PRE-FEASIBLITY REPORT

OF

DABI SANDSTONE MINING PROJECT
At
IN VILLAGE – DABI
TEHSIL – TALERA
DISTRICT - BUNDI
STATE – RAJASTHAN
M.L.No. -151/2000
Proposed production Capacity- 3000 MTPA
Lease Area – 1.0670 Hect.
Category of Project - 'A'.
Name of Project Proponent – Jagdish Rathore
Project Incharge – Jagdish Rathore
S/o Sh. Narayan rathore
Address : Village – Dabi, Tehsil – Bundi, Distt - Bundi (Raj.)

E-mail address: shubhamsuman105@gmail.com
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Mobile No.- 9828299668
Project Cost - Rs. 50 Lac
Date of issue of Work Order - 20-05-2016

Prepared By:
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1.0 EXECUTIVE SUMMARY

1.1 Executive Summary

Persent time The Mining Lease for for an Area 1.0670 Hact. ML No151/2000, Mineral Sand Stone Near Village - Dabi, Tehsil- Bundi, Dist.- Bundi (Raj.) in favour of **Jagdish Rathore S/o Sh. Narayan Rathore R/o Village - dabi, Tehsil - Bundi, Distt - Bundi (Raj)** vide order no. 3100 on date 05/04/2007.

This mining project falls under Category "B1" Project or activity 1(a) as per EIA Notifications 2006, 2009, 2011 and 2013.

1.2 Salient features of the project

Project Name	Dabi Sandstone Mining Project
Location of mine	**Village** - Dabi **Tehsil** - Talera **District** - Bundi **State** - Rajasthan
Latitude	25° 06' 10.89" to 25° 06' 16.28"
Longitude	75° 32' 0.69" to 75° 31' 59.66"
Topo sheet number	45 O/12
Minerals of mine	Sandstone
Total geological reserves	129641 MT
Total Mineable reserves	74904 MT
Life of mine	25years
Proposed production of mine	3000 MTPA
Method of mining	Opencast Semi Mechanized
No. of working days	250 days
Water demand	Total water requirement is about 3.95 KLD= 1.45 KLD (Drinking & Domestic Uses) + 1.5 (Plantation) KLD + 1.0 KLD (Dust Suppression).
Sources of water	Drinking water will be brought from the nearby Tube-wells and water for dust suppression and plantation will be collected from nearby villages. At the monsoon time, rain water accumulated on the pit will be used for same purposed.

Man power	20
Nearest railway station	Bundi Railway station (About 40 km)
Nearest State highway/national highway	NH-76 (About 1.0km)
Nearest airport	Kota Airport (About 40 km)
Seismic zone	Zone II

1.3 Proposed Planning

Mining method - Opencast Semi Mechanized

Project cost - Rs. 50 Lac

Production - Sand Stone **3000 MTPA**

The land use pattern around Dabi village is Govt. Waste land

The existing land use pattern of the lease area is as follows:-

	*All the areas are given in Hectares	Forest Land	Grazing Land	Pvt. Waste Land	Govt. Waste Land	Total
1	Pits & Quarries	----	----	----	0.7601	0.7601
2	Top soil Dump	----	----	----	----	----
3	Dumps	----	----	----	0.1140	0.1140
4	Mineral Stack Yard	----	----	----	----	----
5	Sub Grade stack Yard	----	----	----	----	----
6	Infrastructure (Work shop, administrative Building)	----	----	----	----	----
7	Roads	----	----	----	0.0110	0.0110
8	Railway	----	----	----	----	----
9	Green Belt	----	----	----	----	----
10	Tailing Pond	----	----	----	----	----
11	Effluent Treatment Plant	----	----	----	----	----
12	Mineral Separation Plant	----	----	----	----	----
13	Township	----	----	----	----	----
14	Non Utilized	----	----	----	0.3370	0.3370
	Total	----	----	----	1.0670	1.0670

Conclusion

The production of mineral will benefit to the State in the form of Royalty. Apart from this, the project will generate direct and indirect employment opportunities to the tune of about 30 persons from the nearby villages. Also, the mine management will conduct medical camps at regular interval in the nearby villages and will help the nearby villages in providing infrastructure like school furniture, water tankers, etc.

