

Project

Gaurala-Somnala Limestone & Dolomite mine (116.13 ha)

**Village : Gaurala & Somnala
Taluka : Maregaon
Dist. : Yavatmal (MS)**

PROPONENT

**MAHARASHTRA STATE MINING CORPORATION LIMITED
PLOT NO. 7, AJNI SQUARE
WARDHA ROAD
NAGPUR 440 015**

Consultant

**Enviro Techno Consult Private Limited
68, Mahakali Nagar 2,
Near Manewada Squire
Nagpur 440 024**

Accredited At Sr. No. 46 Dated Jan. 05, 2018

FEBRUARY 2018

1. Executive summary:

- ✚ Maharashtra State Mining Corporation (MSMCL), Nagpur is a limited company formed by Government of Maharashtra and is incorporated under Companies Act 1956. It was formed in 1973. Objective of establishing the company was to promote systematic development of mining industry in the State.
- ✚ Department of Industries, Energy and Labour, Govt. of Maharashtra, Mumbai granted a lease of 203.85 ha to MSMCL at villages Gaurala and Somnala in Tehsil Maregaon of Yavatmal district in the State for mining limestone and dolomite. Lease period was 20 years w.e.f. 12.12.1984.
- ✚ Mining plan for renewal of lease was approved by Regional Controller of Mines I.B.M. vide letter no. YTL/LST/MPLN-221/NAGP dated 1.1.2003.
- ✚ Subsequently, Government of Maharashtra issued a renewal order for 116.13 ha for 20 years w.e.f. 12-12-2004. (Letter no MMN-1006/C.R.2065/Ind dated 13-10-2006. (Lease letter **Annexure 1**).
- ✚ Therefore a revised mining plan for reduced area (116.13 ha) was prepared and was approved by the Regional Controller of Mines, I.B.M Nagpur region vide letter no. YTL/LST/MPLN-221/NGP dated 4-8-2010.
- ✚ This MSMCL proposal is for seeking Environmental Clearance for limestone and dolomite mining as required by rules prescribed by MOEF & CC before starting mining.
- ✚ A mining plan for the period 2017-18 to 2021-22 has been submitted to IBM by the RQP vide letter dated 20th January 2018.
- ✚ Total mineral reserves
Limestone – 140,39,942 T + Dolomite - 23,20,000 T = 171,29,942 T
- ✚ Proved mineral reserves
- ✚ Limestone – 136,10,471 T + Dolomite - 30,90,000 T = 167,00,471 T as per UNFC 111
- ✚ Blocked mineral reserves = 4,29,471 T as per UNFC 222

- ✚ Ore to O.B ratio is 1: 0.11 m³/m³.
- ✚ Ore quality - B.D.= 2.5 T/ m³, CaO=51.26–51.5%,MgO=1.25–1.45%;SiO₂=2.64–2.9%.

Mining

- ✚ Mining will be by Category A mechanized method @ 2,49,987 T/ year.
- ✚ Existing pits in the lease will be deepened to ultimate depth of 16 m b.g.l.
- ✚ Average excavation will be @ about 1,09,645 m³ / year.
- ✚ Drilling of holes, blasting and loading of ore will be necessary.
hole dimensions- Ø=100 mm, depth 6.6 m in limestone & 2.5 m in O.B, spacing 3 m;
number of holes required for proposed production- 7 @ 50 m³ per hole.
- ✚ Maximum material handling per shift – 333.3 m³
- ✚ Bench height will be 6 m and width exceeding the height.
- ✚ Mining equipment
Drill machine 1; wagon drills -2; air compressor-1; jack hammer drills exploder water pump wagon drill requirement will be one each. Six tipper trucks will transport the extracted material.
- ✚ There are no sensitive receptors or ecosystems or water bodies within 10 km radius. Mining will be as per mining plan and all precautions to ensure production in an environment-friendly manner e.g. a) water sprinkling for dust control, b) transportation of ore in covered vehicles and c) plantation over safety zone of the lease, d) PPE for miners etc.
- ✚ Backfilling is not proposed because entire ore will not be extracted totally as is clear from report by DGM, Govt. Of Maharashtra which states that “ore is up to 100 m below ground level”.

Therefore, the pit created after mining as per present mining plan can be used as a facility for ‘rain water’ harvesting till further decision is taken by MSMCL.

Stored -water quality will be suitable for agriculture, fish culture and potable purposes after disinfection. Reclamation is not possible due to absence of soil cover and O.B. Hence resulting pit after completion of mining operations can act as storage for water during monsoon. Pits’- area together at Gaural and Somnala will be about 8.355 ha.

2. Introduction of the project / background information:

i) Identification of project & project proponent:

Project proponent is Maharashtra State Mining Corporation which is fully owned by The State Government and has been incorporated under Company is Act 1956 on 14-11-1973. Main objective was to ensure scientific development of mines which would lead to conservation of mineral wealth. Another function of MSMCL is to obtain mining leases, purchase land to promote extraction of mineral deposits.

There is a Board of Directors and M.D. is an IAS officer.

Board of Directors

Dr. Nirupama Dange, IAS, Managing Director	Dr. Nirupama Dange, IAS, Managing Director, MSMCL & Nominated owner Plot No. 7, Ajani Chowk, Wardha Road Nagpur 440015
Shri Sanjay Ingale	Deputy Secretary (Industries), Industries, Energy & Labour Dept., Mantralaya, Mumbai-400 032
Shri Rajendra Kalamkar	Directorate of Geology and Mining, Shivaji Nagar, Nagpur
Shri A.P. Dharmadhikari	Joint Director, District Industries Centre, Udyog Bhawan, Civil lines, Nagpur – 440 001.
Dr. A.M. Pophare	Rashtrasant Tukdoji Maharaj Nagpur University, Law College Square, Nagpur-440 010

Lease area	:	116.13 ha
Khasra numbers are Gaurala	:	154, 155, 135, 162, 113/1, 113/1a and 113/b;
Somnala	:	72/1, 72/2, 71, 73.
Type of land	:	Non forest land
Ownership	:	Gaurala & Somnala leases
		Government-8.21 ha-
		Land in possession of MSMCL – 24.54 ha
		Kh. No. 162 ha -8.21 ha
		Kh No. 1 2 3 – 3.08 ha
		Kh. No. 155 – 6.84 ha
		Kh. No. 156 – 6.15 ha
		Kh. No. 135 – 0.06 ha
		16.33 ha & private-91.59 ha

Lease is approachable by a road connecting Nagpur-Chandrapur highway to Wani-Yavatmal state highway. Site is 25 km from Wani.

