# Environment Management Plan

<table>
<thead>
<tr>
<th>Near Village</th>
<th>Tehsil</th>
<th>District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barmsar</td>
<td>Jaisalmer</td>
<td>Jaisalmer</td>
</tr>
</tbody>
</table>
Environment Management Plan

The environmental management plan consists of a set of mitigation, management, monitoring and institutional measure to be taken during implementation and operation of the project, to eliminate adverse environmental impact or reduce them to acceptable levels. The present environmental management plan addresses, the component of environment, which are likely to be affected by the different operation in mine area of Granite.

The objectives of EMP area:-

- Overall conservation of environment.
- Minimization of waste generation and pollution.
- Judicious use of natural resources and water.
- Safety, welfare and good health of the work force and populace.
- Ensure effective operation of all control measures.
- Vigilance against probable disasters and accidents.
- Monitoring of cumulative and long term impacts.
- Ensure effective operation of all control measures.

The purpose of an EMP is to:

(i). Assists proponent in the preparation of an effective and user friendly activity chart for environment management.

(ii). Ensure that the commitments made as part of the project’s life are implemented throughout the project period.

(iii). Ensure that environment management details is captured and documented at all stages of a project.

The design of EMP :- The Following leases falls in the Mine area

<table>
<thead>
<tr>
<th>S. No</th>
<th>Name of the Proponent</th>
<th>STP No. / M.L.No.</th>
<th>Area (In Hect.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>M/s Brij Gopal Construction Co. Pvt. Ltd And Ram K Infrastructure Ltd (JV)</td>
<td>STP No.- 19</td>
<td>0.9900</td>
</tr>
</tbody>
</table>
Baseline information:

(i) Water regime
The average annual rainfall in the area is not exceeds 500 mm per year.

Surface water: - Gajrup Sagar (About 7.1 Km in SE direction)
Paswan Talav (About 7.9 Km in SE Direction)
Bachhawai Talav (About 9.4 Km in NE direction)
Bereali Nadi (About 13.9 Km in NW direction)
Kakni Nadi (About 8.1 Km in SW direction)
Khara Rann {Salt Waste Dry}(About 10.2 Km in NE direction)
Mitha Rann {Salt Waste Dry}(About 5.2 Km in NW direction)

(ii) Underground water:- The Ground water table is about 80-100 m below the ground surface.

(iii) Flora and fauna
There are few shrubs, bushes & few trees exist in the lease area. No Fauna exist in the lease area.

(iv) Quality of air, ambient noise level and water
The quality of air could be said quite clean and natural, free from any harmful gases arising out of any industrial establishment/ complex including mining ventures. The area in and around the mine area could be said free from any nuisance of repetitive nature such as noise. Thus, it is quite calm. The noise level is also not much high.

(V) Climatic conditions
The district experiences arid type of climate. Mean annual rainfall (1971-2005) of the district is 281.8 mm whereas normal rainfall (1901-1971) is lower than Average rainfall and placed at 277.5 mm. Almost 90% of the total annual rainfall is received during the southwest monsoon, which enters the district in the first week of July and withdraws in the mid of September. As the district lies in the desert area, extreme of heat in summer and cold in winter is the characteristic of the desert. Both day and night temperature increases gradually and reaches their maximum values in May and June. The temperature varies from 48 degree in summer to 2 degree in winter. Atmosphere is generally dry except during the monsoon period.
(VI) Human settlements

The human settlement in the 15 km of the mining area is as:-

<table>
<thead>
<tr>
<th>Near Village</th>
<th>Population</th>
<th>Distance in km</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baramsar</td>
<td>1213</td>
<td>2.3</td>
<td>NE</td>
</tr>
<tr>
<td>Jethwai</td>
<td>1266</td>
<td>7.3</td>
<td>SE</td>
</tr>
<tr>
<td>Jaisalmer</td>
<td>669919</td>
<td>8.5</td>
<td>SE</td>
</tr>
<tr>
<td>Kishan Ghat</td>
<td>1631</td>
<td>8.01</td>
<td>SE</td>
</tr>
<tr>
<td>Pohar</td>
<td>438</td>
<td>9.4</td>
<td>NE</td>
</tr>
<tr>
<td>Lanela</td>
<td>1049</td>
<td>11.8</td>
<td>NW</td>
</tr>
<tr>
<td>Rupsi</td>
<td>1829</td>
<td>6.3</td>
<td>NW</td>
</tr>
<tr>
<td>Chundhi</td>
<td>348</td>
<td>6.2</td>
<td>SW</td>
</tr>
</tbody>
</table>

(VII) Public buildings, places of worship and monuments

No National Monument, place of Worship, Sanctuary, National Park, exist in and around the lease area.

