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)

314(3)/2006-MCCM(CZ)/MP-22

सं/No.

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
VIDE LETTER NO. 314(3)/2006-mcm(c2)/MP-22 dt-07-02-07
By

MANIKGARH CEMENT
GADCHANDUR

(A DIVISION OF CENTURY TEXTILES & INDUSTRIES LIMITED)

MINING PLAN PREPARED
BY

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

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

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

APPROVED

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***	APPROVED		***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

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**

Regional Office APPROVED

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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2. MINE DESCRIPTION :

2.1 GEOLOGY

(a) Topography : The area is marked by rugged topography conspicuous by a lower undulating terrain with limestone scarps The ground on either side of valley rises gently for some distance and abruptly becomes steeper with exposures of deccan trap basalt ultimately forming a plateau. Such plateau is seen on all sides except to the north. The northerly flowing Amal Nalla traverses the area. The highest and lowest RL in the area is 402 MSL & 318SMSL respectively.

(b) General Geology : The area forms part of the region covered by limestone and purple shale of Penganga series of late Precambrian age and the deccan basalt of cretaceous age. The sedimentries show very low dips and have apparently not undergone any structural deformity. The shale and limestone are unconformably overlain by the horizontal basalt flows.

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LOCAL GEOLOGICAL SUCCESSION

Age	**Formation**	**Rock Type**
Recent to sub - recent	Alluvium-Black cotton soil	Sandy clay, silty soil
Cretaceous	Deccan Trap	Basalt – weathered, vesicular and massive
Pre-Cambrian	Penganga	Flaggy & massive lime-stone of different colour.

Two types of limestone have been deciphered in the area based on chemical analysis viz. high silica limestone and cement grade limestone. The siliceous limestone is exposed in the northern fringe of the area. It is light gray to faintly bluish in colour, hard compact rock with distinctive subconchoidal fracture.

The Cement grade limestone is extremely fine grained, homogenous medium to hard rock showing variety of colours from light gray to dark gray. The limestone strike in a general NW-SE direction with 0 to 3° southwesterly dips. Locally beds are horizontal usually three sets of joints are noticed.

No toxic element is reported in the various rocks present in the area

2.2 **Reserves:**

Type of Reserve		Quantity (in mill.Tons)	Remarks
Mineable Reserve under (111&112 category as per UNFC classification	**:**	**120.45**	**Limestone Reserves available in 190.42 hect.forest land**

A Report on feasibility studies with respect to costing, marketing and economic viability of Manikgarh Cement Limestone Mine is enclosed as **Annexure-10**

2.3 **Mining Method:**

The cement grade limestone in the area is well bedded with 0 to 3^0south westerly dips. There are very little lateral and depth wise variation in the quality of the limestone in G, H,I & J block is there which can be judiciously bland with high grade limestone and low grade limestone of all these blocks the deposit will be mined by opencast method of mining. At existing mine of the company the mining operation is already continuing with systematic development of benches for the purpose of mining. The deposit has been divided into block G to F on the basis of topographically consideration. Fully mechanised open cast mining method will be adopted in the new mine area also to supply consistent limestone to the plant for the manufacture of Cement.

Extent of Mechanisation:

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The adjacent existing mine of the company is being worked by opencast mechanized means of mine operation similarly Mining operations at new 190.42 hectare area also will be mined by opencast mechanized means the same equipment will be used for raising of limestone and handling of overburden.

2.4 **Mineral Beneficiation**

Beneficiation of limestone is not required to be done.

3.0 **Review of implementation of Mining Plan / Scheme of Mining including Five Years Progressive Mine Closure Plan up to the final closure of mine.**

This is the first progressive mine closure plan of the 190.42 hectare area being applied for diversion of forest land for mining purposes hence review chapter is not applicable during this submission. However Environmental care and monitoring will be carried out as done in case of existing mine as under will be followed at new area also:

- Drilling of blast hole is performed by IBH-10 drill machine in which there is in-built water injection system;

- Spraying of water on mine haul road is performed regularly with the help of truck mounted water tankers;

- Water spraying arrangement at Crusher Hopper is made so that crushing and unloading dust can be suitably suppressed;

- All the transfer points of Conveyor Belt (crushed limestone transport) are covered with steel sheds to avoid dust generation. Similarly water is sprayed on the crushed limestone for suppressing dust particles. Crusher is situated in existing mine lease area of the company new crusher will also be installed within that lease area only the limestone from 190.42 hectare also will be brought to existing mine for crushing.

- Efficient Dust Collectors are installed at Crusher house and at Limestone Storage Silo's top

- Dense plantation is ensured in an around the crusher area to arrest the dust particles.

- Thorough afforestation work will be done wherever possible so as to catch air borne dust particles.

Monitoring of Air Quality at 5 locations: -

- At the point of max. Dust concentration i.e. quarry edge;
- Drilling site
- Loading site
- Close to crusher
- Near mine haul road in the vicinity of human settlement i.e. near security office.

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Following parameters are monitored: -

- SPM
- RSPM
- NOX
- SO_2
- CO
- HC

This activity will be continued in future also so as to maintain the pollution free air environment in & around mines.

F. **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 will be adopted while using various explosives. By using MSDD, Cord relay, in-hole delay intimation system, ground vibration; noise & fly rocks have been reduced to bare minimum. All precautionary measures to control ground vibration due to blasting will also be adopted.

G. **Socio-economic benefits arising out of mining: -**

Commencement of mining operation in addition to the establishment of cement plant, there has been remarkable improvement in the socio economic condition of the people of this backward area. Apart from employment potential, the mining & Cement plant resulted in development of roads, better transport facilities, education, health standard, etc. This will be continued in future also.

4.0 MINE CLOSURE PLAN

Mining project is to be developed, operated and closed in an environment and user-friendly manner so as to make it convenient for future use. To achieve this aspect, this Mine Closure Plan is prepared incorporating both physical rehabilitation and socio – economic stability. The detailed Progressive Mine Closure Plan covering all the aspect of it is described as under: -

4.1 Mined Out Land

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4.1.1 The limestone deposit at Manikgarh Cement Limestone Mines is a hilly deposit where top of the hill is occupied by overburden capping In order to win limestone lying beneath, we had to remove the overburden and dump the same at suitable locations. Four hills namely G, H, I &J Hills comprising the mining area. The mining of limestone in this deposit will be started by systematical development of limestone and overburden benches firstly in block G initially overburden is planned to dumped at nala barrier later on overburden will be dump at mined out area of existing mine after winning of limestone up to 253 MSL and below.

During the period of progressive mine closer plan none of the mine area is going to attain the maturity as it is the first mine plan of the area where mine operation will be started after getting all statutory clearances however as stated initially overburden will be dumped within 60 meter barrier of the nala it is planned to stabilized this nala barrier in period of this mine plan at the rate of 0.25 Hectare per annum.

Year	Particulars of the area		Area (Ha.)
First year	Nala barrier	:	0.25
Second year	Nala barrier	:	0.25
THIRD YEAR	Nala barrier	:	0.25
Fourth year	Nala barrier	:	0.25
Fifth year	Nala barrier	:	0.25

(Please refer Plate No7A to 7E)

4.1.2 As per this mining plan limestone reserve at Manikgarh Cement Limestone Mine (Proposed mine lease area of 190.42 hectare)

Mineable limestone reserves **120.45 Million tons**

As per the proposed rate of production i.e. 2.5 million tons/annum, the life of reserves will be about 48 years

All the dead faces above ground level will be systematically rehabilitated by Afforestation activity similarly benches below ground level will be converted in to reservoir (Drawing no. Conceptual mine plan)

***Method of Rehabilitation of Dead Ore & Overburden Faces*: -**

After excavation of all the possible ore and overburden from all the faces, pits for plantation purpose will be made on dead faces above ground level pits will be made at an interval of 5 meters. Then these pits will be re-filled with black cotton soil mixed with organic manure and pesticides. Thereafter plantation will be carried out during monsoon. After planting the trees, proper care will be ensured as done in past. The dead faces below 303 MRL will be converted into water reservoir.

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4.2 WATER QUALITY MANAGEMENT:-

The amount of precipitation and geological factors such as lithology, structure, aquifer character of the rock, presence of any water body, etc control the hydrology of any region. 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. As such, there is limited scope for retention of rainwater & recharging of ground water. With these limitations, the replenishment of surface and ground water is obviously poor. The northerly flowing Amal Nalla passing through the central part and its tributaries draining into the main stream from west to east controls the drainage of the area. The water flows in the nala is controlled by surface run -off.

Commencing from on set of the monsoon, the water flows continuously in the nalla till January. During dry summer months in the Amal nalla water trickles through from few hidden springs and gets accumulated in patches of pool.

Furthermore, in order to monitor quality of water, the Water Samples will be collected quarterly from two fixed points i.e. (1) a point where nalla join mine area and (2) a point where nalla leave mine area, and the same will be recorded in the register.

In order to minimize adverse effect on water regime of the area, all arrangement such as proper drainage system for surface run off water, dumping of big basalt boulders at the toe of nala barrier dumping site will be made.

The dumps will be compacted by proper dozing and grading so as to make dump compact.

4.3 **AIR QUALITY MANAGEMENT**:

The ambient air quality in the existing mine of the area the similar arrangement will be made in proposed mine lease area also following IBM guideline.

In all blast hole drilling machine, In-built Water Injection System have been provided to ensure 100% dust free drilling.

At Mines Haul Roads:

Spraying water through truck will do dust suppression at Mines haul road and tractor mounted water tanker Moreover, on the permanent roads; dense plantation has been carried out to arrest the dust particles.

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At Crusher:

Crusher will not be installed in this new mine area the limestone from faces will be brought to existing mine of the company and crushing will be performed there

Monitoring of Air Quality :

Ambient Air Quality monitoring is being done for six parameters i.e. SPM, RSPM,NOX, SO2, CO & HC as per IBM Guidelines covering three seasons of the year i.e. pre-monsoon, Post-monsoon and winter at following five locations :

- At the point of maximum dust concentration i.e. quarry edge
- Drilling site
- Loading site
- Close to limestone crusher
- Near mine haulage road in the vicinity of human settlement i.e. near Security Office.

4.4 WASTE MANAGEMENT

As it was stated earlier that the limestone deposit at Manikgarh Cement Limestone Mines is in hilly shape and the top of the hill is occupied by overburden i.e. basalt, which is present in form, of capping in G, H, I & J Blocks of deposit. Presently,

a) Angle of waste dump slope will be kept below angle of repose of basalt i.e. 37½° to ensure stability of dump slope. The same will be maintained.

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

c) Dumping of big basalt boulder has been made at the edge of bottom-most terraces so as to restrict wash out and sliding of dump material.

4.5 TOP SOIL MANAGEMENT :

Top soil handling is not proposed during the period of this mine plan

4.6 TAILING DAM MANAGEMENT :

In our case this is not applicable since there is no generation of tailing material and the excavated limestone is judiciously blended and dispatched to factory site for cement manufacturing.

4.7 INFRASTRUCTURE :

At existing Manikgarh Cement Limestone Mines, following infrastructure facilities are available :-

- Crusher building
- Bi-cable aerial Rope way
- 33 KV Sub Station
- Water Pump Station
- Office building
- Workshop
- Mines Colony for mine employees
- Club,etc.

All the above are common for both the mine

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4.8 SAFETY & SECURITY

Following safety & security measures have been adopted to prevent access to Mining operation from unauthorized persons: -

(a) The entire area of mining lease has been properly fenced

(b) All the area of mining lease will be provided with Security Barriers at an appropriate location.

(c) Explosives magazines are guarded by armed security personnel round the clock and the area have been properly fenced with barbed wire so as to prevent unauthorized entry into the magazine premises.

(d) "No Entry" boards have been put wherever necessary.

(e) Although mining operation is going on above ground level, proper water drainage arrangement has been provided so as to avoid accumulation of water at a particular place which may prone to accident.

(f) In order to stay away the people from danger zone while performing blasting in the mines, well-trained security guards wherever necessary are deployed.

No Abandonment Plan is proposed in near future.

DISASTER MANAGEMENT & RISK ASSESSMENT :-

Emergency / Disaster Management Plan is an integral part of the overall loss control programme and is essential for any well run organisation. This is important for effective management of all accident / incidents to minimize the environmental impacts and losses to people and property, both in and around the mines. Emergency planning also demonstrates the organisation's commitments to the safety of employees and increases the organisations safety awareness. The objectives of DMP is to describe the installations emergency preparedness / response organisation. The resources available and response actions applicable to deal with various types of emergencies that could occur at the mines with the response organisation structure being deployed in the shortest time possible during an emergency. Thus, the objectives of Disaster Management Plan can be summarised as :-

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(i) Rapid control of the hazardous situation,

(ii) Minimize the risk and impact of event / accident ,

(iii) Effective rehabilitation of the affected persons and prevention of damage to property,

In order to effectively achieve the objectives of emergency planning, the criteria element that form the back bone of the DMP are :

(i) Reliable and early detection of an emergency and careful planning;

(ii) The command, co-ordination and response organization structure along with efficient trained personnel;

(iii) The availability of resources for handling emergencies

(iv) Appropriate emergency response actions'

(v) Effective notification and communication facilities,

(vi) Regular review and updating of the DMP

(vii) Proper training of the concerned personnel,

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RESPONSIBILITY:

Responsibility for establishing and maintaining state of disaster management belongs to HOD Mines. He is responsible for maintaining distribution control of the plan and for ensuring that the plan and applicable implementing procedures are reviewed and revised when required. HOD Mines is also responsible for training of personnel to ensure that adequate emergency response capabilities are maintained in accordance with plan for ensuring the adequacy of the conduct of the drills. More specifically, the element that will form the back bone of Disaster Management Plan are :

(i) The availability, organisation and utilization of resources for handling emergencies,

(ii) Accident evaluation procedures,

(iii) The command, co-ordination and response organisation structure,

(iv) Emergency response action,

(v) Training exercises and planned maintenance.

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EMERGENCY PLANNING :

The Emergency Planning describes the facility, equipment, organisation, services and communication necessary to respond to emergency condition at the Company. This plan is designed for facility response to a variety of emergency conditions such as land slides, subsidence flood, fire seismic activity, etc. that might cause public concern, health & safety consequence to segments of the nearby population.

An industrial disaster can be defined as an " occurrence of such magnitude so as to create a situation in which normal pattern of life within industry / installation is suddenly disrupted adversely affecting not only the environment, personnel and property within the installation but also in the vicinity."

Such an occurrence may result in on site implications like :

(i) Fire and / or explosion
(ii) Leakage of flammable / combustible material

Incidents having off site implication can be :

(i) Natural calamities like earthquake, landslide, subsidence & flood.

An important aspect of the disaster is its unforeseen nature. Thus by definition itself, a disaster is impossible to control completely. However, occurrence of events which lead to disaster may be minimised through proper technology and engineering practices.

The emergency situation wise description are described as under :-

(A) <u>Land slide, Earthquake</u> :

The area of mining is geologically stable. It does not fall under seismologically active or land slide prone zone. However, to counter disaster conditions arises due to this activity we have following arrangements :-

(a) For quick evacuation, warning siren have been provided,

(b) To handle rebels and debris during earthquake & land slide excavators along with hauling equipment's are kept ready.

(c) Well maintained Hospital along with Ambulance is available for medical care and for shifting the victim to district / taluka hospitals, if required.

(d) Proper training has been given to employees to fight out the emergency situations.

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(B) <u>FLOOD</u>

There is no River in the vicinity. However, a Nalla (known as Amal Nalla) passes though the central portion of our mining lease area. A barrier of 60 mtr on both sides has been left at Nalla. Proper garland drains have been made at Mines so as to ensure proper flow of water to nalla course.

(C) <u>FIRE & OTHER</u>

In Mines, almost all the mining equipment's, crusher building, Workshop building, etc have been provided with Fire Extinguishers to meet out any eventuality. Similarly one Water Tanker is always kept ready for handling fire like situation. In addition, proper alarming siren has also been provided in Mines so that in case of fire any person can switch on the siren to alert other employees to control the fire.

In case of emergency situation arise out, medical help is also sought from local authorities if the emergency is of high magnitude.

4.11 CARE & MAINTENANCE DURING TEMPORARY DISCONTINUANCE :-

In case of temporary discontinuance due to statutory requirement or any other unforeseen circumstances, following measures will be adopted to take care of maintenance and monitoring of unplanned discontinuation of mining operation :-

(A) **Safety & Security** :

In order to prevent unauthorised entries in mines area during temporary discontinuance, all the security and safety arrangements will be continued so as to avoid unauthorised entry in Mines.

(B) **Care & Maintenance of Green Belts Developed** :

In order to protect Green Belts already developed during course of rehabilitation of waste dumps and in other areas of mines, their proper care by providing labours for maintenance of plants, weeding and treatment, watering arrangement will be continued even in case of temporary discontinuance so as to protect the already developed green belts.

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(C) **Monitoring of Environmental Parameters**:

In case of temporary discontinuance also, all the environmental parameters such as air, water, and noise will be monitored.

(D) Infrastructures, ropeway, Workshop: Will be maintained even in case of temporary discontinuance also.

(E) All other important structures like office complex, workshop building; HEMM will also be maintained as is being maintained during normal mining operation.

(F) In order to prevent the waste dump from any natural calamities, all precautionary measures such as proper draining of rain water.

5.0 ECONOMIC REPERCUSSIONS OF CLOSURE OF MINE & MANPOWER RETRENCHMENT :

Due to commencement of the mining operation for captive Cement Plant there has been enormous improvement in the socio – economic status of the people residing in this backward area. Apart from the employment, there has been remarkable changes in the living standard of the people. As the ample quantity of limestone is present in the Mines which can sustain the requirement of Cement Plant for another more than 48 years and hence the people of the area continue to be benefited for a longer period. Further, this is a Progressive Mine Closure Plan of existing mine hence manpower retrenchment possibility does not arise at this stage.

6.0 TIME SCHEDULING FOR ABANDONMENT

The limestone reserves of Manikgarh Cement Limestone Mines in this mine will lost more than 48 years therefore time scheduling for abandonment and the cost thereof can not be ascertained at this stage.

7.0 ABANDONMENT COST.

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The limestone reserves of Manikgarh Cement Limestone Mines will lost more than 48 years and therefore time scheduling for abandonment and the cost thereof can not be ascertained at this stage.

8. FINANCIAL ASSURANCE :

For calculation of the Financial Assurance, the area put to use has been calculated as under :-

[Area in Hect.]

Sr No	Head	Area put on use at start of Plan	Additional Requirement during plan period	Total	Area considered as fully reclaimed and rehabilitated	Net area considered for calculation
(a)	(b)	(c)	(d)	(e)	(f)	(g)
				e=(c+d)		g= (e-f)
1.	Area broken by the pit	0.0	8.035	8.035	--	8.035
2.	Area under waste dumps	0.0	2.75	2.75	--	2.75
3.	Road	0.0	0.90	0.90	--	0.90
4.	Office Bldg., Crusher, Ropeway	0.0	--	--	--	--
5.	Infrastructure – Ropeway Corridor	0.0	--	--	--	--
6.	Tailing Pond	0.0	--	--	--	--
7.	Sub Grade dumps	0.0	--	--	--	--
8.	Sweetner Limestone stock	0.0	--	--	--	--
9.	Black Cotton Soil Dump	0.0	--	--	--	--
	TOTAL: -	**0.0**	**11.685**	**11.685**	**--**	**11.685**

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APPROVED

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

(Please refer plate no. 12 progressive mine closer plan)

The total amount of Financial Assurance will be :-

Area put to use (Hect.)	Rates / Ha.	Total Amount
11.685	**25,000/=**	**2.92 Lakh**

The financial assurance for Rs 2.92 lakhs (Rupees Two lakh ninety two thousand only-) will be submitted in the form of "Bank Guarantee" as prescribed in Rule 23F of MCDR,1988 by the Company at the time of final approval of this Mine Plan.

CERTFICATE

Certified that :

(1) This Mine Plan along with Progressive Mine Closure Plan complies all statutory rules, regulations and orders made by the Central or State Governments, statutory organizations, honorable Courts, etc. and in case if specific permission is required, we will approach the concerned authorities.

(2) It is also certified that all the proposed activities under this Mine Plan will be completed in time bound manner.

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APPROVED

(R.K.UDGE)
VICE PRESIDENT (MINES)
MANIKGARH CEMENT
(A Divn.of Century Textiles & Industries Ltd)
PO : Gadchandur 442 908
Dist : Chandrapur (MS)

G M BOHRA
MANIKGARH CEMENT
GADCHANDUR 442908
DIST.CHANDRAPUR
MAHARASHTRA

CERTIFICATE

(1) Certified that necessary permission as required under MCDR,1988 & MCR,1960, applicable to Mines, the applicant will approach M/s Indian Bureau of Mines, whenever required.

(2) Further certified that the provisions of Mines Act, Rules & Regulations made there under have been observed in the Mining Plan and wherever specific permission are required, the applicant will approach M/s D.G.M.S.

(3) It is also certified that the information furnished in the above Mining Plan along with Progressive Mine Closure Plan are true and correct to the best of my knowledge.

APPROVED

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

LIST OF ANNEXURES

ENCLOSED WITH MINING PLAN

Sl No	Description	No
1	Copy of Power of attorney in favour of Shri R.K.Udge	1
2	Copy of letter received from Government of Maharastra in the Department of Ministry of Environment & Forests, Industries, Energy & Labour. regarding obtaining clearances in respect of 190.42 Hectare forest land. Other correspondence related to - □ Letter to Nodal Officer, Nagpur □ Acknowledgement from the Nodal Officer □ Copy of the letter from Nodal Officer addressed to Conservator of Forests □ Our submission of proposal to Dy Conservator of Forests, Central Chanda Division, Chandrapur in 8 copies. □ In reply to our above letter from the Office of Dy Conservator of Forests, Central Chanda Division, Chandrapur along with Check List.	2A 2B 2C 2D 2E 2F
3	Details of Mining Machinery	3
4	Seasonal Air Ambient Quality Report, 2006	4
5	Water Quality Report, 2006 मंजूरीकरता APPROVED	5
6	Noise Level Survey Report of HEM	6
7	Ground Vibration Survey Report	7
8	Soil Survey Report	8
9	Executive Summary of CMRI Report	9
10	Economic feasibility report	10

LIST OF PLATES ATTACHED WITH MINING PLAN

	Description	Plate No
1	Location Plan	**1**
2	Key Plan	**2**
3	Surface Plan	**3**
4	Geological Plan	**4**
5	Transverse Section	**5**
6	Longitudinal Section	**6**
7	Yearly Production & Development Plan	**7A TO 7E**
8	Yearly Production & Development Section	**8A & 8B**
9	Environment Management Plan	**9**
10	Conceptual Mine Plan & Section.	**10 & 13**
11	Plans & Sections of Reserve Calculation	**11A&11B**
12	Progressive Mine Closure plan	**12**

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Annexure - 1

भारतीय गैर न्यायिक

भारत

पचास [redacted]

FIFTY RUPEES

INDIA NON JUDICIAL

12 JUN 2006

S. V. No.

महाराष्ट्र MAHARASHTRA

[redacted]

बँक ऑफ महाराष्ट्र, वरळी शाखा
२ रेडीमनी टेरेस, डॉ. ॲनी बेसंट रोड,
वरळी, मुंबई - २५.
परवाना क्रमांक ... 18 AUG 2006
क्रमांक ...1558... दिनांक
श्री/श्रीमती ... CENTURY TEXTILES AND INDUSTRIES LTD
यांना न्यायेत्तर मुद्रांक रु. 50/- चा विकला
प्र. प्रा. मु. वि. स्वाक्षरी

APPROVED

G 7601

KNOW ALL MEN BY THESE PRESENTS THAT WE CENTURY TEXTILES AND INDUSTRIES LIMITED having its Registered Office at Century Bhavan, Dr. Annie Besant Road, Mumbai 400 030 (hereinafter called `the Company') SEND GREETINGS.

