ENVIRONMENT MANAGEMENT PLAN

"MINOR MINERAL"
AT
DABKA RIVER BED
(SAND BAJRI & BOULDER DEPOSIT)
VILLAGE- BAIT KHEDI (BENTKHERI)
TEHSIL- BAZPUR, DISTRICT- UDHAMSINGH NAGAR,
STATE- UTTARAKHAD
(AREA- 1.849 HA)

Submitted by

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ENVIRONMENT MANAGEMENT PLAN

1.0 INTRODUCTION

The environmental management must be integrated into the process of mine planning so that ecological balance of the area is maintained and adverse effects are minimized. The Environmental Management Plan (EMP) consists of a set of monitoring programme, mitigation measures, and management control strategies to minimize adverse environmental impacts.

In order to minimize impacts of mining on different environmental parameters and to keep air and water quality within prescribed limits of CPCB, an EMP has been prepared which is to be implemented in the project and covers the following phases of the project:

- Land Environment
- Water Environment
- Air Environment
- Noise Environment
- Biological Environment
- Socio-economic environment

The environment management plan has been developed with a view to bring down the levels of impacts during proposed mining activities. In each of the areas of impact, measures have to be taken to reduce potentially significant adverse impacts and where these are beneficial in nature, such impacts are to be enhanced/ augmented so that the overall adverse impacts are reduced to as low level as possible. Measures to be taken for each of the impact areas are detailed below.

2.0 LAND ENVIRONMENT

Deviation from planned mining procedure can lead to pits, degradation of land, causing loss of properties and degradation surrounding of landscape. Present land use pattern of the lease area is agricultural land and at the conceptual stage the land use pattern will be changed as it will be utilized for plantation.

MANAGEMENT

Thus for environment friendly mining the following control/abatement measures will be followed:

- The pits from where the material will be picked should not get deeper than 3.0 meter.
- Digged out pits will be backfilled after closure of the mine.
- Mined out land will be utilized for plantation purpose.

3.0 WATER ENVIRONMENT

During the operational phase of mine no waste water or industrial effluent will be generated.

MANAGEMENT

The environmental management for water pollution control includes:

- Water requirements for drinking, plantation and dust suppression will be met by tanker supply.
- Local people will be employed and no permanent housing will be done so no permanent drainage pattern for sewerage system is required as mobile toilets.
- Mining in the area will be done up to water level &will not be intersect the ground water table, therefore impact on water regime is not anticipated.
- Monitoring of water quality of nearby surface water, ground water and domestic water will be conducted once in every season except monsoon to evaluate the performance of the mitigation measures.
- Garland drain will be constructed on all sides of quarry along with settling pond to remove the suspended solids from storm water. The collected water shall be used in plantation and spraying on haul roads. Settling ponds will be designed on the basis of silt loading, slope of the lease, detention time required etc.

4.0 AIR POLLUTION CONTROL MEASURES

During the course of Soapstone mining, no toxic substances are released into the atmosphere, so there seems to be no potential threat to health of human beings. In Soapstone mining activities, dust will be generated during mining, loading and transportation. The only source of fugitive gaseous emission during mining is vehicles which will be used for transportation.

MANAGEMENT

The environmental management for air pollution control includes:

- The un-metalled haul roads should be adequately compacted before being put into use.
- Water should be sprinkled on these roads periodically every-day (twice in a day), to wet the surface.
- Over loading of transport equipments should be avoided to prevent spillage.
- Transportation of minerals should be in covered vehicles to prevent fugitive dust emission.
- Regular checking and maintenance of vehicles should be conducted once in every two months and pollution under control certificate be obtained.
- It will be ensured that all transportation vehicles carry a valid PUC certificate.
- Masks will be provided to the workers daily during working hours (8 hrs) of the mine.
- Plantation will be taken up along the approach roads and vicinity of mine lease. The plantation arrests dust.

5.0 NOISE ENVIRONMENT

Open cast Mechanized method mining will be done in the proposed project of Soapstone mining which will create momentary noise. Minimal noise will be generated during the operational phase of mine due to transportation and hand equipments to be used for mining purpose.

MANAGEMENT

The environmental management for noise pollution control includes:

- Proper maintenance of hand equipments will be carried out every month, which will help in reducing generation of noise during operations.
- Regular checking and maintenance of vehicles should be conducted once in every two month to avoid noise pollution.
- Ear plugs will be provided to workers during the operational hours of mine.
- Periodical monitoring of noise will be done to adopt corrective actions wherever needed.
- Plantation will be taken up along the approach roads and vicinity of mine lease. The plantation minimizes propagation of noise and also arrests dust.

6.0 BIOLOGICAL ENVIRONMENT

The mining activity will have insignificant affect on the existing flora and fauna. Data have been collected from various Government Departments such as forests, agriculture, fisheries, animal husbandry and various offices to establish the pre project biological environmental conditions. It was found that the Soapstone mining activity will not have any significant impact on the biological environment of the region. Mine lease is a private agricultural land with patches of common herbs and shrubs. These herbs may get cleared due to the proposed project.

MANAGEMENT

There is a requirement to establish a stable ecosystem with both ecological and economic returns. Minimization of soil erosion and dust pollution enhances the beauty of the core and the buffer zone. To achieve this it is planned to increase plantation activities. The basic objectives of plantations are as follows:-

- Improvement of Soil quality
- Quick vegetative cover to check soil erosion
- Conservation of biological diversity
- Provide forage and browse for wild life

7.0 SOCIO-ECONOMIC ENVIRONMENT

This project operation will provide livelihood to the poorest section of the society. The overall impact of Soapstone mining on the social economics of the area shall be a very positive one, as not only it will generate employment opportunities for local

population at mine site but also in associated activities for transportation of mined material, etc . It will also give a good boost to the general economy of the area.

MANAGEMENT

During mining, employment will be given to locals and after mining; land will be utilized for plantation purpose which will provide aesthetic surrounding. About 105 persons shall be employed at mine site and local villagers are to be benefited directly or indirectly by the project. Sanitation, drinking & medical facilities will be provided to the mine workers and nearby needy people through CER activities of the project proponent.

8.0 ENVIRONMENTAL MONITORING PROGRAM

The proponent shall follow the standard methods for six monthly monitoring various environmental parameters i.e. Air, Water, Noise and Soil through accredited laboratory and submit the compliance report as per EC conditions.

9.0 COST OF EMP

The total EMP cost for the proposed project is Rs. 5.30 Lakhs. Break up of EMP cost is given below:

Budget allocation for EMP implementation

COST OF EMP

S. No	Description	Measures	Capital Cost (in lakhs)	Recurring Cost (in lakhs)
1	Air pollution Control	Water sprinkling	2.40	1.00
		Air masks, ear muffs etc.	1.00	0.50
2	Green Belt development	Tree Plantation	1.90	1.00
	Total		**5.30**	**2.50**

10.0 CONCLUSION

All possible environment aspects have been adequately assessed and necessary control measures have been formulated to meet statutory requirements. Thus implementing this project will not have any appreciable negative impacts.