Does area (partly or fully) fall notified area under water (prevention & control of Pollution) Act, 1974

No, the mine area does not fall in notified area under water (prevention & control of Pollution) Act, 1974.

(2) Environment impact

(i) Air quality

The air quality in the mine is within Limit.

(ii) Water quality

The water from all sources remains suitable for drinking purposes as all the constitute shall be within the limits prescribed by drinking water standards promulgated by Indian standards IS: 10500

(iii) Noise levels

In order to know the baseline noise levels, in and around the proposed Site, noise levels were measured at site and villages in the Study area. Working of mine area not breaches national ambient noise standards.
(iv) Vibration level due to blasting

The noise sources shall not generate sound levels above 90 dBA.

The noise generated during the time of blasting will be controlled by using the millisecond delay detonators.

**Impact of Vibrations Due To Blasting**

The ground vibration is expected to be generated during blasting. This can be minimized by adopting down the whole initiation system. Blasting operations, rock bursts and rock bumps, subsidence due to mining operations, deployment of mobile equipments causes ground vibrations. Blasting also generates air vibration waves. Vibration may cause structural damages, which depend on periodical acceleration due to vibration. Air blasts can damage structurally unsound buildings and cause window shattering. Blasting is associated with Fly rock hazard.

**Impact on Surface Water**

Gajrup Sagar (About 7.1 Km in SE direction)
Paswan Talav (About 7.9 Km in SE Direction)
Bachhawai Talav (About 9.4 Km in NE direction)
Bereali Nadi (About 13.9 Km in NW direction)
Kakni Nadi (About 8.1 Km in SW direction)
Khara Rann {Salt Waste Dry} (About 10.2 Km in NE direction)
Mitha Rann {Salt Waste Dry} (About 5.2 Km in NW direction)

During rains water will precipitate within the mine and in the vicinity. For that garland drains all along the quarry surface edge keeping a barrier from the mine surface will be constructed to arrest incoming water to the mine.

Water flows in its normal course. There will be no hindrance or sudden rush of water due to mining activities, which may lead to erosion of water courses.

At the ‘conceptual stage’ as area of a part of the Mining Lease area will be converted into water reservoir which will serve as recharge pits.

Besides, there will be no toxic element in the mined out material, which may contaminate ground/surface water.

It is, therefore, apparent that there will be negligible impact of mining on the surface water regime.

**Impact on Ground Water**

The water table in this region is at a depth of 80-100 m below general ground level. Mining will be carried out above the ground water table. No chemical having toxic elements will be used for
carrying out mining activity. Also, neither Granite nor overburden contains any kind of toxic element which can contaminate the water.

Rainwater expected to be accumulated in the pit will be pumped out and will be discharged into storm water drains provided for the purpose which will join the natural surface water drains existing in the area.

Socio-economics,

Positive impacts:

Employment:

Employment will be created during planning and preparation, construction and operational phases of the project. Employment opportunities created by mine of lessees will provide a sustainable and safe working environment for women.

Community Skills Development:

The employees will benefit from the training programmers that will be instituted by mine of leases to enable the community labor force to work in the different areas of project operations. This training will increase the number of technicians, electricians, and mechanics, among others, that will not only benefit mine of leases but also the community at large during and after the project life.

Improved Standard of Living:

Employment opportunities created by the projects will increase income and therefore improve the overall standards of living in the area.

Community Organizational Capacity Development:

Through engagement of community members in development structures such as Community Development Committees, the community organizational capacity will be developed.

Improved Water Supply:

Supply of safe water for the community by mine area of leases will improve health standards and living conditions in the villages.

Economic Exposure and Development:

Running of the mine area project will make infrastructure and services available to the people. This will expose and introduce the local population to factors of economic development.
Adverse Social Impact

Price Inflation:
Increase in purchasing power of the community members through higher incomes from the mining, compounded by population increase and low agricultural productivity as a result of project will lead to inflation in the cost of goods and services, much to the detriment of the local population especially the poor and vulnerable.

