MANIKGARH CEMENT LIME STONE MINES

(A division of M/s Century Textiles and Industries Limited)

Details of Approved Mining Plans – For total 493.00 ha. Mining Lease

A) Approved mining plan for area of 190.42 ha.

B) Approved mining plan for area of 302.58 ha.

C) Area already diverted in the year 1986 by MoEF, Govt. of India 264.00 ha.

D) Area proposed to be diverted 229.00 ha.

E) Details of 229.00 ha. area

a. 190.42 ha. forest land
b. An area of 38.58 ha. land now considered as forest is covered in the mining plan of 302.58 ha.

F) Attached herewith approval letter of both the Mining Plans.

G) Approved mining plan of 190.42 ha. is attached for your ready reference and approved mining plan of 302.58 ha. will be presented as required.

भारत सरकार
खान मंत्रालय
भारतीय खान ब्यूरो
खान नियंत्रण और खनिज संरक्षण प्रभाग
(मध्य अंचल)

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES
Mines Control & Conservation of
Minerals Division (Central Zone)

सं/No. 314(3)/2006-MCCM(CZ)/MP-22

दिनांक/Dated, the 07-02-2007

To,
Shri R.K. Udge
Agent & Vice President (Mines),
Manikgarh Cement
P.O. Gadchandur,
District Chandrapur (M.S.) – 442908.

Sub : Approval of Mining Plan including Progressive Mine Closure Plan in respect of Manikgarh Cement Limestone Mine over an area of 190.42 ha. of M/s Manikgarh Cement in Chandrapur district of Maharashtra State submitted for renewal of mining lease under Rule 24A of MCR, 1960.

Reference:
1. Your Letter no. MN/IBM/1/ dated 24/01/2007.
2. This office letter of even number dated 02/02/2007.
3. Your Letter no. MN/IBM/1/7921 dated 05/02/2007.
4. This office letter of even number dated 05/02/2007.
5. Your Letter no. MN/IBM/1/ dated 06/02/2007.

Sir,

In exercise of the powers conferred by Clause (b) of Sub-Section (2) of Section 5 of Mines & Minerals (Development & Regulation) Act, 1957 read with Government of India Order No. S.O.445 (E) dated 28.4.1987; I hereby approve the above said mining plan. This approval is subject to the following conditions: -

i) This Mining Plan is approved without prejudice to any other laws applicable to the mine/area from time to time whether made by the Central Government, State Government or any other authority.

ii) It is clarified that this approval of Mining Plan does not, in any way, imply the approval of the Government in terms of any other provisions of the Mines & Minerals (Development & Regulation) Act, 1957 or the Mineral Concession Rule, 1960 and any other laws including the Forest (Conservation) Act, 1980, Environment (Protection) Act, 1986 and the rules made there under.

iii) It is clarified that this approval of the Mining Plan is subject to the provisions of Forest (Conservation) Act 1980, Forest Conservation Rule 1981 and other relevant statutes, orders and guidelines as may be applicable to the lease area from time to time.

iv) It is further clarified that the approval of Mining Plan is subject to the provisions of the Mines Act 1952 and Rules & Regulations made thereunder including submission of notice of opening, appointment of manager and other statutory officials.

6 वीं मंजिल, 'डी' ब्लॉक 6th Floor, 'D' Block
इंदिरा भवन, सिविल लाइन्स, नागपुर–440 001
Indira Bhavan, Civil Lines, NAGPUR–440 001
दूरभाष/Phone : 2565603, फैक्स/Fax : (0712) 2565603
e-mail : com-cz@ibm.mah.nic.in
तार : खानब्यूरो/Gram :MINESBURO

v) The Mining Plan is approved without prejudice to any other order or direction from the court of competent jurisdiction.

vi) Your attention is invited to the Supreme Court interim order in W.P.(C) No.202 dated 12-12-96 for compliance. The approval of Mining Plan is, therefore, issued without prejudice to and is subject to the said directions of the Supreme Court.

vii) A copy of Environment Impact Assessment-Environment Management Plan (EIA-EMP) as approved by MOEF (Ministry of Environment & Forest) shall be submitted to IBM immediately after approval by MOEF.

viii) The Environmental Monitoring Cell established by the company shall continue monitoring ambient air quality, dust-fall rate, water quality, soil sample analysis and noise level measurements at various stations established for the purpose both in the core zone and buffer zone as per requirement of Environment Guidelines and keeping in view IBM's circular No. 3/92 & 2/93 season wise every year or by engaging the services of an Environmental Laboratory approved by MOEF/CPCB. The data so generated shall be maintained in a bound paged register kept for the purpose and the same shall be made available to the inspecting officer, on demand.

Yours faithfully,

Encl. : Two copies of
approved mining plan

(C.P. Ambesh)
Chief Controller of Mines

Copy for information to :-

1) The Director, Directorate of Geology & Mining, Government of Maharashtra, Old Secretariate Building, Civil Lines, Napur (M.S).

2) The Director, Directorate of Mines Safety, Nagpur Region, CGO Complex, Seminary Hills, Nagpur- 440 006 along with a copy of approved Mining Plan.

3) Shri R.K. Udge, Vice President (Mines) & RQP, Manikgarh Cement, P.O. Gadchandur, District Chandrapur (M.S.) – 442908

Sd/-
(N.N. Deshkar)
Regional Mining Geologist (CZ)

Regd. Parcel

भारत सरकार
GOVERNMENT OF INDIA
खान मंत्रालय
MINISTRY OF MINES
भारतीय खान ब्यूरो
INDIAN BUREAU OF MINES
नागपुर क्षेत्रीय कार्यालय
NAGPUR REGIONAL OFFICE

छटवीं मंजील, बी एवं सी ब्लाक,
इंदिरा भवन, सिविल लाइन्स
नागपुर . 440 001
6TH Floor, 'B' & 'C' Block
Indira Bhavan, Civil Lines
Nagpur- 440 001
Tele/Fax:2562794,2565089

No. CND/LST/MPLN-139/NGP-2016 Date- 07.06.2016

To

M/s Manikgarh Cement Ltd,
P.O.- Gadchandur,
Tehsil- Korpana,
Chandrapur-442 908(MS)

Sub : Submission of Modification in Approved Mining Plan with Progressive Mine Closure Plan in respect of **Manikgarh Cement Limestone Mine (Lease Area 302.58 Ha.)** situated in District-Chandrapur, Maharashtra State in favour of M/s Manikgarh Cement Ltd, under Rule 22(6) of Mineral Concession Rule, 1960.

Ref : 1. Your Letter no. MN/IBM/1/3754 dated 28.01.2016,
2. This Office Letter of even No. dated 18.03.2016
3. Your Letter no. MN/IBM/1/29 dated 08.04.2016
4. This Office Letter of even No. Dated 05.05.2016
5. Your Letter no. MN/IBM/1/29 dated 24.05.2016

Sir,

In exercise of the power conferred by the Clause (b) of Sub-section (2) of Section 5 of the Mines & Minerals (Development & Regulation) Act, 1957 read with Government of India Order No. S.O. 445 (E) dated 28.04.1987, I hereby **APPROVE** the above said Modification in Approved Mining Plan alongwith Progressive Mine Closure Plan (PMCP). This approval is subject to following conditions:-

1) This Modification in Approved Mining Plan is approved without prejudice to any other law applicable to the area from time to time whether made by the Central Government, State Government or any other authority and without prejudice to any order or direction from any court of competent jurisdiction.

2) The proposals shown on the plates and/or given in the document is based on the lease map /sketch submitted by the applicant/ lessee and is applicable from the date of approval.

3) It is clarified that this approval of Modification in Approved Mining Plan does not, in any way, imply the approval of the Government in terms of any other provisions of the Mines & Minerals (Development & Regulation) Act, 1957 or the Mineral Concession Rules, 1960 and any other laws including Forest (Conservation) Act, 1980 Environment (Protection) Act, 1986, Mines Act 1952 and the rules made there under and the rules made there under.

4) This approval of Modification in Approved Mining Plan under Rule 22 (6) of MCR, 1960 is subject to the provision of Forest (Conservation) Act, 1980, Forest Conservation Rules 1981, and other relevant statutes, orders and guidelines as may be applicable to the lease area from time to time.

5) The Indian Bureau of Mines has not undertaken verification of the Mining Lease boundary on the ground and does not undertake any responsibility regarding correctness of the boundaries of the lease/ applied area shown on the ground with reference to lease map & other plans furnished by the applicant / lessee, as it is the responsibility of the state government & lessee under rule 33 of Mineral Concession Rules, 1960.

6) At any stage, if it is observed that the information furnished, data incorporated in the document are incorrect or misrepresent facts, the approval of the document shall be revoked with immediate effect.

7) The provisions of the Mines Act, 1952 and Rules and Regulations made there under including submission of notice of opening, appointment of manager and other statutory officials as required by the Mines Act, 1952 shall be complied with.

8) The execution of the said Modification in Approved Mining Plan shall be subjected to vacations of prohibitory orders/notices, if any.

9) This approval of proposed mining operations and associated activities is restricted to the mining lease area only. The mining lease area as shown on the statutory plans under rule 28 of Mineral Conservation and Development Rules, 1988, is by the lessee/ RQP/ applicant and the Indian Bureau of Mines has not undertaken verification of the Mining Lease boundary on the ground.

10) Your attention is invited to the Supreme Court interim order in W. P.(C) No. 202 dated 12.12.1996 for compliance. The approval of above said Mining Plan is therefore, issued without prejudice to and is subject to the said directions of the Supreme Court as applicable.

11) If anything found to be concealed as required by the Mines Act in the contents of the above said Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.

12) Yearly report as require under Rule 23E(2) of MCDR, 1988 setting forth the extent of protective and rehabilitative works carried out as envisaged in the approved Progressive Mine Closure Plan and, if there is any deviation, reasons thereof shall be submitted before 1st July of every year after opening of the mine.

