0.0 EXECUTIVE SUMMARY

This is a Mining Lease of mineral Limestone , Clay and Bauxite, near village- Kubri , Tahesail-Maihar, District- Satna, Madhya Pradesh over an area of 69.301 hectare. GO has been issued in favour of Shri Sukhdeo Prasd goaynka, Station Road Katni vide deed no 451108 made on 19 /08/2014.

The mine lease area is >50ha. is considered as Category 'A' project as per MOEF Office Memorandum J-13012/12/2013-IA(I) Dated 24th December 2013 hence it come under jurisdiction of Central Environment Impact Assessment Authority (EIAA), MOEF, New Delhi . Lessee applies for Environment Clearance under EIA Notification, 2006. Proposed production of from this mine is 2 million Tonne per annum.

The mine lease located on plot no – enclosed, near village- Kubri , Tahsil-Maihar, District- Satna, Madhya Pradesh over an area of 69.3021 hectare. Total land of mining lease comes under barren . **No forest land is involved in this area.** Topographically the area is barren rocky land. The area lies between Longitude **Latitude: 24^0 06' 49" N to24^0 07' 38" N , Longitude: 80^0 47' 5.7" E to80^0 47' 44" E** and the part of toposheet no- 63D/16.

Table 1.1 Silent Features of the Project

<table>
<tr><td>1.</td><td>Name of the project</td><td colspan="6">Kubri limestone, Bauxite and Clay</td></tr>
<tr><td>2.</td><td>Mine lease area</td><td colspan="6">69.301 Hectare</td></tr>
<tr><td>3.</td><td>Location of mine</td><td colspan="6">Kubri, Tahsil-Maihar, District- Satna
Madhya Pradesh.</td></tr>
<tr><td>4</td><td>Coordinates</td><td colspan="6">Latitude: 24^0 06' 49" N to24^0 07' 38" N
Longitude: 80^0 47' 5.7" E to80^0 47' 44" E</td></tr>
<tr><td rowspan="2">5</td><td rowspan="2">Area Details</td><td>Plot No.</td><td>Area</td><td>Village</td><td>Tahesil</td><td>District</td><td>State</td></tr>
<tr><td>Annexure- I</td><td>69.301 Hectares</td><td>Kubri</td><td>M ahiar</td><td>Satna</td><td>Madhya Pradesh</td></tr>
<tr><td>5.</td><td>Toposheet</td><td colspan="4">Toposheet No.: 63D/16</td><td></td></tr>
<tr><td>6.</td><td>Mineral</td><td colspan="6">Limestone</td></tr>
<tr><td>7.</td><td>Reserve / life of mines</td><td colspan="6">
<table>
<tr><td>Category</td><td>Geological Reserves Tonne</td><td></td></tr>
<tr><td>Proved (111)</td><td>25918007</td><td></td></tr>
<tr><td>Prefeassible mineral resource(222)</td><td>17754899</td><td></td></tr>
<tr><td>Indicated mineral resource (332)</td><td>43672906</td><td></td></tr>
<tr><td>Total</td><td></td><td></td></tr>
</table>
Mineable/ Recoverable Reserve</td></tr>
</table>

		Life of mine Life of mine = Total mineable reserve / Annual Production = 25918007 tonne/ 2.10,803 tonne = 122 Years
8.	Proposed Productio	2.10,803 tonne/annum
9.	Validity of lease	20 years
10.	Ultimate depth	6 meter
11.	Method of working	Opencast semi- mechanized without blasting
12.	Water demand	8.0KLD (2.0KLD for Drinking, 3.0KLD for Dust Suppression, 3.0KLD for Plantation)
13.	Man Power requirement	22
14.	Nearest Railway station/Air Port Nearest state / national highway	Railway Station: Mahiar (10 km) Airport: Jabalpur (130 Km) State Highway: 5 KM

1.0 INTRODUCTION OF THE PROJECT/BACKGROUND INFORMATION

(i) Brief Description of nature of project:

This is a Mining Lease of mineral Limestone , Clay and Bauxite, near village- Kubri , Tahesail-Maihar, District- Satna, Madhya Pradesh over an area of 69.301 hectare. GO has been issued in favour of Shri Sukhdeo Prasd goaynka, Station Road Katni vide deed no 451108 made on 19 /08/2014. The Mining will be done in this proposed lease by semi-mechanized open cast method. Proposed workings will be systematic by forming proper benches.

