11. ENVIRONMENTAL MANAGEMENT PLAN

11.1. Base Line Information –

a) Existing land Use Pattern –

This lease area is in the part of hillock. The land use pattern in Prescribed Performa is given in below table.

<table>
<thead>
<tr>
<th>Land Use Pattern of Area</th>
<th>Forest Land</th>
<th>Private Land</th>
<th>Grazing Land</th>
<th>Waste Land</th>
<th>Others</th>
<th>Total</th>
<th>Land Acquired Outside Lease Area (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In Hectares</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pits &amp; Quarries</td>
<td>-</td>
<td>Nil</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Nil</td>
</tr>
<tr>
<td>Dumps Of Ore Waste &amp; Over burden</td>
<td>-</td>
<td></td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Infrastructure (Office &amp; Workshop)</td>
<td>-</td>
<td></td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Township</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Others</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total Occupied Area</td>
<td>-</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>1.00</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Area back filled, if any
Not So Far

Area afforested by mine owner
Nil

b) Water Regime –

There is no river or nalla flowing with in the lease area. There is no pond with in the lease area. The rain water is the other source of the water within the area. The average rainfall in the area is 750 - 850 mm annually. The water table lies at a depth of 90-100 m from ground level.
c) Flora And Fauna –

i) Flora – In general the growth of vegetation is poor in the area. Only wild vegetation (given with local name), which includes Kair, Khejdi, Jai, Vilayati Babool, Neem and shrubs with thorny bushes, are found around lease area. The average tree density of such trees is counted to be less than 2-3 trees per hect. In this region (in general) the crops of coarse grains such as Bazra, Munge, Moth and Chana are grown.

ii) Fauna - No carnivorous animals are seen around 5 Kms.radius because there is no wild life or games sanctuary is observed. Some times Rabbit, Wolf, Snakes are seen in the area. The villagers, also keep pet animals like Cow, Goat, Sheep, etc.

d) Quality Of Air, Water And Ambient Noise Level –

The quality of air is natural, clean and free from any pollution as there is no industry or any pollution source of air is present in vicinity of the area.

The quality of water which being used for drinking purpose at mine and at around area is good.

The ambient noise level is within specified limit, as there is no permanent source of noise generation present in and around lease area. Thus it is quite and calm.

e) Climate Condition –

Desertic climate with large variation of temperature and scanty rainfall are the main characteristics of the climate of area. The area experiences temperature variation of 40° to 48° in summer and 5° to 10° in winter season. Strong wind blows during the summer seasons.

f) Human Settlement –

There is no human settlement within the lease area.
g) **Public building, places and monuments** –
There is no national monument, place of worship, place of tourist interest, sanctuary, national park and any public building has exist in and around the lease area which could be affected by the mining activities being under taken in this area.

### 11.2. Environmental Impact Assessment.

Generally the mining activity leaves its impact directly or indirectly on the adjacent environment. The mining activity as described within this mining plan of such scale and nature that no significant environments unbalance is or can be seen. As a result, no adverse impact on environment and surrounding is likely to arise and the post-mining scenario will not be much affected.

However, assessment of various issues pertaining to environment in the identified field, have been studied and given below.

**a) Land environment**

**i) Landscape** – The impact of proposed mining on the landscape of area would be the degradation of land by cutting of surface, stacking of mineral, transportation of mineral resulting in change in present topography. As the result of mining activity that has been planned for this phase about 0.70 **Hectare** of land will be degraded.

**ii) Aesthetic environment** – The aesthetic environment of the area will not have any adverse effect. Since the lease area is confined to remote area, which is sparsely populated, and there is no tourist spot, forest, water reservoir, wild life sanctuary park etc. within and around the lease area, so no adverse impact is envisaged on the aesthetic environment.

**iii) Soil And Land Use Pattern** – Partly area covered with top soil.
iv) **Agriculture** – The all land is Private Agriculture Land, where no agricultural activities are going on because of part of hillock and exposed sandstone area. There will be no impact on the agriculture of the area.

v) **Forest** – There is no forest land falling within the lease area.

vi) **Vegetation** – There is no vegetation in applied area.

vii) **Public Building, Places and Monuments** – There is no public building, cultural or historical monument or place of worship exist in the lease area. Hence there will be no impact on them.

b) **Water Environment** –

i) **Surface Water** – The mining activities, including waste dumping have been so planned to prevent any of the disturbance to natural flow of water and also the drainage system of the area will not be affected.

ii) **Ground Water** – The water table in the area is sufficiently below the ground level (about 90-100 mts.). Therefore quantity as well as quality wise, the ground water in the area is not likely to be affected at all by future mining activities.