13) The next financial assurance shall be due for submission on or before **31.03.2021**.

14) This approval is given for the received prospective proposals for the year **2016-17** to **2020-21** given in the document subject to all other statutory clearances and the approval is applicable from this date onwards. The earlier instances of irregular mining, if any, shall not be regularized through the approval of this document.

15) A copy of the revised lease deed of ML shall be submitted to this office for record.

16) A copy of Environment Impact Assessment-Environment Management Plan (EIA-EMP) approved by MOEF (Ministry of Environment & Forests) shall be submitted to IBM immediately after approval by MOEF along with a copy of their approval letter.

17) The approval of the above said Modification in Approved Mining Plan alongwith Progressive Mine Closure Plan (PMCP) is subject to the compliance of Ministry of Mines letter number F.No. 10/75/2008-MV, dated 23.12.2010 regarding exploration to be carried out within prescribed time limit as mentioned in the said letter as per UNFC norms.

18) This approval is subject to the comments of the State Government received, if any, which will be binding on you for implementation.

Encl.: A approved copy of Modification in Approved Mining Plan alongwith Progressive Mine Closure Plan (Text & Plates)

Yours faithfully,

(Arun Prasad)

Regional Controller of Mines

Copy for kind information to:-

1. The Director of Geology & Mining, Govt. of Maharashtra, Khanij Bhavan, 27, Shiwaji Nagar, Cement Road, Nagpur - 440010 (M.S.) along with **one Approved copy of Modification in Approved Mining Plan alongwith Progressive Mine Closure Plan (Text & Plates) by REGISTERED PARCEL.**
2. Shri. R. Udge, Agent & Executive President (Mines)/ RQP & Others, Bunglow No.1, Mines Colony, Manikgarh Cement , Gadchandur- 442 908, Chandrapur (MS).

(O.P. Gopal)
Senior Mining Geologist
For, Regional Controller of Mines

MINING PLAN

(Under Rule 24A of MCR, 1960)

For

MANIKGARH CEMENT

PO : GADCHANDUR 442 908
DIST.CHANDRAPUR
MAHARASHTRA STATE

BALANCE LIMESTONE MINING LEASE

AREA: 190.42 HECTARE

(FOREST LAND)

(OUT OF 483 HECTARE ORIGINALLY SANCTIONED MINING LEASE)

SUBMITTED FOR APPROVAL

पत्र संख्या द्वारा 314(3)/2006-MCCM(CZ)/MP-22 dt-07-02-2007
VIDE LETTER NO.

By

MANIKGARH CEMENT
GADCHANDUR

(A DIVISION OF CENTURY TEXTILES & INDUSTRIES LIMITED)

अनुमोदित
APPROVED
7/2/07
मुख्य खान नियंत्रक
Chief Controller of Mines
भारतीय खान ब्यूरो
Indian Bureau of Mines

MINING PLAN PREPARED
BY

R.K.UDGE	G M BOHRA
REG.NO.RQP/JBP/064/96/A	REG.NO.RQP/NGP/177/95/ A
VALID UPTO 24.03.2010	VALID UPTO 21.12.2011

CONSENT LETTER FROM APPLICANT

The Mining Plan in respect of Manikgarh Cement Limestone Mines (Gadchandur Village) area for 190.42 hectare, Mineral Limestone, District Chandrapur, State Maharastra have been prepared by Shri R.K.Udge (Registration No. RQP/JBP/064/96/A) & Shri G M Bohra (Registration No. RQP/NGP/177/95/A)

I request Regional Controller of Mines, Indian Bureau of Mines, Nagpur to make further correspondence regarding Modification in the Mining Plan as per Rule 24A of MCR, 1960 with the said recognized persons at their following address: -

R.K.Udge
Vice President (Mines)
Manikgarh Cement Limestone Mines
PO: Gadchandur
Dist: Chandrapur
(M.S.) 442 908

G M Bohra
Manager (Geology)
Manikgarh Cement Limestone Mines
PO: Gadchandur
Dist: Chandrapur
(M.S.) 442 908

I hereby undertake that all the modifications so made in the Mining Plan by the Recognized persons be deemed to have been made with my knowledge and consent and shall be acceptable to me and binding on me in all respect.

APPROVED

Signature of Applicant in full

Name : **R.K.Udge**
Designation : Vice President (Mines)
Manikgarh Cement
PO: Gadchandur 442 908
Dist. Chandrapur (M.S)

CONTENTS

INTRODUCTION :

This Mining Plan covers an area of 190.42 hectare Forest Land which is the balance mining lease area of originally sanctioned and executed Mining Lease to M/s Manikgarh Cement for captive consumption of limestone at Manikgarh Cement Plant. The chronological sequence of activities are given hereunder :-

In the year, 1981, mining lease of 643.62 ha. has been executed by the Company with District Collector, Chandrapur for 20 years out of which an area of 150.62 ha. was, later on , surrendered by the Company as per advice of the Central Government. The balance mining lease area, thus remained 493 ha., which consisted 429.38 ha. forest land and 63.62 ha. Private Revenue land. This area of 493 ha was divided into three phases as under :-

Phase	Forest Land (Ha.)	Revenue Land (Ha)	Total Land (Ha.)
I	238.96	25.04	264.00
II	107.34	21.66	129.00
III	83.08	16.92	100.00
Total	429.38	63.62	493.00

In the year, 1986 the area of Phase-I was initially cleared for mining of limestone by the Ministry of Environment & Forests, Government of India, New Delhi for 20 years, vide their letter no. 8-173/81F(C) dated 4.2.1986 under Forest Conservation Act,1980. The aforesaid period of 20 years, as per executed lease deed, expired on 16.8.2001 and the application for renewal for a period of 20 years, was made in time and accordingly, permission for diversion of forest land of 238..96 ha. (Forest land covered under Phase I) has been accorded by the Ministry of Environment & Forests, vide their letter no. 8-64/2001-FC dated 28.11.2001.

अनुमोदित
APPROVED

मुख्य खान नियंत्रक
Chief Controller of Mines
भारतीय खान ब्यूरो
Indian Bureau of Mines

Accordingly, Government of Maharashtra in the Department of Ministry of Environment & Forests, Industries, Energy and Labour Department, vide its letter no. MMN-2201/150/IND-9 dated 15.11.02, allowed renewal of lease of 302.58 ha. as per details given hereunder :-

		Hectares
	:	238.96
Forest Land	:	63.62
Private Revenue Land	:	302.58

In the above said letter dated 15.11.2002, in respect of forest land covered under Phase II & III, of the original lease, admeasuring 190.42 ha. It is mentioned that we should submit necessary Clearance Certificate from the competent authority under the relevant Acts / Rules i.e. Forest (Conservation) Act,1980. In compliance with the above, we have submitted our proposal in respect of 190.42 hectare forest land to the Nodal Officer, Office of the Principal Chief Consevator of Forests, Government of Maharashtra, Nagpur, under Sec. 2 of Forest (Conservation) Act,1980. vide our letter no. MN/MLR/18/1262 dated 10.5.2003. Copies of the same are enclosed herewith as Annexure 2A-2F.

Registered
APPROVED

In the meantime, we had requested the Nodal Officer, Office of the Principal Chief Consevator of Forests, Government of Maharashtra, Nagpur vide our letter dated 23.1.2006 to process our proposal impending for approval. In reply to our above letter, the Nodal Officer, vide their letter no. Kaksha-17/Nosale/1/1738/05-06 dated 24.1.2006 addressed to the Conservator of Forests, South Chanda Circle, Chandrapur, with a copy marked to Dy Conservator of Forests, Central Chanda Division, Chandrapur and also to us thereby giving their directives to submit the proposal through Dy Conservator of Forests,

Central Chanda Division, Chandrapur, in 8 copies. We have accordingly, submitted our proposal as stated above in 8 copies to Dy Conservator of Forests, Central Chanda Division, Chandrapur,vide our letter no. MN/MLR/18/9282 dated 23.2.2006.

In reply to our submission, the Dy Conservator of Forests, Central Chanda Division, Chandrapur vide his letter no. Kaksha-12/Survey/Jamin 3631 dated 7.3.2006 directed us to submit the said proposal in the prescribed format along with all the relevant documents as per enclosed Check List and also as per the Guidelines of Forest (Conservation) Act,1980, we have to enclose a copy of the approved Mining Plan in respect of the area in question. Accordingly, we are submitting this Mining Plan for approval under Rule 24A of MCR,1960.

The chronological sequence of approval of Mining Plans/ Mining Scheme & Progressive Mine Closure Plan are as under :-

Sl. No.	Particulars (Mining Plan/ Mining Scheme/ Progressive Mine Closure Plan	Period for which approved	IBM's Approval letter No. & Date.
1.	1st Mining Plan (Under Rule 11 of MCDR,1988)	1991-92 to 1995-96	CND/LST/MPLN-139/NGP dt. 17.5.1991
2.	Scheme of Mining (Under Rule 12 of MCDR,1988)	1996-97 to 2000-01	314(3)/95/MCCM(C) dt 18.7.1996
3.	Mining Plan (Under Rule 24A of MCR,1960)	2001-02 to 2005-06	314(3)/99/MCCM(C) MP-13 dated 26.5.2000.
4.	Modified Mining Plan (Under Rule 10 of MCDR,1988)	2002-03 to 2005-06	314(3)/99/MCCM(C) MP-13 dt. 21.12.2002.
5.	Progressive Mine Closure Plan (Under Rule 23B of MCDR,1988)	2004-05 to 2005-06	314(3)/99/MCCM(C) MP-13 dated 4.1.2005.
6.	Scheme of Mining (Under rule 12 of MCDR,1988)	2006-07 to 2010-11	314(3)/2005/MCCM(CZ) S-17 dated 05.5.2006.

The mining work in 190.42 hect. balance forest land of the originally sanctioned mining lease could not be started during the first 5 yearly Mining Plan period i.e. 2001-02 to 2005-06. Even during this Mining Plan period also the mining work in this area will be started only after getting the required statutory clearances.