(ii) Need for the project and its importance to the country and or region :

Due to the globalization and new ventures and faster development of infrastructure project, the requirement for raw material like limeston has been on the rise over the last few years. The excavated mineral will be dispatched to the industries located in the state and different parts in the country. Its strength and quality makes it suitable for a number of purposes. Mining industry play an important role in economic sector in India. The state is endowed with major and minor mineral resources. The project is situated in the Satna district, where number of cement plant and other industries are located. Thus there is no problem of mineral consumption.

The economy of the District mostly dependant on agriculture and small industries like cement plant, lime cline . The important benefits accruing from the project to the state in the form of royalty can thus be stated as-boost to local and regional economy. The development of mining in the area provides direct and indirect employment opportunities better infrastructural facilities, communication and socio-economic infrastructure.

(iii) Demand and Supply Gap :

Limeston is used as a basic raw material in cement and infrastructure projects, the demand of limeston is increasing day by day. In past, demand was not too much but now a days due to rapid industrialization and urbanization its demand increasing with pace of time.

(iv)**Imports v/s Indigenous Production :**

Demand of limestone, Bauxite and clay in the domestic market is high. In the allotted area, limestone is available in abundant quantity along with Bauxite and clay ,which can be excavated indigenously. It had become a major source of economy in the area/region.

(**Vi) Export Possibility :**

There are an enough possibility for export of limeston in various forms such as cement, hydrated lime etc.

(Vii) Employment generation (Direct & Indirect) due to the project :

Employment opportunities for the local people and indirectly for the others. The total manpower requirement for the proposed mining operation will be around 22 persons directly. Huge Indirect employment approx 100 persons is expected by allied activities. Such as establishment of granite processing plants etc.

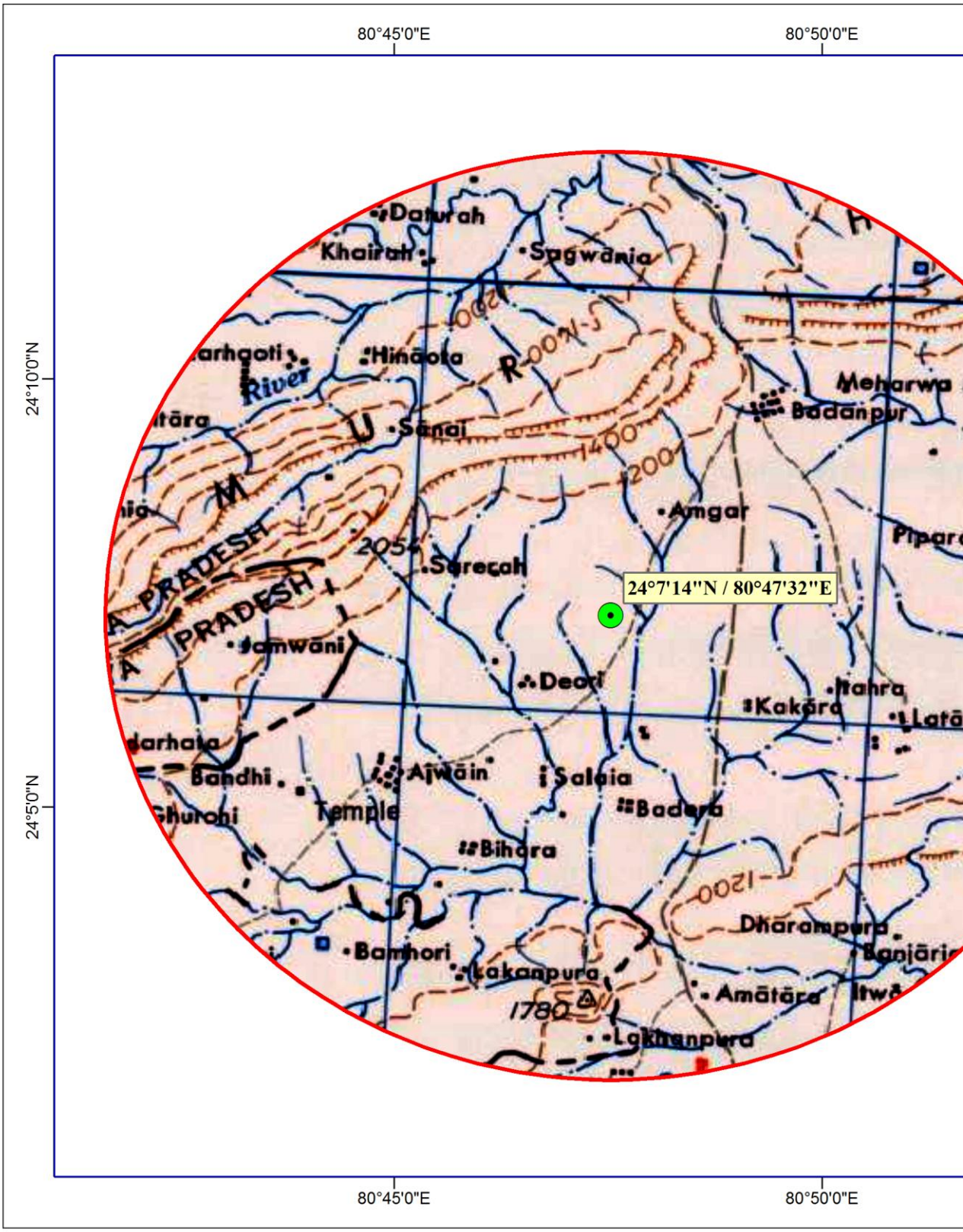
2.0 PROJECT DESCRIPTION :