Livelihood change
Due to the labor intensity of the mining, the project will attract the more able-bodied persons from the community which in turn will lead to low labor availability in other sectors of the economy including agricultural, education and health skilled workers. Local employment opportunities will be created by the project. This impact will not be significant due to low level of education and skills in the area which will result in sourcing skilled workforce from outside the immediate area. But the magnitude of this impact will be high due to high number of dependants in a household.

Historical monuments etc.
There is no historical monument in the core zone/lease area. So, there will be no impact on the historical monument due to proposed mining activity in the area.

Environmental Management Plan
(i) Land use pattern:- The Mining in the mine areas shall be in the granted lease area and sufficient safety barrier shall be taken during mining.

(ii) Air Environment Management:- The mine area shall maintain the acceptable ambient air quality. The air quality shall be monitored on regular basis to check the AAQS prescribed by MOEF & CC and in case non-compliance, appropriate imitative measures will be adopted.

During the course of mining no-toxic substance shall be released into the atmosphere being potential threat to health of human being. Proper maintenance of engines will be done to improve combustion process and brings reduction in pollution.

The mine area shall complied the following standards
<table>
<thead>
<tr>
<th>S.no.</th>
<th>Pollutant</th>
<th>Time Weighted Average</th>
<th>Concentration in Ambient Air</th>
<th>Method of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Industrial Area, Residential rural Other Areas</td>
<td>Ecological Sensitive Area (Notified by Central Govt.)</td>
</tr>
<tr>
<td>1.</td>
<td>sulphur Dioxide($\text{SO}_2$)$\mu g/m^3$</td>
<td>Annual Average* 24 hours**</td>
<td>50 80</td>
<td>20 80</td>
</tr>
<tr>
<td>2.</td>
<td>Oxides of Nitrogen as $\text{NO}_2 \mu g/m^3$</td>
<td>Annual Average* 24 hours**</td>
<td>40 80</td>
<td>30 80</td>
</tr>
<tr>
<td>3.</td>
<td>Particulate Matter (size less than 10$\mu$m) or $\text{PM}_{2.5} \mu g/m^3$</td>
<td>Annual Average* 24 hours**</td>
<td>60 100</td>
<td>60 100</td>
</tr>
<tr>
<td>4.</td>
<td>Particulate Matter (size less than 2.5$\mu$m) or $\text{PM}_{2.5} \mu g/m^3$</td>
<td>Annual Average* 24 hours**</td>
<td>40 60</td>
<td>40 60</td>
</tr>
<tr>
<td>5.</td>
<td>Ozone ($\text{O}_3$), $\mu g/m^3$</td>
<td>8 Hours** 1 Hours*</td>
<td>100 180</td>
<td>100 180</td>
</tr>
<tr>
<td>6</td>
<td>Lead(Pb), $\mu g/m^3$</td>
<td>Annual Average* 24 hours**</td>
<td>0.50 1.0</td>
<td>0.50 1.0</td>
</tr>
<tr>
<td>7</td>
<td>Carbon Monooxide (CO), $\mu g/m^3$</td>
<td>8 Hours** 1 Hours*</td>
<td>02 04</td>
<td>02 04</td>
</tr>
<tr>
<td>8</td>
<td>Ammonia (NH$_3$), $\mu g/m^3$</td>
<td>Annual Average* 24 hours**</td>
<td>100 400</td>
<td>100 400</td>
</tr>
</tbody>
</table>
|   | Benzene (C₆H₆), μg/m³ | Annual Average* | 05 | 05 | 1. Gas chromatography based continuous analyzer.  
2. Adsorption And Desorption followed by GC analysis.  
|   | Benzo(α) Pyrrole(BaP)-Particulate Phase only ng/m³ | Annual Average* | 01 | 01 | Solvent extraction followed by HPLC/GC analysis.  
|   | Arsenic (AS), ng/m³ | Annual Average* | 06 | 06 | AAS/ICP Method after sampling on EMP 2000 or equivalent filter paper.  
|   | Nickel(Ni), ng/m³ | Annual Average* | 20 | 20 | AAS/ICP Method after sampling on EMP 2000 or equivalent filter paper.  

*Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.  
** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be compiled with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

(iii) Control of Gaseous pollution: - Controlled blasting and optimization of use of explosive energy will help in reducing the above emission. The emission from the diesel engines of the machinery will controlled by proper maintenance and monitoring.