1.0 GENERAL

a)	Name of the Owner	:	Shri B L Jain
b)	Name of Applicant Address	:	CENTURY TEXTILES & INDUSTRIES LTD ***For its Unit –*** **MANIKGARH CEMENT** Po: Gadchandur 442 908 Dist. Chandrapur, Maharastra State
	- Telephone No.	:	PBX 07173-246840,246843
	- FAX	:	07173-246867
	- E.mail	:	systems@manikgarhcement.com
c)	Status of Company	:	A PUBLIC LIMITED COMPANY
d)	Mineral (s) which are occurring in the area and which the applicant intends to	:	Limestone is occurring in the area and the applicant intends to mine Limestone for manufacturing of Cement for captive Cement Plant which is under capacity enhancement plan the 190.42 Hectare Forest area is required to sustained the additional requirement of limestone for proposed expansion.
e)	Period for which Proposed to be applied granted/ renewed/	:	Proposed to be applied for Twenty years.

APPROVED

CENTURY TEXTILES & INDUSTRIES LIMITED
NAMES & ADDRESSES OF THE BOARD OF DIRECTORS
OF THE COMPANY

	Name		Address
1	Shri B K Birla, Chairman	:	Birla Building, 9/1, R.N.Mukherjee Road Kolkata 700 001
2	Shri Kumar Mangalam Birla	:	Aditya Birla Centre, S.K. Ahire Marg Worli,Mumbai- 400030
3	Shri P K Daga	:	16, Hare Street, Kolkata 700 001
4	Shri E B Desai	:	Mulla House, 51,Mahatma Gandhi Road, Mumbai 01
5	Shri A C Dalal	:	Siltation Implex Pvt. Ltd. 39,Bhupen Chamber 9,Dalal Street,Fort Mumbai 400001
6	Shri Amal Ganguli	:	J-6/7,DLF ,phase-II Gurgaon 122002 Haryana,India
7	Shri B L Jain (Whole Time Director)	:	Industry House, 159, Church gate Reclamation, Mumbai 400 020

(e)	Name of the RQP's preparing Mining Plan	:	**Shri R.K.Udge** Tel.No. 07173-245092 (O), 245053(R) RQP No.- RQP/JBP/06496/A Valid up to 24.03.2010 & **Shri G M Bohra** Tel. No. 07173-245039(O), 245005 (R) RQP No.- RQP/JBP/06496/A Valid up to 21.12.2011
(f)	Name of Prospecting Agency	:	Directorate of Geology & Mining, Government of Maharastra, During their field season from1970-71 to 1975-76
(g)	Reference Letter and date	:	Applied for Forestry Clearances to the central government under section 2 of the Forest Conservation Act 1980 for mining of Limestone as per the advice of Department of Ministry of Environment & Forest, Industries, Energy and Labour Government of Maharastra vide their Latter No. MMN-2201/150/IND-9 dated-15.11.2002. (Annexure-2)

2. **LOCATION & ASSESSIBILITY**

(a) Details of Area

District & State	:	CHANDRAPUR-MAHARASHTRA
Taluka	:	KORPANA
Village	:	GADCHANDUR
Block / Range	:	The area falls in Manikgarh Reserve Forest Block of Wansadi Range of Central Chanda Division, Chandrapur.
(b) Lease area (Ha)	:	The balance mining lease area is 190.42 Hectare. The Ministry of Environment, & Forest Government of India, has already diverted for mining an area of 238.96 Hectares area (adjacent to proposed area) vide their letter no. 8-173/81/F(C) dated 4.2.1986, and the same got renewed vide letter No. F No.8-64/2001-FC/4458/F Dated 28.11.2006 from Ministry of Environment, Forest & Wildlife, New Delhi, Government of India.

Now company has proposed an expansion of Cement plant by further addition of about 2.5 million tons of Clinker production per annum, from July 2009 onward hence the total limestone requirement for cement production will become about 5.54 million tons per annum hence it has been decided to take approval of Central Government for diversion of balance 190.42 hectare forest land Under section 2 of Forest conservation Act 1980 about 120 million tons limestone reserves will be available after removing about 25 million tons of overburden the handling of limestone and overburden will be done simultaneously.

Whether the area is recorded To be in the forest	:	Yes. The area falls in Reserved forest.
Ownership / Occupancy	:	Originally sanctioned Mining Lease area – 493 hectare out of which, 238.96 HA-. Forest Land 63.62 HA .- Revenue & Patta Land 302.58 HA. Now company applying for balance 190.42-hectare forestland of originally sanctioned mine lease due to increased requirement of limestone at plant form the year 2009-10 onward in lieu of proposed expansion of Cement plant Capacity. At present the legal status of the land is Government forest land.
Existence of Public Road/Railway line, if any nearby and Approximate distance	:	The Mine has good approachability being well connected by road. A 12 Km long part tar and part murum feeder road connect the Mines via Cement Plant with Gadchandur village on the Rajura Adilabad highway. Gadchandur is 22 Km from Rajura. Rajura is located on the Nagpur-Chandrapur-Asifabad State Highway. The mine is located 62 Km from Chandrapur and 218 Kms from Nagpur. The nearest rail head is at Manikgarh 3KM from Rajura on the Ballarsha – Kazipeth B.G. Section of S. E. Railway
Toposheet No. with Latitude & Longitude	:	The mine area falls within survey of India Top sheet No.56 M/2. The deposit is located about 4 Km south of Naokari Village. Longitude: 19°37'39' Latitude : 79°8'10' (Please refer Plate No. 1& 2 location Plan & Key Plan)
Land Use Pattern (Forest, Agriculture, Grazing Barren, etc))	:	FOREST LAND

PART - A

3. GEOLOGY & EXPLORATION & RESERVES

(a) TOPOGRAPHY & DRAINAGE PATTERN OF THE AREA

The area is marked by rugged topography conspicuous by a lower undulating terrain with limestone scraps and controlled by the northerly flowing nala vague (locally known as Amal Nala) passing through the central part. The ground on either side of the nala rises gently for some distance and then abruptly becomes steeper with exposures of Deccan trap ultimately forming plateau, such plateau are seen on all sides except to the North.

The northerly flowing Amal Nala traverses the area. It has locally carved gorges with near vertical precipices of limestone. The nala water flow is generally continuous for nearly 6 to 7 months, with some trickle of water during the summer months. The water table in the area ranges from 4 m to 20 m from surface. General drainage pattern of the area is dendretic drainage pattern. The highest ground level located in the plateau to the North-West is 402.2 mtr.

(b) GENERAL GEOLOGY AND LOCAL MINE GEOLOGY

The area forms part of the region covered by limestone and purple shale of Penganga Series of late Pre-Cambrian age and the Deccan basalt of cretaceous age. The sedimentary shows very low dips and has apparently not undergone any structural deformity. The shale and limestone are unconformably overlain by the historical basalt flows.

3.0 RESERVES

Sr No	Agency	Year	Investigation	Results
1	M/s G.S.I.	1965-1968	Large scale Geological Mapping 1:3000 scale in about 7.55 Sq.KM	Existence of about 292 million tons of Cement Gr. Limestone, 31 million tons of flux grade & 12 million tons of argillaceous limestone reserves.
2	M/s D.G.M. (Maharashtra)	1970-1971 to 1973-1974	(i) Mapping (ii) Revised Drilling Plan Northern Part 140x 140 Mtr grid pattern 2.4 Sq.Km area, 64 Bore Hole with 2249.82 meterage drilling.	Demarcation of high Silica (+15%) and low Silica (-15%) Limestone 63.68 million tons of Cement Grade limestone in explored area upto 253 MRL & existence of limestone.
3	M/s D.G.M. (Maharashtra)	1975-1976	(i) Mapping (ii) Drilling (Southern part) 140 x 140 mtr grid pattern 1.5 Sq.Km area 61 Bore Hole 2101 mtr drilling.	74.63 million tons cement grade limestone in Southern part up to 300 MRL and existence of Limestone beneath 300 MRL also.

In the mine lease area **(Refer Plate No. 4 & 5: Geological Plans & Sections)** the limestone occurs in the Amal Nala valley and is cordoned off on all sides except to the North by Deccan basalts on higher elevation. The area is endowed with good rock outcrops, both the limestone and basalt. Soil covered area is confined to the low-lying areas along the Amal Nallah, where the soil mantle varies in thickness from a few cm. to about 10 meters.

Signature
APPROVED

The Cement Grade Limestone overlies the siliceous limestone. It is extremely fine grained, homogeneous medium to hard rock showing variety of colours from light gray-to-gray and dark gray. The limestone strike in a general NW-SE direction with 3° to 8° Southwesterly dips. Locally beds are sub-horizontal, usually three sets of joints viz. N45E-S45W with 80° to 90° NW dip, N 60-65E, S60-65W dip 80° S and N45-S45E dip 75° NE are initially observed.

The Cement Grade Limestone is unconformably overlain by the basalt lava flows. These flows occupy the higher hill features in the East, South, West and Northwest usually above 350 MRL. (In the Central Part a well-marked basalt outlier was present which have been removed during last 20 years mining operation in the adjacent mining lease area). The contact between the limestone and basalt is generally marked by 1-to 3-mtr thick yellowish to buff powdery calcareous material. The basalt is very hard to medium hard, coarse to medium grained compact massive rock. The basalt flows in all the blocks is nearly horizontal.

A review of all the available chemical analysis data of the limestone cores, & mining activity of last 20 years in the adjacent mine lease area of company clearly indicates presence of good Cement Grade Limestone in the 190.42 Hectare this forest land also.

