ENVIRONMENTAL ASSESSMENT

Project Name: Coscik Gravel Pit **Proposed Implementation Date:** Ongoing
Proponent: TMC, Inc.
Type and Purpose of Action: The proponent proposes to expand their current operation to mine 300,000 cu.yds of sand and gravel to supply the local market with various products over the next 6 years. TMC would salvage any available soils, mine the site with a dragline and/or hydraulic excavator, and recontour, creating a pond with a minimum of 10 feet of water at low water table that would be utilized for recreation and wildlife habitat. The slopes above the highwater line would be topsoiled and seeded after the site is recontoured. A crusher, asphalt plant, washing plant, and batch plant would be associated with the operation and be located in various locations within the proposed contracted area. The mining operation would be expanded to mine a total of 2,100,000 cubic yards of sand and gravel and encompass a mining area of a total of 43.6 acres for this amendment and a total of 84 acres for current mine area and proposed amendment. Reclamation would be concurrent with mining with final reclamation occurring in 2020.
Location: NW¼, Sec. 17, T1S, R5E **County:** Gallatin

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?	**[N]** The proposed site lies on a relatively level portion of the Gallatin River Valley. This area is a Quaternary alluvial deposit consisting of silt, sand and gravel. Information from the Natural Resources Conservation Service (NRCS) classifies the soils as a Beaverall cobbly loam. The upper horizon is 0 to 7 inches deep and is a dark grayish brown cobbly loam, 7 to 11 inches is very gravelly sandy loam, 11 to 25 inches is a very extremely gravelly coarse sandy loam, and 25 to 60 inches is extremely gravelly coarse sand. Actual field data gathered from test holes and pits and existing holes and cuts, showed an average of 9 inches of loamy soil over an average of 16 inches of gravelly clayey overburden. Soil survey information provided by NRCS would be used to supplement, but not replace the field data. The proponent would salvage the upper 12 inches as topsoil and up to 18 inches of overburden would be salvaged and stockpiled separately from the topsoil. Upon regrading the slopes to 3:1 or flatter up to 18 inches of overburden followed by 12 inches of topsoil would be evenly placed on the slopes. The shorelines would be undulating to create a natural aesthetically pleasing appearance. Microbes should recolonize the soils when they have been replaced.

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?	**[Y]** There are several sources of surface water near the site. To the west in TMC's original mine there is a pond where mining is currently being conducted and further to the west surface water is found in JTL's gravel pit. The Spain-Ferris Ditch runs in a northerly direction to the west of the proposed pit expansion. This irrigation ditch provides irrigation water to landowners downstream. There is another active irrigation ditch which enters the proposed mine area about midway along the south property line and runs east to a ditch along the east property line. (The ditch along the east property line was blocked when Interstate 90 was constructed, according to the water users.) The water then runs north along the Collier's west boundary to a diversion located between TMC and Montana Rail Link. One branch goes north to the Gerovac (formerly Coscik) land and the other branch goes west and then north to the Dewitte property. There is a 20-foot easement which cannot be affected by the proponent which provides access to the ditch. The irrigation ditch along the south and east property boundary would be monitored weekly during irrigation season to ensure that water flows are not affected by mining. The cross-section of the ditch would be measured where the water enters and exits the property. Flow would be calculated using Manning's Formula for an open channel. If there is any leakage beyond normal conditions, TMC would line the ditch with heavy plastic, bentonite, or clay. The liner would take the form of a "J" when installed in the portion of the irrigation ditch that runs along the east portion of the area, so that the bottom of the ditch would continue to carry water, but some water would escape to the east for the existing trees and shrubs. Middle Creek is east of the site. There would be no impact to Middle Creek. Ground water depths were taken for over a year from a monitoring well located to the west near TMC's office. Data taken from the well showed that low water table was in April of 1996 and the water depth was 40 feet below the current land surface, and high water table was observed in August of 1997 and was at 27 feet below the current ground surface. The site would be mined to a depth of 50 feet. Three monitoring wells were drilled to the west of the proposed mine area and the transmissivity as measured in the wells indicated that the transmissivity varied from 3,720,000 to 42,200,000 gpd/ft in this area and that water quality is very good. The groundwater flows from the south to the north. The operator would not dewater the site, but will use a hydraulic excavator and/or dragline to mine the site. The proponent would need to contact the Montana Dept. of Environmental Quality Water Protection Bureau to see if a Stormwater Discharge Permit is needed. TMC has proposed to install a wash plant at the site. Water