WHEREAS THE COMPANY is desirous of appointing Shri S.K. Tewari, Shri R.K. Udge and Shri B.P. Mishra, as its Attorneys and conferring upon them severally the following powers in so far as they relate to the Company's CENTURY CEMENT, MAIHAR CEMENT, MAIHAR CEMENT UNIT NO.2 and MANIKGARH CEMENT Units or Divisions only.

N. S. BHAISARE
MUMBAI &
THANE DIST.
R. No. 2330
GOVT. OF INDIA

Contd..2.

भारतीय गैर न्यायिक

पचास रुपये

FIFTY RUPEES

रु.50

Rs.50

भारत

सत्यमेव जयते

INDIA

INDIA NON JUDICIAL

General Stamp Office

12 JUN 2006

S. V. No.

G 760

महाराष्ट्र MAHARASHTRA

बँक ऑफ महाराष्ट्र घाटी शाखा

२ रेडीमनी टेरेस, डॉ. ॲनी बेझंट रोड,

वरळी, मुंबई - २५.

परवानाधारक मुद्रांक विक्रेता [illegible]

क्रमांक .. 1635.. दिनांक: 18 AUG 2006

श्री/श्रीमती ..CENTURY..TEXTILES..AND INDUSTRIES LTD.

यांना त्यांचे दर मुद्रांक [illegible] चार विकला

अनुमोदित

APPROVED

Proper Officer

प. धा. मु. वि. स्वाक्षरी

: 2 :

NOW KNOW YE AND THESE PRESENTS WITNESS that the Company doth hereby nominate, constitute and appoint and in its place depute Shri S.K. Tewari, Shri R.K. Udge and Shri B.P. Mishra, as its Attorneys, on its behalf and in its name and on its account to do and execute severally the following acts, deeds and things or any of them in so far as it relates to Company's CENTURY CEMENT, MAIHAR CEMENT, MAIHAR CEMENT UNIT NO.2 and MANIKGARH CEMENT Units or Divisions only.

1. To sign letters, papers, documents, applications, agreements etc. including those in connection with Mining Lease and/or Prospecting Licences and other agreements.

2. To take or surrender the mining lease of limestone, gypsum or quarrying lease for sand at such rent or rents or royalties or compensation as the said attorney think fit and to execute any deeds, documents, writings and assurances for the purpose.

Contd.. 3

3. To present for registration at the office of the Registrar or Sub-Registrar of Assurance or any other registering authority, deeds and documents such as Mining Lease, Leases, Conveyances, Assignments, Transfers and Purchase Deeds of Lands or any other documents executed or to be executed for and on behalf of the Company.

4. To admit the execution of documents referred to in Clause 3 above before the Registrar/Sub-Registrar of Assurance or any other Registering Authority.

5. To pay necessary Registration Fees.

6. To do all such acts, deeds and things as may be necessary to procure the registration of deeds and documents mentioned in Clause 3 hereinabove.

IN WITNESS WHEREOF these presents are sealed with the Common Seal of the Company pursuant to a resolution of the Board of Directors passed in that behalf.

Dated this 13th day of Nov 2006.

NOTARY
N. S. BHAISARE
MUMBAI & THANE DIST.
R. No. 2330
GOVT. OF INDIA

THE COMMON SEAL OF CENTURY TEXTILES AND INDUSTRIES LIMITED was hereunto affixed pursuant to the Resolution of the Board of Directors of the Company passed on 27th day of October 2006 in that behalf in the presence of

APPROVED

VERIFIED BY SHRI ARVIND C. DALAL and

2. SHRI D.K. AGRAWAL

being the Director and Secretary respectively of the said Company to have signed these presents

TRUE COPY
ATTESTED BY ME
17/11
N. S. BHAISARE
NOTARY
MUMBAI & THANE DIST.
17 NOV 2006

BEFORE ME
GREGORY W D'SOUZA
ADVOCATE & NOTARY
Kalpak Estate Bldg. B-11
Shop No. 40, Antop Hill
MUMBAI - 37.
13/11/06

ANNEXURE -II A

ORDER.lwp/475

GOVERNMENT OF MAHARASHTRA

By Registered Post

No. MMN-2201/150/Ind-9,
Industries, Energy and Labour Department,
Mantralaya, Annex, Mumbai - 32.
Dated the : 15 NOV 2002

From :
The Section Officer,
Industries, Energy and Labour Department,
Mantralaya, Mumbai - 400 032.

To,
M/s.Manikgarh Cement,
(Prop.Century Textiles & Insustries Ltd.,),
Tahsil Korpana,Chandrapur(M.S.)

मंजूर/APPROVED

Subject:-Renewal of Mining lease for Limestone at Village Naokari& Kusumbi, Tah. Rajura,Distt.Chandrapur

Sir,

With reference to your application, for renewal of mining lease dated 23.12.1999, on the subject mentioned above, I am to enclose herewith Government order of even number, dated the 15 Nov 2002 for your information. You are reqested to approach to the District mining Officer, Collectorate, Chandrapur for execution of the lease for limestone at Village Naokari & Kusumbi tah. Rajura Distt.Chandrapur over an area of 302.58 hects. I am to add that you should also execute renewed mining lease within a period of six months from the date of the enclosed order.

2. You should also submit necessary clearance certificate, from the competent Authority under the relevant Acts./Rules i.e. Forest(Conservation) Act,1980 for the remaining forest area of 190.42 Hects.for renewal, from Phase II & Phase III of your original lease total area of 493 hects.,within six months from the date of the enclosed order.

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

appropriate modifactions, but without clause 3 in part VIII therein relating to renewal.

Yours faithfully,

(N. V. Patil)
Section Officer

Copy with the copy of the Government Order of even number, dated the forwared to the :
15 NOV 2002

1) The Director, Geology and Mining, Maharashtra State, Nagpur.
2) The Deputy Director, Geology and Mining,Chandrapur.
3) The District Mining Officer, Collectorate,Chandrapur.
4) The Controller General, Indian Bureau of Mines, Nagpur.
5) The Finance Department.
6) The Chief Inspector of Mines, Dhanbad.
7) Select file (Desk- 4).

1. The District mining officer , Collectorate,Chandrapur 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.

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2. A copy of the Renewed Mining lease when executed should be sent by the District Mining Officer, Collectorate, Chandrapur 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.

3. The District Mining Officer, Collectorate,Chandrapur 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.

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

5. The Director, Geology and Mining, Maharashtra State, Nagpur and District Mining Officer, Collectorate, Chandrapur may kindly ensure 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.

(N. V. Patil)
Section Officer

मंजुरीदिक
APPROVED

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ORDER

Industries, Energy and Labour Department,
Mantralaya, Annex, Mumbai - 400 032.

Dated the : 15 NOV 2002

No. MMN-2201/150/Ind-9. In exercise of the powers conferred by sub-section (2) of section 8 of the Mines and Minerals (Development and Regulation) Act,1957, Government of Maharashtra is pleased to sanction to M/s.Manikgarh Cement, (Prop.Century Textiles & Insustries Ltd.,),Tahsil Korpana,Chandrapur(M.S.) the renewal of mining lease for a period of 20 (Twenty) years for Limestone mineral in respect of the following area : -

District	Tahisal	Village	Comph. No	Area in Forest Hect	Area in Non Forest Hect
Chandrapur	Rajura	Naokari	34	8.10	--
		and	35	158.70	9.24.
		Kusumbi	36	65.91	10.97
			57	---	21.28
			59	3.25	22.13
		APPROVED	Total	238.96	63.62
			Grand total Area	302.58 Hect.	

A) Royalty at the following rates or the dead rent at the following rate per hectare per annum whichever is greater shall be charged.

Royalty :

Limestone -

(a) L.D.grade (less than one - Fifty rupees per tonne.

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and half percent silica content)

(b) Others - Forty rupees per tonne

1) The rates of dead rent applicable to the leases other than those obtained for supply of raw material to the industry owned by the concerned lessee.

(Rates of Dead Rent in Rupees per hectare per annum)

Item number	Category of The Mining Lease	1st year of the lease	2nd to 5th year of the lease	6th to 10th year of the lease	11th year of the lease and onwards
(a)	Lease area upto 50 hectares	Nil	70	140	200
(b)	Lease area above 50 hectares but not exceeding 100 hectares	Nil	100	200	280
(c)	Lease area above 100 hectares	Nil	140	230	350

2) In the case of lease obtained for the supply of raw material for the industry owned by the concerned lessee, the rates of dead rent would be applicable as given in respect of item number (a) above, irrespective of the lease area and the value of mineral.

3) One and half times the rates specified in item numbers (a), (b) and (c) above in case of leases granted for medium value mineral (s).

4) Two times the rates specified in item numbers (a), (b) and (c) above in case of leases granted for high value mineral (s).

(a) "high value minerals" means gold, silver, diamond, ruby, sapphire, emerald and all other gemstones (precious,

semi-precious stones), copper, lead, zinc, asbestos (chrysotile variety), corundum, mica.

(b) "medium value minerals"means agate, chromite, manganese ore, sillimanite, vermiculite, magnesite, wollastonite, perlite, diaspore, apatite and rock phosphate, fluorspar (or fluorite) barytes.

(c) "low value minerals" means minerals other than high value minerals and medium value minerals.

Provided that the aforesaid rate of royalty payable at the rate for the time being specified in the second schedule to the Mines and Minerals (Development and Regulation) Act,1957, shall be revised as and when revised by the Government of India and aforesaid rate of dead rent shall revised from time to time as and when revised by the Government of India.

B) Charging of Royalty in case of minerals subjected to processing :-

(1) In case processing of run-of-mine mineral is carried out within the leased area, then, royalty shall be chargeable on the processed mineral removed from the leased area.

(2) In case run-of-mine mineral is removed from the leased area to a processing plant which is located outside the leased area, then, royalty shall be chargeable on the unprocessed run-of-mine mineral and not on the processed product.

(3) Royalty on tailings or rejects.- On removal of tailings or rejects from the leased area for dumping and not for sale or consumption, outside leased areas such tailings or rejects shall not be liable for payment of royalty:

Provided that in case so dumped tailings or rejects are used for sale or consumption on any later date after the date of such dumping, then, such tailings or rejects shall be liable for payment of royalty.

(4) Guidelines for computing royalty on minerals on ad valorembasis- Every mine owner, his agent, manager, employee, contractor or sub-lessee shall follow the following Guidelines for computation of the amount of royalty on minerals where the royalty is charged on ad valorem basis, namely :-

The Guidelines for calculation of royalty in typical cases are as follows, namely :-

Case 1 : For minerals sold in the domestic market by the mine-owners -

(a) Single stage transportation - In the case of single stage transportation, the mineral is loaded once at the mine site and is despatched by road or railway or any other means of transportation straightaway to the destination and finally unloaded at the destination. In such cases, the sale price actually realised, less the cost of transportation and the cost of unloading at the destination as shown by the mine-owners in thier sale vouchers or bills or invoices may be considered for computing ad valorem royalty. To avoid payment of taxes on royalty, the mine owners may in their own interest record the price and royalty separately in the sale vouchers or bills or invoices instead of indicating a composite price inclusive of royalty. In case price and royalty are not shown separately, it may be presumed that price indicated in the sale vouchers or bills or invoices is exclusive of royalty and royalty shall be charged accordingly.

In case of any doubt with regard to the sale price or deductions, certificate of a registered chartered accountant shall be accepted.

In case any transaction takes place on the basis of a provisional sale voucher or invoice or bill, then, computation of royalty may be provisional subject to final settlement based on final voucher or invoice or bill.

(b) Multi-stage transportation - In case of multi-stage transportation, the sale price actually realised, less total costs of tranportation, loading and unloading at different points outside the lease area, insurance charges, sampling and analysis charges, royalty, taxes, cess and plot charges at different points as may be applicable, and as shown by the mine owners separately in their sale vouchers or bills or invoices shall be considered for computing ad valorem royalty. In case price and royalty are not shown separately, it shall be presumed that the price indicated in the sale vouchers or bills or invoices is exclusive of royalty and royalty shall be charged accordingly.

In case of any doubt with regard to the sale price or deductions, certificate of a registered chartered accountant shall be accepted.

In case any transaction takes place on the basis of a provisional sale voucher or invoice or bill, then computation of royalty may be provisional subject to final settlement based on final voucher or invoice or bill.

Case 2 : For minerals which are exported :-

(a) Direct export - In case of direct export by mine owners, the sale values for the purpose of royalty shall ordinarily be the free on board (f.o.b.) price realied, less transportation charges from the mine to the port, loading and unloading charges outside the lease area, packing charges, port charges (including samplingt and analysis and demurrage charges, if any), insurance charges, royalty, taxes and interest charges on loan for export. However, in case of cost insurance and freight (c.i.f.) sales, sea freight, insurance and cost of unloading at destination port shall also be deducted from such price. For such puposes, the mine owner may prepare invoices or bills indicating the free on board price or cost insurance freight price, as the case may be, and each of the other charges, separately.

In case of any doubt with regard to the sale price or deductions, certificate of a registered chartered accountant shall be accepted.

(b) Export after bleding - In the case of export by the mine owner after blending, the mine owner may have two or more mines either in one state or in different states and he may bring his run-of-mine ores from these mines to a single point, bleand them according to his requirement and export the blended ore or mineral. In such case, the total royalty on the blended material shall be computed in the manner as specified in the case 2 (a) above and the royalty shall be apportioned according to the ratio of the quantities of ores drawn from different mines for blending and payment shall be made to the respective States in which the mines are located.

In case of any doubt with regard to the sale price or deeutions, certificate of a registered chartered accountant shall be accepted.

Case 3 : For aluminium, primary gold, silver, copper, lead, zinc, nickel and tin -

The total contained metal in the ore produced during the period for which the royalty is computed and reported in the statutory returns under Mineral Conservation and Development Rules, 1988 or recorded in the books of the mine owners shall be considered for the purposes of computing

the royalty in the first place and then the royalty shall be computed as the percentage of the average metal prices in the London Metal Exchange (hereinafter referred to as the LME) for copper, lead, zinc, nickel, silver and tin and London Bullion Market Association price (commonly known as London price) for gold during the period of computation of royalty. The foreign exchange rate for conversion of rupee shall be the selling rate on the last date of the period of computation as published in newspaper namely, The Economic Times. For the LME prices as well as for London price of the commodity, either of the following three sources shall be referred to, namely :-

(i) Non-ferrous Report : Minerals and Metals Review, 28/30, Anantwadi, P.O.Box 2749, Mumbai - 400 002.

(ii) Metal Bulletin,
16, Lower Marsh,
London, SE-17 RJ.

(iii) World Metal Statistics ; (Monthly or Quarterly Summary),
by World Bureau of Metal Statistics,
27a High Street, Ware, Herts SG 12 9BA, United Kingdom.

Case 4 : For by-product gold and silver - APPROVED

The guidelines for computation of ad valorem royalty shall be linked to the total quantity of metal produced and the LME price for silver and London Bullion, Market Assocation price (commonly knows as London price) for gold as in the case 3 above. However, in this case, the actual final production of the metal shall be considered instead of the metal content in the ore produced for the purposes of computing royalty.

Case 5 : For minerals produced in captive mines (other than aluminium, copper, lead, zinc, tin, nickel, gold and silver) and those not actually sold -

In India, the minerals for the purposes of this case mean the minerals produced from captive mines (other than aluminium, copper, lead, zinc, tin, nickel, gold and silver) and which are not actually sold. For computation of ad valorem royalty on such minerals, a notional cost shall be arrived at on the basis of the cost of production. The cost of production shall be reported by the mine owners in the Annual Return of a year in the manner specified in the Mineral Conservation and Development Rules, 1988 after taking into

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account the items specified in the List annexed with this case and, then, from these reported cost of production the elements of royalty, cess, taxes and dead rent, as may be applicable, shall be deducted. The net cost thus arrived at shall be the basis for computation of ad valorem royalty during the period following that year.

List :

The list of items to be taken into account for computation of the gross cost of production are the following, namely :-

(i) Direct cost :
  (a) Exploration
  (b) Mining
  (c) Beneficiation

(ii) Over head cost
(iii) Depreciation
(iv) Interest
(v) Royalty
(vi) Taxes
(vii) Dead rent
(viii) Packing charges
(ix) Research and Development expnditure.

Note :- The State Governments may, if necessary, introduce systems of advance payment for the purpose or royalty collection and they may also impose any additional conditions in accordance with the law for the time being in force."

C) The lessee shall pay the following charges for the surface area used for mining operations.

I) Surface rent equal to non-agricultural assessment.
II) Water rate at the rate not exceeding land revenue.
III) Cesses assessable on the land.

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D) If any 'Prescribed Substance' under Section 2 of the Atomic Energy Act of 1962 is found to occer in the property under the lease, the lessee shall take further action as required by the provisions of that Act

E) The lease shall be subject to the provisions of the Mines and Minerals (Development and Regulation) Act, 1957 the Mineral Concession Rules, 1960 and the Mineral Conservation and Development Rules, 1958 as amended from time to time.

F) The lessee shall submit from time to time or when required progress report to the Director of Geology and Mining, Maharashtra State, Nagpur alongwith analysis and representatives samples of the ores collected during the mining operations.

G) The lessee shall employ a qualified Geologist or a mining Engineer after execution of the lease.

H) The lessee shall not be entitled, as a matter of right renewal of the lease.

I) The lessee should submit before execution of mining lease, the necessary clearance certificate from the competent authority wherever necessary under the relevant Acts/Rules, including the Forest (Conservation) Act, 1980, the Environment Protection Act, 1986 and Rules, 1986 etc.

By order and in the name of the
Governor of Maharashtra.

(N. V. Patil)
Section Officer

Annexure - II B

The Nodal Officer
Office of the Principal Chief
Conservation of Forests
Govt of Maharashtra
MECL Building
Seminary Hills
Nagpur 440006

MANIKGARH CEMENT
(A Division of Century Textiles & Industries Ltd.)
AN ISO 9002 COMPANY

WORKS :
P.O. Ghugus Dist. Chandrapur
Tehsil : Korpana, Dist. : Chandrapur, Maharashtra
Phone : (07173) 46550/60/70/46840/43/46443 (PBX)
Gram : MANIKCEM
Fax : 07173 46867
E mail : mcfsite@nagpur.dot net.in

MN/MLR/18./ 1262

10.05.2003

Sub: Application for seeking approval of the Central Government Under Sec.2 of the forest Conservation Act, 1980 for diversion Of 190.42 hectares (balance Forest land from our lease area Phase II & III) for mining of limestone for manufacture of cement at Manikgarh Cement (A Division of Century textiles & Industries Ltd) at village Gadchandur in Chandrapur district of Maharashtra State.

Ref: Order No. MMN-2201/150/IND-9 dated 15th Nov. 2002 from Government of Maharashtra, Industries, Energy and Labour Department, Mantralaya Annex, Mumbai 400032

APPROVED

==========

Dear Sir,

With reference to above mentioned subject, we would like to bring to your kind notice that in the year, 1981, mining lease of 643.62 hectares has been executed by the Company with District Collector, Chandrapur for 20 years out of which an area of 150.62 hectares was ,later on, surrendered by the company as per advice of the Central Government. The balance mining lease area, thus remained 493 hectares, which consisted 429.38 hectares forest land and 63.62 hectares Private Revenue land. This area of 493 hectares 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, Govt. of India, New Delhi for 20 years, vide their letter No. 8-173/81F(C) dated 4.2.1986 under Forest Conservation Act, 1980.

MANIKGARH CEMENT

The aforesaid period of 20 years, as per executed lease deed, expired on 16.8.2001 and an application for renewal for a further period of 20 years, was made in time and accordingly, permission for diversion of forest land of 238.96 hectares (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. Accordingly, Govt. of Maharashtra in the Department of Ministry of Environment & Forests, Industries, Energy & Labour Department, vide its letter No. MMN-2201/150/IND-9 dated 15.11.2002, allowed renewal of lease of 302.58 hectares (Copy enclosed) as per details given hereunder:-

	Hectares
Forest Land	238.96
Private Revenue Land	63.62
Total	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 hectares, it is mentioned that we should submit clearance certificate from the competent authority under the relevant Acts/Rules i.e. Forest (Conservation) Act, 1980. Accordingly, we hereby approach you to arrange/to grant clearance of forest land admeasuring 190.42 hectares covered in phase II & III of our original lease as required vide para 2 of the aforesaid letter dated 15.11.2002, Government of Maharashra and in this respect, we are submitting our application in triplicate in prescribed Form – A for diversion of remaining 190.42 hectares of forest land covered under Phase II & III, as prescribed vide MOEF's Notification dated 10.1.2003 (GSR 23(E). We shall request you to kindly process the same for approval of Forest Clearance of the forest land, in question, so that direction of the State Govt., in Order under reference is complied with.

Thanking you

अनुमोदित
APPROVED

Yours faithfully
For Manikgarh Cement
(A Division of Century Textiles & Industries Ltd)

(G R TIBREWAL)
Sr. Vice President (Mines)

Encl: a/a

Annexure 2C

MANIKGARH CEMENT
(A Division of Century Textiles & Industries Ltd.)
AN ISO 9002 COMPANY

WORKS :
P.O. Gadchandur (Pin 442 908)
Tehsil Rajura, Dist. Chandrapur (Maharashtra)
Phone : (07173) 245092/245083/245039 - MILLS
(07173) 246840/246443/246570 (PBX) - FACTORY
Gram : MANIKCEM
Fax : 07173 - 246867/246866
E-mail : grtibrewala@rediffmail.com / mcfsite@nagpur.dot.net.in

To,
The Nodal Officer
Office of the Principal Chief
Conservator of Forests,
MECL Building,
Seminary Hills,
NAGPUR 440 006

Dt. 10.5.2003

Dear Sir,

We are submitting herewith 3 copies of the Letter No. MN/MLR/18/1262 dated 10.5.2003 addressed to your good self along with all relevant documents &map.

Kindly acknowledge the receipt.

APPROVED

Thanking you,

Yours faithfully
for MANIKGARH CEMENT

(G R TIBREWAL)
SR.VICE PRESIDENT (MINES)

Encl : As above.

Annexure 2D

प्रधान मुख्य वनसंरक्षक, महाराष्ट्र राज्य, नागपूर यांचे कार्यालय.
वनभवन, सिव्हील लाईन्स, नागपूर-४४० ००१, दूरध्वनी क्र.२५५६९१६

क्र.कक्ष-१७/नोरोल/1176381/05-06,
नागपूर ४४० ००१, दिनांक :- 28/1/06

उप वन संरक्षक
मध्य चांदा वन विभाग
यांचे कार्यालय
09 FEB 2006
आवक क्र. 3604
13/2/06

प्रति,
वनसंरक्षक (प्रा.)
दक्षिण चंद्रपूर वनवृत्त,
चंद्रपूर.