(d) *Broadly indicate the year wise future programme of exploration taking into consideration of future Production Programme planned in next five years: -*

The mineable Limestone Reserve in exiting mine lease area are given as Under :-

(a) Above 303 MRL : 44.90 Million tons (As on 31.3.2006)

(b) Below 303 MRL : 63.38 Million tons (As on 31.3.2006)

108.28

The quantity of limestone proposed to be mined during the first five yearly period of this Mining Plan is about 0.75 million tons only as initially we have decided to start the overburden removal from the G hill simultaneously with development of limestone faces. Hence no exploration programme has been planned during the period of this Mining Plan.

(e) *Indicate Geological & Recoverable Reserve & Grade, duly supported by standard method of estimation and calculation along with required section (giving split up of various categories i.e. proved, probable & possible: -*

PARAMETERS FOR RESERVE ESTIMATION ARE AS UNDER: -

LIMESTONE RESERVES

The major part of Block G, H, I & J have been extensively explored by D.G.M. Maharastra at about 125 to 200 mtr grid interval so the Limestone reserve free from Overburden in these blocks is taken in proved category that is category 111 under UNFC classification the limestone reserves below overburden is considered in 112 category of the UNFC since the mining of limestone from this limestone reserves requires overburden removal hence those reserves have been considered as probable reserves. To arrive at net Mineable reserve, a reduction factor of 5% is applied to Proved Category Limestone reserve giving due consideration to various mining losses where as a reduction factor of 20% is applied to the limestone reserves below overburden capping i.e. probable category.

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METHOD OF RESERVE ESTIMATION

The reserves have been calculated by geological cross sectional method. In this method the reserve are calculated for areas between two cross section lines and tied/linked to the quality. This information is more helpful for mining point of view because the reserves and quality occurring between two section lines are known for a required bench. This helps in production planning. The cross section lines are marked incorporating all available surface and sub surface geological data.

(Please refer plate no. 04 Geological Plan & plate no.11A &11B for the sections of reserve calculation)

These sections cover the entire proposed lease area of covered by G, H, J Blocks, & I. Bench levels are also marked on the all sections.

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The average inter-sectional area was calculated by averaging the cross sectional area of two consecutive section. The distance between the two consecutive sections to arrive at the volume multiplied this average intersectional area. This volume was then multiplied by tonnage conversion factor, which is volume to weight ratio.

For Limestone , volume to weight ratio considered are as Under: -

(i) Limestone : 0.40 M^3 to 1 ton of limestone or 1 M^3 = 2.5 MT

TABLE –1

Block wise mineable Limestone reserves

(Fig: Million Tons)

BLOCK	BENCH RL	RESERVES				Total Mineable	GR.OF PROVED RESERVES	
		Proved (111 UNFC Cat.)		Probable (112 UNFC Cat.)				
		Geolog-ical	Minea-ble	Geologi-cal	Minea-ble		CaO% (Avg)	SiO2% (Avg)
G	342-352 I	0.41	0.39	1.55	1.24	1.63	46.20	11.85
	332-342 II	1.54	1.46	2.43	1.94	3.40	46.02	11.97
	322-332 III	1.48	1.41	1.93	1.54	2.95	45.83	11.67
	312-322 IV	2.24	2.13	1.25	1.00	3.13	45.89	12.08
	303-312 V	3.13	2.97	1.38	1.10	4.07	46.43	11.76
	303-253 VI-X	-	-	*18.01*	*14.41*	*14.41*	46.80	12.07
	Sub Total	**8.80**	**8.36**	**26.55**	**21.23**	**29.59**		
H	342-352 I	0.17	0.16	0.64	0.51	0.67	46.73	11.67
	332-342 II	*1.36*	*1.29*	*2.15*	*1.72*	*3.01*	48.02	11.79
	322-332 III	2.86	2.72	3.04	2.43	5.15	46.23	11.46
	312-322 IV	3.49	3.32	2.88	2.30	5.62	46.72	11.68
	303-312 V	4.80	4.56	3.78	3.02	7.58	45.31	13.02
	303-253 VI-X	-	-	24.60	19.68	19.68	46.23	11.59
	Sub Total	**12.68**	**12.05**	**37.08**	**29.66**	**41.71**		
I	342-352 I	-	-	-	-	-	-	-
	332-342 II	0.25	0.24	0.74	0.52	0.76	45.62	12.26
	322-332 III	1.17	1.11	1.31	.86	1.97	46.02	11.67
	312-322 IV	1.24	1.18	1.74	1.04	2.22	47.02	11.56
	303-312 V	*2.31*	*2.19*	*1.98*	*1.43*	*3.62*	46.23	11.89
	303-253 VI-X	-	-	*2.66*	*9.06*	*9.06*	46.23	12.18
	Sub Total	**4.97**	**4.72**	**19.40**	**12.91**	**17.63**		
J	342-352 I	*0.55*	*0.52*	*0.74*	*.59*	*1.11*	45.03	13.02
	332-342 II	*1.85*	*1.76*	*1.31*	*1.05*	*2.81*	46.81	11.02
	322-332 III	2.14	2.03	1.74	1.39	3.42	46.76	12.01
	312-322 IV	2.18	2.07	1.98	1.58	3.65	46.86	11.56
	303-312 V	3.03	2.88	2.66	2.13	5.01	46.23	11.89
	303-253 VI-X	-	-	19.40	15.52	15.52	45.47	11.82
	Sub Total	**9.75**	**9.26**	**27.83**	**22.26**	**31.52**		
	Grand total	**36.20**	**34.39**	**110.84**	**86.06**	**120.45**		

	Particulars		**Reserves (in Million Tons)**
1.	Total MINEABLE Limestone Reserve of the area as on 1.12.2006	:	**120.45**

(5% reduction factor is applied to proved category limestone while arriving at net mineable limestone reserves, where as a reduction factor of 20% is applied to probable category limestone beneath overburden and below 303 MSL benches giving due consideration to various mining & geological losses.)

4.0 MINING

(a) The Manikgarh Cement Plant at Gadchandur for which the existing lease area of 302.58 hectare and the present deposit / Mine is / will be serving as a Captive Mine the annual limestone dispatches from mines is 1.8 million tons after the commissioning of new unit from the July 2009 the limestone requirement of plant is going to be about 5.54 million tons per annum .

The Cement Grade Limestone in the area is well bedded with 3° to 10° Southwesterly dips. There are very little lateral and depth wise variation in the quality of the limestone in G, H, I & J blocks of the deposit. All the features and the topography of the area have favored amenability of the deposit being worked by open cast method.

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The mining operation in the adjacent mine lease area is already continuing with systematic development of benches. The mining operation in this area will also be done systematically and scientifically in the initial first two year of this mining plan the development of haulage road & overburden handling will be started. The overburden will be suitably dumped along the nala flowing in the area in such a way that it will work as a barrier between mine and the nala as it was done in the adjacent existing mine lease area of the company. From third year onward the limestone raising will be started from this block.

Fully mechanized open cast mining method will be adopted so as to ensure that continuous supply of desired quantity and quality of limestone to the Plant in three-shifts/ day working is achieved.

(b) Yearly block-wise excavation of limestone and Black Cotton Soil (to Develop plantation site) is mentioned in the table given below: -

(fig : Lakh MT)

Year	BLOCK	O/BURDEN QUANTITY	LIMESTONE (ORE) QUANTITY	SUBGRADE MINERAL	BLACK COTTON SOIL	ORE TO O/BURDEN RATIO
1st Year	G	1.0	-	-	-	
	H	-	-	-	-	
	I	-	-	-	-	
	J	-	-	-	-	
TOTAL	**-**	***1.0***	**-**	**-**	**-**	***0:1.0***
2nd Year	G	1.0	-	-	-	
	H	-	-	-	-	
	I	-	-	-	-	
	J	-	-	-	-	
TOTAL	**-**	***1.0***	**-**	**-**	**-**	***0:1.0***
3rd Year	G	1.0	2.5	-	-	
	H	-	-	-	-	
	I	-	-	-	-	
	J	-	-	-	-	
TOTAL	**-**	***1.0***	***2.5***	**-**	**-**	***2.5:1***
4th Year	G	1.0	2.5	-	-	
	H	-	-	-	-	
	I	-	-	-	-	
	J	-	-	-	-	
TOTAL	**-**	***1.0***	***2.5***			***2.5:1***
5th Year	G	1.0	2.5	-	-	
	H	-	-	-	-	
	I	-	-	-	-	
	J	-	-	-	-	
TOTAL	**-**	***1.0***	***2.5***	**-**	**-**	***2.5:1***
GR. TOTAL	**-**	**5.0**	**7.50**	**-**	**-**	**1:00**

(Please refer plate no. 7A to 7E & 8A & 8B for production and development plan section, respectively)

4.0 (b) (i) *Yearly O/burden handling proposed for the next 5 yrs*

Initially the Overburden handling has been proposed at the rate of 1.0 Lakh metric tons per annum in the period of this Mining Plan form the block G of the deposit. The total of 5 lakh tons of overburden will be removed during this period.

YEARLY HANDLING OF BLACK COTTON SOIL PROPOSED: -

Top soil handling has not been proposed during the period of this mining plan since the top soil will be required in future for rehabilitation of waste dumps.

4.0 (b) (ii) YEARLY PRODUCTION PLAN FOR THE NEXT FIVE YEARS

During the first two year of this mining plan limestone raising has not been proposed giving due consideration to the requirement of time for development of overburden and limestone faces haul roads within this virgin deposit during the period 100% limestone handling will be done for existing adjacent mine of the company from the third year onward initially 2.5 lakh metric tons per annum limestone raising has been proposed from this area during third, fourth and fifth year of this mine plan. The total of 7.5 lakh tons of limestone will be excavated during this period.Mine has to supply consistently following grade limestone to Cement Plant for its smooth operation: -

CaO: 45.5% & SiO_2: 12.5% APPROVED

Limestone quality varies in benches of Block A, B, C, E & F of the existing limestone quarry of the company and these are to be judiciously blended on day to day basis to achieve specified limestone supply to Plant. The most probable portion in which the **block G** would be utilized is considered while scheduling production for the next five years from this block.