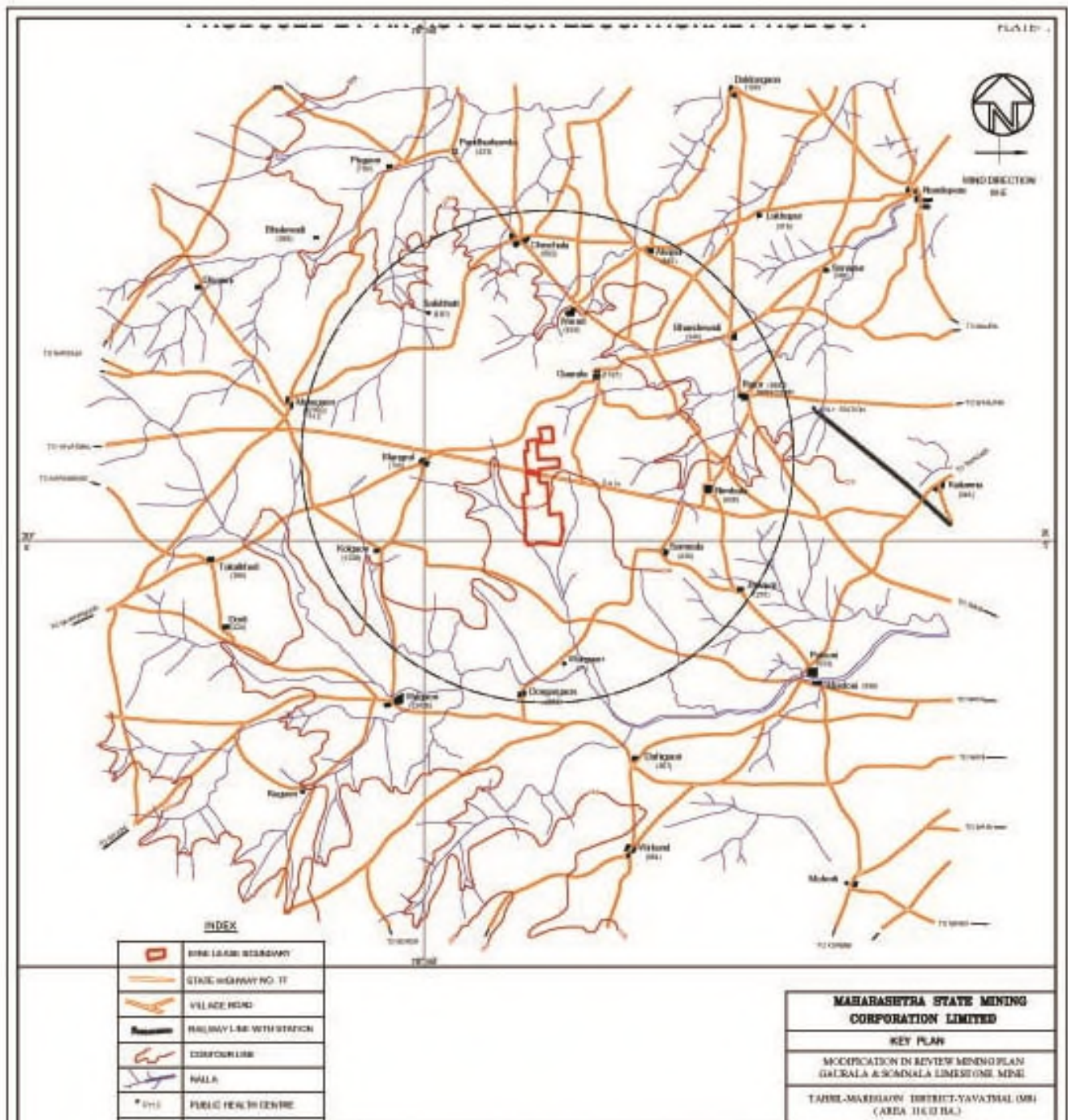
Lease is covered in Survey of India Topo sheet No. 55 L/16. Coordinates of the lease boundary are given below.

LEASE NAME	B.P. NO.	E	N
1	2	3	4
GAURALA	BP-1	78°51'13.1"	20°05'42.1"
SOMNALA	BP-2	78°51'19.1"	20°05'43.0"
	BP-3	78°51'22.9"	20°05'21.6"
	BP-4	78°51'29.9"	20°05'22.5"
	BP-5	78°51'30.7"	20°05'11.8"
	BP-6	78°51'29.6"	20°05'01.0"
	BP-7	78°51'14.4"	20°05'03.5"
	BP-8	78°51'06.7"	20°05'01.2"
	BP-9	78°51'04.3"	20°05'03.6"
	BP-10	78°51'04.8"	20°05'13.7"
	BP-11	78°51'03.5"	20°05'23.2"
	BP-12	78°51'02.7"	20°05'35.0"
	BP-13	78°51'05.5"	20°05'35.3"
	BP-14	78°51'14.2"	20°05'42.5"
	BP-15	78°51'03.5"	20°05'48.7"
	BP-16	78°51'02.5"	20°05'50.1"
	BP-17	78°51'01.1"	20°06'02.3"
	BP-18	78°51'03.6"	20°06'02.5"
	BP-19	78°51'02.1"	20°06'13.2"
	BP-20	78°51'12.0"	20°06'13.9"
	BP-21	78°51'10.4"	20°06'18.1"
	BP-22	78°51'20.1"	20°06'19.1"
	BP-23	78°51'21.5"	20°06'10.0"
	BP-24	78°51'09.0"	20°06'09.1"
	BP-25	78°51'11.0"	20°05'56.4"
	BP-26	78°51'25.4"	20°05'58.8"
	BP-27	78°51'26.5"	20°05'52.6"

	BP-28	78 ⁰ 51'12.4"	20 ⁰ 05'50.5"
	BP-29	78 ⁰ 51'12.5"	20 ⁰ 05'48.3"

Lease on SOI topo sheet is included in **Figure 1**. Geographical location of Gaurala is shown in **Figure 2**.