(iv) Control of Dust Pollution
The main pollutant in air is PM₁₀, which is generated due to various mining activities. However to reduce the impact of dust pollution the following steps should be taken during various mining activities.

a) During drilling operations

(i). Sharp drill bits will be used for drilling and regrinding is done periodically to reduce generation of dust.
(ii). The drill machines will be kept leakage free and equipped with wet drilling arrangements.
(iii). Drill operator and his helper will be equipped with personal protective equipment (ear plugs/ear muffs).
During loading operation

(i). Care to reduce dust emission during loading operations.
(ii). Skilled operators to operate excavators.
(iii). Avoid overloading of trucks and consequent spillage on the roads.

c) During Transport operation

(i). All the haulage roads including the main ramp be kept wide, leveled, compacted and properly maintained and watered regularly during the shift operation to prevent generation of dust due to movement of dumpers, and other vehicles.
(ii). Mineral carrying trucks shall be effectively covered by Tarpaulin to avoid escape of fines to atmosphere.
(iii). Regular Compaction and grading of haul roads to clear accumulation of loose material.
(iv). Air quality shall be regularly monitored both in the core zone and the buffer zone.

d) Plantation work carried out

In order to reduce air pollution in the surroundings, green belt will be developed around mines / mine area, mine approach road.

e) Monitoring of air pollution

Periodic air quality survey in mine area will be carried in six monthly.

NOISE AND VIBRATION ENVIRONMENT

The ambient noise level monitoring carried out in and around the mine lease area /mine area to assess that ambient noise levels are well within the stipulated limits of MOEF&CC. Effective steps should be taken to keep the noise level well below the DGMS prescribed limit of 85 dBA.

Noise Abatement and Control

(i). All the machineries including transport vehicles will be properly maintained to minimize generation of noise.
(ii). Dense plantation in mining area will also reduce propagation of noise outside the core zone.
(iii). Rock breakers will be used instead of secondary blasting.
(iv). Blasting will be avoided under unfavorable atmospheric conditions
(v). Periodical monitoring of noise will be done to adopt corrective actions wherever needed.
(vi). Plantation will be taken up along the approach roads. The plantation minimizes propagation of noise and also arrests dust.

Project Proponent
Vibration Abatement (If blasting is done)

The mine area shall mentioned in Circular No.7 of DGM Sis presented below:

**Permissible Peak Particle Velocity (mm/s)**

<table>
<thead>
<tr>
<th>S. No</th>
<th>Type of Structure</th>
<th>Dominate excitation Frequency</th>
<th>&lt;8 Hz</th>
<th>8-25 Hz</th>
<th>&gt;25 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A]</td>
<td>Buildings/structures not belonging to the owner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Domestic houses/structures [Kuchcha brick and cement]</td>
<td></td>
<td>5</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>2.</td>
<td>Industrial Buildings [RCC and framed structures]</td>
<td></td>
<td>10</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>3.</td>
<td>Objects of historical importance and sensitive structure</td>
<td></td>
<td>2</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>B]</td>
<td>Building belonging to the owner with limited life span</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Domestic houses/structures [Kuchcha brick and cement]</td>
<td></td>
<td>10</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>2.</td>
<td>Industrial Buildings [RCC and framed structures]</td>
<td></td>
<td>15</td>
<td>25</td>
<td>50</td>
</tr>
</tbody>
</table>

*Source: DGMS circular No. 7 dated 28/08/1997*

As the distance increases the PPV value is likely to reduce,

The ground vibrations generated by blasting during the mining operations shall be well within the standards prescribed by DGMS for controlled blasting. Ground vibrations will not likely to affect the structures in the vicinity of mine lease area.

The measures will be followed for abatement of ground vibration, air blast and fly rocks are detailed below:

(i). Blasting to be performed strictly as per the guidelines specified under MMR, 1961;
(ii). Proper design of blast with correct spacing, burden and optimum charge/delay;
(iii). Supervision of drilling and blasting operations to ensure blast design symmetry as per planning;
(iv). Sub-drilling will be kept adequate to eliminate toe formation;
(v). Blasting operations will be carried out only during day time as per DGMS guidelines;

Project Proponent
(vi). Proper warning signals will be used;
(vii). Adequate safe distance from habitation as per standards from centre of blasting be maintained;
(viii). Drilling Parameters like burden, depth, diKumbhalgarher and spacing will be properly designed to ensure proper blast;
(ix). Effective stemming of the explosives be done in the drill holes.