विषय :- वनजमीन - चंद्रपूर
माणिकगड सिमेन्टसाठी १९०.४२ हेक्टर वन जमिनीचा प्रस्ताव.
(फेज-१ व फेज-२) (मायनिंग लाईमस्टोन)

संदर्भ :- रिटेलर, माणिकगड (सिमेन्ट डिव्हीजन), सेन्चुरी टेक्सटाईल्स ॲण्ड इंडस्ट्रीज लि. यांचे पत्र दि.२३/१/२००६

विषयांकित प्रकरणी, माणिकगड (सिमेन्ट डिव्हीजन), सेन्चुरी टेक्सटाईल्स ॲण्ड इंडस्ट्रीज लि. यांचे पत्र सहपत्रासह सोबत जोडून आवश्यक कार्यवाहीसाठी पाठविण्यात येत आहे.

सदर प्रकरणी वन (संवर्धन) अधिनियम १९८० अंतर्गत आवश्यक तो प्रस्ताव प्रकल्प यंत्रणेकडून प्राप्त करुन घेवून तो या कार्यालयास पाठविण्यात यावा. प्रस्तावात संपूर्ण दस्ताऐवज व विहीत कार्यप्रणाली नुसार दयावयाचे संपूर्ण प्रमाणपत्रे नकाशे इत्यादी, सादर करण्यात यावे.

सहपत्र :- वरील प्रमाणे.

मुख्य वनसंरक्षक व केंद्रस्थ अधिकारी,
महाराष्ट्र राज्य नागपूर
APPROVED

प्रतिलिपी :- उपवनसंरक्षक, मध्य चांदा वन विभाग, चंद्रपूर यांना सहपत्रासह माहिती व आवश्यक कार्यवाहीकरिता अग्रेषित.

प्रतिलिपी :- रिटेलर, माणिकगड सिमेन्ट, गडचांदूर-४४२ ९०८, ता.कोरपना, जि.चंद्रपूर यांना माहितीकरिता सस्नेह अग्रेषित.

क्रमांक:- कक्ष-12/सर्वे/जमिन/ 3692
चंद्रपूर, दिनांक:- 15-2-06

प्रतिलिपी :- व्हाईस प्रेसिडेंन्ट (माईन्स), माणिकगड सिमेंट कंपनी, गडचांदूर, ता. कोरपना, जिल्हा-चंद्रपूर यांनी उपरोक्त सुचनेप्रमाणे विषयांकित प्रकरणी वन (संवर्धन) अधिनियम 1980 अंतर्गत आवश्यक तो परिपुर्ण प्रस्ताव संपुर्ण दस्तावेज व विहित कार्यप्रणाली नुसार दयावयाचे संपुर्ण प्रमाणपत्रे, नकाशे इत्यादीसह या कार्यालयास अनुक्रमित आठ प्रतित सादर करावे.

(सही) 14/2/06
उपवनसंरक्षक
मध्य चांदा वनविभाग, चंद्रपूर

Add: "VAN-BHAWAN", Civil Lines, Nagpur - 440 001. (M.S.)
E-mail: nodalmah@nagpur.dot.net.in
Ph: 0712-2556916 Fax: 0712-2550675
C:\RAJESH\17_IUAWADE\17-1_CF.doc- -46

Annexure 2E

Acknowledgement copy

MANIKGARH CEMENT

(A Division of Century Textiles & Industries Limited)
AN IS / ISO 9001:2000 & ISO 14001 COMPANY
P.O. : Gadchandur-442 908, Tehsil : Korpana, District : Chandrapur (M.S.), India
Telephone (EPBX) : (07173) 246550/60/70, 246840/43, 246443
Mines (07173) 245092, 245089, 245039, 245083
Gram : MANIKCEM, E-mail : mcfsite@nagpur.dot.net.in
FAX : 07173-246867

B K BIRLA GROUP OF COMPANIES

MANIKGARH GOLD

MN/ MLR/18/3282 - 23.2.2006

To,
Dy Conservator of Forests,
Central Chanda Division,
CHANDRAPUR.

Sub : Application for seeking approval of the Central Government under Sec 2 of the Forest Conservation Act,1980 for diversion of 190.42 hectares (balance forest land from our lease area Phase II & III) for mining of limestone for manufacture of cement at Manikgarh Cement (A Division of century Textiles & Industries Ltd) at village Gadchandur in Chandrapur district of Maharashtra State.

Ref : Order No. MMN-2201/150/IND-9 dated 15th Nov.2002 from Govt. of Maharashtra, Industries, Energy and Labour Department, Mantralaya Annex, Mumbai 400 032.

Dear Sir,

We thankfully acknowledge the receipt of your letter no. Kaksha-12/Survey/Jamin/3392 dated 15.2.2006.

As desired, we are submitting our Application (in 8 copies) in prescribed Form A for diversion of 190.42 hectares of forest land covered under Phase II & III, along with relevant documents.

We request you to kindly process our application.

Thanking you,

मंजूर है
APPROVED

Yours faithfully,
For MANIKGARH CEMENT
(A Divn. of Century Tex. & Ind. Ltd)

(R K UDGE)
Vice President (Mines)

Encl : As above(Application in 8 copies)

Annexure 2F

विषय:-फेज II व III मधील १९०.४२ हेक्टर वनक्षेत्रास वन(संवर्धन) अधिनियम,१९८० अंतर्गत खाण काम करण्यास परवानगी मिळणेबाबत.

क्रमांक :-कक्ष-१२/सर्वे/जमिन/३६३१
चंद्रपूर, दिनांक - 6-3-०६

(खदान),
गड सिमेंट कंपनी,
र, ता.कोरपना,-
४४२९०८

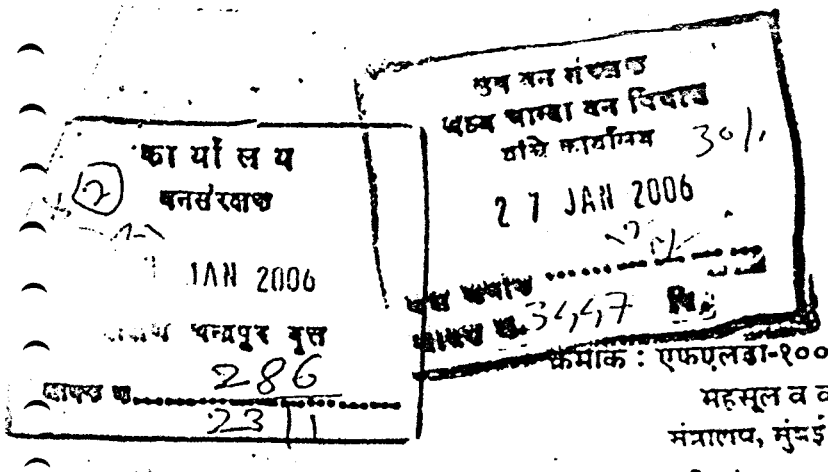
संदर्भ:- आपले पत्र क्रमांक -MN/MLR/१८/९२८२ दि.२३.२.०६.

संदर्भिय पत्रान्वये प्राप्त विषयांकित प्रस्तावाची तपासणी केली असता त्यात त्रृटया आढळून आल्या. तरी खालील प्रमाणे त्रृटयांची पूर्तता करुन परत प्रस्ताव सादर करणेसाठी प्रस्तावाच्या आठ प्रती परत करण्यात येत आहे.

१)सोबत जोडून पाठविण्यात येणा-या चेकलिस्टप्रमाणे अनुक्रमांक २,३,३(a),४,५,६,७,८,९,१०,११,१५,१६,१७, १८,१९,२०,२१,२२,२६,२८,३१,३२,३३,३४,३५,३६,३७,३९,४२, ४३,४४,४६,४७नुसार लागणारे सर्व प्रमाणपत्रे व माहिती प्रस्तावात जोडावी, तसेच अट क्र.३९ चे अनुषंगाने जिल्हाधिकारी ,चंद्रपूर यांचेकडून "वन "या संज्ञेखाली घोषित करण्यात आलेल्या वनक्षेत्राची माहिती प्राप्त करुन प्रस्तावात जोडावी.या अनुषंगाने शासन परिपत्रक क्रमाक एफ.एल.डी .१००५ /प्रक्र५०७/फ-१० दिनांक ९.१.२००६ची प्रत सोबत जोडण्यात येत आहे.
२) Form -A चे Part -I चे अनुषंगाने वेगळ्याने दिलेल्या १ ते ६ सूचनांचे अनुषंगाने पूर्तता करावी .
३) Index map १:५०००० स्केलचा लावण्यात यावा.
४) ४":१ Mile किंवा २":१ mile च्या नकाशात प्रस्तावित वनक्षेत्र व वनेत्तर क्षेत्र दर्शवून विविध कामासाठी लागणारे क्षेत्र वेगवेगळ्या रंगाने दर्शवून त्यांचे सविस्तर क्षेत्रफळ नकाशात दर्शवावे.
५) नकाशात माईनिंग लिज बाउंड्री , सेप्टीझोन एरिया स्पष्ट दर्शविण्यात यावे.
६) सविस्तर रिक्लेमेशन प्लॉन जोडण्यात यावा.
७)एरिया स्टेटमेंट सोबतचे प्रमाणपत्र द्यावे [चेकलिष्ट अनुक्रमांक ३(a)].
८) Environment Clearance प्रमाणपत्र दयावे.

धन्यवाद:- वरिलप्रमाणे

उपवनसंरक्षक,
मध्य चांदा वनविभाग,
चंद्रपूर



वन (संवर्धन) अधिनियम, १९८० अंतर्गत प्रस्ताव सादर करताना "Identified Forest" ची यादी सादर करण्याबाबत.

क्रमांक : एफएलडी-१००५/प्रक ५०७/फ-१०.
महसूल व वन विभाग,
मंत्रालय, मुंबई - ४०० ०३२.
दिनांक : २/१/२००६

मंजूर/APPROVED

: शासन परिपत्रक :

वनजमिनीच्या वनेतर वापरास परवानगी मिळण्याबाबत वन (संवर्धन) अधिनियम, १९८० अंतर्गत अशासकीय / निमशासकीय विभाग, महामंडळे व खाजगी कंपन्या / व्यक्ती यांचेकडून केंद्र शासनाच्या पर्यावरण व वन मंत्रालयाची मंजूरी घेण्यास्तव प्रस्ताव शासनास प्राप्त होत असतात.

असे प्रस्ताव सादर करतांना संबंधित प्रकल्पयंत्रणा विविध कागदपत्रे, नकाशे, प्रमाणपत्र इ. संबंधित शासकीय विभागाकडून स्वत: प्राप्त करुन प्रस्ताव सादर करतात. अशा कागदपत्रामध्ये दिनांक १२.१२.१९९६ च्या मा. सुप्रीम कोर्टाने दिलेल्या आदेशानुसार जिल्हाधिकारी यांनी "Identified Forest" म्हणून घोषित केलेल्या संबंधित जिल्ह्यातील क्षेत्राच्या यादीचा समावेश आहे. शासनाच्या असे निदर्शनास आले आहे की, वन-याचवेळी सादर यादीची पुर्तता प्रकल्पयंत्रणेकडून होत नाही. यावाबत केंद्र शासनाकडून सदर यादीची पुर्तता करण्याबाबत विचारणा होते व त्याअभावी प्रस्तावांना मंजूरी मिळण्यास विलंब होतो.

३. सबब, आता या परिपत्रकान्वये सर्व संबंधितांना असे सूचित करण्यात येते की, वन (संवर्धन) अधिनियम, १९८० अंतर्गत संबंधित प्रकल्प यंत्रणेकडून वन विभागास प्रस्ताव प्राप्त झाल्यानंतर त्यावर संस्करण करण्यापूर्वी अशी "Identified Forest" घोषित केलेल्या क्षेत्राची यादी प्रकल्प यंत्रणेने सादर केली आहे किंवा नाही हे पाहिल्याची तो प्रकल्पयंत्रणेकडून प्राप्त करुन घ्यावी.

४. वास्तविक अधिकांश वन विभागीय कार्यालयात ही यादी उपलब्ध आहे. नसल्यास विभागीय कार्यालयांनाही वन संवर्धन अधिनियम, १९८० खालील प्रस्ताव प्रचलित करावयाचा असो वा नसो ही यादी जिल्हाधिकारी कार्यालयातून प्राप्त करुन घ्यावी.

महाराष्ट्राचे राज्यपाल यांचे आदेशानुसार व नावाने,

(राजेंद्र मंगरुळकर)
सह सचिव
महसूल व वन विभाग

प्रति,

१) प्रधान मुख्य वनसंरक्षक, महाराष्ट्र राज्य, नागपूर,
२) मुख्यवनसंरक्षक तथा केंद्रस्थ अधिकारी, महाराष्ट्र राज्य, नागपूर,
३) सर्व मुख्य वनसंरक्षक,
४) सर्व वनसंरक्षक,
५) सर्व जिल्हाधिकारी,
६) सर्व उपवनसंरक्षक.
७) फ-१० कार्यासन, महसूल वन विभाग, मंत्रालय, मुंबई - ४०० ०३२.

INDEX
(As per check List)

Tahsil :-

District: -Chandrapur

Sr.No.	Item	Pages From	Pages To	Remarks
1	2	3	4	5
1	Information in Form A part -I,II,III,IV,V			
2	Certificate from the Collector that No .alternate suitable non Forest land is available for the project .			
3	Forest area required categorywise Dam Seat, submergence Canal etc.			
3(a)	Details area statement S.No./Compt. No / Name of ... S No. and Item wise.			
4	Map of forest area required indicating clearly forest boundaries and adjoining land use in suitable scale in distinct colour, to the duly counter signed by the Dy C.F. concerned after Joint Inspection of the area by Dy.C.F. and project authorities (4 " :1Mile)			
5	Index Map in suitable scale, Showing all component of work and areas. (1:50000)			
6	Unqualified commitment from the project official to bear the cost of Catchitation and the cost of compensatory afforestation.			
7	Certificate from the project authorities and Dy. C.F. stating that no violation of the provisions of Act. done.			
8	If violated, circumstances leading to violation of the provisions of Act done.			
9	Detailed report of the disciplinary action or proposed to be taken against the concerned staff for violation of the provisions of the Act.			
10	Details of the clarification for violation if Administrative and Technical sanction accorded to the project by project Authorities/User agency after promulgation of the Forest (Conservation) Act. 1980			मंजुरीनिहाय APPROVED
	Map of the Non-forest land for compensatory plantation on suitable scale.			
	Suitability certificate from Dy.C.F. that the non-forest land is suitable for raising trees species and the land is free from any encroachment as well as any other encumbrances.			
13	Non-forest land offered for compensatory afforestation is in a compact patch and is contiguous to the forest area and is suitable from the management point of view. Certificates to the furnished by Dy.C.F.			
14	Compensatory Afforestation scheme along with list of species to be planted.			
15	Collectors certificate that non-forest land is not available for compensatory afforestation in the District. This is to be duly countersigned by the Divisional Commissioner concerned, that no non-forest land is available in the Revenue division			

16	Details of non-forest land identified by the collector of the District/commissioner of the Revenue Division to be shown on the Map.			
17	Attempts made to find out alternate non-forest area for the proposal for the reasons for its rejection of the same.			
18	Cost benefit Analysis.			
19	If the proposals involve both forest and non-forest land, then the area statement. Forest area involved category wise and non-forest land involved categarywise.			
20	Whether works started in non-forest land or not.			
21	If works started in non-forest land when started and amount spent on the project and the works done in non-forest land.			
22	Project note by the project authority.			
23	a) Total Catchement plan. b) command area. c) F.R.L. d) H.F.L. e) M.D.L. f) Total Catchement and its break up. g) details as per item above for the area coming under submergence. h) Total Number of families and population affected. i) Rehabilitation plan. j) Comprehensive land and plan for area required out side submergence i.e. building road and other ancillary facilities legal status wise.			
24	i) Area of submergence at H.F.L. ii) F.R.L. iii) 2 Mt below F.R.L. iv) M.D.L. (Minimum Drawl level)			
25	Consolidated proposal including all categories of project.			
26	List of trees, species and girthwise whether felling of trees essential & Dy.C.F. to after specific remarks.			Recommended / APPROVED
	Species and Girthclasswise list of trees 2-4 Mtr. below F.R.L. in submergence areas specieswise.			
	Resettlement plan.			
	Command area development plan.			
	Site inspection certificate from Dy.C.F.			
	Whether the required annexure and particulars pertaining to the project Furnished in ENGLISH			
32	Whether the proposal/proposed project likely to affect any monument/site of cultural, Historical, religious etc.			
33	Detail Rehabilitation plan (Where necessary)			
34	Copy of the administrative approval for the project			
35	Grampanchayal Resolution.			
36	Under taking for Net present value.			
37	Certificate from agency & Dy C F. to the proposed area is bearest minimum demand.			
38	Certificate from Dy.C.F. the non-forest area is not acquired for private forest acquisition Act 1975			

39	Certificate from Dy.C.F. the Non-forest area is not "Forest" of dictionary meaning			
40	Command area plan (village map scale).			
41	Dy.C.F Certificate from the area is no wild life Sanctuary and National Park .			
42	Demarcation Certificate.			
43	Non forest land and private land 7/12.			
44	Description of project in Tribal area of Chandrapur			
45	Certificate of protected Area.			
46	Certificate from Agency the provisions of 5% skill of tribal.			
47	Cost of felling of tree certificate (Project Authority)			
48	Working plan information			
49	Documents verification certificate by DY.C.F			

Recommended
APPROVED

ANNEXURE-3

MINING MACHINERY DETAILS

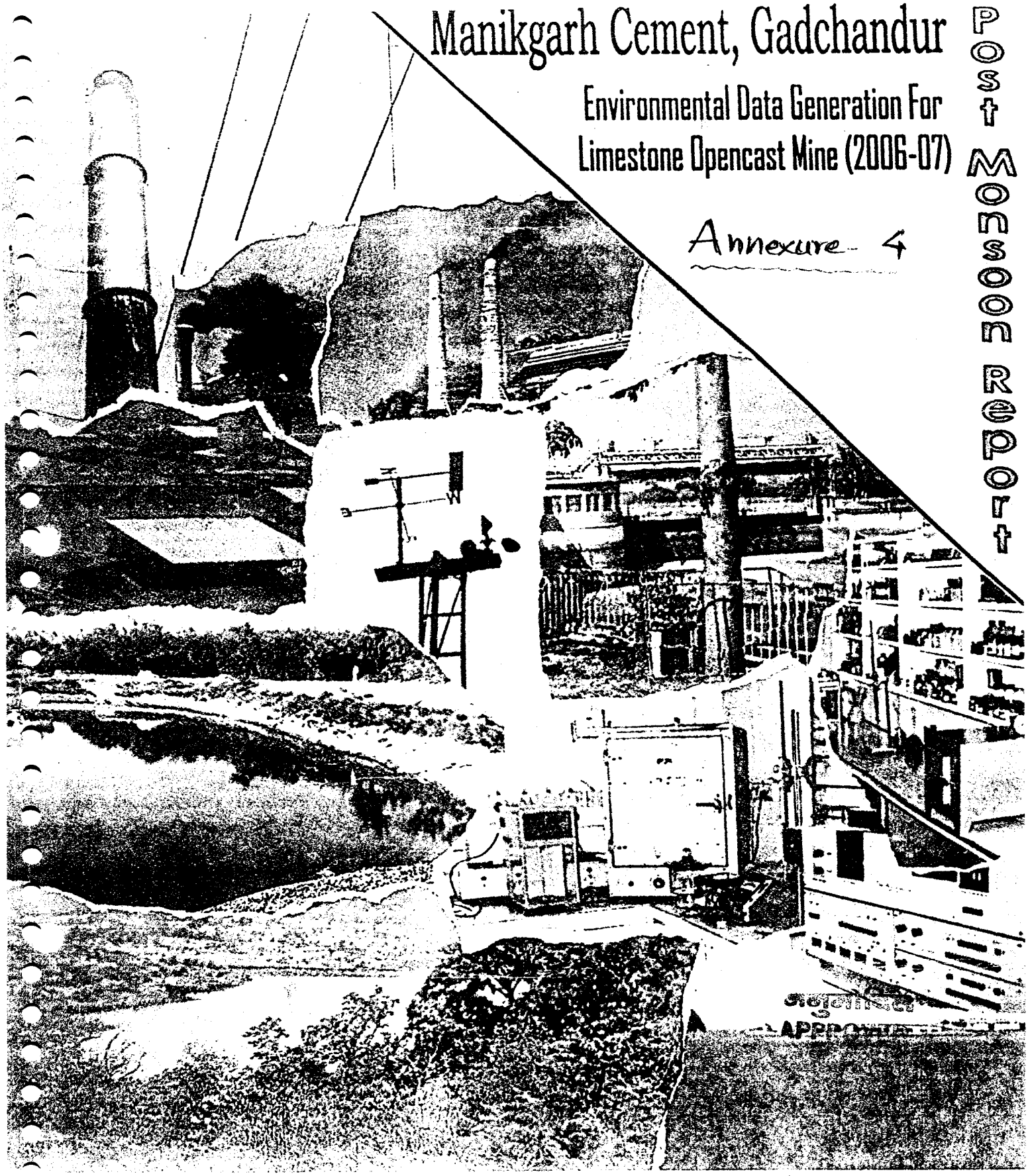
Sr. No.	Machine	Make	Date of Commi-ssioning	Capacity (MT/hr)	Remarks
1.	Poclain -1	L & T	1.12.1983	290	
2.	Poclain -2	L & T	20.1.1984	290	
3.	Poclain -3	L & T	22.11.1985	290	
4.	Poclain -4	L & T	27.5.1991	290	
5.	Dozer-1	BEML	15.4.1983	Road Maint.	
7.	Dozer-3	BEML	11.3.1992	Road Maint.	
8.	Dumper No.1	BEML	15.3.1983	90	
9.	Dumper No.2	BEML	154.1983	90	
10.	Dumper No.3	BEML	14.1.1984	90	
11.	Dumper No.4	BEML	11.2.1984	90	
12.	Dumper No.5	BEML	19.6.1985	90	
13.	Dumper No.6	BEML	11.8.1985	90	All machines (except Rope way) are presently engaged for single shift operation.
14.	Dumper No.7	BEML	10.8.1985	90	
15.	Dumper No.8	BEML	9.3.1989	90	
16.	Dumper No.9	BEML	23.4.1990	90	
17.	Dumper No.10	BEML	24.4.1990	90	
18.	Dumper No.11	BEML	11.3.1992	90	
19.	Dumper No.12	BEML	11.3.1992	90	
20.	Dumper No.13	BEML	5.3.1997	90	
21.	Dumper No.14	BEML	14.3.1997	90	
22.	IBH-10 No.1	Ingersoll Rand	2.7.1989	12 Mtr/hr	
23.	IBH-10 No.2	Ingersoll Rand	15.3.1991	12 Mtr/hr	
24.	IBH-10 No.3	Ingersoll Rand	14.3.1997	12 Mtr/hr	
25.	Motor Grader	BEML	5.5.1991	Road Maint.	
26.	Ropeway	Usha Breko	Since Inception	600	
27.	Crusher	Hazemag	Since Inception	1000	

Manikgarh Cement, Gadchandur

Environmental Data Generation For Limestone Opencast Mine (2006-07)

Post Monsoon Report

Annexure- 4



Mahabal Enviro Engineers Pvt. Ltd.

ISO - 9001 : 2000

88, New Modella Industrial Estate, Padwal Nagar, Behind Automatic Electric Ltd.,
Near Wagale Estate Check Naka, Thane West - 400604, Maharashtra State, India.
Phone : 91 - 22 - 25820658, 25823139, 25821663, 25823154 Fax : 91-22-25823543
Email : m ahabal@bom2.vsnl.net.in

ENVIRONMENTAL DATA GENERATION

REPORT FOR

LIME STONE OPENCAST MINE

OF

MANIKGARH CEMENT FACTORY GADCHANDUR, DIST. CHANDRAPUR

POST-MONSOON 2006-07

APPROVED

PREPARED BY

MAHABAL ENVIRO ENGINEERS PVT. LTD.