FIGURE 1



SURVEY OF INDIA TOPO SHEET NO. 55L/16

FIGURE 2



GEOGRAPHICAL LOCATION OF GAURALA

ii) Brief description of the project :

- a) Mining plan has been submitted to IBM Nagpur vide letter dated 20th January 2018 for approval.
- b) Total mineral reserves of limestone as per UNFC classification – 140,39,942 T; proved – 136,10,471 T; blocked – 4,29,471 T
- c) **Production of graded limestone and dolomite from the deposits was confirmed during 2009–2012. Production was stopped after confirmation that 90 percent recovery was possible from the lease.**
- d) There is no mining activity at present.
- e) Ore quality: CaO-51.26 to 51.54; SiO₂- 2.64 to 2.9; MgO- 1.25 to 1.45; B.D.– 2.5 T/ m³
- f) Present proposal is for mechanized open – cast category A mining for limestone @ 2,49,987 T/ year.
- g) At present, total pit area over the lease is 28,071.33 m² and depths vary from 1- 12 m bgl.
- h) Total excavation as per mining plan (2017-2022) in five years would be 5,48,223.8 m³,
- i) Resulting total over burden / side burden would be 48,249 m³ and rejects would be 1,24,993.7 T @ 10 % rejection from ROM.
- j) Total saleable ore @ 90% would be 11,24,943.3 T and mineral rejects would be 1,24,993.7 T during five years of mining as per the mining plan.

iii) Need for the project and its importance to the country &/or region:

Limestone is required in metallurgical industries and there are a quite a few foundries and refractories in Chandrapur district e.g. Maharashtra Electro Smelt which is at economic distance. Dolomite is precious in other industries also.

iv) Demand & supply:

As above in iii.

v) Imports vs. indigenous production:

Supplementation of dolomite to domestic industries would be in national interest.

vi) Export possibility:

This is not envisaged.

vii) Domestic/ export markets:

As in iii above

viii) Employment generation due to the projecta:

Employment possibility to local ryots and people in mining related trades will improve.

3. Project description:

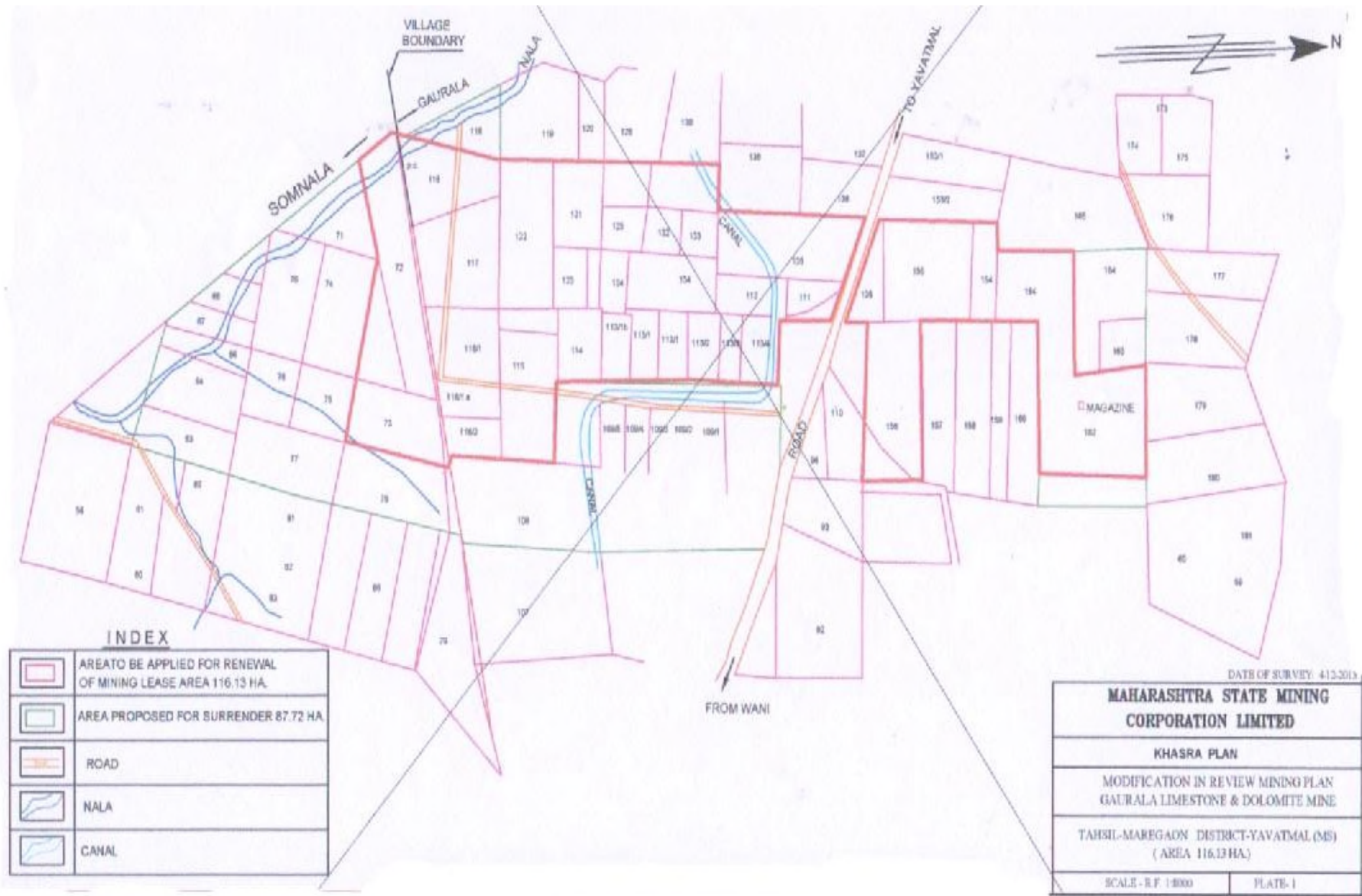
i) Type of project including interlinked or independent projects, if any.