iii) **Quality Of Water** – There will be no impact of mining on quality of water.

c) **Air Environment** –

i) **Noise** – There will be occasional sound of the compressors & Jackhammers and operation of small capacity excavator and plying trucks. To avoid this proper maintenance of the m/c will be done and the earplugs shall be provided to the drillers.

ii) **Air** – Drilling will generate the dust in the air. This will affect the air environment. Other than this, there will be some impact on quality of air at the time of machine work in & plying of trucks may generate some dust, which will be under safe limits. The applicant shall be use dry dust extractor if dust generation is more. Water sprinkling may be also done.
iii) Climate Conditions – The mining activity will be such a small scale that there will be no impact on climate conditions of the area.

d) Socio-economic Environment –

i) Social and demographic Profile – Socially the region is backward. The mining activities directly or indirectly will help in improvement of social behavior and living status of the socially backward society of the area by giving better employment opportunities. So ultimately, mining activity will cause uplifment of the social as well as demographic profile.

ii) Occupational Health and safety – There will be no impact on health and safety of the villagers.

iii) Human Settlement – There is no human settlement with in lease area. The human settlement in the nearby areas is not likely to be effected rather it will encourage it on account of possibility of getting employment at the mine.

iv) Recreational facility – There will be no impact on recreational facilities, as they are not provided at the mine.

11.3 Environment Management Plan -

The applicant realizes the necessity to maintain a healthy environmental balance and to do so have following plan outlines. The effort will be made to minimize the environment degradation due to mining operations in the area. below are the proposed mitigation measures that will be taken to manage the environment in the area.

a) Temporary Storage and Utilization of Topsoil

Partly area covered with top soil. So this soil will be preserved for re-use in plantation in future and stacked separately.
b) Proposal For reclamation of Land Affected by mining activities during and at the end of lease period

In the next five years, there is no proposal for reclamation of the land affected by mining because the bottom of the Sandstone will not be reached in the next five years.

c) Programme of afforestation

Although the area is devoid of any forestland a phased plantation scheme has been proposed in order to improve eco-system. It is proposed to plant 20 trees every year inside the area. The plants/trees are Khejdi, Jal, Babool and Neem. So during the proposed five-year period about 500 trees will be planted in an area of 400 sqm. The site of plantation has been marked in Year wise working plan plate no 5 & Environment Plan, Plate No. 6. Proper after care by manuring, watering and pesticides etc. will be taken by proper staff. The plantation programme, which shall be implemented during five years, is as under:

Phased Programme for the plantation

<table>
<thead>
<tr>
<th>Year</th>
<th>No. Of</th>
<th>Type of Plant Plant</th>
<th>Location (for first 5 yrs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>20</td>
<td>Neem, Babool</td>
<td>As Shown In</td>
</tr>
<tr>
<td>II</td>
<td>20</td>
<td>Neem, Jal, Babool</td>
<td>Plate No.5 &amp; 6</td>
</tr>
<tr>
<td>III</td>
<td>20</td>
<td>Neem, Jal, Khejdi</td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>20</td>
<td>Jal, Khejdi, Babool</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>20</td>
<td>Neem, Babool</td>
<td></td>
</tr>
</tbody>
</table>

d) Stabilization and Vegetation of Dump

Taking all the safety measures will stabilize waste dumps. Retaining wall will be made at the bottom of the dump when it will be required.
e) Treatment and Disposal of Mine Water
There will be no make of water during any of the mining operation; therefore there will be no need of treatment and disposal of mine water.

f) Measures for minimizing adverse affect on Water Regime
The water table in the area lies at the depth of approximately 100-150 m. below surface. So water table will not be encountered during mining operation. Therefore, there will be no adverse affect of mining on water regime.

g) Protective Measures For ground Vibrations / Air blast Caused by blasting
The scale of blasting at the mine is very small and that is not generate any significant ground vibration and air blast. Therefore, there is be no protective measures are required for ground vibration and air blast.

h) Measures for dust Control
The dust is generated during drilling. Therefore proper care is taken by using dry dust extractors to prevent the dust being air borne.

i) Measures for protecting historical monuments and for rehabilitation of human settlements likely to be disturbed due to mining activity
There is no public building, cultural or historical monument or place of worship and human settlements exist in and around the lease area. Therefore, there will be no need of protective measures for it.
j) Socio-Economic Benefits arising out of mining

At present the major occupation of the villagers are farming and cattle rearing. The mine in the area will provide regular employment to the villagers of the area.

12. ANY OTHER RELEVANT INFORMATION

NIL