3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	**[Y]** There would be an increase in airborne particulates while the soil is being salvaged, the gravel being crushed and hauled, and soil replaced. The applicant must secure an Air Quality Permit from the Montana Dept. of Environmental Quality and must abide with all applicable air quality guidelines. The proponent has committed to use water or magnesium chloride to control dust on the haul road as necessary. TMC has a water truck, which is used to control dust on the roads and pit floor. Topsoil and overburden piles would be seeded. All crushers would be equipped with spray bars. Opening only 6.3 acres to mining at a time would greatly reduce the amount of dust on the pit floor. Eventually, the site would be mined into the water and the material would be wet and this would help meet air quality standards.
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be permanently altered? Are any rare plants or cover types present?	**[Y]** Existing vegetation would be removed with the soil. Some roots may remain viable in the soil stockpile and regenerate upon replacement. The applicant would seed all affected land to species compatible with the post mine land use. The site has been planted with non native species and no rare or threatened plants are present. A literature search was done by the Montana Natural Heritage Program and no rare plants or cover types were identified as present in the area of the proposed operation.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	**[N]** Various species of birds are seen in the area including red-tailed hawks and bald eagles along with various species of song birds. The raptors have been observed by locals feeding on ground squirrels in the proposed mine site. The birds have mainly been observed in the trees and brush to the east of the proposed operation. There are no nests of bald eagles or red-tailed hawks in the trees to the east. Badgers and white-tailed deer have been observed on the site. The use by wildlife is mainly of a transient nature.
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?	**[N]** No threatened or endangered plant or animal species are present on this site. As stated above bald eagles and red tailed-hawks, along with various species of song birds have been observed in the trees and brush to the east of the site. The eagles and red-tailed hawks have been observed hunting gophers in the proposed contracted area. There is no wetland present on the site. The site is a hayfield containing introduced grass species. A literature search was conducted by the Montana Natural Heritage Program and no endangered or threatened species or habitat types were noted as present on the proposed mine site.

7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	**[N]** A field reconnaissance survey did not reveal the presence of any archaeologic or historic values. Should significant archaeological or historical values be found, the operation would be routed around the site of discovery for a reasonable time until salvage can be made. The State Historical Preservation Office would 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]** During the mining phase, the site would be visually deteriorating, however, following reclamation, a well designed, natural looking pond would be in place. The proponent would place a 12 foot or higher berm to the east to act as a noise barrier and screen the operation from the homes to the east. If a crusher is placed on the site it would be of a temporary nature and be located a minimum of 350 feet from the east property line. Hours of mining and processing would be Monday through Friday 7am to 7pm. Other overburden and topsoil stockpiles would be placed to the north and would be seeded if they would be left for more than one year. The proponent intends to mine and reclaim 6 acres at a time. In any case, reclamation must be concurrent with mining. This berms would be rounded and seeded with various species of grasses and wildflowers.
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	POTENTIAL IMPACTS AND MITIGATION MEASURES
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	**[Y]** The use of heavy mining and hauling equipment increases the risk of accidents. However, the applicant must comply with OSHA and MSHA regulations and it is expected that safety considerations would be given the utmost attention.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	**[Y]** Eventually, 43.6 acres would be permanently removed from agricultural activities where the pond and related recreational activity sites would be created. However, a pond would be created for recreation, waterfowl and fishery habitat.

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]**
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc) be needed?	**[N]** The site will require periodic site evaluations by DEQ staff, however they would generally be conducted in conjunction with other regional sites.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	**[N]** There is no zoning on the site.
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: Alternative # 1: Denial. The owner of the gravel resource would be denied utilization of his property at this time.

23. Public Involvement, Agencies, Groups or Individuals contacted: Gallatin Co. Weed Board and Chris Yde, wildlife biologist MDEQ, Industrial and Energy Minerals Bureau. A meeting was held on March 10, 1998 with the locals. Another meeting is scheduled with the locals for April 15 at 6pm at TMC's office.

24. Other Governmental Agencies with Jurisdiction, List of Permits Needed: Gallatin County for Zoning Compliance, MDEQ for Air Quality Permit, MSHA and OSHA for safety permits.

25. Magnitude and Significance of Potential Impacts: Not applicable. A finding of significance is relevant only to the requirement to prepare an EIS under MEPA. However, the statutory time constraints of the Opencut Mining Act preclude preparation of an EIS. Therefore, no such finding is necessary here.

26. Regulatory Impact on Private Property: The analysis conducted in response to the Private Property Assessment Act indicates no impact.

27. Cumulative Effects: There will be 40 plus acres taken out of pasture; however as it expands reclamation will be concurrent with mining.

Recommendation for Further Environmental Analysis:

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

EA Checklist Prepared By: Jerry Burke Supervisor, Opencut Mining Program, IEMB
Name Title

Approved By: Steve Welch Industrial & Energy Minerals Bureau Chief
Name Title

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Signature Date