2. INTRODUCTION OF THE PROJECT/BACKGROUND INFORMATION

2.1 Identification of Project and Project Proponent

Persent time The Mining Lease for for an Area 1.0670 Hact. ML No151/2000, Mineral Sand Stone Near Village - Dabi, Tehsil- Bundi, Dist.- Bundi (Raj.) in favour of **Jagdish Rathore S/o Sh. Narayan Rathore R/o Village – Dabi, Tehsil – Bundi, Distt - Bundi (Raj)** vide order no. 3100 on date 05/04/2007.

2.2 Brief Information about the Project

The project has been proposed for mining of **3000 MTPA** of Sandstone by opencast Mechanized method. The mine lease area is **1.0670 Hact.** The expected life of the mine is 10 years. Water requirement for the proposed project for drinking use, dust suppression and other use will be 3.95 KLD, which will be taken from nearby source.

2.3 Need for the Project and Its Importance to the Country or Region

Today in India Sandstone is used widely in domestic construction sector, monuments construction markets, hospitality industry, export market and handicraft and antiques. The material is starting to be more well-known and popular because of technological advancements, sophisticated quarrying techniques, and decreased cost of mining and growth in usage as material in the decoration sector. Sandstone as material is showing beauty and long-lasting value and therefore people have started to use it more and more in memorials and in other funerary items. Today Sandstone is popular material in laying floors and cladding walls in airports, hotels and other public and commercial centers.

2.4 Demands-Supply Gap

The demand for Sandstone is ever growing with the growth of the infrastructure sector in our country. The mineral is used in the construction activities like buildings, structures. The requirement for the mineral is always high in the nearby cities and towns. Therefore there is always a good demand of the mineral in the domestic market.

2.5 Imports vs. Indigenous Production

Development needs will be met only through indigenous produced Sandstone material against the high cost of imported material

2.6 Export Possibility

There is no proposal to export the Sandstone. However, Sandstone produced from the mine will fulfill the needs of the region and surplus if any, will be considered for export.

2.7 Domestic/ Export Markets

Domestic Market

The mineral is used in Tiles flooring, column making, graveyard, pre fabrication unit, statue making and in small usages like monument of table top, name plate, vases, candle holder etc

The proposed mining activity is for indigenous consumption only for real state, decorative accessories etc.

2.8 Employment Generation

The proposed mining activity will provide employment to about 20 workers. The workers will be hired mostly from the nearby villages.

3. PROJECT DESCRIPTION

3.1 Type of Project Including Interlinked and Interdependent Projects, If Any.

The mine is over an area of **1.0670** Hect. The proposed production is 3000 **MTPA**. This is an independent mining project and there are no interlinked projects involved.

The project falls under Category "A" Project or activity 1(a) as per EIA Notifications 2006, 2009, 2011 and 2013

3.2 Location

The Mining Lease Area Is Located At, Near Village - Dabi, Tehsil – Bundi, District – Bundi And State - Rajasthan. The Mining Lease Area Falls In Toposheet Number- 45 O/12.

Latitude : 25° 06' 10.89" to 25° 06' 16.28"

Longitude : 75° 32' 0.69" to 75° 31' 59.66"