WATER MANAGEMENT
There will be no waste water generation from the mining operations. Only wastewater generation will be sanitary wastewater, which will be treated in septic tank followed by subsurface dispersion.

Surface Water Management
(i). Proper imitative measures will be taken up to control the pollutants within prescribed standards and limiting the emissions to site only.
(ii). Garland drains will be provided to prevent the entry of rainwater into the mining pit.

Ground Water Management
(i). Mining shall not intersect the ground water table of the area.
(ii). Natural pits will be used for rainwater conservation and harvesting.
(iii). Rain water harvesting practices shall be done which will lead to ground water recharge.
(iv). At the end of the life of mine artificial water reservoir shall be prepared.

Water Conservation
The project do not consume any process water except for drinking, dust suppression and plantation. Plantation is proposed, which will increase the water holding capacity and help in recharging of ground water. Artificial rainwater harvesting is proposed for the present project.

SOLID WASTE AND TOP SOIL MANAGEMENT
Waste Management
The waste shall be dumping within the lease area or in the exhausted mining area.

Top Soil Management
The top soil shall be first removed and stacked separately. The top soil shall be used in plantation.

GREEN BELT DEVELOPMENT

The proposed green belt shall be designed to control PM$_{10}$, gaseous pollutants, noise, surface run off and soil erosion etc. Suitable local plant species shall be planted.

Plantation Program

Under the afforestation plan, plantation shall be carried out in nearby villages and connecting roads, school and the areas allocated by the Panchayat/State authorities. Native plants like Neem, Peepal, Khejri and other local species will be planted.

Plan for Afforestation

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (ha.)</th>
<th>No. of plants</th>
<th>Species</th>
<th>Place of Plantation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.326</td>
<td>326</td>
<td>Neem, Khejari, Imli, Bel, Ashok, Amaltas, Babool and Mango etc. as per soil condition and DFO</td>
<td>Nearby area of the School, at the Dump, at the govt. waste land provided by the Govt., at Own Private Land and nearby State Highway road</td>
</tr>
</tbody>
</table>

List of Species for Greenbelt Development

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Type</th>
<th>Effective in Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><em>Azadirachta indica</em></td>
<td>Neem</td>
<td>Tree</td>
<td>Dust, air pollution, noise pollution</td>
</tr>
<tr>
<td>2.</td>
<td><em>Prosopis cineraria</em></td>
<td>Khejari</td>
<td>Tree</td>
<td>Air Pollution</td>
</tr>
<tr>
<td>3.</td>
<td><em>Tamarindus indica</em></td>
<td>Imli</td>
<td>Tree</td>
<td>Air Pollution</td>
</tr>
<tr>
<td>4.</td>
<td><em>Aegle marmelos</em></td>
<td>Bel</td>
<td>Tree</td>
<td>Air Pollution, noise pollution</td>
</tr>
<tr>
<td>5.</td>
<td><em>Polyalthia longifolia</em></td>
<td>Ashok</td>
<td>Tree</td>
<td>Dust, Air pollution</td>
</tr>
<tr>
<td>6.</td>
<td><em>Cassia fistula</em></td>
<td>Amaltas</td>
<td>Tree</td>
<td>Dust</td>
</tr>
<tr>
<td>7.</td>
<td><em>Acacia nilotica</em></td>
<td>Babool</td>
<td>Tree</td>
<td>Air pollution</td>
</tr>
<tr>
<td>8.</td>
<td><em>Mangifera indica</em></td>
<td>Mango</td>
<td>Tree</td>
<td>Dust, air pollution, noise pollution</td>
</tr>
</tbody>
</table>
SOCIO-ECONOMIC ENVIRONMENT
Management Plan for Socio-Economic Environment

(i). In general, socio-economic environment will have positive impact due to the mining project in the area.

(ii). The deployed laborers will be from nearby villages only as these people are mainly dependent upon such mining activities.

OCCUPATIONAL HEALTH AND SAFETY

Occupational Health and Safety are important. Periodic assessment of it will be useful. Identifying workplace hazards, assessing risks to employee health and safety, are important. Health and Safety points are also important in many of the environmental aspects of the workplace.