Plot No.13/14, Opp. Patel Petrol Pump, Chinndwara Road,
Koradi, Dist- Nagpur – 441 111.
Phone- 2612162, Fax :- 2612212 E-mail : nagpur @mahabal.com

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Phone : 91-0712-3240365, **Tele Fax** : 2612212, **Email** : Nagpur@mahabal.com

PREFACE

M/S. Manikgarh Cement, Gadchandur, Ta : Korpana, Dist : Chandrapur has engaged **M/s. Mahabal Enviro Engineers Pvt. Ltd., Mumbai,** having their branch office at Nagpur to carry out the various parameters with respect to Air, Noise and Top Soil for Environmental Baseline Data Generation for their existing **OPEN CAST LIMESTONE MINE.**

This report presents the environmental data covering monitoring, sampling and compilation for the environmental parameters for ambient air quality with a view to evaluate the impact due to the mining activities. M/s. Manikgarh Cement has accorded topmost priority for protection of the environment within and outside its factory in pursuit of their policy of environmental, preservation and sustainable development. M/s. Manikgarh Cement has taken up a comprehensive Environmental Monitoring Program.

The field monitoring for various environmental components was carried out during **Post-Monsoon–2006-2007** by establishing suitable monitoring stations sampling/Monitoring stations in the mining area and analyzing the samples in the laboratory set up at Nagpur as well as requisitioning the services of the parent laboratory at Thane.

During the course of our operations for the above task, the staff and management of the M/s. Manikgarh Cement **OPEN CAST LIMESTONE MINE** were extremely co-operative. We are grateful to them for their invaluable support and assistance rendered to us during the course of the studies.

For **Mahabal Enviro Engineers Pvt. Ltd.**

मंजुरीदिव
APPROVED

Milind S. Balki
Branch Manager

Plot No. F-7, Road No. 21, Wagle Estate, Thane West - 400604, Maharashtra, India
(600 m from Hotel Rukhmini Palace Turn Opp Toyota Show Room, Near J B Sawant Bus Stop)
Phone : 2582 0658 / 3139 / 1663 / 3154 Fax : 91-22-25823543 thane@mahabal.com

Contd..1

Introduction

Manikgarh Cement Factory is located at about 1.5 KM from Gadchandur village in Korpana Tahsil, Chandrapur District in Maharashtra State. The nearby railway station is Ballarshah, which is located on Delhi – Chennai, Delhi – Trivendrum and Delhi – Hydrabad broad gauge railway and is last railway station of Maharashtra State towards Andhra Pradesh border of central railway. The factory is about 37 KM away from Ballarshah and thus it is on the border of central and south India. The Latitude and longitude of the factory is bounded between 79^0 11' 15" and 19° 43' 15" respectively.

M/s. Manikgarh Cement is one of the new generations Cement Factory set up in flat of Maharashtra state, employing the latest technology for efficient energy conservation and economics of large-scale production. The production capacity of plant is 1.5 million tones per annum. The plant has only one rotary kiln, which was commissioned in the year 1986. The approximate dimension of the kiln is 67.056 meter long and 4.572 meter diameter and has a rated capacity of 4660 TPM and is based on the dry process with a four stage pre-heater and pre-calciner.

APPROVED

MINES

The mines are situated at about 10 KM from the factory premises. Limestone is transported to plant by 7.5 KM long aerial bicable ropeway. It is a fully mechanized mines using 6" dia drills, 3.2 M^3 hydraulic excavators and LW-35 Haulpak dumpers. The requirement of limestone for plant is about 6000-6500 tones/day.

2.0 PROJECT PROFILE

2.1 Topography

MANIKGARH CEMENT MINES is located in Chandrapur district of Maharashtra State. Topography of this area is undulating and general slope of the area towards South.

2.2 Climate

The climate of the area is Sub-tropical type with Pre-monsoon from April to June, Monsoon from July to September, Post-Monsoon from October to December and Winter from January to March. In summer the temperature rises to 48^0 C and falls up to 90 C in winter. The annual average rainfall in the area is about 1000 mm.

3.0 SCOPE OF STUDIES AND METHODOLOGY

3.1 Scope of study

जनुमोदित
APPROVED

The study includes assessment of the present status on environmental component viz Ambient Air quality monitoring in the existing limestone mines of MANIKGARH CEMENT. The proponent has taken the right step by conducting Environmental Data Generation to cover various environmental components. In this connection Manikgrah Cement Co. has depute M/s Mahabal Enviro Engineers Pvt. Ltd. (MEEPL) to carry out Environmental data generation.

This Environmental Data Generation will form the basis for understanding of the existing environmental status in and around the Manikgrah Cement Mines Area.

3.2 Methodology

As mentioned in the scope of work baseline data covering the Environmental component viz Ambient Air Quality monitoring data collection and its study was carried out on the basis of guidelines of Ministry of Environment & Forest of Government of India, Maharashtra State Pollution Control Board (MPCB) & Indian Bureau of Mines.

3.3 Air Environment

The ambient air quality monitoring was carried out for one season at all five stations. At all stations Suspended particulate matter (SPM), Respirable suspended particulate matter (RPM), Sulfur-di-Oxide (SO_2), Oxides of Nitrogen (NO_x), And Carbon monoxide (CO) were monitored .on eight hourly basis. Respirable dust samplers were used for monitoring of all these parameters. All the samples collected were analysed for quantitative analysis of various pollutants. The observed concentrations of various pollutants at all the sampling locations were processed for different statistical parameters.

4.0 AIR QUALITY

The quality of ambient air depends on the background concentration of specific pollutants, the emission sources and meterological conditions. The baseline studies on Air environment include identification of specific Air pollution parameters and assessing their existing levels in the ambient air.

4.1 Sources of Air Pollution

The major sources of pollutants in the study area are limestone Handling Plant, Crusher, Drilling, Blasting, Dumping of waste material and Vehicular traffic on mine roads.

4.2 Micro-meteorology

Micro-metrology plays a vital role in air pollution monitoring as it determines the direction of flow of air pollutants. The mean wind direction over a period of time identifies the receptors, which will be affected by particular source during that time period. In other words the mean wind direction will indicate the direction of flow of pollutants.

4.3 Micro-meteorological Scenario

Micro – Meteorological Data within the project area during the air quality survey period is an indispensable part of the air pollution study. Micro – Meteorological parameters like temperature and relative humidity was also monitored in the study period.

Table No. 1

RELATIVE HUMIDITY AND TEMPERATURE DATA

SEASON : Post - Monsoon **PROJECT** : MANIKGARH MINES

YEAR : 2006-2007

Prominent Wind Direction: North - East

Date	Relative Humidity	Temperature ^{0}C		Average Wind Velocity (Km/Hr)
		Min.	Max.	
25.10.06	57	17	30	0.7
26.10.06	58	18	32	1.3
01.11.06	31	18	37	0.8
02.11.06	34	19	35	1.2

4.4 Selection of AAQM Stations :

To establish baseline status of air environment in the study region five ambient air quality monitoring stations as per Indian Bureau of Mines guidelines. The description of air monitoring stations selected is given below.

1. At the point of maximum dust conc. i.e. Quarry Edge.
2. Drilling site
3. Close to crusher
4. Close to loading point
5. Near mine haulage roads close to security office.

Air Quality Analysis

The monitoring was carried out for Suspended Particulate Matter (SPM), Respirable Particulate Matter (RPM), Sulfur di-oxide (SO_2), Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO).

The Ambient Air Quality concentrations for different parameters are presented in Table No. 2 to 9.

Table No. 2

AMBIENT AIR QUALITY MONITORING

PROJECT : Manikgarh Mines

SEASON : Post - Monsoon

WEEK : 1st

DAY : 1st

DATE : 25.10.2006

SAMPLE : 1st

DURATION : 8 hrs.

Location	SPM	RPM	SO_2	NOx	CO	HC
CPCB Limits for Industrial/Mixed use areas	500	150	120	120	10	-
1. At the point of Max, Dust Conc. i.e. Quarry Edge	280	90	11.70	14.78	BDL	BDL
2. Drilling Site	225	80	10.25	14.28	BDL	BDL
3. Close to Crusher	210	78	11.25	15.45	BDL	BDL
4. Close to loading point	215	76	10.44	14.48	BDL	BDL
5. Near Mine haulage roads close to security office	198	70	9.36	13.38	BDL	BDL

BDL : Below Detectable Limit

Note : All parameters are in $\mu g/m^3$

Table No. 3

AMBIENT AIR QUALITY MONITORING

PROJECT : Manikgarh Mines
SEASON : Post - Monsoon
WEEK : 1st
DAY : 1st
DATE : 25.10.2006
SAMPLE : 2nd
DURATION : 8 hrs.

Location	SPM	RPM	SO_2	Nox	CO	HC
CPCB Limits for Industrial/Mixed use areas	500	150	120	120	10	-
1. At the point of Max, Dust Conc. i.e. Quarry Edge	288	92	12.41	16.45	BDL	BDL
2. Drilling Site	235	85	11.56	15.60	BDL	BDL
3. Close to Crusher	218	80	10.96	14.85	BDL	BDL
4. Close to loading point	206	70	10.25	14.28	BDL	BDL
5. Near Mine haulage roads close to security office	208	74	9.40	13.42	BDL	BDL

BDL : Below Detectable Limit

Note : All parameters are in $\mu g/m^3$

Table No. 4

AMBIENT AIR QUALITY MONITORING

PROJECT : Manikgarh Mines
SEASON : Post - Monsoon
WEEK : 1st
DAY : 2nd
DATE : 26.10.2006
SAMPLE : 1st
DURATION : 8 hrs.

Location	SPM	RPM	SO_2	NOx	CO	HC
CPCB Limits for Industrial/Mixed use areas	500	150	120	120	10	-
1. At the point of Max, Dust Conc. i.e. Quarry Edge	244	86	12.64	16.45	BDL	BDL
2. Drilling Site	218	78	11.60	15.65	BDL	BDL
3. Close to Crusher	220	80	10.36	14.38	BDL	BDL
4. Close to loading point	210	72	10.46	14.50	BDL	BDL
5. Near Mine haulage roads close to security office	195	74	9.51	13.55	BDL	BDL

BDL : Below Detectable Limit

Note : All parameters are in $\mu g/m^3$

Table No. 5

AMBIENT AIR QUALITY MONITORING

PROJECT : Manikgarh Mines
SEASON : Post - Monsoon
WEEK : 1st
DAY : 2nd
DATE : 26.10.2006
SAMPLE : 2nd
DURATION : 8 hrs.

Location	SPM	RPM	SO_2	NOx	CO	HC
CPCB Limits for Industrial/Mixed use areas	500	150	120	120	10	-
1. At the point of Max, Dust Conc. i.e. Quarry Edge	250	88	10.62	14.65	BDL	BDL
2. Drilling Site	198	75	9.64	13.70	BDL	BDL
3. Close to Crusher	202	76	10.22	14.28	BDL	BDL
4. Close to loading point	176	68	11.25	15.28	BDL	BDL
5. Near Mine haulage roads close to security office	180	70	10.55	14.60	BDL	BDL

BDL : Below Detectable Limit

Note : All parameters are in $\mu g/m^3$

Table No. 6

AMBIENT AIR QUALITY MONITORING

PROJECT : Manikgarh Mines
SEASON : Post - Monsoon
WEEK : 2nd
DAY : 1st
DATE : 1.11.2006
SAMPLE : 1st
DURATION : 8 hrs.

Location	SPM	RPM	SO_2	NOx	CO	HC
CPCB Limits for Industrial/Mixed use areas	500	150	120	120	10	-
1. At the point of Max, Dust Conc. i.e. Quarry Edge	232	82	12.80	16.85	BDL	BDL
2. Drilling Site	212	74	12.10	16.80	BDL	BDL
3. Close to Crusher	184	70	10.28	14.30	BDL	BDL
4. Close to loading point	194	72	9.35	13.38	BDL	BDL
5. Near Mine haulage roads close to security office	166	68	9.41	13.45	BDL	BDL

BDL : Below Detectable Limit

Note : All parameters are in $\mu g/m^3$

Table No. 7

AMBIENT AIR QUALITY MONITORING

PROJECT : Manikgarh Mines
SEASON : Post - Monsoon
WEEK : 2nd
DAY : 1st
DATE : 01.11.2006
SAMPLE : 2nd
DURATION : 8 hrs.

Location	SPM	RPM	SO_2	NOx	CO	HC
CPCB Limits for Industrial/Mixed use areas	500	150	120	120	10	-
1. At the point of Max, Dust Conc. i.e. Quarry Edge	238	80	9.55	13.58	BDL	BDL
2. Drilling Site	206	72	10.52	14.55	BDL	BDL
3. Close to Crusher	186	72	10.64	14.68	BDL	BDL
4. Close to loading point	188	69	9.50	13.55	BDL	BDL
5. Near Mine haulage roads close to security office	160	65	10.80	14.85	BDL	BDL

APPROVED

BDL : Below Detectable Limit

Note : All parameters are in $\mu g/m^3$

Table No. 8

AMBIENT AIR QUALITY MONITORING

PROJECT : Manikgarh Mines
SEASON : Post - Monsoon
WEEK : 2nd
DAY : 2nd
DATE : 02.11.2006
SAMPLE : 1st
DURATION : 8 hrs.

Location	SPM	RPM	SO_2	NOx	CO	HC
CPCB Limits for Industrial/Mixed use areas	500	150	120	120	10	-
1. At the point of Max, Dust Conc. i.e. Quarry Edge	295	96	11.70	15.80	BDL	BDL
2. Drilling Site	238	86	12.88	16.90	BDL	BDL
3. Close to Crusher	206	80	11.85	15.92	BDL	BDL
4. Close to loading point	201	78	10.22	14.28	BDL	BDL
5. Near Mine haulage roads close to security office	198	70	9.38	13.40	BDL	BDL

BDL : Below Detectable Limit

Note : All parameters are in $\mu g/m^3$

Table No. 9

AMBIENT AIR QUALITY MONITORING

PROJECT : Manikgarh Mines
SEASON : Post - Monsoon
WEEK : 2nd
DAY : 2nd
DATE : 02.11.2006
SAMPLE : 2nd
DURATION : 8 hrs.

Location	SPM	RPM	SO_2	NOx	CO	HC
CPCB Limits for Industrial/Mixed use areas	500	150	120	120	10	-
1. At the point of Max, Dust Conc. i.e. Quarry Edge	290	94	12.95	16.41	BDL	BDL
2. Drilling Site	230	82	11.62	15.70	BDL	BDL
3. Close to Crusher	196	77	10.69	14.70	BDL	BDL
4. Close to loading point	194	75	9.92	13.95	BDL	BDL
5. Near Mine haulage roads close to security office	192	65	9.86	13.90	BDL	BDL

BDL : Below Detectable Limit

Note : All parameters are in $\mu g/m^3$

Annexure -5

Mahabal Enviro Engineers Pvt. Ltd.

Plot No. 13/14, Opp. Patel Petrol Pump, Chhindawara Road, Post. Koradi,
Dist. Nagpur- 411111. Phone: 0712-3240365/2612162 Email: nagpur@mahabal.com

MANIKGARH CEMENT LTD.

P.O. Gadchandur, Dist. Chandrapur

Water Quality Testing Report of Limestone Mines

- Date of sample collection :- 11.09.2006
- Nature of sample :- Manikgarh Cement- Entrance point of Nala

Parameter	Unit	Results	Tolerance Limit *as per IS : 10500 for Drinking Water*
Chemical Analysis			
1. Colour		Colourless	-
2. Odour		Odourless	Unobjectionable
3. pH		7.6	6.5 – 8.5
4. Chlorine as Cl	mg/l	26	250 – 100
5. Free & Saline Ammonia	mg/l	0	0
6. Albuminoid Ammonia	mg/l	0	0
7. Nitrates as N	mg/l	0.05	45
8. Nitrites as N	mg/l	Nil	0
9. Total Hardness as $CaCO_3$	mg/l	258	300 – 600
10. Permanent Hardness as $CaCO_3$	mg/l	Nil	-
11. TDS	mg/l	384	500 – 2000
12. Oxygen absorbed in 5 minutes	mg/l	0.12	
13. Iron as Fe	mg/l	0.16	0.3
14. Fluorides as F	mg/l	0.28	1.0 – 1.5
Remarks – *Above water sample is chemically satisfactory for drinking purpose*			

for **Mahabal Enviro Engineers Pvt. Ltd.**

Milind S. Balki
BRANCH MANAGER

Plot No. F-7, Road No. 21, Wagle Estate. Thane West - 400604, Maharashtra, India
(600 m from Hotel Rukmini Palace ... Show Room. Near J B Sawant Bus Stop)
Phone: 2582 0658/ 3139/ 1663/ 3154 Fax: 91 22 25823543 thane@mahabal.com

Mahabal Enviro Engineers Pvt. Ltd.

Plot No. 13/14, Opp. Patel Petrol Pump, Chhindawara Road, Post. Koradi,
Dist. Nagpur- 411111. Phone: 0712-3240365/2612162 Email: nagpur@mahabal.com

MANIKGARH CEMENT LTD.

P.O. Gadchandur, Dist. Chandrapur

Water Quality Testing Report

- Date of sample collection :- 11.09.2006
- Nature of sample :- Manikgarh Cement- Entrance & Exit point of Nala

Parameter	Unit	Results		Tolerance Limit *as per IS : 10500 for Drinking Water*
		Entrance Point	Exit Point	
Bacteriological Analysis				
1. Total Plate Count	-	-	-	0.001
2. Most Probable No. (MPN)	-	-	-	10
3. E Coli Confirmatory Test – MPN/100	-	Absent	Absent	10
Remark – Above water sample is bacteriological satisfactory for drinking purpose.				

for **Mahabal Enviro Engineers Pvt. Ltd.**

Milind S. Balki
BRANCH MANAGER

Plot No. F-7, Road No. 21, Wagle Estate, Thane West - 400604, Maharashtra, India
(600 m from Hotel Rukhmini Palace Turn Opp Toyota Show Room Near J B Sawant Bus Stop)
Phone: 2582 0658/ 3139/ 1663/ 3154 Fax: 91-22-25823543 thane@mahabal.com

Mahabal Enviro Engineers Pvt. Ltd.

Plot No. 13/14, Opp. Patel Petrol Pump, Chhindawara Road, Post. Koradi,
Dist. Nagpur- 411111. Phone: 0712-3240365/2612162 Email: nagpur@mahabal.com

MANIKGARH CEMENT LTD.

P.O. Gadchandur, Dist. Chandrapur

Water Quality Testing Report of Limestone Mines

- Date of sample collection :- 11.09.2006
- Nature of sample :- Manikgarh Cement- Exit point of Nala

Parameter	Unit	Results	Tolerance Limit *as per IS : 10500 for Drinking Water*
Chemical Analysis			
1. Colour		Colourless	-
2. Odour		Odourless	Unobjectionable
3. pH		7.55	6.5 – 8.5
4. Chlorine as Cl	mg/l	25	250 – 100
5. Free & Saline Ammonia	mg/l	0	0
6. Albuminoid Ammonia	mg/l	0	0
7. Nitrates as N	mg/l	0.03	45
8. Nitrites as N	mg/l	Nil	0
9. Total Hardness as $CaCO_3$	mg/l	254	300 – 600
10. Permanent Hardness as $CaCO_3$	mg/l	Nil	-
11. TDS	mg/l	380	500 – 2000
12. Oxygen absorbed in 5 minutes	mg/l	0.08	-
13. Iron as Fe	mg/l	0.14	0.3 – 1.0
14. Fluorides as F	mg/l	0.28	1.0 – 1.5
Remarks – *Above water sample is chemically satisfactory for drinking purpose*			

for **Mahabal Enviro Engineers Pvt. Ltd.**

Milind S. Balki
BRANCH MANAGER

Plot No. F-7, Road No. 21, Wagle Estate, Thane West - 400604, Maharashtra, India
Phone: 2582 0658/ 3139/ 1663/ 3154 Fax: 91-22-25823543 thane@mahabal.com

Annexure - 6

Mahabal Enviro Engineers Pvt. Ltd.

Branch Office : Plot No. 13/14, Opp. Patel Petrol Pump, Chhindawara Road, Koradi, Dist. Nagpur
☎ 3240365, Fax : 0712-2612212 E-mail : nagpur @mahabal.com

MANIKGARH CEMENT LTD.

PO. GADCHANDUR, DIST. CHANDRAPUR.

NOISE LEVEL REPORT OF OPEN CAST LIMESTONE MINES

- Date of sample collection :- 28.03.2006
- Unit :- Noise in dBA

LOCATION	1 M AWAY FROM MACHINE	INSIDE CABIN
MACHINE NAME	Day Time	Day Time
Dumper – D - 1	87.5	86.9
D - 2	86.8	85.6
D - 3	84.6	83.8
D - 4	85.1	84.2
D - 5	89.3	87.5
D - 6	86.8	85.1
D - 7	87.3	86.2
D - 8	84.5	83.8
D - 9	88.6	87.1
D-10	89.4	88.2
D-11	81.6	80.3
D-12	83.9	81.8
D-13	88.5	87.1
D-14	89.5	87.9
1 BH – 10 B		
1	84.9	83.8
2	87.8	86.2
3	90.3	88.9
POCLAIN		
1	86.3	85.1
2	85.2	84.3
3	88.6	86.9
4	90.4	89.2
	1 M AWAY FROM MACHINE	OPERATOR'S POSITION
DOZER		
1	87.3	86.2
2	88.6	87.4
3	86.9	85.6
GRADER	89.5	88.6
	DAY TIME	
CRUSHER CCR WHILE OPERATING	75.9	
	73.8	
	NOISE LEVEL AT THE TIME OF BLASTING	
AT OFFICE	65.1	
AT CRUSHER BUILDING	66.9	
AT A- BLOCK TOP	69.2	

APPROVED

for **Mahabal Enviro Engineers Pvt. Ltd.**

Milind S. Balki
BRANCH MANAGER

Head Office & Laboratory: 88,New Modella Industrial Estate, Padwal Nagar, Wagle Estate, Behind Automatic Electric Co., Thane (West) - 400604, Maharashtra, India. Fax: 91-22- 2582 3543
Phone: 91-22- 2582 0658/ 3139/ 1663/ 3154 **Email: mahabal@bom2.vsnl.net.in**

Annexure - 7

CHENNAI CONDITION MONITORING
Engineers & Consultants Pvt. Ltd.

REPORT ON

GROUND VIBRATION ANALYSIS & NOISE ANALYSIS

CARRIED OUT
AT

M/S. MANIKGARH CEMENT

LIMESTONE MINES – GADCHANDUR

CONDUCTED
ON

30TH JUNE 2004 TO 2ND JULY 2004

Specialist in : Vibration, Noise Analysis, Site Dynamic Balancing, Corrosion Control & Cathodic Protection
Add : #7, (Old #18), Pasumarthy Street, Rangarajapuram, Kodambakkam, Chennai - 600 024.
Phone : 52133509, 52046255
E-mail : vibration_cmec@mantraonline.com, vibrationcmec@hotmail.com

INTRODUCTION

During the visit at M/s. Manikgarh Cement – LIMESTONE MINES – Gadchandur from 30th June 2004 to 2nd July 2004 for conducting Ground Vibration / Noise Analysis at the time of Blasting operation -

The details of Measurements conducted during the Mine Blasting operations are given below :

The Bureau of Indian Standards Prescribed Vibration levels during Blasting are as follows:

GROUND	From Empirical Equation	Monitored by Instrument
Soil Weathered or Soft Rock	50 mm/s	70 mm/s.
Hard Rock	70 mm/s.	100 mm/s.