MSMCL has other leases in the area. Therefore, existing infrastructure can be used thereby reducing overall cost of mining.

ii) Location, coordinates, project layout boundary etc.

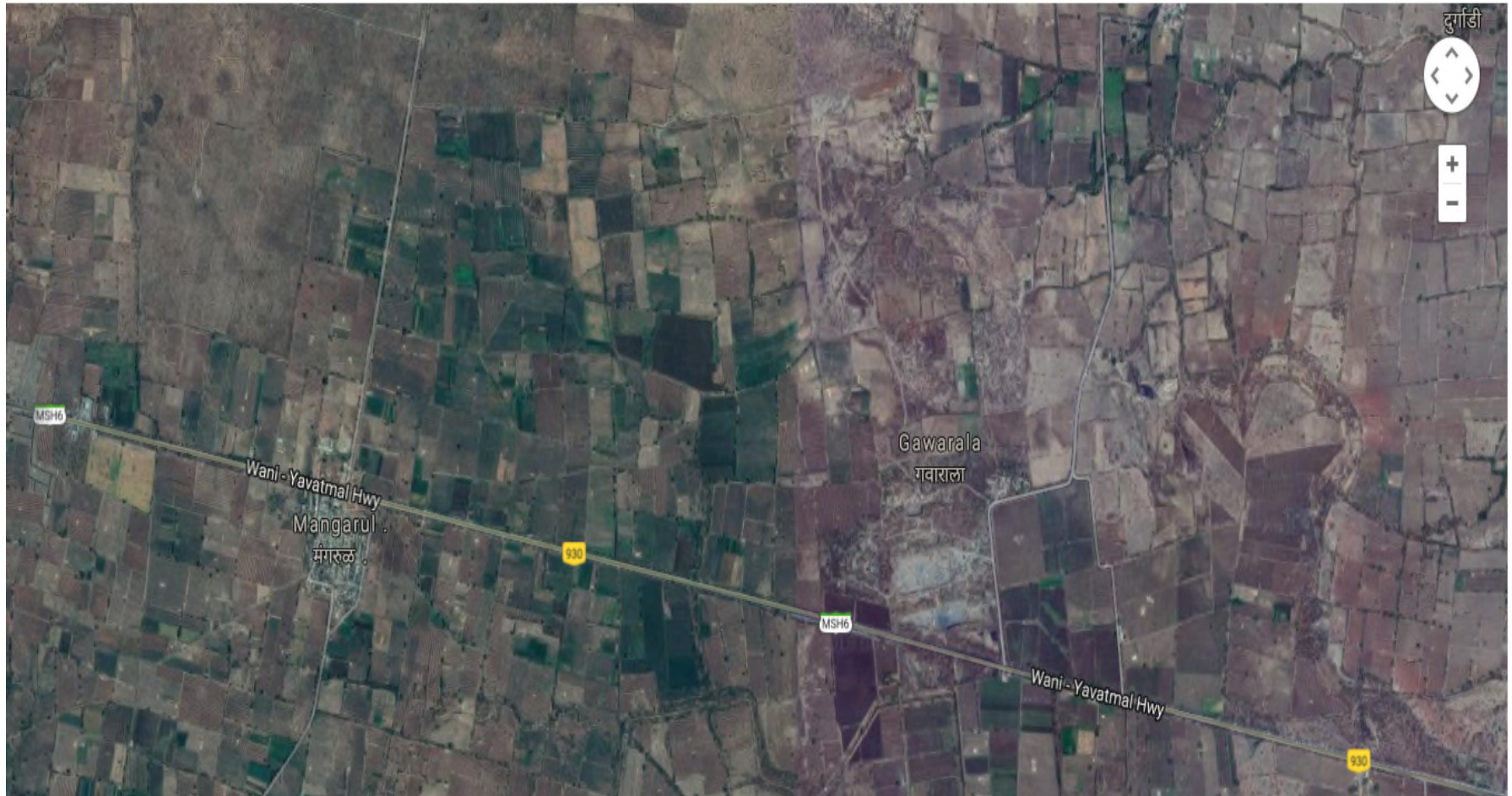
Geographical location is shown in Figure 2, Khasra map of the leases which also indicate respective boundaries are shown in **Figure 3**. **Figure 4** is a Google imagery of Gaurala.

FIGURE 3



KHASRA MAP

FIGURE 4



GOOGLE IMAGERY

iii) Alternate sites

Alternate sites were not looked for because deposits at Gaurala are mineable and can be extracted without changing environmental settings. There are no eco sensitive areas, receptors water bodies within or around the leases.

iv) Size and magnitude of operation

- Open cast category A mining is proposed.
- Height of bench will be 6 m and width will exceed 6 m and slope will be 60° to horizontal.
- Slope of hanging and foot wall would be 45 °
- Average production of ROM limestone would be @ 2,49,987 T/ year.
- Soil will be removed and stacked
- Ultimate depth of pit would be 16 m and area would be 6.93 ha.
- Wagon will be used to drill 100 mm Ø holes (6.6 m in ore & 2.5 m in burden) at 3 m distance each.

v) Project description with process details :

Open cast Category A mechanized mining is proposed. Existing pit will be deepened.