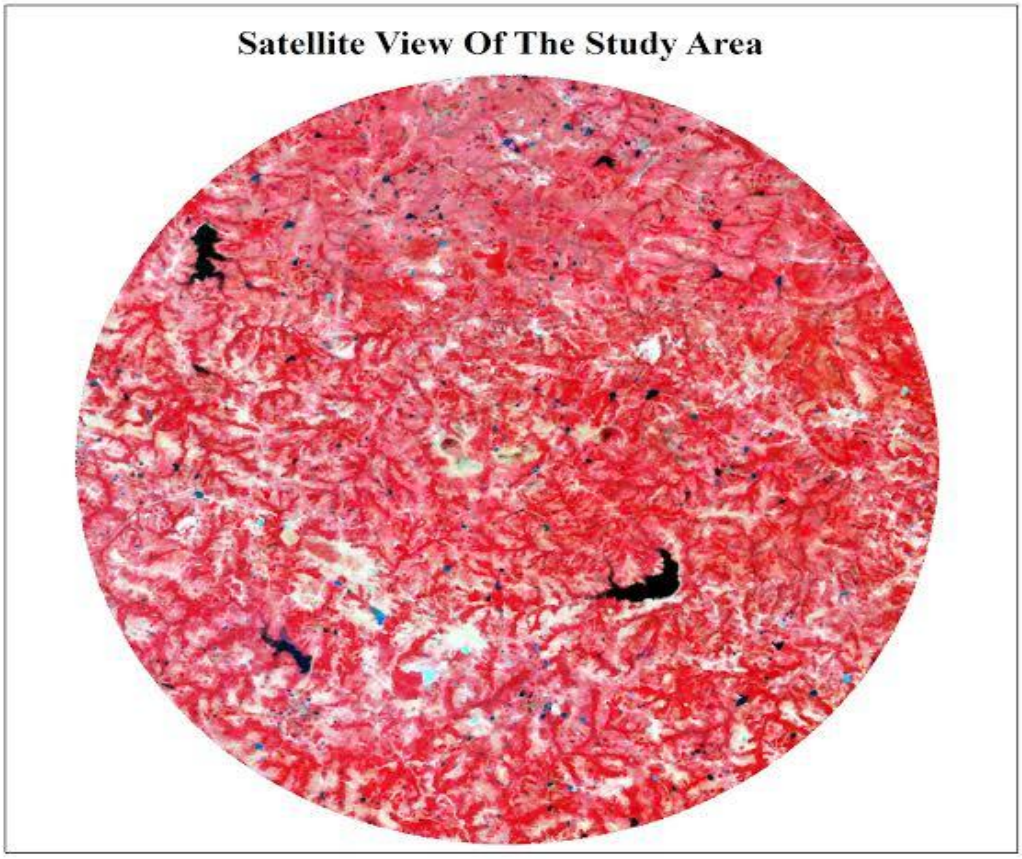
(i) Type of Project including interlinked and interdependent projects, if any |:

The proposed project of limestone, Bauxite and clay is an independent project in which mineral will be sold directly in domestic / overseas market.