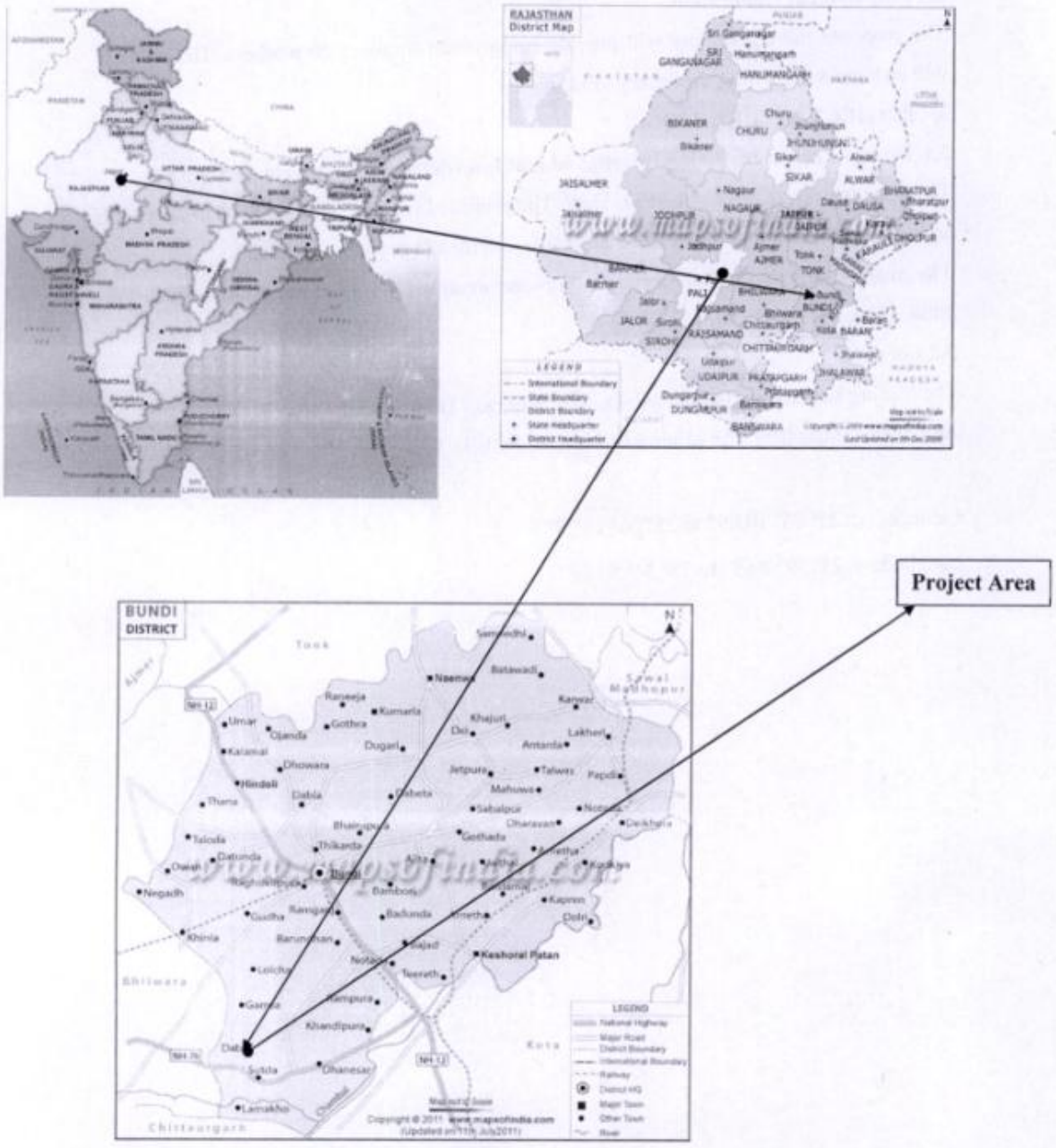

Fig 1: Location Map of proposed Project site

3.3 Details of Alternate Sites

Mining is site specific so no alternative site is proposed.

3.4.1 Size or magnitude of operation

The mining lease has been granted over an area of **1.0670 Hact.** During five year total production of sandstone shall be approximately **15000 MT** . The average number of working days in the year would be 250.

Regional Geology: -

As per mineral atlas of India Sheet no. 14, miscellaneous bulletin no. 30 and Memories Volume 116 of GSI, the rocks of the area belongs to lower Bhander group of Vindhyan Super Group. The stratgraphic succession of rocks is as follows.

Stereographic Succession

Recent	Group	Soil, Alluvium
Vindhyan Supergroup	Upper Bhander Group	Upper Bhander shale Upper Bhander Lime Stone Upper Bhander Sand Stone Sirbhu Shale
	Lower Bhander Group	Upper Bhander Sand Stone (BUNDI hill sandstone) Nagoda Limestone Chambal Limestone Somria Shale

Mineral Resources:

The most important mineral resources of Bundi district are limestone and sandstone. The limestone deposits provide one of the oldest cement plant of state at Lakheri. However most of the deposits are marginal cement grade and also fall in forest. Other minerals include silica asan, iron ore, clay, barites, red ochres, marble, granite, slate stone etc.