Looking to the above-mentioned reasons, it is proposed to excavate about 2.5 Lakh tons of limestone from different benches of **Block G** per annum. Bench-wise, year-wise, block-wise production schedule is given as under: -

Yearly limestone raising schedule from Block G of the deposit

Year	Bench (MRL)	Tonnage (Lakh MT)	CaO%	Sio_2%
1st year	-	-	-	-
2nd year	-	-	-	-
3rd year	312-322	2.5	45.5-46.5	11.6-12.5
4th year	312-322	2.5	45.5-46.5	11.6-12.5
5th year	322-332	2.5	46.0-46.7	11.3—12.2
Total	**-**	**7.5**	**-**	**-**

(Please refer plate no7A to 7E & 8A&8B for development & production plan & section)

Positions of production and development bench at the end of each year for the next five years are also shown in the Plan (Please refer Plate No.7A to 7E). It may be noted that the above production schedule is subject to deviation due to various reasons which are beyond control such as: -

(1) Fluctuation in quality of Limestone due to presence of interstitial clay pockets

(2) Fluctuation in demand of Cement

(3) Unwarranted labour problem

(4) Any other unforeseen or unexpected interruption.

4.0 (c) Individual Year-wise Plans & Sections for next 5 years :-

Please refer Plate No. 7A to 7E to 8A and 8B.

4.0 (d) Plans & Sections showing Mines layout, dumps, stock of sub grade Minerals: -

Please refer Plate No. 7E for composite Five Years Plan.

4.0 (e) (i) **Proposed rate of production when the Mine is fully developed**

After getting the requisite statutory clearances, the mining activity in this balance mining lease area is proposed to be started and that will be the first year of this Mining Plan. During the first two years as described earlier there is proposal for overburden handling and development of haul road etc from the third year onward limestone raising from this area will be started by opening of limestone benches initial about 5% of the plant requirement is proposed to be fulfill from this area rest 95% limestone raising will be done from adjacent fully developed Mechanized Mines of the company once the limestone benches are fully developed in this new area about 50% of the plant requirement will be fulfilled from this 190.42 hectare area. As such The Annual requirement of limestone will be about 2.5 million tons which have to be fulfilled by this captive limestone mines in future after completion developmental work.

4.0 (f) (ii) **Expected Life of Mine**

At the rate of 2.5 million tons per annum limestone handling the mineable reserves of limestone as given in will last for about 48 years.

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4.F **CONCEPTUAL MINE PLAN: -**

In this Mining Plan five yearly Conceptual Mine Plan is enclosed indicating the position of the lease Boundary, important surface features, the extent of mine working, Waste rock-dumping sites, their rehabilitation by plantation, sites of soil and sub-grade stock up to the complete life of deposit.

We are planning to work on the same line up to the bottom of limestone depth i.e. 253 MRL so that the final Conceptual Plan position can be achieved.

(Please refer Plate No.10: Conceptual mine Plan)

LONG TERM DESIGN PARAMETER CONSIDERED: -

(A) Handling of Sub-grade Mineral & its proper utilization & Stacking: -

As experienced in the adjacent mine clay intercalations are being found frequently along joint plane and fractures in the limestone beds we have to handle low grade quality limestone first by judicious blending with high grade limestone up to maximum possible quantity and if required proper stacking of the low grade limestone at safer place for future utilization.

(A) Mining & working of entire deposit of limestone in the lease/deposit area has been conceptualized keeping in view the following: -

(1) Development of Block G, H, I, &J to ensue continuous limestone production from various limestone benches of this block in the period of this Mining Plan and in future also.

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(2) Proper floor levels ensuring good mine drainage and safe haul roads are the essential parameters.

(3) Handling and disposal of waste rock in planned manner along with their proper rehabilitation by plantation are also kept in view.

4.F (i) FIVE YEARLY EXPLORATION PROGRAMME

As sufficient mineable limestone reserves are available at adjacent mine and in this deposit Hence no exploration programme has been planned during the period of this Mining Plan.

4.F (ii) BLOCKWISE DEVELOPMENT PLAN

Based on the long-term design parameters block-wise position of working benches at the end of every five years period. Similarly, position of haul roads, waste dumps identified Afforestation areas are shown in the present Conceptual Plan Plate No These aspects are described in details as under :-

(a) Position of Block-wise Working Benches :

Please refer Plate No 10. The position of block-wise working benches has been shown up to ultimate pit limit position.

(b) Position of Haul Roads

Please Refer **Plate No 10**. New roads to different blocks will have to be maintained till consumption of complete mineable limestone from the block. The haulage roads will be recovered only in the last phase leaving only one entrance for ultimate possible withdrawal of equipment in each block.

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(c) Phase-wise Programme of Dump Development

We have proposed to handle about 1.0 Lakh tons of overburden per annum during the period of this mine plan that will be systematically dump along the nala so that the same can be worked as a nala barrier. Rest of the overburden will be suitably used for reclamation of mined out area of adjacent mine of the company as shown in the **Plate No. 7A to 7E**. The nala barrier will be than suitably planted with tree so as to rehabilitate the dumps.

(d) Phase-wise Programme of Afforestation

During the initial phase of this mine we are planning to plant about 1000 trees per annum on the waste material barrier planned during the period of this mine plan. Later on all the mined out area will be suitably planted by trees. (Please refer **Plate No.7A to 7E)**

(e) Optimum Exploitation & Utilization of Mineral

To ensure gainful & optimum utilization of mineral, working limits of different benches are so extended in lateral direction that even sub-grade material can be utilized to its optimum. Use of sub-grade limestone of the entire Block with the available good quality limestone has ensured the maximum conservation and use of available grade reserves of limestone.

(f) Waste & Sub-grade Mineral Management

Generation of waste & sub-grade material in Mining is inevitable. Hence, an effective management of this material with an aim to maximize their use has been planned. Sub-grade limestone will be stacked separately and used optimally. Waste dumps will be rehabilitated by proper plantation work in future Similarly, the overburden of Block G to J will be suitably dumped after reaching 253 MRL in various Blocks of adjacent mine of the company.

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(g) Environmental Aspect

All such activity/activities connected with mining which may have some bearing on the environment such as removal, storage and utilization of top soil, water & air quality management and most important. The Afforestation are well planned and their 5 yearly phased programme are exhibited in the **(Please refer Plate No 7A to 7E)**

(h) Monitoring of Environmental Aspects

Monitoring Points and frequency of monitoring for various environmental parameters such as air water quality, soil quality, noise levels and ground vibration have been marked on the Environment Plan PLATE No.9 and described in details in Para 11 of this Mining Plan.

4.g OPENCAST MINE

(i) Mode of Working

Various mining operations are fully mechanized. The Mine is provided with adequate number of equipment to efficiently cope with the production schedule (List of Equipment is appended as Annexure 3) 6" dia holes will be drilled and blasted with a combination of slurry and site mixed ANFO mixtures. Blasted material will be loaded in to the dumper with the help of excavator the dumpers transport the blasted limestone up to the crusher. After crushing, material is stored in Silo's from where it is transported to Plant by means of ropeway and conveyor system

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(ii) Layout of Mine Working

4.0 (i) **EXTENT OF MECHANISATION :-**

Various mining operations are fully mechanized. The Mine is Provided with adequate number of equipment to efficiently Cope up With the Production Schedule (List of Equipment is appended.

(Please refer Annexure No.3)

5.0 **BLASTING**

The drilling and blasting parameters are set up after taking a number of trial blasts to suit the strata conditions. Slurry explosives and ANFO will be used for blasting. Four Explosives magazines of 4.5 MT capacities each are provided for storage of about 18 MT explosives and 44000 nos Detonators. An Explosives Van will also be provided for transportation of explosives material. Latest technological development in the field of explosives & blasting will be always taken into consideration while using various explosives. By using MSDD, Cord Relay, In-hole initiation delay system, ground vibration; noise and fly rock have been reduced to bare minimum.

(A) BLASTING PARAMETERS

1	Height of the benches	:	10 to 11 mtr in Limestone 6 mtr in Overburden
2	Depth of Drill Hole	:	10.5 mtr in Limestone 6.5 mtr in Overburden
3	*Size & Spacing of Hole*		
	(a) 100-115 mm dia hole	:	4 to 4.5 mtr
	(b) 150 mm dia hole	:	6 Mtr
4	*Burden:*		
	(a) 100-115 mm dia hole	:	3 to 3.5 Mtr
	(b) 150 mm dia hole	:	5 mtr
5	*Charge per hole –*		
	(a) 100-115 mm dia	:	50-52Kg in Ore & 20-21Kg in O/B
	(b) 150 mm dia	:	90-105 Kg in Ore

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- Two rows blasting with 25 Bore Holes will be blasted at a time maximum.
- MSDD or Cord Relay is used.

(B) Type of Explosives

10-15% Toe Blast,

85-90% ANFO Mixture or Slurry Explosives.

(C) Powder Factor in Ore & Overburden

Powder Factor in Ore	:	8 MT/kg of Explosives
Powder Factor in Overburden	:	7.5 MT/kg of Expl.

(D) Secondary Blasting

Frequent secondary blasting is not expected.

(E) Storage of Explosives

Four explosives magazines of 4.5 MT capacity each are provided for storage of maximum 18 MT explosives and 44000 nos of Detonators.

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6.0 MINE DRAINAGE

The hydrology of any region is controlled by the amount of precipitation and geological factor such as lithology, structure acquifer character of the rocks and presence of any water body (nala/river) etc. Rocks like limestone in the hill slope and valley dominantly cover the proposed lease area. The limestone beds are nearly horizontal and have very little joints. The characters of the rock are such that movement of water is rather limited. The recharging capacity of rocks is therefore extremely limited. As such there is limited scope of retention of rainwater and recharging of ground water, with these limitations the replenishment of surface and ground water is obviously poor. The drainage of the area is controlled by the northerly flowing Amal nala, passing though the central part and its tributaries draining into mainstream from West to East. The water flow in nala is controlled by surface run off. Commencing from on-set of the monsoon the water flow continuously till January. During dry summer months in the Amal Nala water trickles through few hidden springs.