The equation selecting the PPV with charge per delay and the distance is expressed in
$V = k (w^{2/3} D)$

Permissible Standard as per DGMS Circular (Tech) 7 / 1997: Depending on the type of structure and dominant excitation frequency, the Peak Particle Velocity (PPV) on the Ground adjacent to the Structure shall not exceed the value given below in the table:

Type of Structure	**Dominant excitation Frequency, Hz.**		
	< 8 Hz	**8 – 25 Hz**	**>25 Hz**
A. Building Structure not Belonging to the Owner:			
(i) Domestic Houses/Structures (Kuchha, Bricks & Cement)	**5**	**10**	**15**
(ii) Industrial Buildings (RCC & Framed Structures)	**10**	**20**	**25**
(iii) Objects of Historical importance and Sensitive Structure	**02**	**05**	**10**
B. Building belonging to the Owner with limited Span of Life:			
(i) Domestic houses / Structures (Kuchha, Bricks & Cement)	**10**	**15**	**25**
(ii) Object of Historical Importance & Sensitive Structures	**15**	**25**	**50**

1. **BLAST NO:1:**

Date of Blast : 30.06.2004

Location : E- 332 – 342 MRL Lime stone
Bench Block F

1. Aerial distance from the place of blast to Crusher - 500 Mtrs
2. Aerial distance from the place of blast to PWD Road - 400 Mtrs
3. Aerial distance from the place of blast to Mines Colony - 1300 Mtrs

4. No. of Holes : 11

5. No. of Rows : 02

6.Quantum of Charges : 820 Kg

7. No of delays used : No. 6 – 1; No.8 – 3
No. 7 – 3; No.9 – 2
No.10 – 2;

8.Charge per delay : No.6 – 76 Kg
No.7 – 215 Kg
No.8 – 215 Kg
No.9 – 156 Kg
No.10 –158 Kg

9.Stemming height : 4 Mtr

LOCATIONS OF MEASUREMENT	GROUND VIBRATION DISPLACEMENT	PEAK PARTICLE VELOCITY	NOISE IN dBA
MINES COLONY	9	0.09	65
PWD ROAD	21	0.18	67
CRUSHER AREA	33	0.25	70

2. **BLAST NO:2**

Date of Blast : 30.06.2004

Location : 322 – 332 MRL.
Bench of Block A

1. Aerial distance from the place of blast to Crusher - 500 Mtrs
2. Aerial distance from the place of blast to PWD Road - 800 Mtrs
3. Aerial distance from the place of blast to Mines Colony - 1400 Mtrs

4. No. of Holes : 09

5. No. of Rows : 01

6.Quantum of Charges : 608 Kg

7. No of delays used : No. 7 – 02; No.8 – 02
No.9 – 02; No.10 – 03;

8.Charge per delay : No.7 – 108 Kg
No.8 – 125 Kg
No.9 – 125 Kg
No.10 –250 Kg

9.Stemming height : 4 Mtr

LOCATIONS OF MEASUREMENT	GROUND VIBRATION DISPLACEMENT	PEAK PARTICLE VELOCITY	NOISE IN dBA
MINES COLONY	5	0.10	60
PWD ROAD	24	0.19	68
CRUSHER AREA	36	0.26	71

CMEC 4

3. **BLAST NO:3**

Date of Blast : 30.06.2004

Location : 303 – 312 MRL
Bench Block B

1. Aerial distance from the place of blast to Crusher - 500 Mtrs
2. Aerial distance from the place of blast to PWD Road - 800 Mtrs
3. Aerial distance from the place of blast to Mines Colony - 1500 Mtrs

4. No. of Holes : 21

5. No. of Rows : 02

6.Quantum of Charges : 1766.5 Kg

7. No of delays used : No. 0 – 02; No.1 – 04
No. 2 – 04; No.3 – 04
No. 4 – 03; No.5 – 02
No. 6 – 02.

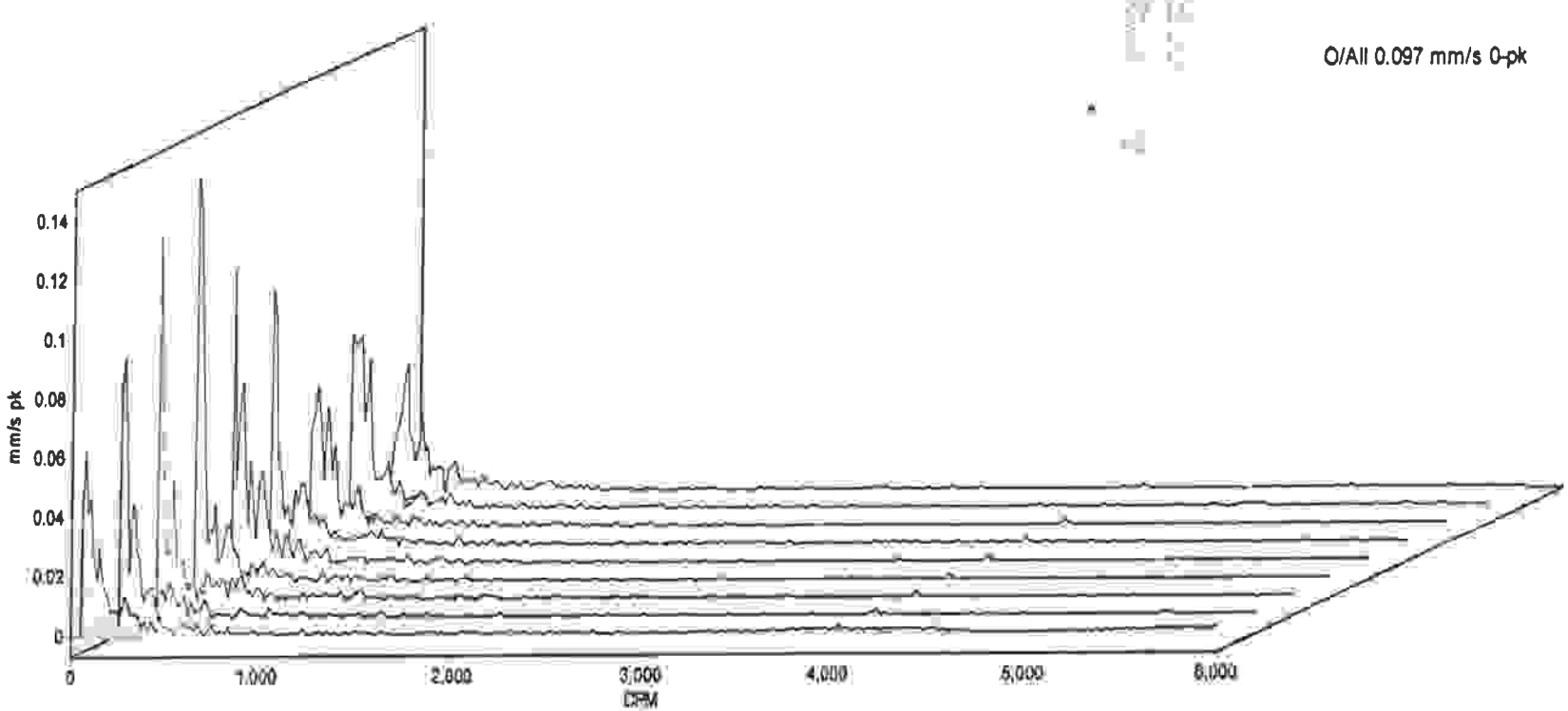
8.Charge per delay : No.0 – 170 Kg
No.1 – 340 Kg
No.2 – 340 Kg
No.3 – 340 Kg
No.4 – 255 Kg
No.5 – 170 Kg
No.6 – 151.5 Kg

9.Stemming height : 4.5 Mtr

LOCATIONS OF MEASUREMENT	GROUND VIBRATION DISPLACEMENT	PEAK PARTICLE VELOCITY	NOISE IN dBA
MINES COLONY	6	0.06	57
PWD ROAD	16	0.15	67
CRUSHER AREA	23	0.28	65

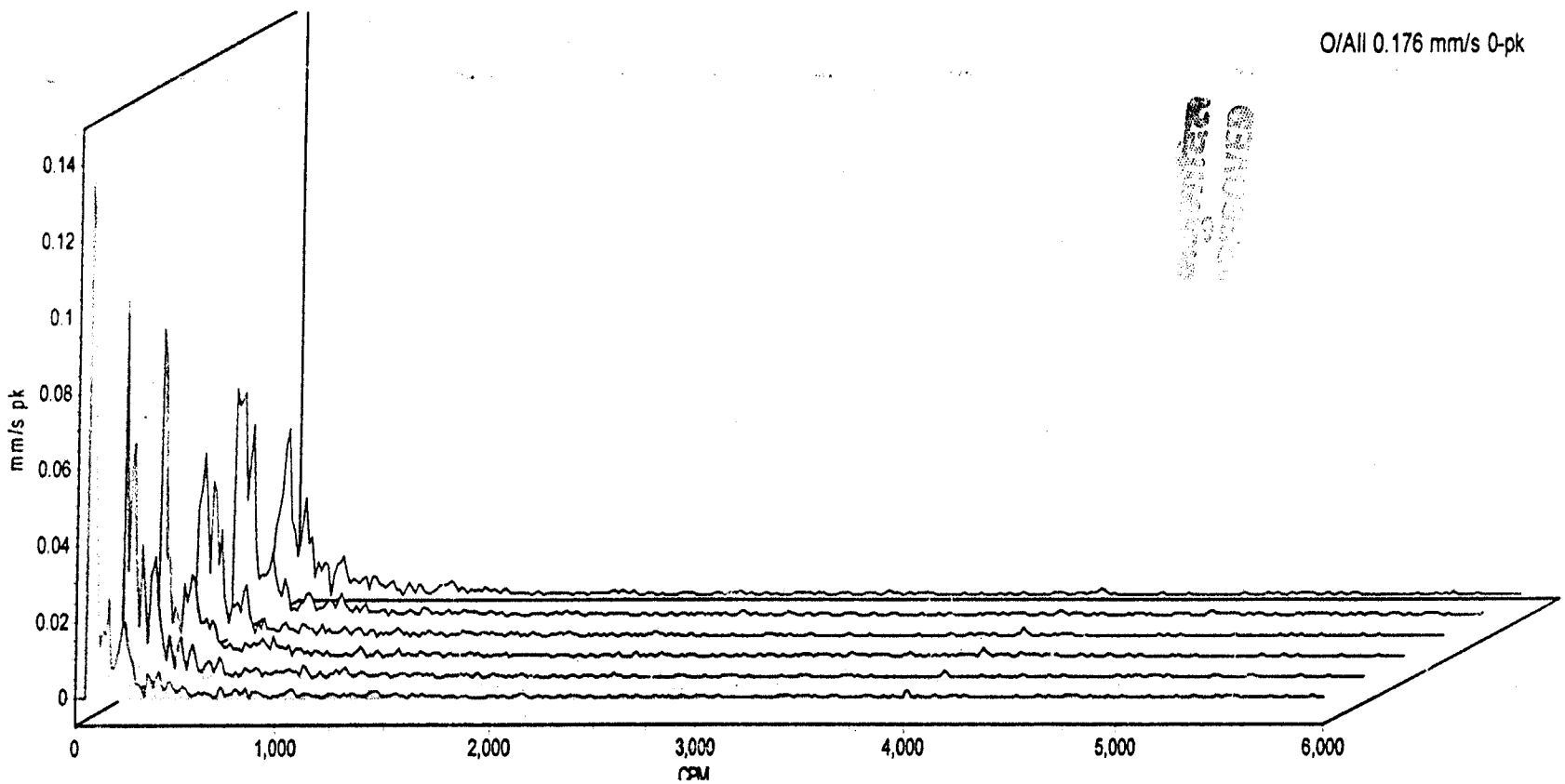
CMEC

GROUND VIBRATION MEASUREMENT DURING BLAST
LOCATION: MINES COLONY
DATE: 30.06.2004



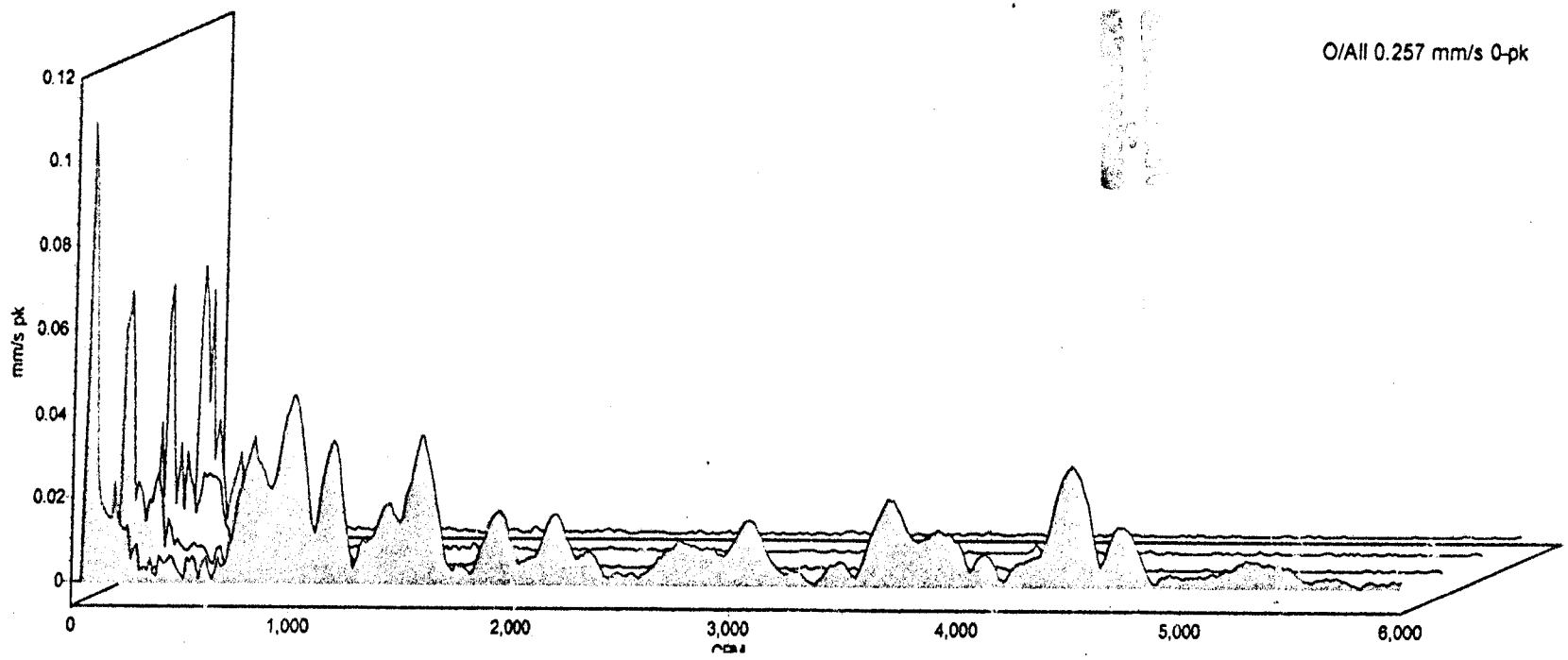
CMEC

GROUND VIBRATION MEASUREMENT DURING BLAST
LOCATION: PWD ROAD
DATE: 30.06.2004



CMEC

GROUND VIBRATION MEASUREMENT DURING BLAST
LOCATION: CRUSHER AREA
DATE: 30.06.2004



CMEC 8

4. **BLAST NO:4**

Date of Blast : 01.07.2004

Location : 322 – 332 MRL
Bench Block B

1. Aerial distance from the place of blast to Crusher - 700 Mtrs
2. Aerial distance from the place of blast to PWD Road - 600 Mtrs
3. Aerial distance from the place of blast to Mines Colony - 1600 Mtrs

4. No. of Holes : 08

5. No. of Rows : 01

6.Quantum of Charges : 344 Kg

7. No of delays used : No. 0 – 02; No.1 – 02
No. 2 – 02; No.3 – 02

8.Charge per delay : No.0 – 86 Kg
No.1 – 86 Kg
No.2 – 86 Kg
No.3 – 86 Kg

9.Stemming height : 4.2 Mtr

LOCATIONS OF MEASUREMENT	GROUND VIBRATION DISPLACEMENT	PEAK PARTICLE VELOCITY	NOISE IN dBA
MINES COLONY	11	0.11	52
PWD ROAD	22	0.17	67
CRUSHER AREA	12	0.21	69

CMEC 9

5. **BLAST NO:5**

Date of Blast : 01.07.2004

Location : 303 – 312 MRL Lime stone Bench Block B

1. Aerial distance from the place of blast to Crusher - 500 Mtrs
2. Aerial distance from the place of blast to PWD Road - 400 Mtrs
3. Aerial distance from the place of blast to Mines Colony - 1200 Mtrs

4. No. of Holes : 10

5. No. of Rows : 01

6.Quantum of Charges : 767.5 Kg

7. No of delays used : No. 0 – 02; No.1 – 02
No. 2 – 02; No.3 – 02
No. 4 – 02;

8.Charge per delay : No.0 – 153 Kg
No.1 – 153 Kg
No.2 – 153 Kg
No.3 – 153 Kg
No.4 –155.5Kg

APPROVED

9.Stemming height : 4.20 Mtr

LOCATIONS OF MEASUREMENT	GROUND VIBRATION DISPLACEMENT	PEAK PARTICLE VELOCITY	NOISE IN dBA
MINES COLONY	5	0.13	60
PWD ROAD	16	0.18	53
CRUSHER AREA	32	0.30	57

CMEC 9

5. **BLAST NO:5**

Date of Blast : 01.07.2004

Location : 303 – 312 MRL Lime stone Bench Block B

1. Aerial distance from the place of blast to Crusher - 500 Mtrs
2. Aerial distance from the place of blast to PWD Road - 400 Mtrs
3. Aerial distance from the place of blast to Mines Colony - 1200 Mtrs

4. No. of Holes : 10

5. No. of Rows : 01

6. Quantum of Charges : 767.5 Kg

7. No of delays used : No. 0 – 02; No.1 – 02
No. 2 – 02; No.3 – 02
No. 4 – 02;

8. Charge per delay : No.0 – 153 Kg
No.1 – 153 Kg
No.2 – 153 Kg
No.3 – 153 Kg
No.4 –155.5Kg

APPROVED

9. Stemming height : 4.20 Mtr

LOCATIONS OF MEASUREMENT	GROUND VIBRATION DISPLACEMENT	PEAK PARTICLE VELOCITY	NOISE IN dBA
MINES COLONY	5	0.13	60
PWD ROAD	16	0.18	53
CRUSHER AREA	32	0.30	57

6. **BLAST NO:6**

Date of Blast : 01.07.2004

Location : 312 – 322 MRL Bench of Block B

1. Aerial distance from the place of blast to Crusher - 400 Mtrs
2. Aerial distance from the place of blast to PWD Road - 350 Mtrs
3. Aerial distance from the place of blast to Mines Colony - 1300 Mtrs

4. No. of Holes : 17

5. No. of Rows : 02

6. Quantum of Charges : 1575 Kg

7. No of delays used : No. 0 – 02; No.1 – 03
No. 2 – 04; No.3 – 04
No. 4 –03; No.5 - 01

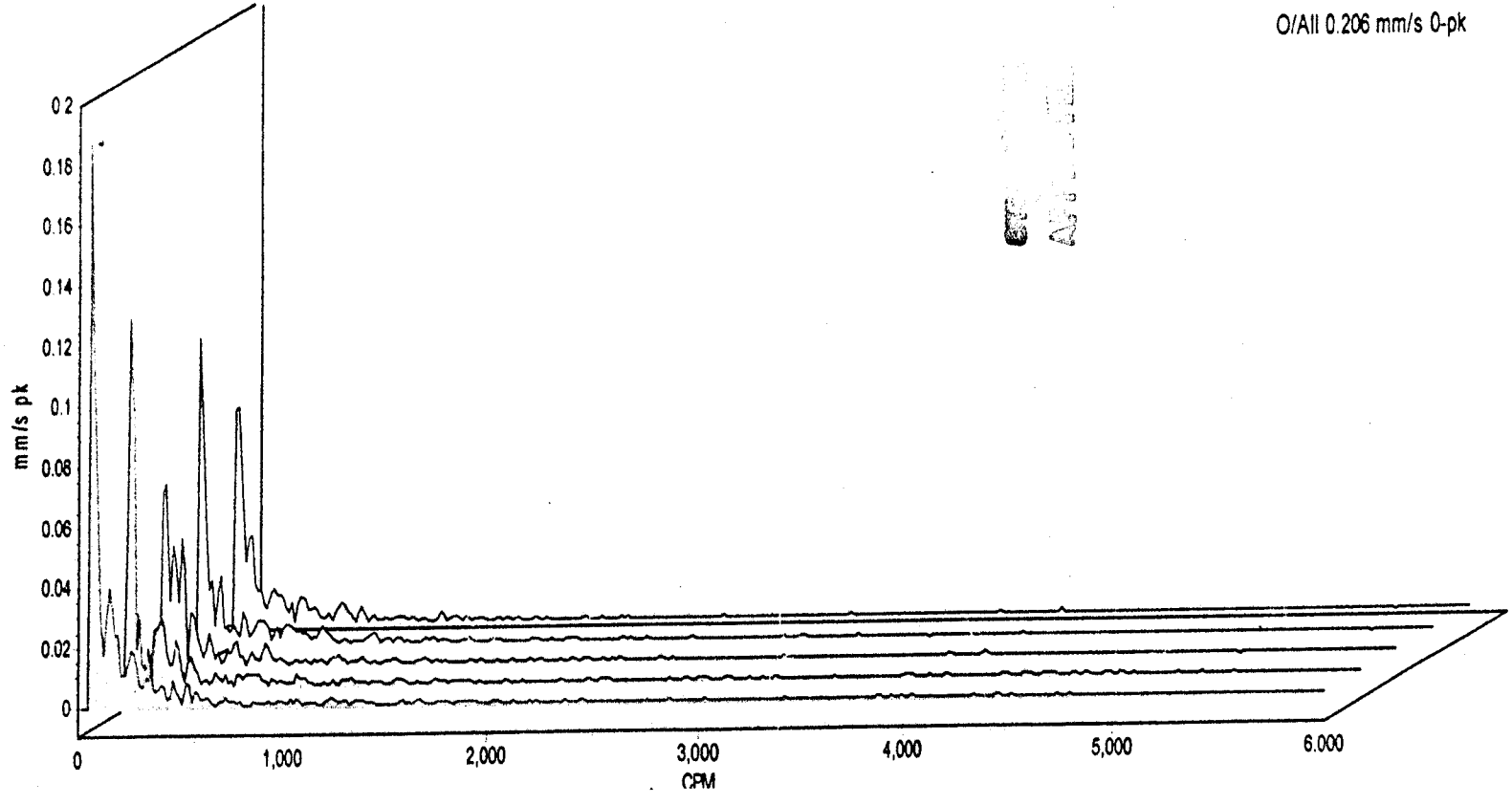
8. Charge per delay : No.0- 184 Kg
No.1 - 276 Kg
No.2 - 368 Kg
No.3 - 368 Kg
No.4 - 296 Kg
No.5 – 105 Kg