Initially mining will be carried out over land acquired by MSMCL. Drilling, blasting and loading of ore will be below ground level because mining will be restricted to pit area. Ore will be transported in covered vehicles.

Surface plan and development plan along with sections are given in **Figures 5 and 6A-6F** respectively.

FIGURE 5



SURFACE PLAN

FIGURE 6A



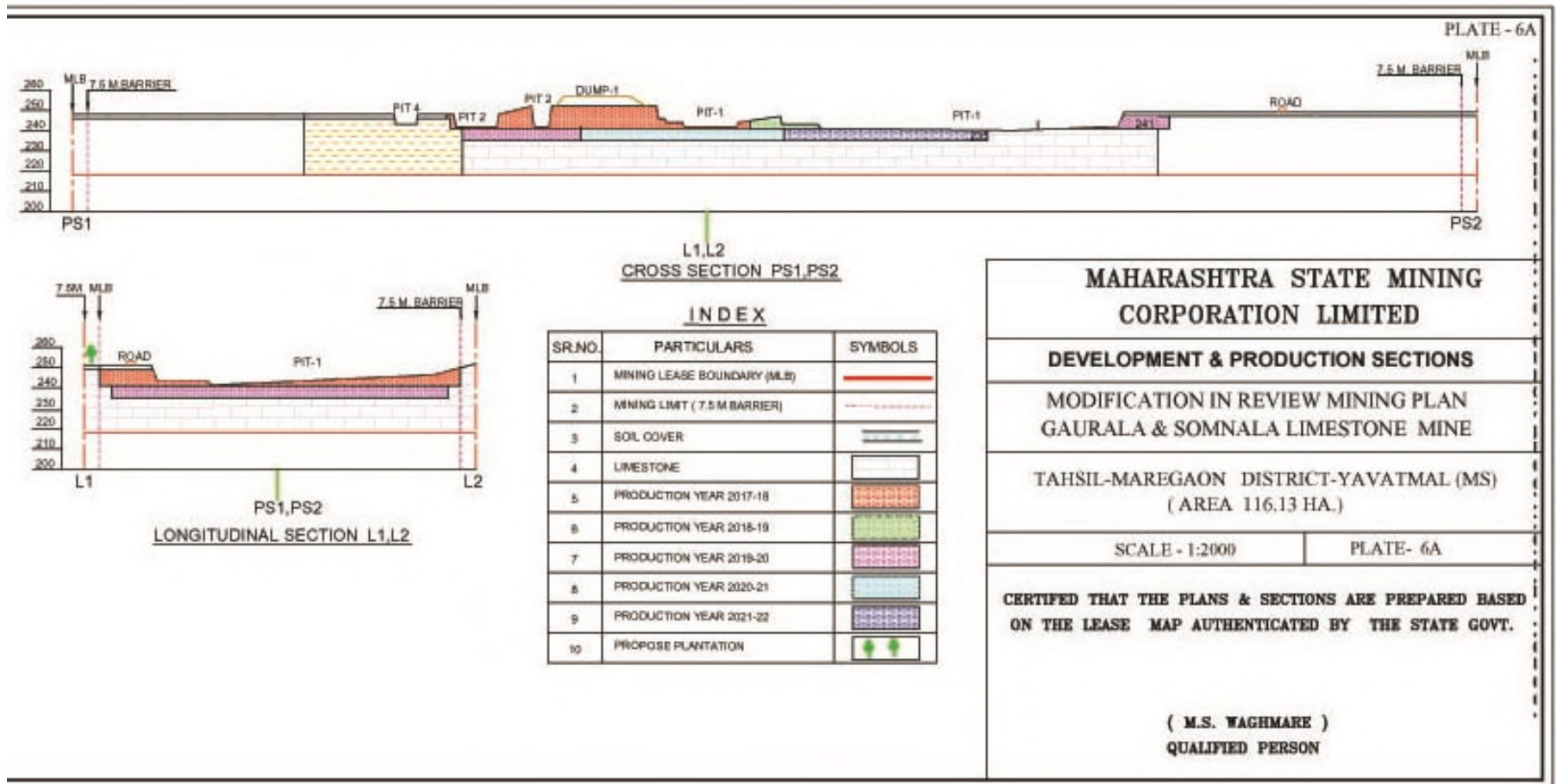
DEVELOPMENT & PRODUCTION PLAN

FIGURE 6D



DEVELOPMENT & PRODUCTION PLAN

FIGURE 6F



DEVELOPMENT & PRODUCTION SECTIONS

vi) Raw material – quantity / source / marketing of ore / mode of transport.

- o Only explosives will be required and will be purchased from local market.
- o Limestone will be transported by covered trucks to user industry.

vii) Resource optimization.

Limestone is perpetually required by industries. It has been untapped from these leases hence it is a step to optimization. Tree felling is not required. Land is lying unused which will revenue.