Local Geology

The local geological succession for the area may be summarized as below:-

Recent	Group	Soil, Talus
Vindhyan Supergroup	Lower Bhander Group	Lower Bhander Sand stone (Bundi hill sandstone)

2.3 Lithology

The soil cover/soil in the area is varying in thickness from 1m) observed at places over the fractured sand stone in the area. The fractured sandstone with shale parting layer varies in thickness about 12.5 meters. The fractured (waste) sand stone with shale parting layer varies in thickness about 12.0 meters.

3.5 Project description with process details

3.5.1 Method of Mining

The Sand Stone mine shall be developed by Mechanized opencast Mining. The mineral is lying on the sub surface therefore open cast mining has been the obvious choice.

The Bench Parameters shall be for mineral

1. Height - 1m -3m 2. Width - 1m – 3m

The main mining operation includes digging, cutting and the transportation by trucks. The Mineral in the trucks are loaded manually.

The details proposed mining machinery

S. no.	Type	Nos.	Bucket Capacity in Cu. M.	Make	Motive Power	H.P.
1.	Dumper	6	10 tonner	Tata	Diesel	119HP
2.	Diesel Pump	1		Local	Diesel	--
3.	Compressor	2	75 CFM	Local	Diesel	--
4.	Jack Hammer	4	32mm	Local	---	--
5.	Excavator	1	1 m^3	Local	Diesel	--
6.	Edge Cutting m/c	---	---	---	---	--
7.	Cobbles formation m/c	---	---	---	---	--
8.	Block cutter m/c	---	---	---	---	--
9.	Fork Lift m/c	---	---	---	---	--

Overburden shall be removed on contractual basis. The men & Machineries for the overburden removal shall be on contract basis as when required. Required more m/c shall be taken on rent basis to achieve the production.

The following mining parameters are proposed

Type of working : Opencast Semi Mining

Bench height : 1-3m

Bench width : >6.5m or as per strata

Overall pit slope : 45° maximum

Production details

The Proposed Production of Stone in next five year:

Year	Sandstone ROM(M.T.)
1st year	3000
2nd year	3000
3rd year	3000
4th year	3000
5th year	3000
Total	**15000 MT**

3.6 Raw Material Required Along With Estimated Quantity, Likely Source, Marketing Area of Final Product/S, Mode of Transport of Raw Material and Finished Product

No raw material will be required for production of sandstone. The sandstone blocks and laffers / Khanda are transported to Bundi and other places from mine in trucks dispatched to the Gang saw Unit & cutter for processing.

The overburden is transported from mine in tippers and dumpers of 10 MT.

3.7 Resource Optimization/ Recycling and Reuse

Not envisaged.

3.8 `Availability of Water Its Source, Energy/ Power Requirement and Source

3.8.1 Water Requirement

Water for domestic, dust suppression and plantation is required to be 3.95 KLD. Drinking water will be brought from the nearby Tube-wells and water for dust suppression and plantation will be collected from nearby villages. At the monsoon time, rain water accumulated on the pit will be used for same purposed.

3.8.2 Power

Electric power supply Line exist in the applied mining lease.

3.9 Quantity of wastes to be generated (Liquid and Solid) and Scheme for their Management/Disposal

3.9.1 Solid Waste Generation & its Disposal

Nature of Waste

The waste as overburden in the area is top soil and Hard Sandstone. The soil with Toll cover in the area varies from 1m. The rock fragments of small size are also resulted after mining.

Proposed Waste to be generation

Year	Total Sand Stone Product MT	Expected Salable Sand Stone MT	Mineral Waste Generated MT	Over Burden Removal MT
First Year	5000	3000	2000	28000
Second year	5000	3000	2000	28000
Third Year	5000	3000	2000	28000
Fourth Year	5000	3000	2000	28000
Fifth Year	5000	3000	2000	28000
Total	**25000**	**15000**	**10000**	**140000**

Dumping Site:

Initially the overburden will be dumped inside the Lease area and later to be used for back filling

Maximum height and Spread of Dump:

The height of the dump will be kept 3-4 m. The total overburden in five years will be about **75000 M^3**. The retaining wall will be erected to arrest the transport of overburden fines during rain.

3.9.2 Liquid Effluent

Not applicable

4. SITE ANALYSIS

4.1 Connectivity

The lease area falls near village Dabi, Tehsil -Bundi, Dist.- Bundi. The Village Dabi is Connected with NH 76 and NH12 by Road and by Railway line with Kota and Bundi.