9. Stemming height : 4.2 Mtr

LOCATIONS OF MEASUREMENT	GROUND VIBRATION DISPLACEMENT	PEAK PARTICLE VELOCITY	NOISE IN dBA
MINES COLONY	13	0.14	60
PWD ROAD	29	0.21	67
CRUSHER AREA	46	0.28	65

CMEC

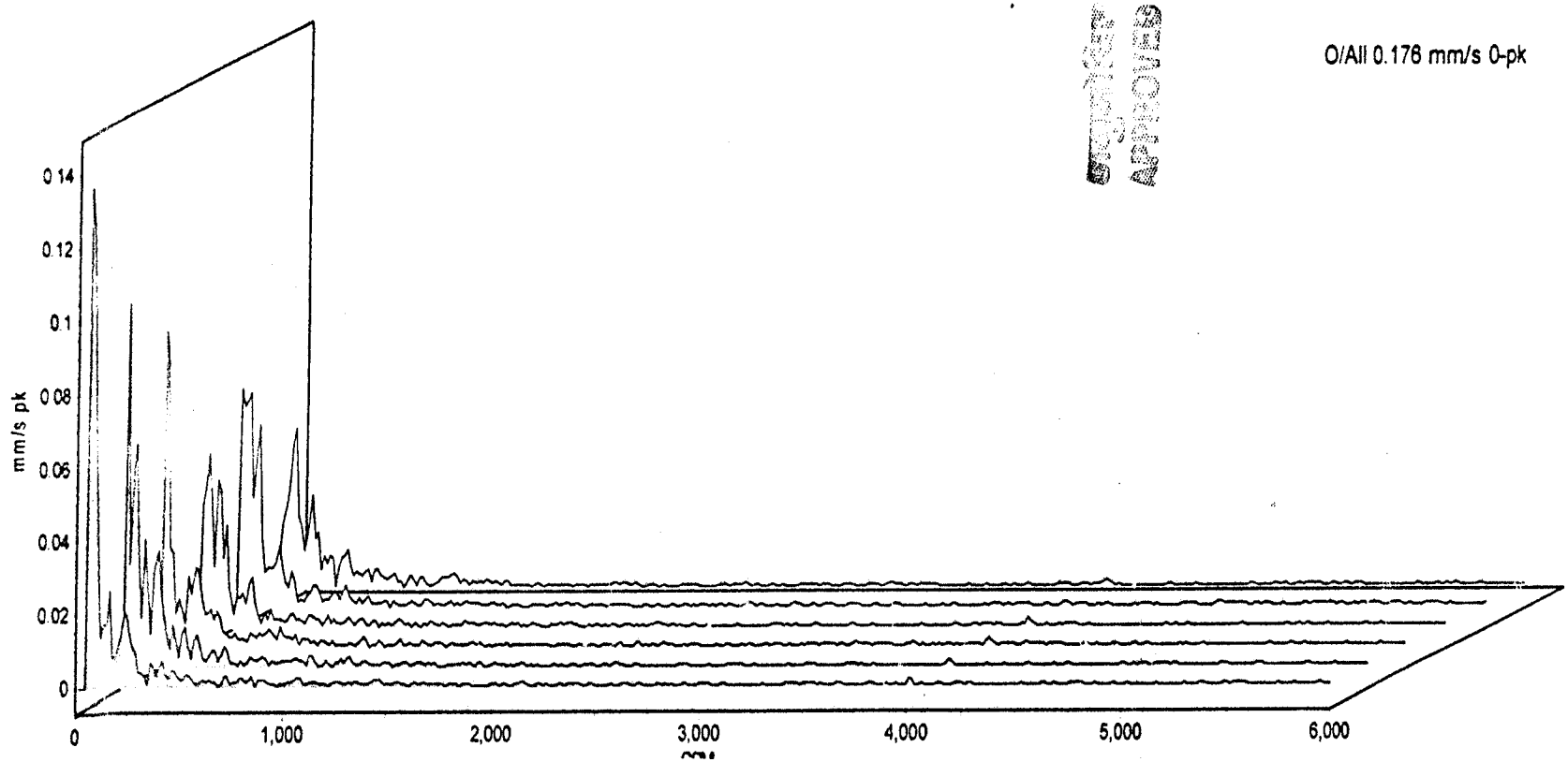
GROUND VIBRATION MEASUREMENT DURING BLAST
LOCATION: CRUSHER AREA
DATE: 01.07.2004



CMEC

GROUND VIBRATION MEASUREMENT DURING BLAST
LOCATION: PWD ROAD
DATE: 01.07.2004

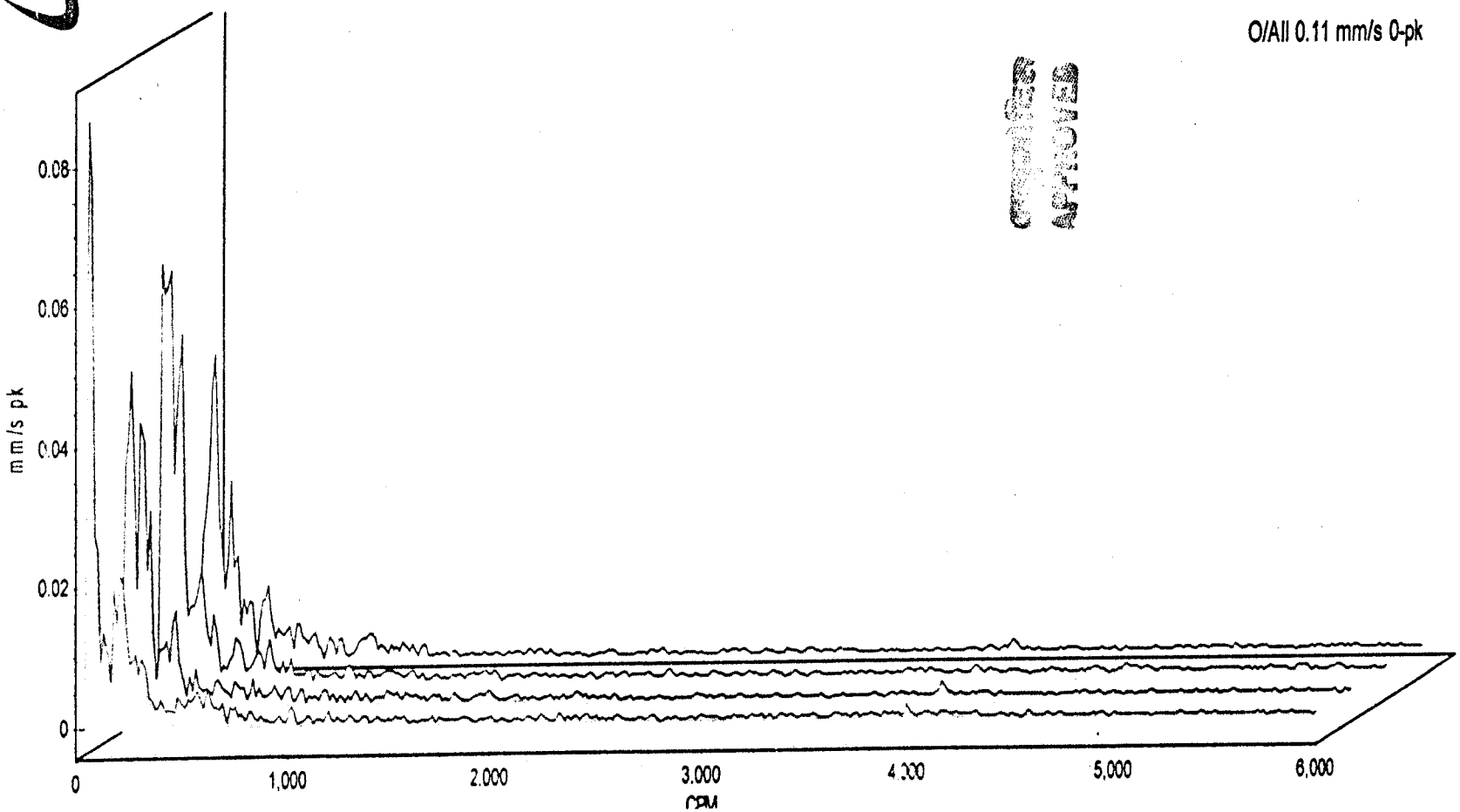
APPROVED



CMEC

GROUND VIBRATION MEASUREMENT DURING BLAST
LOCATION: MINES COLONY
DATE: 01.07.2004

O/All 0.11 mm/s 0-pk



CMEC 14

7. **BLAST NO:7**

Date of Blast : 02.07.2004

Location : 312 – 322 MRL Bench of B - Block

1. Aerial distance from the place of blast to Crusher - 700 Mtrs
2. Aerial distance from the place of blast to PWD Road - 650 Mtrs
3. Aerial distance from the place of blast to Mines Colony - 1600 Mtrs

4. No. of Holes : 21

5. No. of Rows : 02

6.Quantum of Charges : 200 Kg

7. No of delays used : No. 0 – 2; No.1 – 2

8.Charge per delay : No.0 – 100 Kg
No.1 – 100 Kg

9.Stemming height : 1.8 Mtr

LOCATIONS OF MEASUREMENT	GROUND VIBRATION DISPLACEMENT	PEAK PARTICLE VELOCITY	NOISE IN dBA
MINES COLONY	3	0.19	46
PWD ROAD	9	0.28	68
CRUSHER AREA	16	0.48	64

CMEC 15

8. **BLAST NO:8**

Date of Blast : 02.07.2004

Location : 303 - 312 MRL Bench of Block B

1. Aerial distance from the place of blast to Crusher - 800 Mtrs
2. Aerial distance from the place of blast to PWD Road - 750 Mtrs
3. Aerial distance from the place of blast to Mines Colony - 1500 Mtrs

4. No. of Holes : 20

5. No. of Rows : 02

6. Quantum of Charges : 1842 Kg

7. No of delays used : No. 03 - 02; No.04 – 03
No. 05 – 04; No.06 – 04
No. 07 – 05; No.08 – 02

8. Charge per delay : No.03 – 184 Kg
No.04 – 276 Kg
No.05 – 368 Kg
No.06 – 368 Kg
No.07 – 460 Kg
No.08 – 186 Kg

9. Stemming height : 4 Mtr

LOCATIONS OF MEASUREMENT	GROUND VIBRATION DISPLACEMENT	PEAK PARTICLE VELOCITY	NOISE IN dBA
MINES COLONY	13	0.11	45
PWD ROAD	28	0.25	65
CRUSHER AREA	38	0.56	68

CMEC 16

9. BLAST NO:9

Date of Blast : 02.07.2004

Location : 322 – 332 MRL Bench of Block 4

1. Aerial distance from the place of blast to Crusher - 350 Mtrs
2. Aerial distance from the place of blast to PWD Road - 400 Mtrs
3. Aerial distance from the place of blast to Mines Colony - 1200 Mtrs

4. No. of Holes : 07

5. No. of Rows : 01

6. Quantum of Charges : 528 Kg

7. No of delays used : No. 0 – 02; No.1 – 02
No. 2 – 02; No.6 – 01

8. Charge per delay : No.0 – 150 Kg
No.1 – 150 Kg
No.2 – 150 Kg
No.3 – 78 Kg

Engineer APPROVED

9. Stemming height : 4 Mtr

LOCATIONS OF MEASUREMENT	GROUND VIBRATION DISPLACEMENT	PEAK PARTICLE VELOCITY	NOISE IN dBA
MINES COLONY	13	0.19	56
PWD ROAD	26	0.22	68
CRUSHER AREA	31	0.36	67

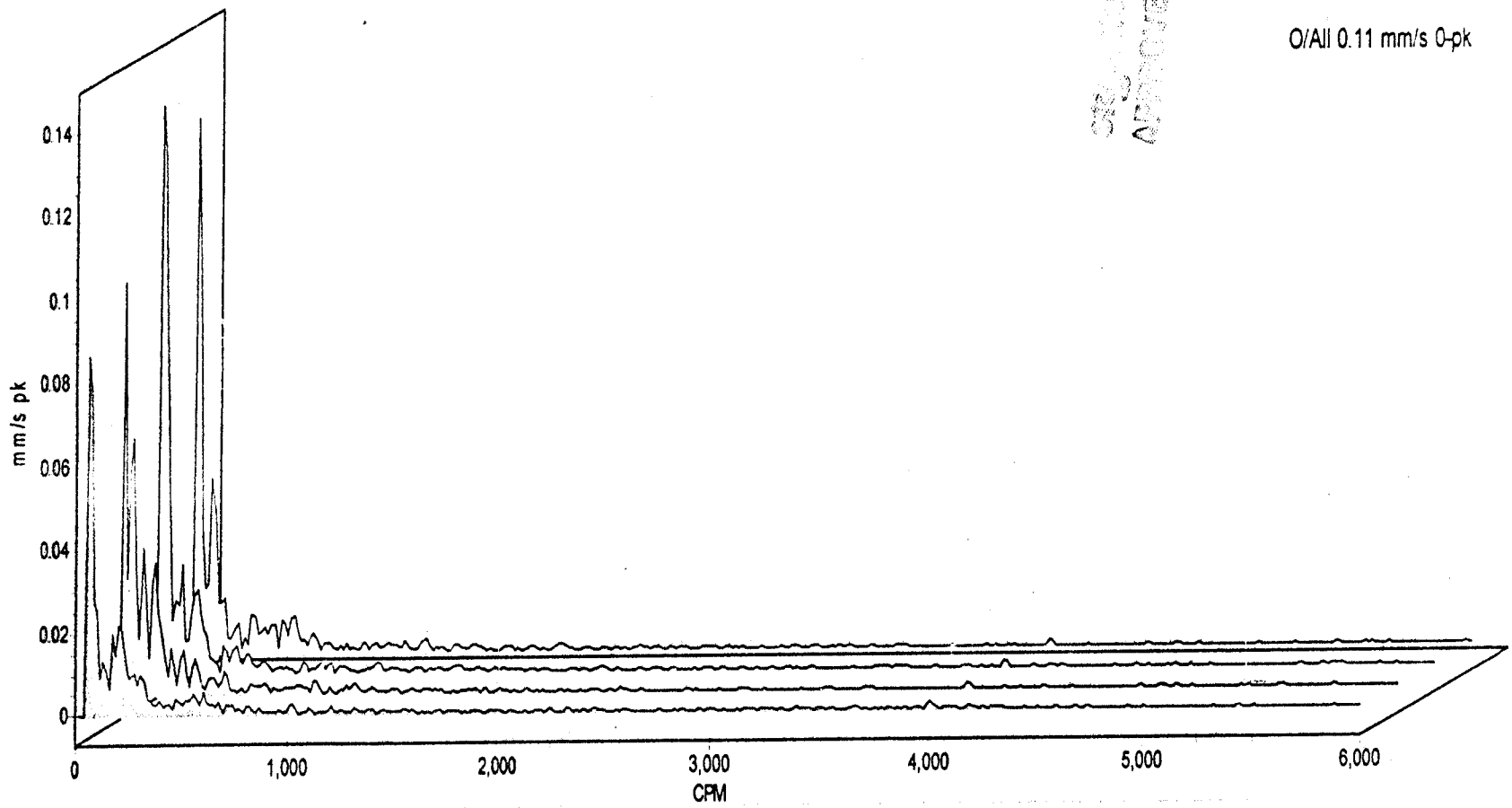
CMEC

GROUND VIBRATION MEASUREMENT DURING BLAST

LOCATION: MINES COLONY

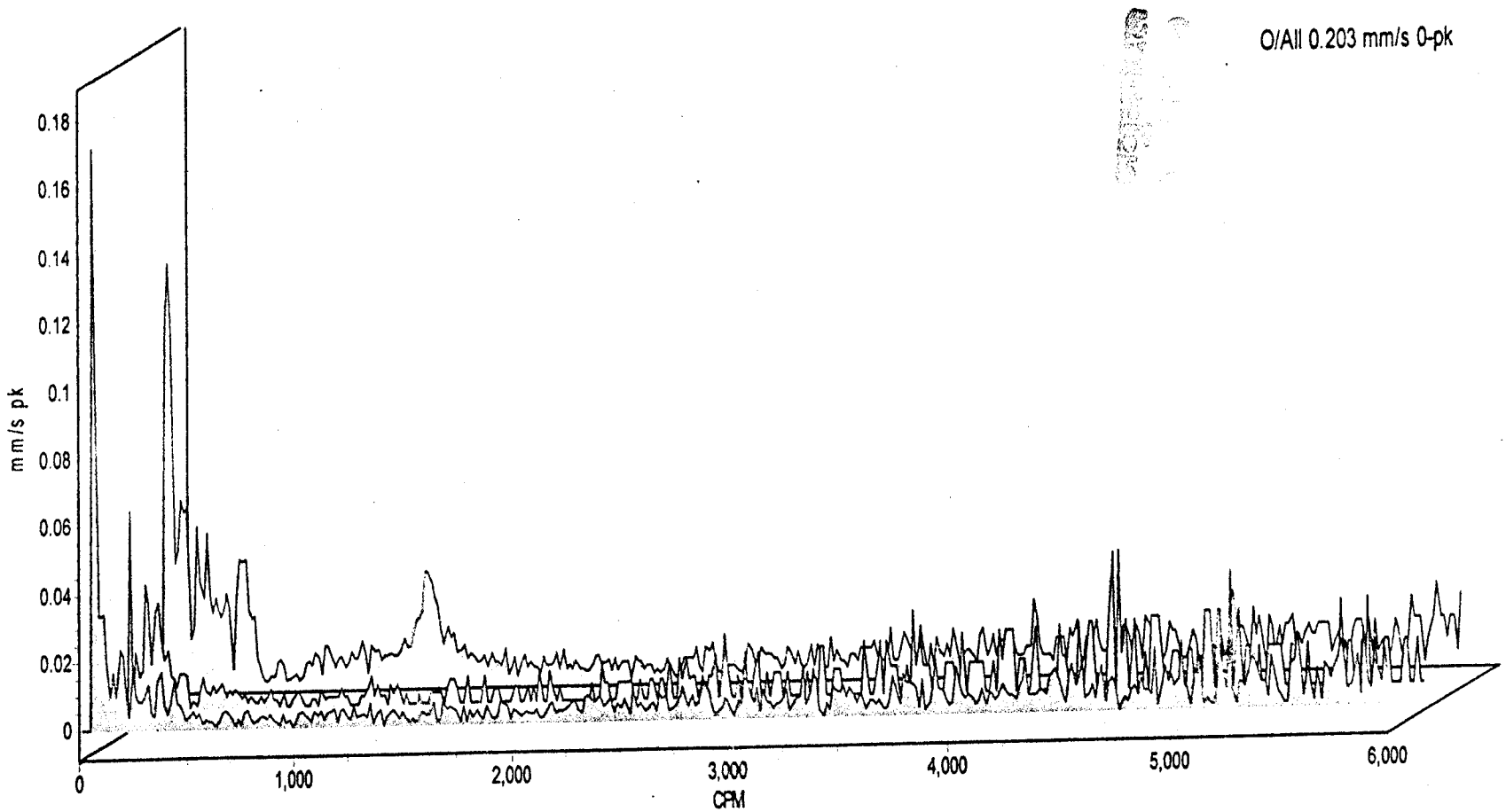
DATE: 02.07.2004

O/All 0.11 mm/s 0-pk



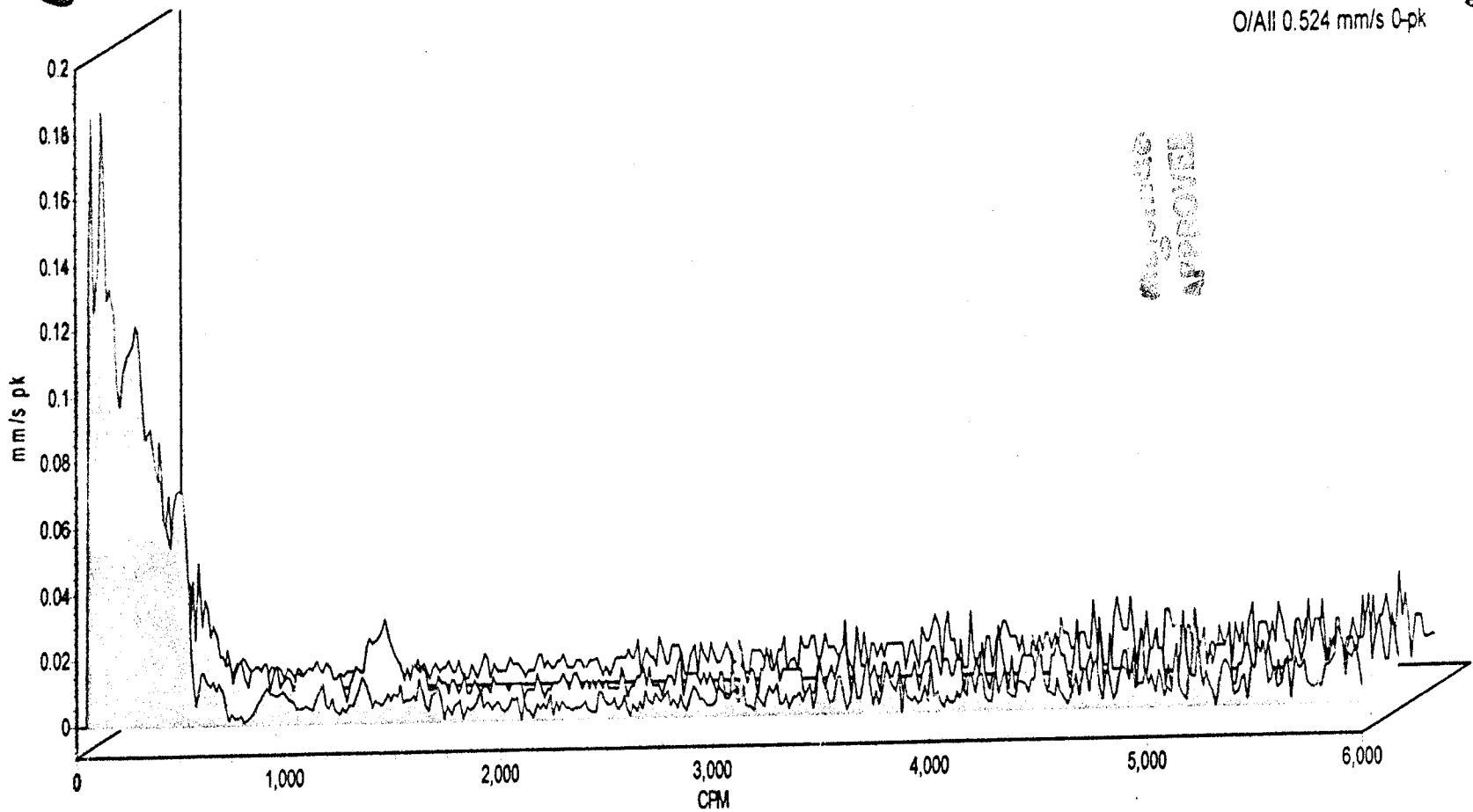
CMEC

GROUND VIBRATION MEASUREMENT DURING BLAST
LOCATION: PWD ROAD
DATE: 02.07.2004



GROUND VIBRATION MEASUREMENT DURING BLAST
LOCATION: CRUSHER AREA
DATE: 02.07.2004

O/All 0.524 mm/s 0-pk



CONCLUSION

It was found from the measurements that the Ground Vibration levels, Peak Particles velocity and Noise levels are all within prescribed limits as per BIS and there are no harmful effects any where in the vicinity of the lime stone mines and the colony etc.,

ForChennai Condition Monitoring Engineers & Consultants Pvt Ltd.,

K.BALAMURUGAN

Annexure - 8

Mahabal Enviro Engineers Pvt. Ltd.
Branch Office : [illegible] Nagpur
☎ 3240365, Fax : 0712-2612212 E-mail : nagpur @mahabal.com

MANIKGARH CEMENT LTD.

