

ENVIRONMENTAL ASSESSMENT
March 31, 1997

Project Name: I-90 Interchange, Area 2 **Proposed Implementation Date:** 4/1/97
Proponent: JTL Group, Inc.

Type and Purpose of Action: The applicant proposes to mine, crush, stockpile and transport 180,000 cubic yards of sand and gravel from a 15 acre pit located 2 miles northwest of the town of Missoula. The estimated start-up date is April 1, 1997 and will result in a pit no deeper than 40 feet. The pit will be reclaimed to a commercial site with a grass cover after grading the slopes to at least a 3:1, the floor to a 1% grade which daylight to the south, replacing all topsoil, and re-seeding.

Location: SW¹/₄SE¹/₄ Section 36, 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
<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 mine is located on a glacial outwash plain above 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.</p> <p>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.</p> <p>Up to 12 inches of fairly well drained, sandy loam topsoil overlies the glacial sands and gravels. The subsoils are sandy silt and vary from zero to 18 inches. Local terrace slopes demonstrate reasonable stability, and ripping after activities are complete should alleviate soil compaction. 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, diked and seeded to stabilize the soil and prevent erosion. Microbes are expected to re-colonize the soil due to the relatively short time that soils will be in stockpiles.</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] The nearest pre-mining surface water is Butler Creek located over a mile to the which will not be impacted directly by mining.</p> <p>The site will be mined to a depth of 40 feet which will be well above the groundwater, estimated to be at least 60 feet below the surface.</p> <p>Special precautions will be taken to minimize possible contamination of the groundwater. All fuel and bulk lubricants will be kept out of the pit within a lined, earthen-bermed fueling location. 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>Water for the operation will be purchased from the Mountain Water Company and will be taken from hydrants at the Momont Industrial Park. The crusher and other dust control will require about three million gallons of water.</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] Air quality will be degraded and there will be an increase in particulate matter. Loaders, dozers and trucking equipment typically cause dusty conditions in disturbed soil sites. This is a borrow-only site and will not have a crusher or other types of processing equipment present.</p> <p>Cumulative Impacts - The pit will be in operation at the same time as the highway project and the other gravel pit (Area 1&4) and crusher. These impacts were anticipated in the letting and design of the highway project.</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] There are no known rare or sensitive plants in the area. No mining will be done within 100 feet of any live stream, riparian or isolated wetland habitat areas. Vegetation consists of planted pasture grasses such as bluegrass, quackgrass, smooth brome and orchard grass which lie on a gently south facing slope. Vegetation covers 100% of the ground and will be removed and planted with species compatible with the proposed reclaimed use. Some native seed will remain viable in the salvaged topsoil and will re-generate. Because of the short time frames, plant seeds and roots will remain viable in the soils. Under ideal conditions, native species from undisturbed, adjacent land will re-invade the site. There is a moderate infestation of spotted knapweed, a legally defined noxious weed.</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 grazing, it is also supports populations of deer, rodents, song birds, coyotes, raptors, foxes, insects and various other animal species. Population numbers for these species are not known.</p> <p>Human use of the area has intensified in the past two decades with the increase in commercial activity. 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 that would be directly affected.</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] The site is located in a scenic, but not unique area. 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>The site will be visible by scattered homes and businesses in the local area and to traffic along Highway 10A and Interstate. Floodlights from dark period operations increase visibility and awareness of the operation. Hours of operation are restricted to the period between 6am and 10pm.</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>Because the dozers, loaders and other noise generating equipment would be located in the bottom of the excavation which is as deep as 40 feet below the interstate and habitations to the north, and topsoil piles will placed along the interstate, effects from noise and light would be reduced. There is also noise from truck traffic hauling to various projects. These impacts will be intense during highway construction, but are of relatively short duration.</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
<p>11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?</p>	<p>[Y] Heavy equipment and facilities including trucks, loaders and dozers will create hazards, but the operator must comply with all MSHA and OSHA regulations. The operator will employ proper precautions to avoid accidents. Approximately 20 trucks per hour will be hauling from the pit each hour during the peak periods.</p> <p>Excessive and prolonged noise and light could increase stress for nearby residents and induce difficulty sleeping. Both of these effects may be considered harmful to human health if the activities are continuous.</p>
<p>12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?</p>	<p>[Y] The acreage listed in the Type and purpose of Action will be taken out of agricultural/grazing and put into industrial/commercial use.</p>

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] The location of an industrial site in the midst of an agricultural/rural residential area has the potential to reduce the desirability of surrounding land as a location to live a rural lifestyle. However, this area is planned as a commercial/industrial park, and therefore the marketability of improved and unimproved real estate may be enhanced by the leveling of this sloped landscape.
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. Cumulative Impacts - The pit will be developed concurrently with the highway project. Signing and flagpersons will be required will 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?	[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. Denial: The 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. Approval of the amendment with mitigating conditions: The Plan of Operation has been written with mitigating conditions. Mitigation measures include water protection, fuel containment, grassed visual barriers, weed control, and topsoil salvage.

23. Public Involvement, Agencies, Groups or Individuals contacted: State Historic Preservation Office, Montana Heritage Program, County Weed Control District, County Commissioners for zoning.. All residences and businesses within 1,000 feet were personally contacted. No negative comments were received.

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.