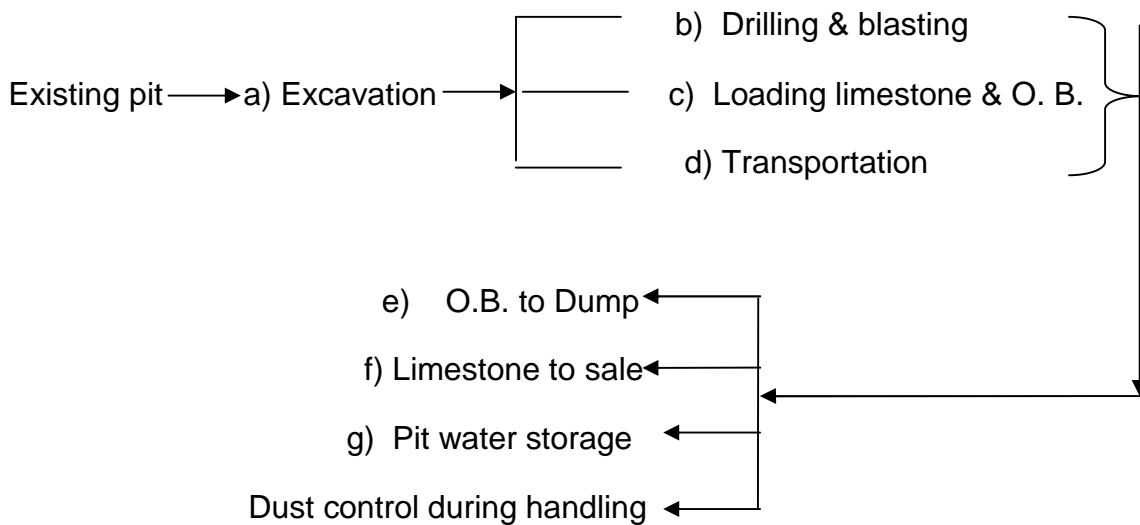
viii) Water, energy availability

Rain water collected in abandoned pits will be used for dust control. There will not be any colony. Power supply will be from State energy distribution company.

ix) Waste quantity

Rejects generation / year would be 24998 T (9999 m³) and would be used for blending or will be stacked as per mining plan.

x) Schematic representation of the feasibility drawing which give information of EIA purpose.



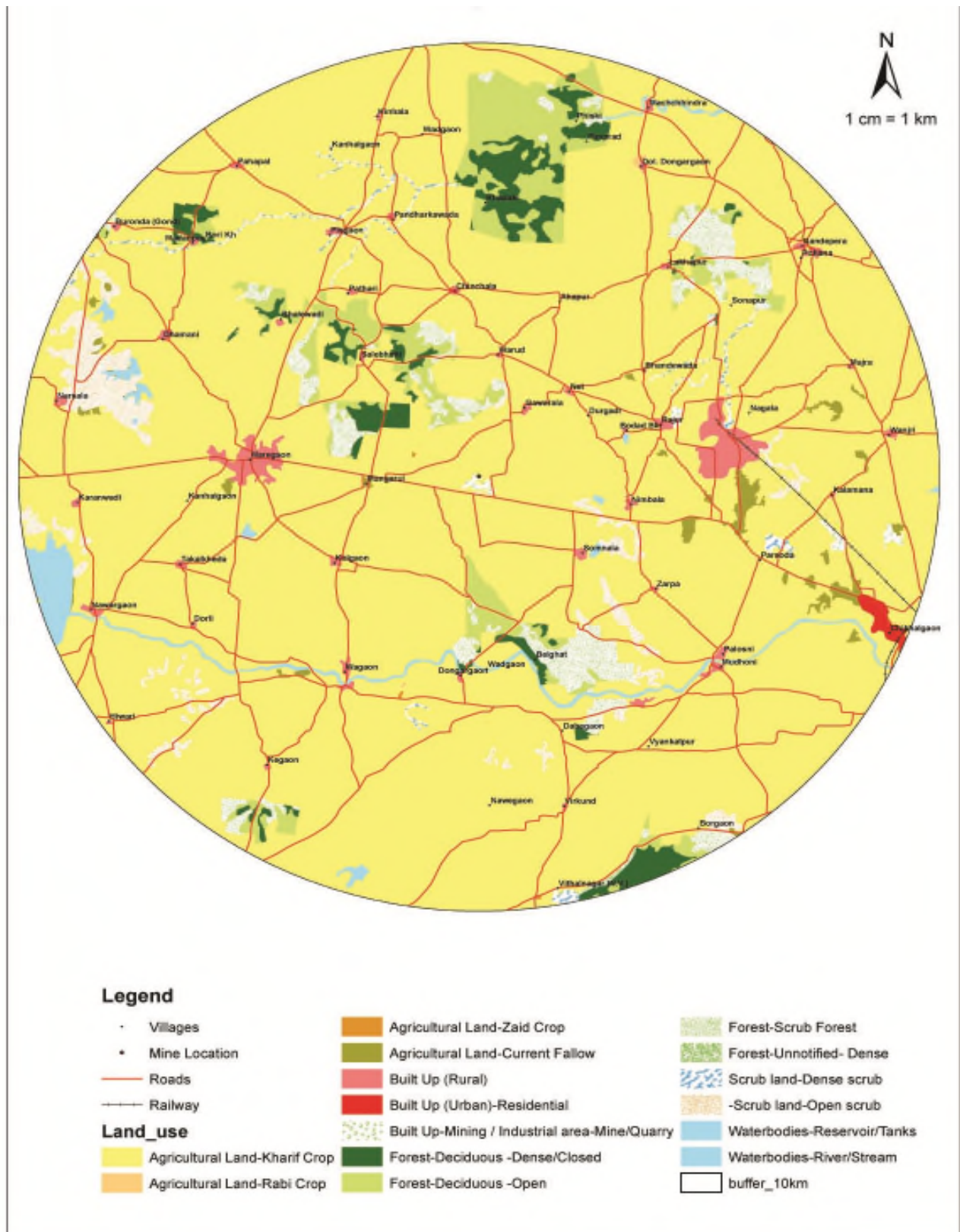
EIA related purpose

a, b, c, d----- Dust ; e----- physical stability ; g----- dust control / plantation.

4. Site analysis:

- i) Connectivity : Lease is approachable by a road connecting Nagpur -Chandrapur highway to Wani- Yavatmal state highway. Site is 25 km from Wani.
- ii) Land form, land use, land ownership.
Lease of 116.13 ha is in the name of MSMCL. It is lying unused. Topographically lease is a part of plain area. Slope is towards east. Highest contour is 253 MSL and lowest is 249 MSL.
- iii) Topography : Please see **Figure 7** for land use map.
- iv) Land use pattern : As in iii above. There are no water bodies over the lease. .
National park, sanctuaries, eco-sensitive area etc are not within 10 km radius.
- v) Existing infrastructure : Nil
- vi) Soil - Black cotton calcareous soil, clayey loamy, montmorillonitic, ground water table >10 m below ground level..
- vii) Climatological data of the area is given in **Annexure 2**.
- viii) Social infrastructure : None over any of the leases.