Occupational Health and Safety works

(i). The collection of sample of minor minerals from the Stone mine to analyze that it does not cause any occupational ill effects.

(ii). Except dust generation there is no source which can show a probability for health related diseases and proper dust suppression will control dust generation and dispersion.

(iii). Dust masks be provided to the workers working in the dust prone areas as additional personal protective equipment.

(iv). Awareness program be conducted about likely occupational health hazards so as to have preventive action in place.

(v). Any workers health related problem be properly addressed.

(vi). Periodical medical checkup be conducted.

(vii). Promote occupational health and safety within workers in mine and develop safer and healthier ways of working;

(viii). Help supervise the investigation of accidents and unsafe working conditions, study possible causes and recommend remedial action;

(ix). Develop and implement training sessions for management, supervisors and workers on health and safety practices and legislation;

(x). Coordinate emergency procedures, mine rescues, fire fighting and first aid crews.
Budget for Occupational Health and Safety of the workers (thousands)

<table>
<thead>
<tr>
<th>Items</th>
<th>Capital Cost</th>
<th>Recurring Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures to Prevent Accidents during mining</td>
<td>5,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Measures to Prevent Accidents during minerals Transportation.</td>
<td>5,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Measures to Prevent Accidents due to Trucks/ Dumpers etc.</td>
<td>5,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Measures to Prevent Dangerous Incidents during Inundation</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>Education awareness and first aid kit</td>
<td>5,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Medical Examination Schedule</td>
<td>Nil</td>
<td>2,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20,000/-</strong></td>
<td><strong>10,000/-</strong></td>
</tr>
</tbody>
</table>

**COST OF EMP MEASURES**

Following provisions are proposed to be taken for improving, control and monitoring of environment protection measures.

Budget for EMP

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Particulars</th>
<th>Capital Cost (Thousand)</th>
<th>Recurring Cost (Thousand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Pollution monitoring – Air, Water, Noise and Soil</td>
<td>Nil</td>
<td>5,000</td>
</tr>
<tr>
<td>2.</td>
<td>Dust Suppression</td>
<td>Nil (lessee own tanker)</td>
<td>5,000</td>
</tr>
<tr>
<td>3.</td>
<td>Wire fencing at plantation sites</td>
<td>10,000</td>
<td>4,000</td>
</tr>
<tr>
<td>4.</td>
<td>Plantation including maintenance</td>
<td>10,000</td>
<td>3,000</td>
</tr>
<tr>
<td>5.</td>
<td>Rainwater harvesting</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Haul road and other roads repair and maintenance</td>
<td>10,000</td>
<td>3,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>30,000/-</strong></td>
<td><strong>20,000</strong></td>
</tr>
</tbody>
</table>
Details of the Environmental Monitoring schedule, which will be undertaken for various environmental components.

**POST PROJECT MONITORING**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>DESCRIPTION</th>
<th>FREQUENCY OF MONITORING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ambient Air Quality at Plant/mine site</td>
<td>Half Yearly</td>
</tr>
<tr>
<td>2.</td>
<td>Water Quality</td>
<td>Half Yearly</td>
</tr>
<tr>
<td>3.</td>
<td>Noise level Monitoring</td>
<td>Half Yearly</td>
</tr>
<tr>
<td>4.</td>
<td>Soil Quality</td>
<td>Half Yearly/ Yearly</td>
</tr>
<tr>
<td>5.</td>
<td>Monitoring of Agriculture crops</td>
<td>Yearly</td>
</tr>
<tr>
<td>6.</td>
<td>Socio-economic status of nearby area</td>
<td>Yearly</td>
</tr>
</tbody>
</table>

**SUMMARY**

As per above discussion there is no measure impact on the environment due to mining except fugitive emission in the form of dust generated during handling and loading of mineral. The adequate preventive measures will be adopted to contain the various pollutants within permissible limits. Plantation development will be carried out in the mine premises, along the approach roads, around Govt. buildings, schools approx 326 trees per year. It will prove an effective pollution mitigate technique, and help avoid soil erosion during monsoon season. Employment opportunities will be provided to the locals as extraction of minerals from the mine site is an important prevailing occupation for them for their livelihood. A budget of **Rs. 30,000** for Occupational Health and Safety and budget of **Rs 50,000 for EMP** are proposed for the mine.