PO. GADCHANDUR, DIST. CHANDRAPUR.

SOIL ANALYSIS REPORT

PROJECT : MANIKGARH OPEN CAST LIMESTONE MINES.

DATE : 28.03.06

LOCATION : Five Samples collected from mines on different locations.
(i) C1 (ii) C2 (iii) C3 (iv) C4 (v) C5

Sr.No.	Parameters	Unit	Results				
			C1	C2	C3	C4	C5
1	pH	-	8.3	8.2	8.6	8.1	8.5
2	Conductivity	mhos/cm	136.9	142.5	139.6	140.6	145.8
3	Organic Matter	%	13.9	14.8	15.2	14.4	18.1
4	Free Ammonical Nitrogen	mg/k	18.3	25.6	22.8	26.6	20.9
5	Potassium	%	1.4	1.8	1.6	2.5	2.3
6	Phosphorus	mg/k	Traces	Traces	Traces	Traces	Traces

RECOMMENDATION OF SUITABLE SPECIES PLANTATION :-

From the analysis of soil it is observed that the soil can support the vegetation if the proper selection of species, seeding, fertilization and watering is done. The plants like Deobabui (Acacia Farneciana Wild), Hewar (Acacia Leucophloea Wild), Shikakai (Anona Squamosa Linn), Nim (Azadirachta indica A Juss), Bambu (Bambusa arundinacia Roxb), Shisham (Dalbergia Latifolia Roxb), Tendu (Diospyros melanoxylon Roxb), Karanj (Derris indica Benett) is suitable for plantation.

for **Mahabal Enviro Engineers Pvt. Ltd.**

Milind S. Balki
BRANCH MANAGER

Head Office & Laboratory: 88,New Modella Industrial Estate, Padwal Nagar, Wagle Estate, Behind Automatic Electric Co., Thane (West) - 400604, Maharashtra, India. Fax: 91-22- 2582 3543
Phone: 91-22- 2582 0658/ 3139/ 1663/ 3154 Email: mahabal@bom2.vsnl.net.in

Annexure – 9

EXECUTIVE SUMMARY

A perennial yet seasonal nala of 15 to 30m width and 1 to 5m depth, named as *Amal Nala* is flowing across the middle of limestone mining lease of the Manikgarh Cement Captive Mine. Impact of this water body on the mining is the centre theme of this scientific study. CMRI help has been sought to make impact studies on hydrological setting of the area and based on water impact analysis feasibility of mining should be assessed for mining below ground level i.e. below 303 and up to 253 MRL. If, there is no adverse impact due to deepening of mining activity, the mineral lying at depth can be exploited after obtaining necessary permission / sanctions from different statutory authorities. In this way, the present case study is an excellent example of extension / conversion of hill mining into a pit mining. Large numbers of captive limestone mines of cement plants are being worked below the ground level in India.

Ground Penetrating Radar (GPR) survey carried out in the mining lease area to know the condition of strata (It means to know the details of fractures, fissures, cracks, cavities etc. through which seepage or water percolation takes place) has revealed that all along the three sections surveyed i.e. GG-I, GG-II and GG-III, solid compact layers exist from the surface to depths varying from 2m to 5m only. The depth of fractured / weathered layer of rocks exist from the surface to depths varying from 5m to 16.5m and will continue further up to the 50 m depth below the surface. Solution cavities (voids) are also found at some places along the sections GG1 and GG3. No solution cavities are found along GG2. These cavities are smaller in size and thereby easy to manage from water accumulation angle.

Based on water data analysis of three different seasons, taken during 1999-2000 the qualitative and quantitative impacts of mining on hydrological regime of the study area has been arrived at. Furthermore, in-depth study of the problem from various angles including socio-economic, it is derived that –

1. A rectangular shape barrier of 60m thickness should be left to prevent/ avoid any danger against surface water inundation into the mine when mining is to be done below ground level i.e. 303 MRL. In mine area a barrier of 60m width all along the nala is already existing, this barrier between nala and mine working should be maintained.
   To assess the impact of routine blasting operation on the barrier consisting of natural rocks and limestone and already existing, test blasts were conducted and impacts have been assessed as follows -

- The vibration level observed are below the threshold value and hence safe. A threshold vibration level of 50.8 (mm/s) may be considered as most safe so as not to pose danger to any aquifer, water well or water bearing strata.
- However, as the mine workings extend towards the nala, and if blasting is conducted at the boundary of the barrier pillar, the maximum permissible charge per delay should not exceed 500 kg to control the vibration within safe limit. The same is being followed presently.
- As blasting is a short-term phenomenon, a low-level vibration below the threshold value has no potential to damage aquifers due to repeated blasting.

By maintaining such barrier - mining of limestone below the ground level can be done safely and conveniently, particularly during rainy season when the nala flow is relatively higher and run-off water entering into the mine from the surrounding areas can be checked and controlled by barrier.

2. There will be no change in the hydrological regime of the Amal Nala due to the mining activity below 303 MRL, because the water expected to come in the mine area is basically from the seepage which otherwise also takes place even now when mining activity is done above the ground level i.e. above 303 MRL.
3. Surface water quality of the Amal Nala is found as not polluted as the maximum variable parameters examined during laboratory investigations are within acceptable range as prescribed by Central Pollution Control Board (CPCB). Hence, if present mining practises are continued in the similar manner, in future the mining at deeper depth will not cause any damage to surface water quality.
4. Based on ground water impact analysis it is observed that –

- The chemical constituent parameters (heavy metal constituent) of ground water samples examined to know the quality are either below detectable limit or within acceptable range. This fact is further revalidated by the fact that the limestone mining process /activity is such that it doesn't discharge heavy metals into the ground water.
- The groundwater present in the study area is in the under water table condition (unconfined). It means that ground water management is easy and controlled. With adequate provisions of mine water pumping arrangements mining can be done safely below 303 MRL up to 253 MRL and below.
- Due to hilly topography of the area, the water table is already far deeper than the root zone of forest trees. Hence, there will not be any effect on the growth of forest in the study area.
- There exist no possibility of ground water lowering in the adjoining villages as they are part of different ground water basin and are distinctly separated by ground water divide.
- No village or hamlets will be affected by the mining activity as regards to lowering of ground water table is concerned because presently there is no utilisation of ground water for any industrial purpose in the study area. The overall ground water development in the area is very poor i.e. 2.74%.

It is also assessed that the socio-economic impact in relation to water use of Amal Nala will be very less or rather insignificant as very less number of villages are dependent on Amal nala water.

In view of the above findings the impact of mining below 303 MRL on surface and ground water regime in the study area will be almost negligible and hence deepening of existing limestone mine working will be feasible in order to conserve huge limestone resources.

****

Dr. Abhay Kumar Soni
Scientist
Central Mining Research Institute
Regional Centre, CIMFR Campus
Dhanbad, India

ANNEXURE 10

FEASIBILITY STUDIES WITH RESPECT TO COSTING, MARKETING AND ECONOMIC VIABILITY OF MANIKGARH CEMENT LIMESTONE MINES, GADCHANDUR

Introduction:

Manikgarh Cement Limestone Mine, Gadchandur is captive to Manikgarh Cement Plant, which is a unit of Century Textiles & Industries Limited. The mine is designed and developed to meet the limestone requirement of this cement plant. Hundred percent of limestone produced from the mine is used for captive consumption, i.e. for manufacture of cement by Manikgarh Cement Plant only. The feasibility of the limestone produced, as viewed from economical and marketing angles, is fully dependent on the economic health and the market prospects of its parent unit, i.e. Manikgarh Cement. Accordingly, feasibility studies are done as under:

Costing:

Capital cost with break-up details of capital and working cost of production of limestone and its projection for the period (2006-07to 2010-11) is given below:

Break-up of Limestone Cost

Rs./MT

Sr. No.	Particulars	Actual 2004-05	Estimated 2006-07	2007-08	2008-09	2009-10	2010-11
A	**Operating Cost**						
1	Variable Cost	30.96	41	46	50	56	61
2	Fixed Cost	10.85	12	12	13	13	13
3	Royalty & Cess	43.48	46	46	46	46	46
TOTAL OPERATING COST		85.29	99	104	109	115	120
B	**Capital Cost**	1.37	1	1	1	0	0
TOTAL COST (A+B)		**86.66**	**100**	**105**	**110**	**115**	**120**

Note : For Royalty & Cess, present rate has been considered.

Marketing :

Manikgarh Cement's Marketing Network :

Our main markets are Maharashtra, MP, AP, Gujarat, West Bengal, North East, UP, Uttaranchal, Bihar & Jharkhand. In spite of over capacity in Nagpur cluster, over the years we have significantly gained market share with our superior customer focused marketing. As on 31.3.2005, we have 606 stockiest, C& F Agents, Consignment agents and the details of our network is as under: -

Contd..2

State	Depots	C & F Agents	Consignment Agents	No. of Stockiest
Maharashtra	6	11		480
Madhya Pradesh		1	1	34
Andhra Pradesh		1		16
Gujarat			1	76
West Bengal		10		
North East			10	
UP/ Uttaranchal			7	
Bihar / Jharkhand			12	

Our market distribution and forecasted dispatches for different states for the period is as under :-

STATES	2006-07	2007-08	2008-09	2009-10	2010-11
Maharashtra	973500	1022175	1093727	2734318	2871034
Madhya Pradesh	132000	138600	148302	370755	389293
Andhra Pradesh	123750	129937.5	139033	347583	364962
Gujarat	140250	147262.5	157571	393927	413624
West Bengal	115500	121275	129764	324411	340631
North East	90750	95287.5	101958	254894	267639
UP/Uttaranchal	41250	43312.5	46344	115861	121654
Bihar	33000	34650	37076	92689	97323
TOTAL :	**1650000**	**1732500**	**1853775**	**4634438**	**4866160**

Customer Service:

"Customer Delight" remains focus of our marketing mix. For that we provide best quality cement to the customers followed by prompt and perfect "After Sales Service". Later, independent customer feedback assessment is done to evaluate the degree of satisfaction, which is key to our marketing strategy.

Our group core value of Quality has built for us an invincible reputation in the market. The raw material's and cement go through numerous and continuous quality checks and X-ray analysis to ensure a cement of the highest standard. Our various quality initiatives have fetched coveted ISO 9001 Certificate and also an ISO 14001, an International Certification for "Environmental Management System", reflecting our commitment to the environment.

An extensive distribution network of officers and agents and a retail chain of over 4000 outlets stretching across the length and breadth of the region, play a vital role in taking Manikgarh close to the customer's doorstep through which we have commended a dominant share in the heart and mind of our valued customers.

Technical Services:

Our efficient and responsive technical staff ensure quick and expert care helping thousands of users and keeping them smiling. They attend to user's problems of construction and advice them on various aspects of quality construction.

Infrastructure Facilities:

Dispatches are done through rail and road and the focus is to economize on cost of transportation and an optimum mix of the modes keeping the cost and the service parameters into consideration is devised. Electronic packers ensure that the packing mechanism is sufficient and accurate and automatic loaders ensure that the loading is done fast and efficiently. Approximately 56% of the dispatches is done by rail.

Branding & Advertisement:

Towards building a brand quality we have gone in for extensive advertisements and promotions so that our products are positioned in the premium league of quality products. For this, we have extensive programs towards users education; masons training program and product demonstrations are done extensively. Various POP items and customer mailers are designed for various segments because of which our brands Manikgarh Gold, Birla Gold and Manikgarh Cement are the commanding brands of our markets.

Our efforts for customer delight have helped the Company to forge ahead in the millennium and our vision is of the future. A continuous reaffirmation of excellence is our commitment to our customers. After all, they use it for building the future. Theirs.... and ours...

Cross Branding :

For better servicing to the markets and for cost effective dispatches cross branding has been done by which all the 3 units of M/s Century Textiles & Industries Limited can dispatch any of the brands to markets all over the country achieving lowest cost and all time availability of material markets.

Economic viability:

As also mentioned above, Manikgarh Ce is a unit of Century Textiles & Industries Limited. Its economic viabili ends on market conditions and the financial health of the holding Compa

As discussed in the above para i.e. "Marketing", the market projections for the Manikgarh Cement are on an increasing trend.

Taking into consideration, the optimistic market forecasts, and the financial condition of the Company, the mining activities are expected to be economically viable to meet the requirements of the Manikgarh Cement Plant.

Conclusions:

It can be seen from the facts and figures mentioned in the above paragraph, that the dispatches of the cement in the forthcoming years are expected to increase, thereby making a stronger market position. This may require increased quantities of limestone from the captive mining. The mine is fully equipped to meet the additional requirements without needing any capital investment. It can be seen from the projected cost of limestone mining, that the cost is expected to be under control, having an allowance of the inflationary effect.

As regards financial position of the Company, the cash flow position of the holding Company, Century Textiles & Industries Ltd, of which Manikgarh Cement is a unit, shows an encouraging figure, with strong fundamentals.

The strong market position and sound financial position indicate that the deposit will remain feasible in the coming years also.

GUARANTEE FOR RS. 50,000/- AND ABOVE IS VALID ONLY WHEN SIGNED BY TWO OFFICERS

(To be stamped as an agreement in accordance with the Stamp Act in force)

STATE BANK OF INDIA

Stamp

GADCHANDUR BRANCH.

Gadchandur-0167
07173246546,-246054

Form No. G/1 090665

The Regional Controller of Mines (DR)
Nagpur

Dear Sirs,

Guarantee No. BG/2007/02

Amount of Guarantee Rs. 292000/-

Guarantee cover from 22-02-08 to 31-03-2008

Last date for lodgement of claim 31-03-2008

This Deed of guarantee executed by the State Bank of India constituted under the State Bank of India Act, 1955 having its Central Office at Nariman Point, Mumbai and amongst other places, a Branch at Gadchandur (hereinafter referred to as 'the Bank') in favour of The Regional Controller of Mines, Nagpur (hereinafter referred to as 'the Beneficiary') for an amount not exceeding Rs. 292000/- (Rupees Two lacs ninety two thousand only) at the request of Manikgarh Cement (hereinafter referred to as 'the Contractor/s').

This Guarantee is issued subject to the condition that the liability of the Bank under this Guarantee is limited to a maximum of Rs. 292000/- (Rupees Two lacs ninety two thousand only) and the Guarantee shall remain in full force upto 31-03-2008 (Date of expiry) and cannot be invoked otherwise than by a written demand or claim under this Guarantee served on the Bank on or before the 31-03-2008 (Last date of claim).

SUBJECT TO AS AFORESAID

(Main Guarantee matter may be typed hereafter)

Code No. 2072

वसंत हस्ते
Vasant Haste
H-444

भारतीय गैर न्यायिक

एक सौ रुपये Rs. 100

रु. 100 ONE HUNDRED RUPEES

भारत INDIA

INDIA NON JUDICIAL

महाराष्ट्र MAHARASHTRA 7६/7/2006 900/.

Z 458551

15 JAN 2007

Bank Guarantee No BG/2007/02

Dated 02.02.07

To,
The Regional Controller of Mines (NR)
Indian Bureau of Mines,
Indira Bhawan, IBM Building,
Civil Lines,
NAGPUR 440 001
(M.S)

(For guarantees to be executed in favour of Government Departments as required under Rule 23 F(2) of Mineral Conservation and Development Rules, 1988)

GUARANTEE BOND

As per Order No. Nil dated 15.11.2002 from Department of Industries, Energy & Labour, Government of Maharashtra, under Rule 24A of Mineral Concession Rules,1960, the prospective holder of Mining Lease, M/s Century Textiles and Industries Limited, Mumbai (hereinafter called "The Lessee") for its Manikgarh Cement Limestone Mines over balance mining lease area of 190.42 Hectares out of 493 hectare originally

sanctioned mining lease in Chandrapur district of Maharashtra State, submitted Mining Plan along with Progressive Mine Closure Plan vide letter Number MN/IBM/1 dated 24.1.07, to Regional Controller of Mines (NR) & Controller of Mines (CZ) (hereinafter called "The Government") as defined under Mineral Conservation and Development Rules,1988 (hereinafter called "The Rules") issued letter no. 314 (3) /2006 –MCCM (CZ)/MP-22 for the final submission of Mining Plan along with Progressive Mine Closure Plan for approval under Rule 24A & 23A of the Rules. The Government advised to give the Security deposit for the due fulfillment of obligation of Rule 23F(1) of the Rules and of terms and conditions in the said letter in the form of Bank Guarantee (hereinafter called "The Guarantee Bond") for Rs 2,92,000/- (Rs two lakhs ninety two thousands only). We, State Bank Of India Gadchandur Dist Chandrapur (M.S.) duly authorised and acting for and on behalf of lessee (hereinafter called "The Bank") at the request of the lessee do hereby undertake to pay to the Government an amount not exceeding Rs 2,92,000/- (Rs two lakhs ninety two thousands only) as securities as to indemnify the Government against Reclamation and Rehabilitation cost for the implementation of Progressive Mine Closure Plan as stipulated in Rule 23F (1) of the Rules.

i) 2. We, State Bank Of India Gadchandur Dist. Chandrapur (M.S) do hereby undertake to pay the amount and the payable under this guarantee bond without any demur merely on a demand from the Government stating that the amount claimed is due by way of fulfillment and obligations of the lessee under Rule 23F (1) of the Rules of conditions contained in the said approval letter or by reason of the lessee failure to comply and other order issued by any competent authority. The demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee Bond. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs 2,92,000/- (Rs two lakhs ninety two thousands only)

3. Further, we undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the lessee or his agent, manager, representative or servant in any suit or proceeding pending before any court or tribunal relating thereto and our liability under these presents being absolute and unequivocal.
The payment promised to be made by us under this Guarantee Bond shall be valid discharge of our liability for payment thereunder and the lessee shall have no claim against us for any matter related to making such payment.

4. We, State Bank Of India Gadchandur Dist. Chandrapur (M.S.) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for performance of lessee under the Rules and that it shall continue to be in force till the Government by virtue of the power conferred under rule 23F (5) of the Rules have been fully

satisfied and or till the Government certifies that the terms and conditions of the said approval letter or that obligations under Rule 23F (1) is fulfilled by the lessee and have been fully and properly carried out by the lessee and unless a demand or claim under this Guarantee Bond is made on us in writing by the Government on or before the 31st March 2008, we shall be discharged from all liabilities under this Guarantee Bond.

5. We, State Bank Of India Gadchandur Dist. Chandrapur (M.S.) _further agree with the Government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the approval letter to extend time of performance by the said lessee or for any forbearance act or omission on the part of the Government to the lessee or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so reliving us.

6. This guarantee will not be discharged due to the change in the constitution of the bank or the said lessee.

7. We, State Bank Of India Gadchandur Dist. Chandrapur (M.S.) lastly undertake not to revoke this guarantee during its currency acceptance with the previous consent of the Government in writing.

Notwithstanding anything contained herein –

ii) Our liability under this Bank Guarantee shall not exceed 2,92,000/- (Rs two lakhs ninety two thousands only)

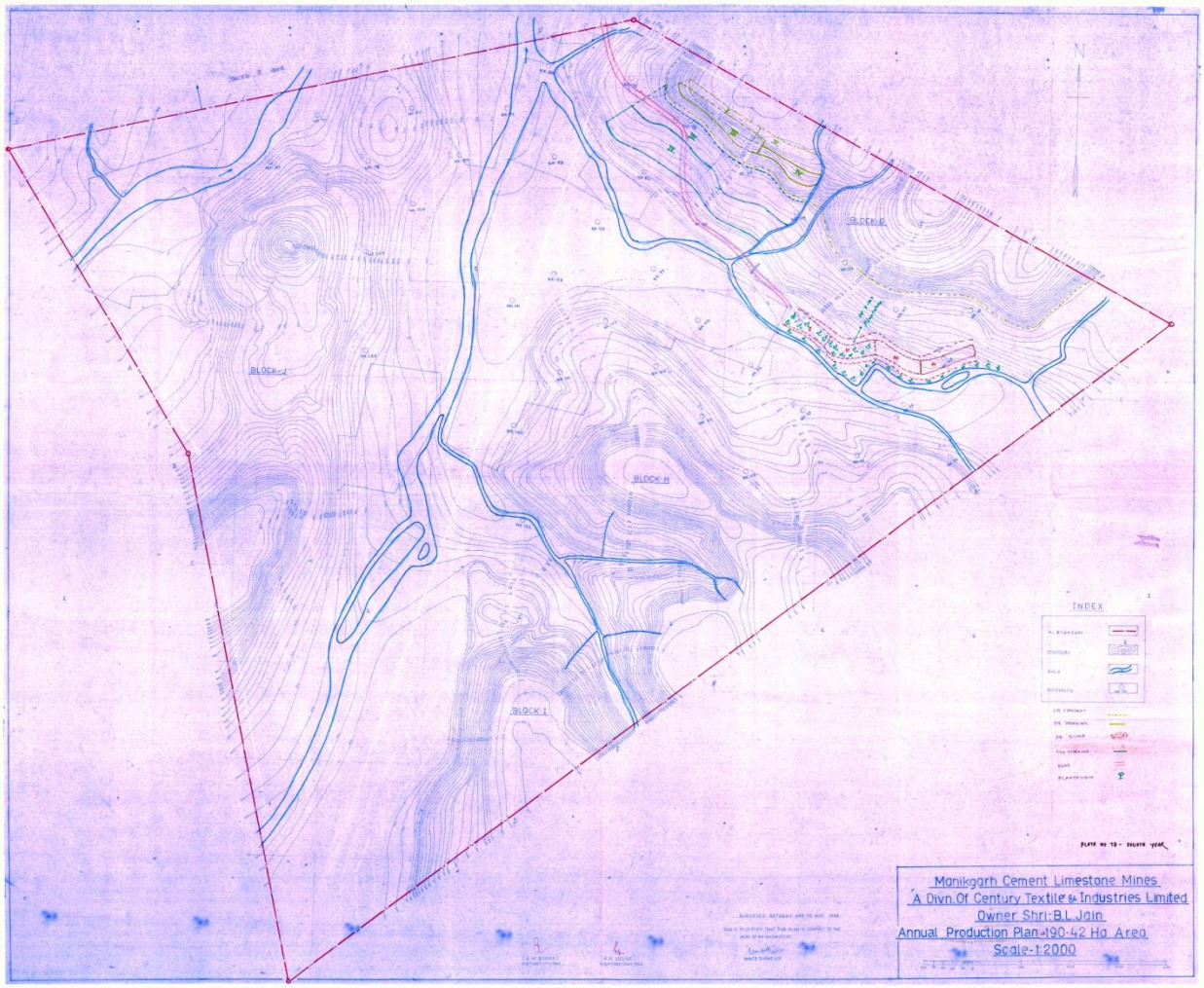
iii) This Guarantee Bond shall be valid up to 31.03.2008.