(ii) Location (map showing general location, specific location, and project boundary & project site layout) with coordinates :

The project / mine lease located on plot nos – Annexure-I, near village- Kubri , Tahsil – Mahiar, District- Satna, Madhya Pradesh over an area of 69.301 hectare. Total land of mining lease comes under (39.301 waste land and 30.00 Ha Agriculture land). **No forest land is involved in this area.** Topographically the area is barren rocky land. The area lies between Longitude 80°47'32" and Latitude 24°07'14" and the part of toposheet no-63D/16. Location map of the project is as under.


80°45'0"E
80°50'0"E
24°10'0"N
24°5'0"N
Daturah
Khairah
Sagwania
Hinaota
River
Sanai
Meharwa
Badanpur
Amgar
Sarecah
24°7'14"N / 80°47'32"E
Deori
Kakara
Bandhi
Ajwain
Saleia
Temple
Badera
Bihara
Bamhori
Lakanpura
Amatara
Lakhanpura
Dharampura
1780
1400
1200
2054



Satellite view of the site(30/5/2015)

(iii) Details of alternate sites considered and the basis of selecting the proposed site:

` Mining of mineral is site specific and feasible in the allotted area hence no alternate site is examined for mining.

(iv) Size and magnitude of operation :

Total area of mine lease is 69.301 Hectares. The proposed output will be 2 million tonne per annum including limestone, Bauxite and clay.

(v) Project description with process details :

Mineral rocks present in this area as thick zone dipping almost vertical to sub vertical. The overburden is the Bauxite which will be removed by excavator and dumpers. The clkay is also occurring in the area is being produced by forming systematic benches & with the help of drilling - cutting technology, mobile cranes. By doing so pits will be developed systematically.

Although the mining needs very keen observation & study of geological joints, cleavage, hair cracks etc.

(iv) Extent of Mechanization :

Machine	Nos.	Make	HP/ Capacity
Compressor	1	CPS/Atlas Copco	300 CFM
Slim Drills	2	Cosmic/JRD	115 mm
Blind Cut Machine	1	Local	115 mm
Jack Hammers	2	Atlas Copco	32 mm
Excavator	1	L & T – PC 210	0.9 Cu. M.
Tripper	1	Tata	10 MT
Jib Crane	1	Local	20 MT
D.G. Set	1	Kirloskar	125 KVA
Water Tanker	1	Tractor	35 HP

Geology and Exploration:

a) Briefly describe the topography, drainage pattern, vegetation, climate, rainfall data of the area applied/mining lease area:

Physiography of the area:

The lease area in general comprise of a flat topography and the elevation ranges from 386m, to 394m mrl. The surrounding area comprises of few working mines, agricultural lands and road & infrastructure, regionally, the north of the area is bounded by the Kaimur Hill range and sloping towards south east to merge in the catchment area of son River.

The geomorphology of the area mostly guided by the geological formation and sandstone/shale unites those are relatively more resistant to the weathering actions stands as a denudation hills whereas limestone areas are more susceptible to weathering actions and stands upright as hills in different parts of the region.

A physiographic map has been generated based on SRTM (USGS) data available in the public domain and furnished in Plate No. (4)

Land use pattern of the area:

The lease area comprise of about 69.301 hect., is mostly of agricultural lands. The other units present within the lease are village roads and high tension electricity line passing through the

lease area in the central part. Beyond lease area, there are few working pits and abandoned pits, abandoned pits are mostly water filled. A pictorial representation of the lease area superimposed in Google Earth image has been furnished in Plate No. (5)

Vegetation of the area:

The soil of the area understandably highly rick in the calcium and pulses cultivation are done through the years in this region.

Besides cultivation, the area is devoid of any major vegetation cover except few sparse trees.