FIGURE 7



LAND USE PATTERN

Land use statistics

Sr. No	DESCRIPTION	Area (Ha)
1	Agricultural Land-Kharif Crop	31010.88
2	Agricultural Land-Rabi Crop	0.36
3	Agricultural Land-Zaid Crop	0.17
4	Fallow-Current Fallow	12.23
5	Built Up (Rural)	24.30
6	Built Up-Residential	36.66
7	Built Up-Mining / Industrial area-Mine/Quarry	3.26
8	Forest-Deciduous -Dense/Closed	50.83
9	Forest-Deciduous -Open	89.52
10	Forest-Scrub Forest	52.75
11	Forest-Tree Clad Area- Dense	0.84
12	Scrub land-Dense scrub	10.32
13	Scrub land-Open scrub	42.56
14	Water bodies-Reservoir/Tanks	26.15
15	Water bodies-River/Stream	39.18
		31400.00

5. Planning brief :

i) Planning concept

Limestone mining at Gaurala by open cast method has been planned by MSMCL because a) they are in possession of part of land , b) they have other leases also in the area. These are contiguous c) cost of production of ore would be low, d) there is a need in the region to open avenues for employment of local people. MSMCL is limited company completely owned by State Government. This company is meant to contribute to systematic mining of mineral.

ii) Population projection

There is no habitation over the lease. Gaurala village is 1.5 km away from the lease.

iii) Land use planning:

Present land use in lease and that after plan period is given in **Table 1**

Table 1: Land use of the area

Land use Pattern	Present	End of planning period
Area under Pits	55,205.05	83,550.16
Area under waste Dump	29,568.13	33,508.28
Structures	2,237.94	2,286.92
Area under reject	2,679.30	6,505.40
Area under Plantation	2,926.16	3,541.56
Area under Roads	11,397.89	11,815.06
Area under stack yard	Nil	3,493.98
Total	1,04,014.47	1,44,701.36

N.B. Figures in m²

iv & v) Assessment of infrastructural demand and amenities

Vehicles mentioned earlier under item 2.iv above will be required. Proposed mining project at the lease will need amenities like sheds for miners ,roads, first aid room, garage etc.

6. Proposed infrastructure:

- i) Industrial area – infrastructure *per se* will not be created.
- ii) Residential area – Colony is not proposed
- iii) Green belt – plantation will commence after active mining operations are initiated.
Area would be about 0.6 ha and will be along the safety barrier.
- iv) Social infrastructure – it is proposed to be in regular dialogue with local gram panchayat to prioritize the needs.
- v) Connectivity – additional inputs for connectivity will not be necessary.
- vi, vii, viii) Drinking water, sewerage & industrial waste management –
Colony is not proposed. Safe water to miners will be assured. Pit latrines as per GOI Swacha Bharat Abhiyan are proposed.
- ix) Solid waste management –
Over burden dumps in lease area have been proposed in mining plan.

iii) Power requirement –

MAHATRANSCO supply will be requested. Mine vehicles and other equipment will be operated on diesel.

7. Rehabilitation and resettlement (R & R) plan :

R & R will not be required since land is in possession of MSMCL.

8. Project schedule & cost estimates

i) Likely date of start- within six months from the date of E.C.

Likely date of completion- five years of starting the mining operations.

Cost and revenue factors :

Project cost

A)

Fixed assets:

Sr. No.	Particulars	To be incurred Rs.in lakhs
1	Mines workshop	5.00
2	Mines office furniture	2.00
3	Mines rest room	3.00
4	Mines other structures like first aid room & amenities as per Mines Rule	5.00
	Sub Total	15.00

B)

Production cost in Rs.

/tonnes

Sr. No.	Particulars	To be incurred Rs.in lakhs
a)	Production of limestone to be outsourced/tonnes	75.00
b)	Other cost	
i)	Exploration	0.40
ii)	Sizing/ Grading	5.00
iii)	Overhead cost	15.00
iv)	Royalty & others	108.00
v)	Other Expenses	100.00
	Sub Total	303.40
C)	Working Capital	40.00

	Sub Total	40.00
D)	Pre-production expenditure	30.00
	Sub Total	30.00
E)	Total project cost	85.00
F)	Means of finance	
i)	Promoters contribution	25.00
ii)	Term loan from Bankers	60.00
	Sub Total	85.00
G)	Reserves	
i)	Mineable reserves, mineable	13,610.471 tonnes
ii)	ROM	12,49,937.0 tonnes in 5 years
iii)	Production of ROM per year	249987.4 tonnes
iv)	Saleable limestone per year	224988.66 tonnes i.e. 90% of ROM
H)	Calculation of profitability	
i)	Annual ROM production	249987.4 tonnes
ii)	Production cost per tonnes	Rs. 303.4/-
iii)	Life time of mineral deposit	15 year
iv)	Investment	85 lakhs
v)	Minimum rate of return per year	0.1%
vi)	Average annual operating cost	249987.4 x 303.4 = Rs. 758.46 Lakhs
vii)	Annual saleable, limestone @ 90% of ROM	224988.66 tonnes
viii)	Average sale price per tonnes	Rs. 450/-
ix)	Average annual sales	Rs. 1012.44 Lakhs
x)	Profit before tax	1012.44-758.46 = Rs. 253.98 Lakhs
xi)	Income tax 30%	253.98 x 0.3 = Rs. 76.19 Lakhs
xii)	Profit after tax	253.98-76.19 = Rs. 177.79 Lakhs
xiii)	Interest rate on borrowed capital	10%
xiv)	Term loan from banks	60.0 Lakhs
xv)	Capital recovery factor Wn at	12% = $R^n(R-1)/R^n-1= 0.219$
xvi)	Provision for borrowed capital recovery per year	60x0.219 = 13.14 Lakhs
xvii)	Yearly profit after provision for capital recovery	Rs. 164.65 Lakhs
xviii)	Liner depreciation on fixed capital	85/15 = Rs. 5.67 Lakhs
xix)	Profit after depreciation	164.65-5.67 = Rs.158.98 Lakhs
xx)	Imputed interest on tied-up capital at	10% = 85x0.1 = Rs. 8.5 Lakhs
xxi)	Yearly average net profit	158.98-8.5 + Rs. 158.48 Lakhs

I) Internal Rate of Return (IRR) :

$$\text{IRR} = \frac{\text{Net profit}}{\text{Investment}} \times 100 = \frac{158.48 \text{ Lakhs}}{85 \text{ Lakhs}} \times 100 = 177.03\%$$

J) Cash flows : Net Profit + depreciation = 177.03 + 5.67 = 182.70 lakhs yearly from first to fourteenth year.

