matter from excavating, crushing, screening, soil and gravel stockpiles, and haul road activities. Air quality will be degraded and there will be an increase in particulate matter. Crushers, wash plants, scrapers, loaders, dozers and trucking equipment typically cause dusty conditions in disturbed soil sites. Other gaseous pollutants, such as Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO) would also be emitted from combustion sources associated with vehicle exhaust from mobile equipment.</p> <p>The operator must obtain the appropriate air quality permit from the Montana Department of Environmental Quality, Air Quality Division (AQD) to verify compliance with local, state and federal air quality requirements. Applicable federal regulations which are implemented by the AQD are the Standards of Performance for New Stationary Sources, 40 CFR Part 60, Subpart 000 (Nonmetallic Mineral Processing Plants). The particulate limitation must be verified by performance testing. Subpart 000 sets opacity limitations on fugitive dust emissions from the gravel crushing and handling operations and is verified by visible emissions observations.</p> <p>Measures proposed to minimize air pollutant emissions include:</p> <ol style="list-style-type: none"> 1. Water spray bars on the crusher; and 2. Using water, or a chemical dust suppressant on haul roads and general plant property.
<p>4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be permanently altered? Are any rare plants or cover types present?</p>	<p>[Y] Vegetation consists of planted hard fescue, bluebunch wheatgrass, with knapweed which lie on a southwest facing slope. Vegetation covers 100% of the ground and will be removed and planted with species compatible with the proposed reclaimed use.</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 was used primarily for pasture, it also supports populations of deer, 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. Seed head gall flies have been introduced to the tract to provide biological control of noxious weeds.</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 that would be directly affected. 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.</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 is and has been an alteration of the viewshed as a result of the existing sand and gravel mine on this site; additionally, the viewshed has been extensively altered by other man made modifiers such as houses, power lines and roads. The site is visible by homes and the school in the local area and to traffic along Highway 200 and the county road. Floodlights from dark period operations would increase visibility and awareness of the operation. However, the project will be intermittent and of low intensity, and reclamation will return the area to a visually acceptable landscape.</p> <p>Noise will increase from present levels when equipment is active. Noise levels in a typical operation 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>Because the crusher and other noise generating equipment would be located within 300 yards of the local school, impacts may be substantial at times. These impacts will be intermittent and may continue for many years. Crusher and wash plant noise and light are in addition to the noise created by the increased truck traffic hauling to various projects.</p> <p><u>Alternative #2</u> In order to mitigate visual and sound impacts for the school and residents to the northwest, the following stipulations will be applied to the permit: Topsoil will be located along the upper bank of the old pit to act as a buffer to the school and residences located to the northwest. The crusher and wash plant would be located as low as possible in the pit floor such that the crusher and mineral transfer points are out of the line-of-sight to the northwest of the pit.</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 crushers, trucks, loaders and scrapers will create hazards, but the operator must comply with all MSHA and OSHA regulations. 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?	[Y] The acreage listed in the Type and purpose of Action will be taken out of agricultural/grazing and put into industrial/commercial use. Upon completion of mining, the land will be returned to its previous use.
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 state 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. Cumulative Impacts - There is another larger gravel pit across the fence to the northeast. The potential for two concurrent projects requiring pit run or processed gravel, and both hauling on Hwy 200 during the summer of 1996 exists. Signing and flagmen would be useful in regulating traffic patterns.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[Y] City/County zoning clearance has been obtained.
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?	[Y] The operation will be located nearby to a local school. The dirt road utilized by the school for a running track will pass very near the northeast boundary of the permit. Caution should be exercised by children and their supervisors when running near the project. Noise may have an adverse effect on students and their ability to concentrate, but no health hazards exist, and the project will be temporary.
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. Alternative #1 - Denial: Pit would not be permitted and impacts would not occur at this location. Aggregate would be hauled from a greater distance increasing fuel use, gaseous emissions and project costs. The owner of the gravel resource would be denied full utilization of his property at this time.

2. Alternative #2 - Approval of the permit with mitigating conditions: The Plan of Operation has been written with mitigating conditions. Mitigation measures include ground water protection, noise and visual barriers.

23. Public Involvement, Agencies, Groups or Individuals contacted:

State Historic Preservation Office, Montana Heritage Program, James French - school principal, County Weed Control District, County Commissioners for zoning.

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 the pit is small and will operate intermittently over a long period of time. The cumulative effect of the two gravel operations in this area is likewise not considered to be significant because both mines will only operate simultaneously for a short time during the highway project. The area is currently affected by residential development and does not contain unique or substantial wildlife habitat.

26. Regulatory impact on private property: The analysis conducted in response to the Private Property Assessment Act indicates no impact. Alternative #2 is preferred because other effective methods of reducing significance of impacts would require placement of the crusher and wash plant in a location removed from the mining area. This separation would cause an unreasonable increase in operating costs and may render this operation economically non-competitive. These stipulations are similar to those placed upon other operations with like characteristics. Therefore, the applicant's ability to be economically competitive should not be reduced. Without implementation of this alternative impacts are likely to be significant.

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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Revised, 2/25/92

Montana Bureau of Mines and Geology
Water Well Log Data
BLATTNER & SONS - CHINSKE SITE

04/19/1996

Location: 19N 25W 21 CBC
Site Name: STEELE MANILIA J.
Depth: 40.0
Yield: 30.0
Static Water Level: 17.00
Pumping Water Level: 25.0

Casing:	Top (ft.)	Bottom (ft.)	Diameter (in.)	Type
	0.00	0.00	6.00	

Year drilled: 1984
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Location: 19N 25W 21 CC
Site Name: BEECH JIM & NANCY
Depth: 360.0
Yield: 90.0
Static Water Level: 20.00
Pumping Water Level: 0.0

Casing:	Top (ft.)	Bottom (ft.)	Diameter (in.)	Type
	0.00	0.00	6.00	

Year drilled: 1988
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Location: 19N 25W 21 DBB
Site Name: HUYGENS JIM & CEILA
Depth: 291.0
Yield: 12.0
Static Water Level: 106.00
Pumping Water Level: 160.0

Casing:	Top (ft.)	Bottom (ft.)	Diameter (in.)	Type
	-2.00	28.00	6.00	
	11.00	291.00	4.00	

Year drilled: 1994
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Location: 19N 25W 21 DCB
Site Name: BEARD HERSCHEL
Depth: 340.0
Yield: 0.0
Static Water Level: 25.00
Pumping Water Level: 0.0

Casing:	Top (ft.)	Bottom (ft.)	Diameter (in.)	Type
	7.00	340.00	4.00	

	-2.00	42.00	6.00
Year drilled:	1994		