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Surface Water

In order to facilitate proper drainage system in working area storm drains will be made Garland drains will also be provided in the Mine area wherever required. All the drains will be apparently joined with the natural drainage at suitable points after proper de-siltation. This drain water is allowed to go into Main nala.

Sub-Surface Water

When mining activity will be extended to 253 MRL a sump will be made where collection of the seepage water will be done. This water will be again pumped into main drainage of the area.

7.0 STACKING OF MINERAL REJECTS AND DISPOSAL OF WASTE

All the limestone will be judiciously blended with higher grade limestone available in the mine similarly overburden handling is initially proposed at the rate of 1.0 lakh tones per annum from the G block of the deposit which will be suitably dumped along nala so as to work as nala barrier this dumps will be suitably planted by tree after spreading top soil over it.

7.0 LAND CHOSEN FOR DISPOSAL OF WASTE WITH PROPOSED JUSTIFICATION:

As stated earlier overburden handling is initially proposed at the rate of 1.0 lakh tones per annum from the G block of the deposit which will be suitably dumped along nala so as to work as nala barrier this dumps will be suitably planted by tree after spreading top soil over it.

TOP SOIL STOCK

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Topsoil handling from this area has not been proposed during the period of this mine plan.

SUBGRADE MINERAL STOCK (DUMP)

All the limestone will be judiciously blended with higher-grade limestone available in the mine hence no stacking of sub grade mineral is proposed during the period of this mine plan.

7.0 (C) BUILT OF DUMP CONFIGURATION,ETC.

The following precautions will be taken while dumping the overburden in these dumps in the past: -

(1) Angle of waste dump slope will be kept below angle of repose of basalt, which is 37½° to ensure stability of dump slope. This will be maintained.

(2) The terrace of dumps will be compacted by proper dozing and grading so as to make dump compact.

(3) Further efforts will be made to consolidate their slope stability of proper plantation on matured portion of dump whenever

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(4) Arresting wall of big basalt boulder will be essentially made at the edge of bottom terrace so as to restrict wash out and sliding of dumped material.

(5) All the terraces of dump will be provided with garland drains

(6) The main drains will be provided with sieved culvert and siltation tank so as to catch siltation.

PROPOSED BLOCKWISE HANDLING OF OVERBURDEN, BLACK COTTON SOIL AND SUBGRADE LIMESTONE FOR MINING PLAN PERIOD

(Fig : Lakh MT)

YEAR	G Block			H BLOCK			I BLOCK			J BLOCK		
	Basalt / O/burden	B.C. Soil	Sub Gr. Min.	Basalt	B.C. Soil	Sub Gr. Min.	Basalt	B.C. Soil	Sub Gr. Min.	Basalt	B.C. Soil	Sub Grade Min.
IST YEAR	1.0	-	-	-	-	-	-	-	-	-	-	-
IIND YEAR	1.0	-	-	-	-	-	-	-	-	-	-	-
IIIRD YEAR	1.0	-	-	-	-	-	-	-	-	-	-	-
IVTH YEAR	1.0	-	-	-	-	-	-	-	-	-	-	-
VTH YEAR	1.0	-	-	-	-	-	-	-	-	-	-	-
TOTAL	5.0	-	-	-	-	-	-	-	-	-	-	-

Waste rock handling: 5.0 lakh tonnes
NEXT 5 YEARS FROM 'G' BLOCK

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(Please refer Plate No. 7A to 7E for details of waste rock Handling Plan)

8.0 **USE OF MINERALS: -**

(a) The Mines is captive to the Cement Plant. Hence, total quantity of Limestone produced is used for cement manufacturing and not sold or disposed off otherwise.

(b) The specification of the limestone as required by the own Cement Plant are as follows: -

CHEMICAL		PHYSICAL
SiO_2	8 to 12.5%	
Al_2O_3	0.75 to 1.8%	Hardness 3.5 to 4.0%
Fe_2O_3	0.50 to 2%	Sp.Gravity 2.5%
CaO	45.5 (above)%	Brittle & fine grained.
MgO	0.5 to 1.0	

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(c) The aspect of mineral conservation through use of sub-grade limestone to manufacture Cement has been given the prime importance since beginning in the adjacent mine of the company. This could be made possible by judicious extensive blending of low-grade material with good quality limestone available in the Mines. This aspect will be followed in case of this mine also low grade material will be directly used from the Mines by blending in Crusher Hopper.

9.0 OTHER

(a) **SITE SERVICES**

The existing mine of the company has been provided with a well-equipped Workshop with lathes, welding sets, shapers, drills cranes, etc. Capable of undertaking all the necessary maintenance and repairs of equipment, vehicles, heavy earthmoving machineries, etc. In addition, requisite power and water supply, Office, Stores, Time Office, Explosives Magazines, and Workers Rest Room have been provided along with First Aid Center and Canteen as per statutory rules. The other utility services includes 30000 ltr capacity Diesel Supply Pump and a Chemical Laboratory.

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9.0 (B)EMPLOYMENT POTENTIAL:

About 110 employee are already working in the existing mine of the company which will also carry out the job in the proposed mine area however new employees will be appointed whenever required

10.0 MINERAL PROCESSING (BENEFICIATION)

Our Cement Plant requires Limestone of following size and chemical specification for smooth running i.e.

Size: Below 80 mm

CaO%: + 45.5 (or above)

SiO_2%: -12.5 (or below)

In order to send specified size limestone to Cement Plant crushing of blasted limestone boulders varying in size 250mm 1500 mm is done at our Impact type Crusher. Single stage crushing is performed at this Crusher.

The quality of limestone of different benches of various blocks varies bench to bench. The planning is done based on the quality of blasted material available at different benches of various blocks. To achieve specified quality limestone supply to Cement Plant, judicious blending of low, average and high-grade limestone is done at Plant by reclaimer and stacker. This way we will achieve specified size and chemical composition limestone supply to our raw mill. Hence, no screening, benefaction or processing of limestone will be done. The material produced from this mine will be suitably blended and beneficiated in the existing crushing plant and will be used in the captive cement plant.

PART-B

11 ENVIRONMENT MANAGEMENT PLAN

Resources exploitation such as minerals, water, forests, etc. of any area are required to improve the economic status of the region. Each one of these activities would release waste product in gaseous, liquid and solid phase causing environmental pollution. In case of mineral extraction the removal of the minerals/rocks and unwanted overburden materials would create aesthetically unpleasant conditions changing the environment scenario. It is, therefore, essential to take appropriate steps to see that the impact of environmental quality is minimal during the development of any mineral project. For this the environmental data has been collected in the neighborhood of the mining area for assessing its impact. This has been proved useful in the preparation of Environment Management Plan. This subject is discussed in the following paras: -

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11A Base Line Information:

1) **Existing Land Use Pattern**

In the proposed mine lease area limestone occurs in the Amal Nala valley and is cordoned on all sides except to the North by the Deccan basalt flow on the higher reaches especially above 352MRL. The entire 190.42 Hectare proposed mine lease area falls under the Manikgarh Reserve block of Wansadi Range of Central Chandrapur Forest Division. In the proposed mine and surrounding area, the topography is rugged comprising narrow to broad valleys exposing limestone flanked by flat topped basalt plateau with steep scraps. Initially mining activity will be started in a smaller part of the proposed mine lease area.

ii) **Water Regime**

The hydrology of any region is controlled by the amount of precipitation and geological factors such as lithology, structure, acquifer character of the rock, etc. Consolidated rocks like limestone in the valley dominantly cover the lease area. The limestone beds are nearly horizontal and have very little joints. The limestone is apparently non-cavernous. The characters of rocks are such that movement of water is rather limited. The recharging capacity of the rocks is therefore extremely limited. As such there is limited scope for retention of rainwater and recharging of ground water. With these limitations the replenishment of surface and ground water is obviously poor. The drainage of the area is controlled by the Northerly flowing Amal Nala, passing through the central part and its tributaries draining into the main stream from West to East. The water flow in Nala is controlled by surface run-off. Commencing from o n-set of the monsoon the water flow continuous till January. During dry summer months in the Amal Nala water trickles through from few hidden springs and gets accumulated in patches of pool. It was established by M/s CMRI feasibility report that by extension of mining activity below 303 MRL, there will not be effect on the water regime of the area.

iii) **Flora & Fauna : No. & type of trees, Flora & Fauna**

As mentioned earlier, the proposed lease area covers reserved forest 190.42 hectare land included in this Plan has to be deforested by Forest Department before handing over the lease for mining purpose after getting environment clearances. The flora of the area are mainly comprises Sal, Mowai, Bhawand, Khair, Bija, Ruhand Gardi, Cheena, Dudu, Awla, Bamboo, etc. The tree density in forest area surrounding mining lease area is below 0.4 including numerous varieties of thorny bushes. Except common birds, rabbit, monkeys, the general wild life in the area is poor.

iv) Quality of Air Ambient, Noise Level & Water

(a) **Water**

The physico-chemical and bacteriological characteristics of water from both the water sampling point i.e. (I) one from the point where nala join Mines are (ii) one point where nala exit mine area (please refer Annexure No. 6 & 6A) are within satisfactory limits prescribed for drinking purpose. The water sample from both these locations is tested regularly on quarterly basis. The results are always found within limit (Please refer annexure 5).

(b) **Ambient Air Quality**

The air ambient quality survey of air borne dust is periodically done on seasonal basis covering three season i.e. pre-monsoon period, post monsoon period and winter period for 5 parameter i.e. SPM, NOX, SO2, Respirable SPM, CO in the adjacent mine lease area of the company the air quality data observed in this area reveals that concentration of SPM, NOX,SO2, Respirable SPM and CO are well within permissible limit. (Please refer annexure 4).