9. Analysis of proposal (Final recommendation)

Following points have been considered for the analysis to verify whether open cast mechanized mining at Gaurala village in Maregaon taluka of Yavatmal district would be environmentally compatible.

- ✚ Lessee, MSMCL Nagpur is a Government agency fully competent to execute the project.
- ✚ Infrastructure required for mining is already available near the site since MSMCL is already operating a few mines.
- ✚ Immediate commencement of mining will add to Government revenue.
- ✚ There would not be any adverse impact on any segment of environment e.g. air, water or land etc. particularly because there are no sensitive receptors within 10 km radius.

State of Maharashtra will be benefited if limestone/ dolomite deposits are mined and used in respective industries. This region needs opening of employment avenues.

ANNEXURE 1

GOVERNMENT OF MAHARASHTRA

No.MMN-1006/C.R.2065/Ind-9
Industries, Energy and Labour Department,
Mantralaya, Mumbai 400032.

Dated: - 13th October 2006

From,
Under Secretary,
Industries, Energy and Labour Department,
Mantralaya, Mumbai 400032.

h m
disaum
10/11



To,
Maharashtra State Mining Corporation,
Udyog Bhavan, 3rd Flor, Civil Lines,
Nagpur.

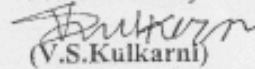
**Subject : First Renewal of Mining lease for Lime stone and Dolomite
for 116.13 Hect. in Village-Gaurala, Tah. Maregaon and
Village-Somnala, Tah vani, Dist Yavatmal.**

Sir,

With reference to your application, dated 9.12.2003 on the subject mentioned above, I am to enclose herewith Government order of even number, dated the 13 th October 2006 for your information. You are requested to approach to the District Mining Officer, Collectorate, Yavatmal, for execution of the lease. I am to add that you should also execute renewed mining lease within a period of six months form the date of the enclosed order.

2. The first renewal of mining lease should be executed in the model form of mining lease appended to the Mineral Concession Rules, 1960 with appropriate modifications.

Yours faithfully


(V.S.Kulkarni)

Under Secretary to Government.

Copy with the copy of the Government Order of even number, dated the 13 th October 2006 forwarded to, the :

1. The Director, Geology and Mining, Maharashtra State, Nagpur
2. The Deputy Director, Geology and Mining, Nagpur
3. The District Mining Officer, Collectorate, Yavatmal
4. The Controller General, Indian Bureau of Mines, Nagpur
5. The Finance Department

C:\Nanda\Gaurala-Renewal

The Chief Inspector of Mines, Dhanbad, Zarkhand
Select file (Ind-9)

The District mining officer, Collectorate, Yavatmal should ensure that as soon as the renewed mining lease deed is executed, the information in the prescribed proforma is furnished to the Controller General, Indian Bureau of Mines, Nagpur-1 as desired by him.

A copy of the renewed mining lease when executed should be sent by the District Mining Officer, Collectorate, Yavatmal to the Controller General, Indian Bureau of Mines, Nagpur and Chief Inspector of Mines, Dhanabad, as required by Rule 57(1) of the Mineral Concession Rules, 1960.

The District Mining Officer, Collectorate, Yavatmal and the Director, Geology and Mining, Maharashtra State, Nagpur should ensure that the Renewed Mining Lease executed in the model form of Mining Lease with appropriate modification but without clause 3 in part VIII therein relating to renewal.

The Director, Geology and Mining, Maharashtra State, Nagpur will please confirm whether the rates of royalty in the enclosed order are correct.

The Director, Geology and Mining, Maharashtra State, Nagpur and District Mining Officer, Collectorate, Yavatmal may kindly ensure before execution of renewed mining lease the compliance of the amended provisions of the Act and Rule and other applicable Acts and Rules including the Forest (Conservation) Act, 1980 and the Act and Rules enacted for environment purpose etc. before starting mining operation or giving work permission.



(V.S. Kulkarni)

Under Secretary to
Government.

CLIMATIC DATA

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature (°C)	22.1	24.6	28.8	32.6	35.7	32.3	27.7	27.2	27.4	26.3	22.9	20.9
Min. Temperature (°C)	14.5	16.7	20.7	25.1	28.6	26.8	24.2	23.9	23.5	20.8	15.8	13.2
Max. Temperature (°C)	29.7	32.6	36.9	40.2	42.9	37.8	31.2	30.5	31.4	31.9	30	28.7
Avg. Temperature (°F)	71.8	76.3	83.8	90.7	96.3	90.1	81.9	81.0	81.3	79.3	73.2	69.6
Min. Temperature (°F)	58.1	62.1	69.3	77.2	83.5	80.2	75.6	75.0	74.3	69.4	60.4	55.8
Max. Temperature (°F)	85.5	90.7	98.4	104.4	109.2	100.0	88.2	86.9	88.5	89.4	86.0	83.7
Precipitation / Rainfall (mm)	5	9	26	13	11	182	357	311	218	52	6	5

There is a difference of 352 mm of precipitation between the driest and wettest months. The variation in annual temperature is around 14.8 °C.