4.2 Landform, Land use and Land ownership

4.2.1 Landform

About 3.0m top cover is fractured rocks considered as waste.

4.2.2 Land use

The lease area is having Waste land. There is no village or human settlement in the lease area. In the total lease area (1.0670 Hact.).

4.2.3 Land Ownership

The proposed lease area is Govt. Waste land.

4.3 Topography

The area falls in G.T. sheet No. 45 O/12 Topographically the area comprises flat land.

4.4 Existing land Use Pattern

The lease area is already working. The lease area is having Waste land. There is no village or human settlement in the lease area. In the total lease area (**1.0670 Hact.**).

4.5 Existing Infrastructure

No existing infrastructure within lease area. Please check as photographs of lease area is showing some structure.

4.6 Soil Classification

Top soil proposed.

4.7 Climate data from Secondary Sources:

the area is characterized by semi arid region with an average annual rain fall about 400 MM. which is mainly received during july to september the area as a severe winter . Minimum Temp. varies 10^0 C to 25^0 C, Maximum Temp. varies 25^0 C to 45^0 C.

4.8 Social Infrastructure available:

- The mine is facilitated with power line.
- The nearest telephone is available at near village Dabi
- The nearest police station applicable is at Dabi
- The nearest railway station is at Bundi
- The Post office applicable for the area is Dabi
- up to primary school facility is available at Dabi Village and Senior Secondary school facility at Dabi
- Medical facility is available at Dabi and Dabi

5 PLANNING BRIEF

5.1 Planning Concept

The Sand Stone mine shall be developed by Mechanized opencast Mining. The mineral is lying on the sub surface therefore open cast mining has been the obvious choice.

The Bench Parameters shall be for mineral

1. Height - 1m -6.5m 2. Width - 1m – 6.5m

The main mining operation includes digging, cutting and the transportation by trucks. The Mineral in the trucks are loaded manually.

5.2 Land use Planning

Sr. No.	Category	Exiting Land Use Pattern (Ha)	Land use after plan period (Ha)	At conceptual Period (Ha)
1	Pits & Quarries	**0.6050**	**1.0670**	**1.0470 (Water Reservoir)**
2	Top soil Dump	----	----	----
3	Dumps	**0.1140**	----	----
4	Mineral Stack Yard	-----	----	----
5	Sub Grade stack Yard	----	---	----
6	Infrastructure (Work shop, administrative Building)	----	----	----
7	Roads	**0.0110**	----	**0.0**
8	Railway	----	----	----
9	Green Belt	----	----	**0.0200**
10	Tailing Pond	----	----	----
11	Effluent Treatment Plant	----	----	----
12	Mineral Separation Plant	----	----	----
13	Township	----	----	----
14	Non Utilized	**0.3370**	----	**0.00**
Total		**1.0670**	**1.0670**	**1.0670**

5.3 Assessment of Infrastructure demand (Physical & Social)

On the basis of the preliminary site visit, the infrastructure demand in the village was assessed on the basis of need and priority.

The health infrastructure of the study area requires improvement. The lack of medical facilities needs improvement. Medical facilities will be provided by mine owner during mining.

5.4 Amenities/Facilities

Workshop

For maintenance of machinery it is proposed to established a workshop nearby to mine site for Welding, puncture etc.

Budget allocated for facilities provided to labors at site

S. No.	Description	Capital Cost
1.	Drinking water facility	10,000/-
2.	Health facility	10,000/
3.	Education for children, crèche.etc	10,000/
4.	Remaining	10,000/
	Total	**40,000/-**

Power supply

The Electric Line passes to the M.L. area. The electric facility is available at mining site Area.

First Aid

A first aid facility is proposed at Mines office.

Rest Shelter

Rest shelter is proposed near mine site.

Latrines and Urinals

At the mine site urinal and Bath is proposed for staff and labors .

6. PROPOSED INFRASTRUCTURE

6.1Industrial Area (Processing Area)

No infrastructure is proposed.

6.2 Residential Area (Non Processing Area)

As local workers from nearby areas will be engaged for the mining activity, no residential area/ housing are proposed.