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(iv) Climatic Conditions:

The region experience extreme of temperature in summer months with dry heat. The maximum temperature shoots up as high as 48oC. Winter is mild and pleasant continuing from November to February when minimum temperature goes up to 4°C. The average rainfall of the area is about 1000 mm. The maximum precipitation is received between June to September.

Wind speed ranges between 0 and 8 KMs/hr. Wind velocity is generally less than 5 KM/hr except during pre-monsoon period when at times the speed reaches up to 10 Km/hr.

v) HUMAN SETTLEMENT

There is no human settlement within about 1 Km radius of the mine lease area. The details of the villages within 5 KMs radius are given below: -

List of human habitation/villages

Sr. No.	Name of Human Settlement /Villages	Approximate Aerial Distance from Mine (in km)	Core Zone (CZ)/Buffer Zone (BZ)	Approx. Population	Remarks
1	Mining Colony	1	CZ	550	An Industrial residential colony of Manikgarh Cement Plant.
2	Naokari Khurd	3.4	CZ	650	
3	Bembajari	1.3	CZ	250	Nearest Village to the operating mine.
4	Bembajari Guda	1.3	CZ	60	Village on the down stream side of Amal Nalla Dam.
5	Garchikli	4.0	CZ	150	
6	Labhan Tanda	4.0	CZ	150	
7	Manikgrah Fort	4.4	CZ	NIL	Place of Archaeo-logical importance.
8	Kolemguda	4.5	CZ	235	
9	Kakband	3.0	CZ	475	Amal Nalla is originated from a spring located in this village.
10	Lingando	2.0	CZ	350	Village on the upstream side of Nalla.
11	Palerjari	5.0	BZ	600	
12	Shengaon	6.8	BZ	2183	Road side developed village.
13	Carpathan	5.1	BZ	150	
14	Lendiguda	5.5	BZ	400	
15	Nagrala	6.0	BZ	300	
16	Raipur	8.5	BZ	200	
17	Manauli Khurd	6.5	BZ	778	
18	Belampur	6.0	BZ	773	Village located on plant-mine link road.
19	Tek-Arjun	7.5	BZ	150	
20	Ambejhari	7.0	BZ	175	

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The Local population mainly belongs to Gond & Kolam tribes/community. The people are mainly dependent on agriculture while some are engaged in various jobs at the Mine and Cement Plant.

vi) PUBLIC BUILDING, PLACE & MONUMENTS

There are no other public buildings; monuments or place of worship lying within the vicinity of this proposed mine lease area.

11 (B) ENVIRONMENT IMPACT ASSESSMENT STATEMENT

i) Impact of Mining on Land Use Pattern

The mining operations in the area on moderate scale and entirely mechanized. The open cast is carrying out the Mining Method in various blocks of proposed Mining Lease area. As a result of mining the existing topography would undergo certain modification in the form of lowering of levels in the slope of the higher hills area in the block G, H, I, J. The ultimate block-wise changes are expected as follows: -

(a) **Block G**

In the block mining operation will be done up to 253 MRL so there will be deepening of ground level there.

(b) **Block H**

In block H mines operation will be extended up to 253 MRL so there will also be deepening of ground level.

(c) **Block I, & J**

In these blocks also the mining will be extended up to 253 MRL or below depending

Important surface features like nala will be protected by keeping sufficient barriers on both side of nala and by pumping of mining water into nala.

11B (ii) **AIR QUALITY**

The ambient air quality in the adjacent mining lease area of the company where all parameters within the prescribed limit as mentioned in IBM Guidelines and CPCB Norms due to the following efforts the same will be religiously followed in case of new mine area also: -

At Drills

In the entire blast hole drills in-built water injection system is provided to ensure 100% dust free wet drilling.

On Mine Haul Roads

Dust suppression of mine haul roads is done by water sprinkling through truck and tractor mounted water tankers of 15000-ltr capacities throughout the working shifts. In summer sprinkling of dust suppressing (media) agent mix with water is done as effective arrangement of dust suppression main haulage road of the crusher hopper area. Major part of crusher hopper area has been concreted to minimize dust generation at hopper haulage road. Side plantation is increased and thickened this crusher area falls in the existing mine lease area of the company.

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Monitoring of Air Quality

It is proposed to monitor Ambient air quality for 5 components i.e. SPM, Respirable SPM, NOX, SO2 & CO as per IBM Guide lines covering three season of the year i.e. pre-monsoon period, post monsoon period and winter period at five various locations:

1. At the point of max. dust concentration
   ie. Quarry edge : A1 (fix)
2. Drilling site : A2 (Changeable)
3. Loading site : A3 (Changeable)
4. Close to Crusher : A4 (Fix)
5. In the vicinity of human settlement: A5 (Fix)

(Please refer Plate No.9 for location of sampling)

PROPOSAL FOR THE NEXT FIVE YEARS OF THIS PLAN PERIOD & AFTERWARDS :-

During the period of this Mining Plan and in future also various dust control measures as already being adopted in the existing mine lease area will be followed in case of this proposed mine lease area also as they have been found very effective. Ambient air monitoring location as shown in Plate No.9 for total SPM, Respirable SPM, NOX, SO2 & CO relevant to mining operations will be continued to the surveyed as per M/s IBM Guidelines. The seasonal air monitoring report will be regularly logged in register also.

iii) WATER QUALITY

In order to minimize adverse effect of mining on water quality all arrangements such as proper drainage arrangement for surface run off water, preparation of arresting wall of big size basalt boulder at the toe of dump, Due to all these protective and preventive work the quality of water remain same.

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MONITORING OF WATER QUALITY

Inspite of all such measures quality of water at following points as stipulated in M/s IBM Guidelines has been monitored once in every quarter regularly for physical, chemical and bacteriological properties –

W-1 (i) Nala entrance point at Mines } Please refer Plate No9

W-2 (ii) Nala exit point at Mines } (Environment Plan)

The testing of Water Quality will be done at government approved environmental parameter monitoring company report of these tests will be monitored.

PROPOSAL FOR NEXT 5 YRS MINING PLAN PERIOD & FUTURE PERIOD

Water Management as described above will be followed. Water quality at Mines on Nala entrance point and exit point will be closely monitored. All physical, chemical and bacteriological tests as per IBM Guideline will be carried out regularly in the period of this Mining Plan and future also and report of this entire test will be regularly logged in Register.

11B iv) NOISE LEVEL

Monitoring of noise levels at Crusher and various earth moving machines were done and it is found that noise levels are within permissible safe limits as notified by Director General of Mines Safety vide DGMS Circular No. 18 (Tech) of 1975 and (Tech)(5) of 1990.

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Even then protective devices such as Ear Plugs, Ear Muffs have been provided to the operators of loading, drilling, dozing, hauling and crushing equipment. Further, in order to minimize noise efficient maintenance staff has regularly carried out noise level monitoring of the various mining machinery, scheduled maintenance etc.

Proposal for the Next Five Years

Monitoring of noise levels of the mining machinery protective measures as and when required are proposed to be followed in future also.

iv) **GROUND VIBRATION DUE TO BLASTING**

To check the noise level and ground vibration during the blasting at Mines colony, crusher building and office complex, ground vibration and noise survey is being regularly carried out in case of existing mine lease area of the company the same will be followed in case of new mine also in the proposed mine lease area. Moreover, to reduce ground vibration latest technological development in the field of explosives and blasting was always taken into mind while using various explosives. By using MSDD, Cord Relay, in hole delay initiation system, ground vibration noise and fly rocks have been reduced to bare minimum.

Proposal for next 5 years Plan Period

All precautionary measures to control ground vibration due to blasting will be followed as proposed in the period of this mine plan.

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v) **WATER REGIME**

The lowest level to be reached during mining would be 253 MRL, which is below the northerly flow Amal nala. In order to protect the nala & mine area as per CMRI feasibility study a barrier of more than 60 mtrs will be left on both side of nala. Moreover, the mine water will be again pumped into nala course after proper de-siltation.

vii) **SOCIO ECONOMICS**

Agriculture and to some extent forest has been the chief means of support of the local population. The opening of the mine and Cement Plant some years back has improved the economic conditions of the neighboring population to a great deal. This new avenue has beneficial effects on the socio-economic conditions of the community as compared to the impact on environment quality.

viii) **HISTORICAL MONUMENTS, ETC.**

None of the historical monument is present adjacent to the proposed mine area.

11 (C) **ENVIRONMENT MANAGEMENT PLAN**

The effect of mining operation in the area and its impact on the environmental quality is already discussed in earlier Para. All precautionary measures have been taken and would be taken in future also for preservation and conservation of the environmental resources and to maintain ecological balance. As a first step in right direction company will provide the equivalent non-forestland or twice degraded forestland to forest department to carry out the compensatory Afforestation work so as to compensate the initial forest losses.

The Environment Management Plan indicating the proposed lease boundary, important surface features, the extent of mine workings is shown on **Environment Plan Plate No 9**.

i) **TEMPORARY STORAGE AND UTILISATION OF TOP SOIL**

During the period of this mine plan topsoil handling has not been proposed as it is not available in the planned excavation area of oveburden and limestone.

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Proposal for the next 5 years:

During the period of this mine plan topsoil handling has not been proposed as it is not available the planned excavation area of oveburden and limestone.

ii)**LAND RECLAMATION AND REHABILITATION**

None of the Mine area is expected to mature for reclamation and rehabilitation during the period of this Mine Plan.