Climate & Rainfall:

Temperature:

The winter season starts from December and continues till the end of February, January is the coolest month with the mean daily maximum temperature at 22^0C and the mean daily minimum temperature at 10^0C. both the night and day temperatures increase rapidly during the onset of the pre-monsoon season from March to May. During pre-monsoon season, the mean maximum temperature (May) was observed to be 42.0^0C with the mean minimum temperature (March) at 24^0C. the mean maximum temperature in the monsoon season (Sep.) observed to be 34^0C whereas the mean minimum temperature was observed to be 18^0C. By the end of September with the onset of post-monsoon, the day temperatures increase slightly, with the mean maximum temperature at 26^0C and the mean minimum temperature at 12^0C.

Relative Humidity:

The air generally humid in this region during the monsoon when the average relative humidity at 0830 hr. was observed to be with a maximum of 100% and a minimum of 52%. Similarly, at 1730 hr., the average value was observed to be with a maximum of 94% and a minimum of 60%. Generally, the weather during post-monsoon was observed to be with a maximum of 90% and a minimum of 15%.

Rainfall:

Monsoon in the area comes from southwesterly winds. The rainfall in the area is very erratic. The average annual rainfall based on the last 10 year IMD data, was observed to be 1168 mm. The monsoon sets in the month of June and continues till mid observed in the evening, with clear mornings. During the monsoon season, both in the mornings and evenings, the skies were found to be clouded.

Cloud:

30 years average data reveal that maximum cloud cover was observed around 7.0 oktas in the month of July, august. Whereas cloud cover was observed around 2.2 (in oktas) in the month of November, December, January, February and March.

Wind Pattern:

Generally light to moderate winds prevails throughout the year. Winds were light and moderate particularly during the morning hours. While during the afternoon hours the winds were stronger. A review of the wind rose diagram shows that predominant winds are mostly from S, NW, NNW, SW, NE, N and E directions followed by NW direction.

Drainage system:

The lease area is falling in a water divider zone of two seasonal nalas flowing along the eastern and western boundary of the block to join ultimately to Mahandi River around 8 km south of the area. Mahandi in turn joins Son River flowing further east. Son in part of greater Ganga Basin..

(b) Geology of the area:

The area in general falls within proterozoic basin of Vindhyan Super Group. This basin is the largest exposed Precambrian basin of India comprise of around 104,000 Sq. KM area. The general Stratigraphic sequence of the area depicts lower and upper group with distinct unconformity between them. The generalized Stratigraphic sequence of the region is furnished below:

Group		Formation	Lithology
Upper Vindhyan		Bhander	Sandstone, Shale & Limestone
		Rewa	Sandstone & Shale
		Kaimur	Sandstone & Shale
Unconformity			
Lower Vindhyan	Semri Group	Rohtas	Bhagwar Shale
			Rohtas Limestone
		Kheinjua	Rampur Shale
			Chorhat Sandstone
			Koldaha Shale

		Mirzapur	Dconar Porcellanite
			Kajrahat Limestone
			Basal Shale
			Deoland Sandstone

The Vindhyan Supergroup, in contrary to the event of tectonics found to be least deformed, however, a very minor scale syn-sedimentary deformations are observed by few workers of the area. The geology is also equally important by discovery of trace fossils and presence of stromatolites (algal colony) in the Bhander and Semri group of rocks.

(c) Detailed description of geology of the lease area such as shape and size of the mineral/ore deposit, disposition various litho-units indicating structural features if any etc. (Applicable for Mining Plan for grant & renewal and not for Scheme of Mining/Modifications in the approved mining plan/scheme of mining):

Local geology of the mineral including drainage pattern:

Geology of the lease area predominantly occupied by Top soil, Lateritic soil, shale and limestone if one move from top to bottom. All the lithounit belongs to Bhander limestone. The top soil horizon varying from 1.5 meter 3.5 meter from the ground level. Often the top soil layer is found to be mixed with remnants of lateritic material and can be termed as latosol. The lateritic layer followed by a yellowish clay layer. The witish grey limestone layer is underlain the clay layer. In few boreholes drilled within the area, found shale-limestone intercalation in certain depth range while the most of the drill holes are found to be continuous limestones. However, compositional variations are not mapped in all the boreholes except few check samples are gathered and analysed. A representative schematic di gram of the succession is shown below:

Lithounits	Depth range	Remarks
Soil	00.2.0 meter	
Lateritic soil/clay	2.0-4.0 meter	
Weathered Limestone	4.0-7.0 meter	
Limestone	7.0-50.0 meter	Occasionally found to be intercalated with shale