6.3 Green Belt

As the mine lease area is 1.0670 Hect. Green belt would be developed in the surrounding area of the lease. Types of plants as under:

1	Babool	2.	Vilayati Babool
3	Khejari	4.	Amal Tas
6.	Perkin Sonia	6.	Neem

Programme for Plantation

S.No.	Year of Plantation	Target of Plantation	Assumed survival	Replenishment of Casualties	Total
1	First year	40	32	---	32
2	Second year	40	32	8	40
3	Third year	40	32	8	40
4	Fourth year	40	32	8	40
5	Fifth year	40	32	8	40

Place of proposed plantation: - The plantation shall be done at the following places:-

1. At the boundary of the Lease.
2. Both site of the road

3. At the Dumps

6.4 Social Infrastructure

The Applicant shall spend 2% of profit for the development of the area i.e. treatment of poor, schools, temples and other social work.

Budget for ESR

Sl. No.	Activity	ESR Cost
1	Provide drinking water facility in surrounding villages and schools by hand pump/dug well/water tank or funds for Ambulance	20,000/-
2	Health camps and free medicine	15,000/-
3	Clothes distribution to poor villagers	15,000/-
4	Plantation	20,000/-
5	Toilets for women	10,000/-
TOTAL		**80,000/-**

6.5 Connectivity

The lease area falls near Village Dabi, Tehsil -Bundi, Dist.- Bundi. The village Dabi is connected to tar road is about 2 Km from Tehsil- Bundi, Dist.- Bundi.

6.6 Drinking Water Management

Water for drinking is required to be 3.95 KLD . Drinking water will be brought from the nearby Tube-wells.

6.7 Sewerage System

Domestic waste water will be treated into septic tank followed by soak pit.

6.8 Industrial Waste Management

Not applicable

6.9 Solid Waste management The mineral overburden ratio is 1:1

Proposed Waste to be generation

Year	Total Sand Stone Product MT	Expected Salable Sand Stone MT	Mineral Waste Generated MT	Over Burden Removal MT
First Year	5000	3000	2000	28000
Second year	5000	3000	2000	28000
Third Year	5000	3000	2000	28000
Fourth Year	5000	3000	2000	28000
Fifth Year	5000	3000	2000	28000
Total	**25000**	**15000**	**10000**	**140000**

Initially the overburden will be dumped outside the Lease area

Maximum height and Spread of Dump:

The height of the dump will be kept 3-4 m. The total overburden in five years will be about **75000 M^3** Ton. The retaining wall will be erected to arrest the transport of overburden fines during rain.

6.10 Power Requirement & Supply/Source

The electricity line exist in the M.L area. The electricity facility is available at mining lease area.

6.11Environment Management Plan

Budget allocated for EMP

S. No.	Measures	Recurring cost (in Rs.)
1	Pollution Control i) Dust Suppression ii) Garland drain & ground dump	25,000/- 15,000/-
2	Pollution Monitoring i) Air pollution ii) Water pollution	25,000/- 15,000/-
3	Green Belt	10,000/-
Total		**90,000/-**

7. REHABILITATION AND RESETTLEMENT (R&R) PLAN

As no personnel are expected to be migrated due to mining in the lease area and the adjoining region is also having a good mineral potential, the rehabilitation of the employees is not going to be a problem. The workers and other staff can get job in the neighboring areas after the end of life of mine.

8 PROJECT SCHEDULE & COST ESTIMATES

8.1 Likely Date of Start of Construction and Likely Date of Completion

No construction activities are proposed. The mining activity will commence only after receiving environmental clearance and other statutory clearance.

8.2 Estimated Project Cost Along With Analysis In Terms of Economic Viability of the Project

Estimated project cost is Rs. 50 Lac. The lessee has all the mining equipments used for the scientific mining. The mine is Eco-Friendly. Economically the ore is mineable as compared tc overburden thickness. The entire mineable reserve as estimated is categorized as111+121+333.

9.0 ANALYSIS OF PROPOSAL (FINAL RECOMMENDATIONS)

The proposed mine will bring economical benefits to the state by the way of Royalty for mineral and to the local people by way of direct and secondary employment opportunities. Sandstone, like other building stones, is used for a variety of structural and decorative purposes. The material is in high demand at the local market for real estate industry.
The project will bring about socio-economic improvement of the area and will prove beneficial to the area.