REHABILITATION OF DEAD DUMPS

This is new mine area and overburden handling is proposed at the rate of 1.0 Lakh tons per annum. The overburden will be dumped along the nala as a barrier proper dozing and grading of these dump will be done and afterward the plantation activity will be carried out so as to stabilize this dumps.

iii) **AFFORESTATION PROGRAMME**

PROPOSAL FOR THE NEXT FIVE YEARS PERIOD OF MINING PLAN

During the next five years period proposed Afforestation programme will be as under: -

Year	No.of trees to be planted (Nos)	Area to be covered (HA)	Details of area tobe covered	Spacing of Trees	After Care
1 ST	1000	0.25	All sides of Nala barrier	5MX5M	All the protective measures for better survival and growth of plants will be done in the period of this Mining Plan also
2ND	1000	0.25	do	do	
3RD	1000	0.25	do	5MX5M	
4TH	1000	0.25	do	do	
5TH	1000	0.25	do	do	
TOTAL	5000	1.25			

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(Please refer Plate No. 7A to 7E for proposed afforestation)

11(C) (IV) STABILISATION & VEGETATION OF DUMPS

Due to nature texture and weathered character of the basalt, the blasted basalt material comprises a mix of fines to boulder. It is observed from the old dumps in the existing mining lease area that this mix is quite ideal for direct stacking, dumping and overall compaction. A system of dump stabilization and vegetation plantation of waste rock dumps has been followed. This is described below –

(i) At the state when the dumping is completed, the dump top have been redressed with finer material and topped with 50-60 cm thickness soil cover. The area then prepared for plantation of suitable variety of Plant in 1½ feet pit filled with soil and manure. Then during every monsoon plantation work have been carried out.

(ii) Simultaneous with the above grass, creepers and shrubs have been planted over slopes.

(iii) The dump slopes have been kept below 37½° for better stability of slope,

(iv) The arresting wall of big basalt boulder have been made at the toe of dump,

(v) The dump have been created away from any natural sources of water with proper drainage system

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All these activities will be followed during the period of this Mining Plan & in future also.

11(C) VI) TREATMENT AND DISPOSAL OF WATER FROM MINES

As stated earlier mining activity during the period of this mine plan is going to be done on the hill slope by means of overburden handling and limestone raising so seepage of water is not at all expected in period of this mine plan. However, proper drainage arrangement of surface water during the rains will be made at the site where ever required.

vii) **MEASURES FOR MONITORING ADVERSE EFFECT ON WATER REGIME**

In order to minimise adverse effect on water regime of the area, all arrangements such as proper drainage system for surface run-ff water, preparation of arresting wall of big basalt boulders at the toe of waste dump These measures of minimizing adverse effect on water regime will be continued period of this mine plan also

IX) PROTECTIVE MEASURES FOR GROUND VIBRATION/AIR BLAST CAUSES BY BLASTING.

To reduce ground vibration during blasting, latest technological development in the field of explosives and blasting was always taken into mind while using various explosives. By using MSDD, Cord Relay, Inhole Delay Initiation System, ground vibration noise and fly rocks have been reduced to bare minimum. All precautionary measures to control ground vibration due to blasting will be continued in future also. Ground vibration study on location marked in the Environment Plan will be carried out regularly once in every five years.

x) MEASURES FOR PTOTECTING HISTORICAL MONUMENT AND REHABILITATION OF HUMAN SATTLEMENTS LIKELY TO BE DISTURBED DUE TO MINING ACTIVITIES.

There is no historical monument within or outside 3 Km radius of Mining Lease area. Similarly, there is no human settlement is going to be disturbed during the mining operation of this Mining Plan. Hence, no measures required to be adopted.

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xi) SOCIO-ECONOMIC BENEFITS ARRISING OUT OF MINING

Commencement of the mining operations in addition to the establishment of Cement Plan, there has been marked improvement in the socio-economic condition of the people from this back -ward area. Apart from employment potential, the mining and cement plant resulted in development of new roads, better transport, civic facilities, education, etc.

11 (D) MONITORING SCHEDULE FOR DIFFERENT ENVIRONMENT COMPONENT.

Monitoring of various environmental components is being done by competent persons. The team will be responsible for :

a) Implementation of various environment control measures
b) Monitoring of various environmental activities
c) Post Plantation care
d) Examination of the effect of various control measures and undertaking corrective actions where needed.
e) Seeking expert's guidance as and when needed.

The monitor system will also include: -

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a) Examination of slope, mine faces, waste dump, etc.
b) Examination of regular cleaning of drainage systems, settling tank
c) Keeping track on vegetation/plantation growth.
d) Checking of quality of air, water, noise level, ground vibration at fixed periodical interval as per M/s IBM Guidelines by outside approved agency.
e) Maintenance of various record pertaining to all these activities will be kept as done in past also.

All the measures are expected to keep the effect of pollution due to mining to a bare minimum possible. Various measures proposed to be adopted for reduction of land degradation and maintaining the overall physiography of the region are also expected to retain the ecological balance of the area at the end of mining operation.

12.0 ANY OTHER RELEVANT INFORMATION

Compliance of Safety Rules and Regulations –

There has been no serious violation of Mines Safety Rules that have jeopardize human health & safety.

R.K.UDGE
REG.NO.RQP/JBP/064/96/A
VALID UPTO 24.03.2010

MANIKGARH CEMENT
GADCHANDUR 442908
DIST.CHANDRAPUR
MAHARASHTRA

G M BOHRA
REG.NO.RQP/NGP/177/95/A
VALID UPTO 21.12.2011

MANIKGARH CEMENT
GADCHANDUR 442908
DIST.CHANDRAPUR
MAHARASHTRA

अनुमोदित
APPROVED

PROGRESSIVE MINE

CLOSURE PLAN

(Under Rule 23 B of MCDR,1988)

By

MANIKGARH CEMENT

(A Divn. of Century Tex. & Ind.Ltd)

PO : GADCHANDUR 442 908

DIST : CHANDRAPUR

MAHARASHTRA

अनुमोदित
APPROVED

For

BALANCE LIMESTONE MINING

LEASE AREA : 190.42 HA

Submitted for Approval

By

Prop. : CENTURY TEXTILES & INDUSTRIES LTD

Prepared By

R K UDGE	G M BOHRA
Reg.No.:	Reg.No.
RQP/JBP/064/96A	RQP/NGP/177/95/A
Valid up to : 24.3.2010	Valid upto 21.12.2011

1. INTRODUCTION :

a) Name of Lessee : CENTURY TEXTILES & INDUSTRIES LIMITED, MUMBAI
For its unit :
MANIKGARH CEMENT
PO : GADCHANDUR
DIST.:CHANDRAPUR
STATE : MAHARASHTRA
PIN : 442 908

b) Location and extent of lease area : The Balance 190.42 hectare Mining lease area falls within Survey of India Topo Sheet No. 56M/2. The deposit is located about 6.00 KM south of Naokari village in Rajura Taluka of Chandrapur district of Maharashtra State. The Existing mining lease area is 302.58 hectares.

c) Type of proposed Lease Area(Forest /Non -Forest) :

Forest area	:	190.42 Ha.
Non Forest area	:	0.0 Ha.
TOTAL	:	**190.42 Ha.**

d) Present Land Use Pattern : **At present complete 190.42 hectare area is Forest- Land. During the First five year activity wise area to be broken is given below: -**

		Area (Ha)
1. Area to be broken by the pit	:	8.035
2. Area to be used under waste dumps	:	2.75
3. Road	:	0.90
4. Office Bldg, Crusher & Ropeway	:	-
5. Infrastructure:Ropeway Corridor	:	-
6. Tailing Pond	:	-
7. Sub – grade Dumps	:	-
8. Sweetener Limestone Stock	:	-
9. Black Cotton Soil Dump	:	-
TOTAL	:	**11.685**

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e) Method of Mining : Opencast mechanised mining method will be adopted. Various mining operations are fully mechanised. The mine is provided with adequate number of equipment's to efficiently cope with the production schedule. 6" dia holes are drilled and blasted with a combination of slurry and site mixed ANFO mixtures. Hydraulic excavator are being used to excavate and load the blasted limestone in the haulpak dumpers for transportation up to the crusher hopper crushing is done by impact type crusher, After crushing, the material is stored in Silo's from where it is further transported to Plant by ropeway and conveying system.

f) **Mineral Processing** : Our Cement Plant requires limestone of following size and chemical specification for smooth operation:

Size : Below 80mm
CaO% : +45.5 (or above)
SiO_2% : -12.25 (or below)

In order to supply specific size limestone to Cement Plant, crushing of blasted limestone boulders varying in size 250mm to 1500 mm is done at our impact type crusher. Single stage crushing is performed at this crusher. The quality of limestone of different benches of various blocks varies bench to bench. The planning is done based on the quality of blasted material available at different benches of various blocks. To achieve specified quality limestone supply to cement plant, judicious blending of low, average and high-grade limestone is done at crusher hopper itself before crushing of limestone. Further blending is done at Plant by linear stacker and reclaimer system. This way we achieve specified size and chemical composition limestone supply to our plant. Hence no screening, beneficiation or processing of limestone is done.

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1.1 **Reason for Closure** : This is a proposal under Progressive Mine Closure Plan for proposed limestone mining. Hence, not applicable.

1.2 **Statutory Obligations** : First mine plan submission for getting the 190.42 hectare forest area clearance under section 2 of Forest Conservation Act 1980 & Environment Protection act 1986.

1.3 **Progressive Mine Closure Plan Preparation**:

a) Name & address of Applicant : CENTURY TEXTILES & INDUSTRIES LIMITED, MUMBAI
For its unit:
MANIKGARH CEMENT
PO: GADCHANDUR
DIST.: CHANDRAPUR
STATE: MAHARASHTRA
PIN: 442 908

b)	Name of RQP's preparing Progressive Mine Closure Plan	:	i)	Shri R K Udge Manikgarh Cement PO: Gadchandur 442 908 Dist: Chandrapur (M.S.) RQP Reg.No. **RQP/JBP/064/96/A** Valid up to : **23.03.2010**
				&
			ii)	Shri G M Bohra Manikgarh Cement PO : Gadchandur 442 908 Dist : Chandrapur (M.S.) RQP Reg.No. **RQP/NGP/177/95/A** Valid up to : **21.12.2011**

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