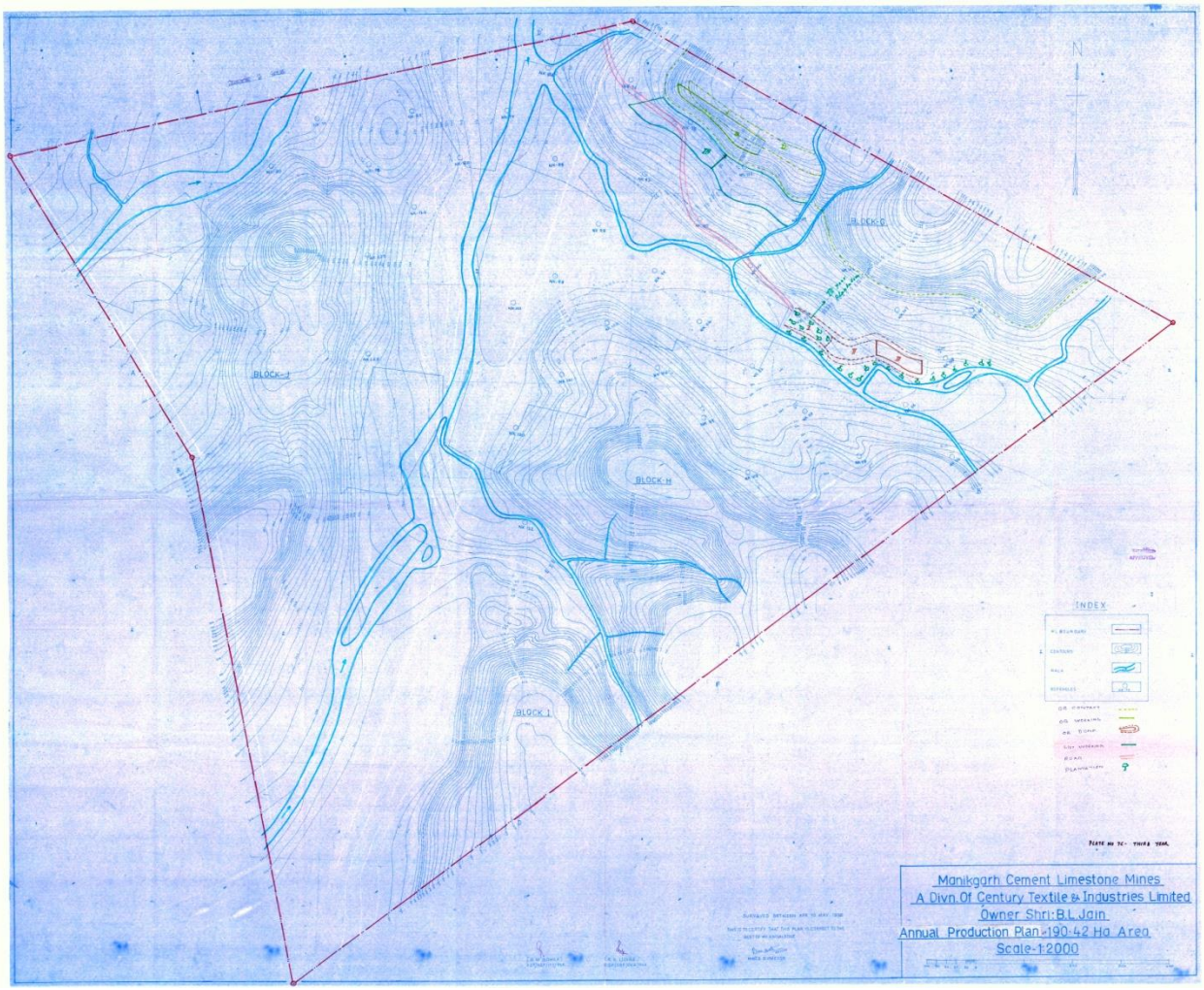
iv) We are liable to pay the guarantee amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before dated 31st March 2008.

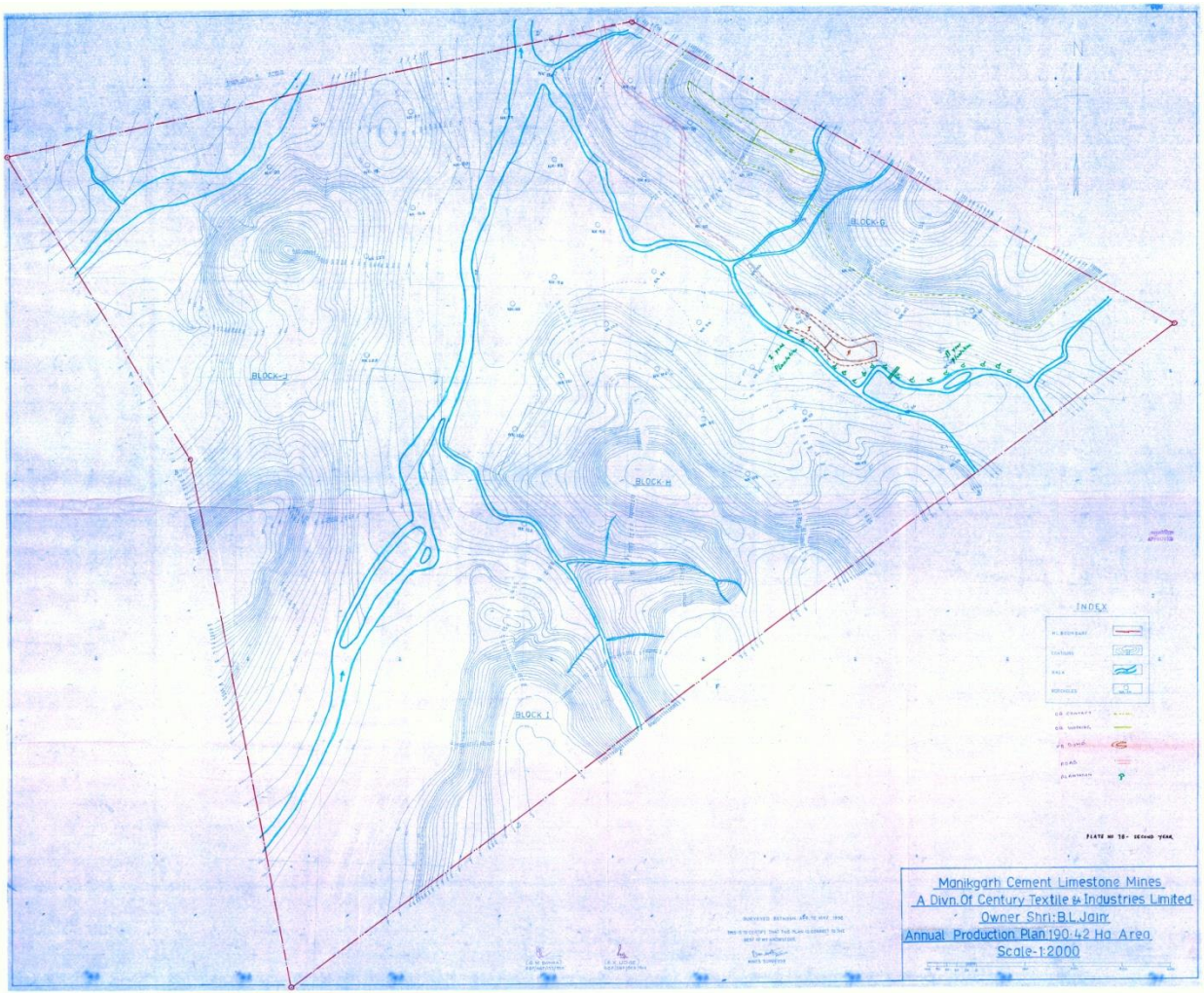
This Bank Guarantee is on behalf of Century Textiles & Industries Limited ("The Lessee") for its Manikgarh Cement Limestone Mines balance mining lease area 190.42 hectare out of originally sanctioned 493 hectare in Chandrapur district of Maharashtra State.

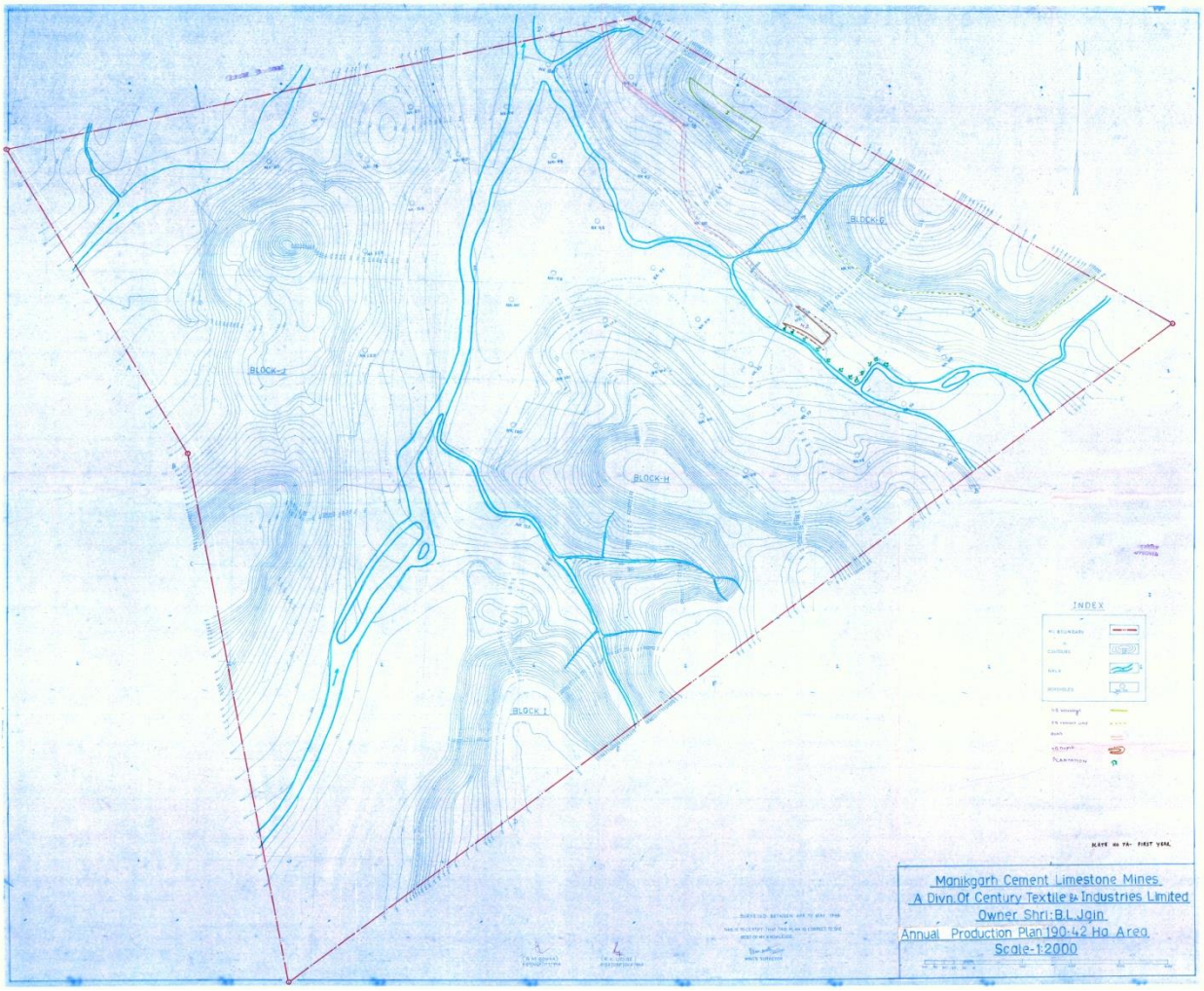
Dated the 2nd day of February 2007.

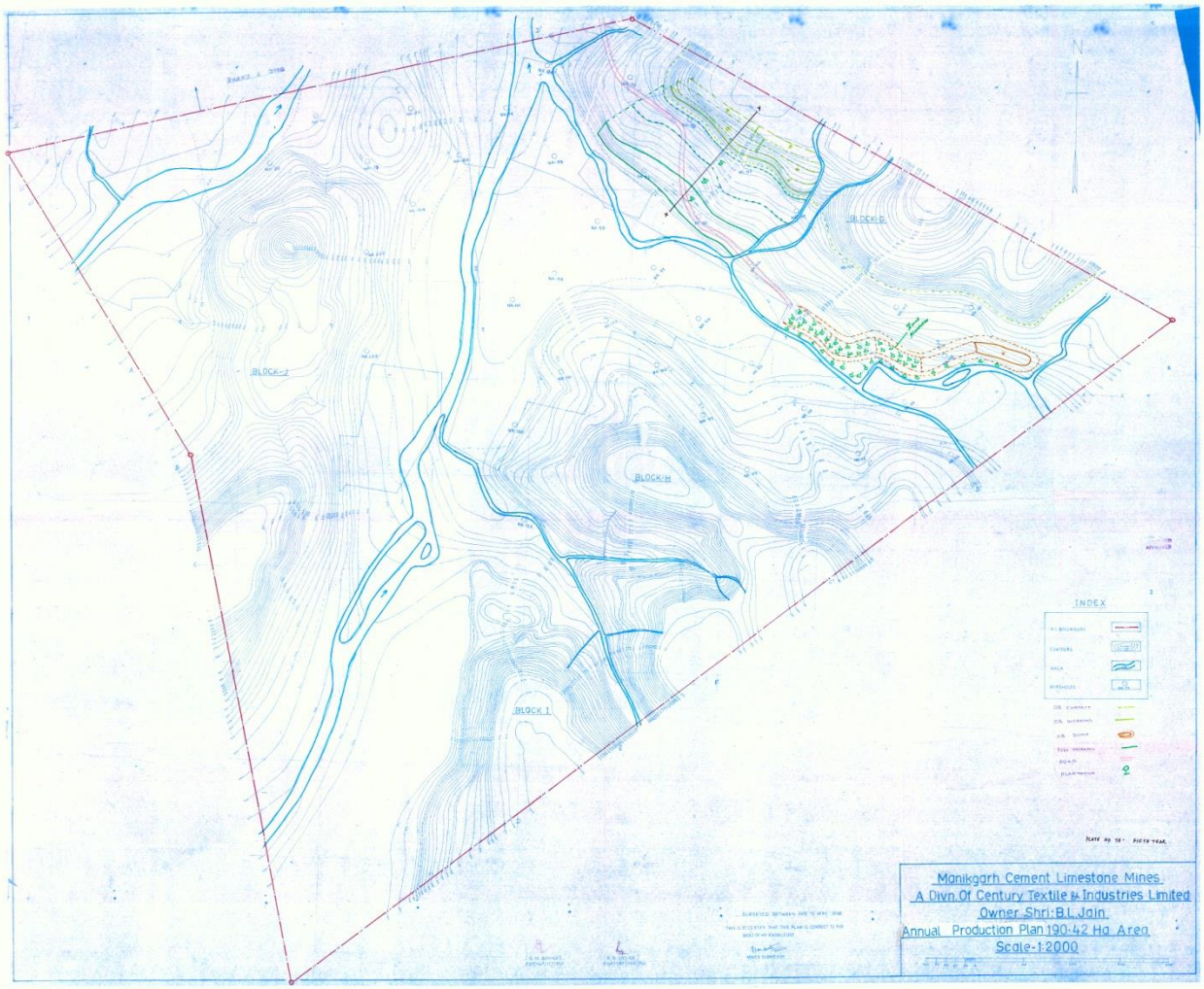
वसंत हस्ते
Vasant Haste
H - 444

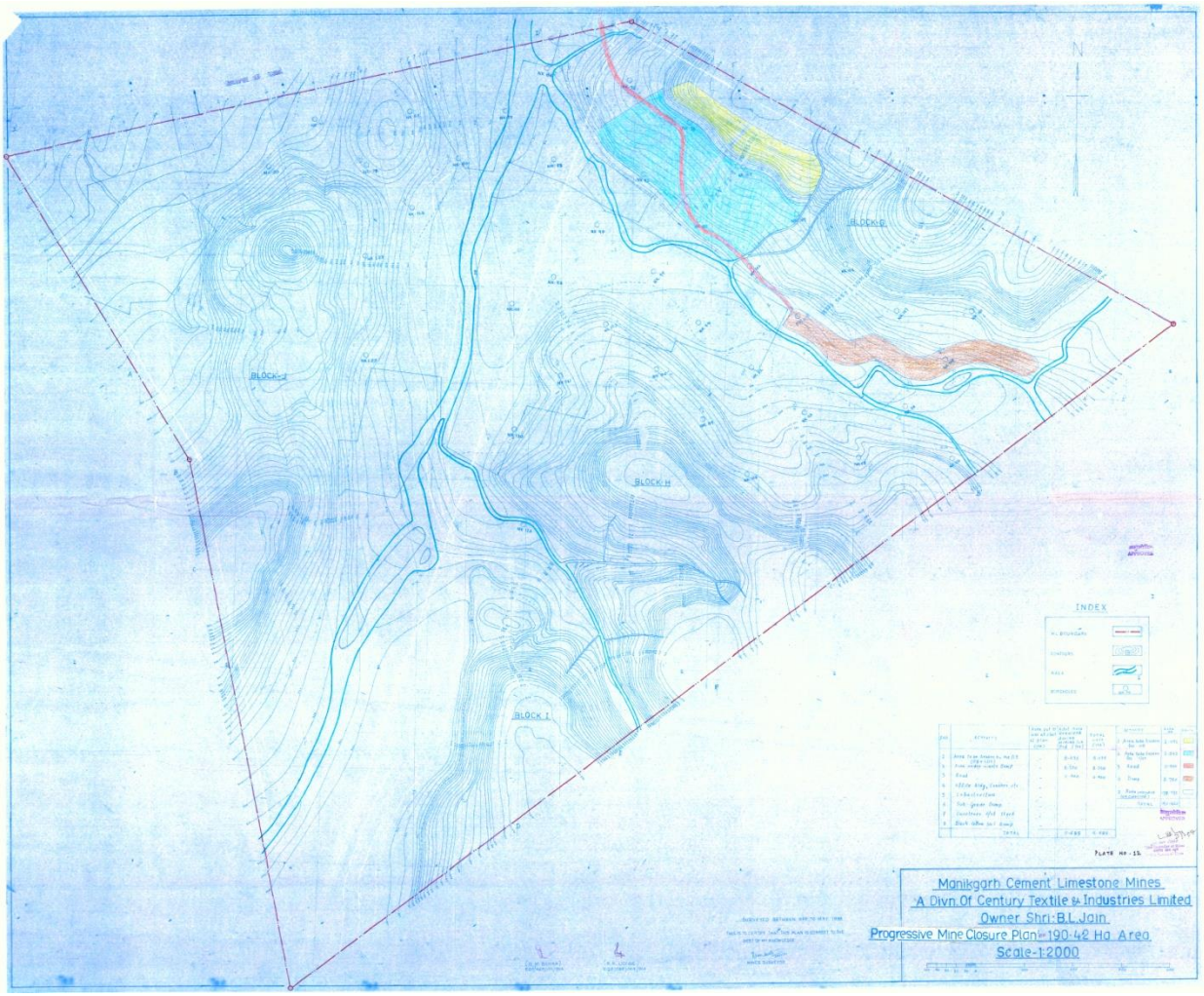

N
BLOCK-J
BLOCK-H
BLOCK-I
INDEX
Manikgarh Cement Limestone Mines
A Divn. Of Century Textile & Industries Limited
Owner Shri: B.L. Jain
Annual Production Plan=190.42 Ha. Area
Scale-1:2000


N
BLOCK-G
BLOCK-J
BLOCK-H
BLOCK-I
INDEX
Manikgarh Cement Limestone Mines
A Divn.Of Century Textile & Industries Limited
Owner Shri:B.L.Jain
Annual Production Plan=190.42 Ha. Area
Scale-1:2000

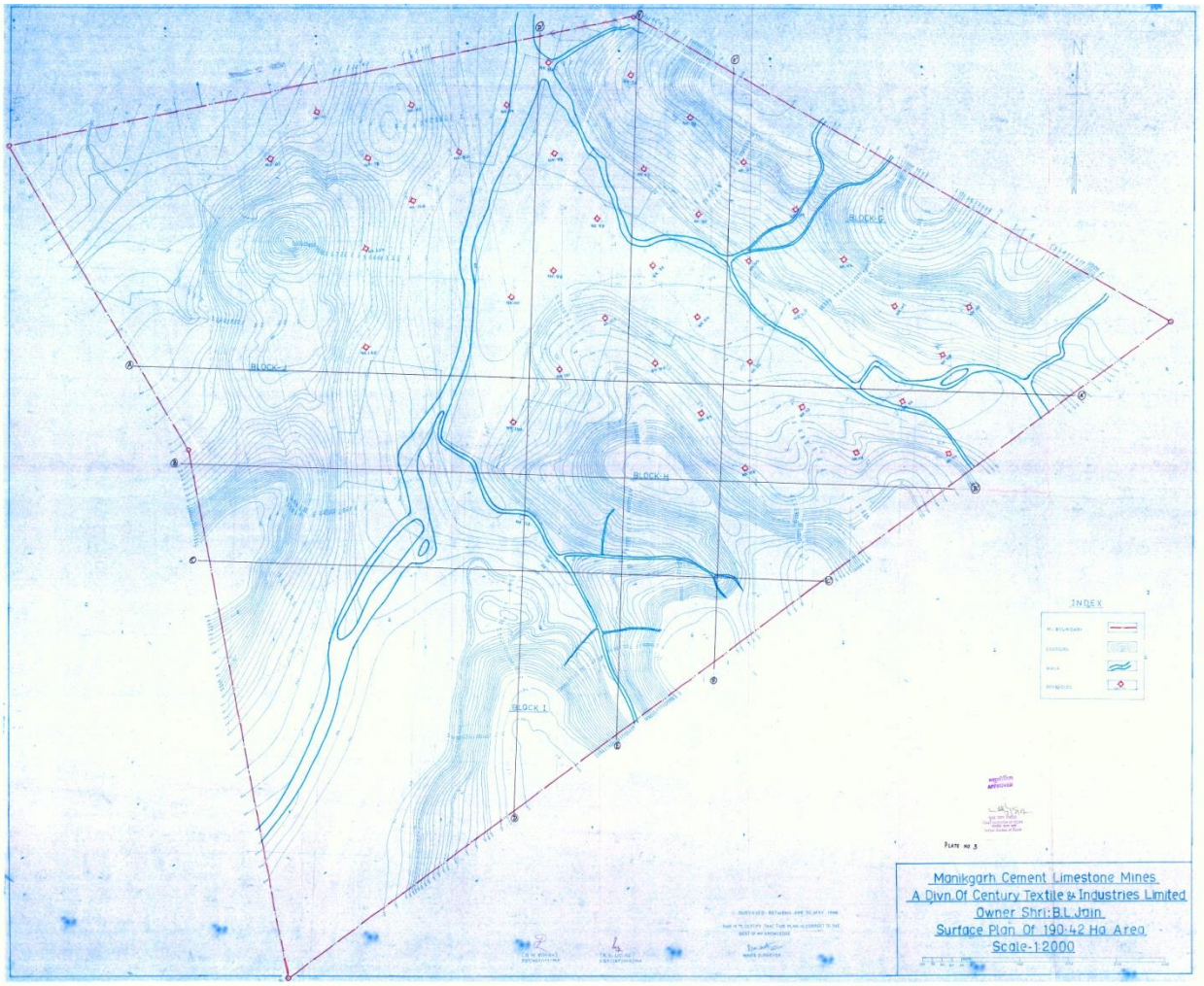

BLOCK-J
BLOCK-G
BLOCK-H
BLOCK-I
INDEX
Manikgarh Cement Limestone Mines
A Divn Of Century Textile & Industries Limited
Owner Shri: B.L. Jain
Annual Production Plan 190.42 Ha Area
Scale-1:2000

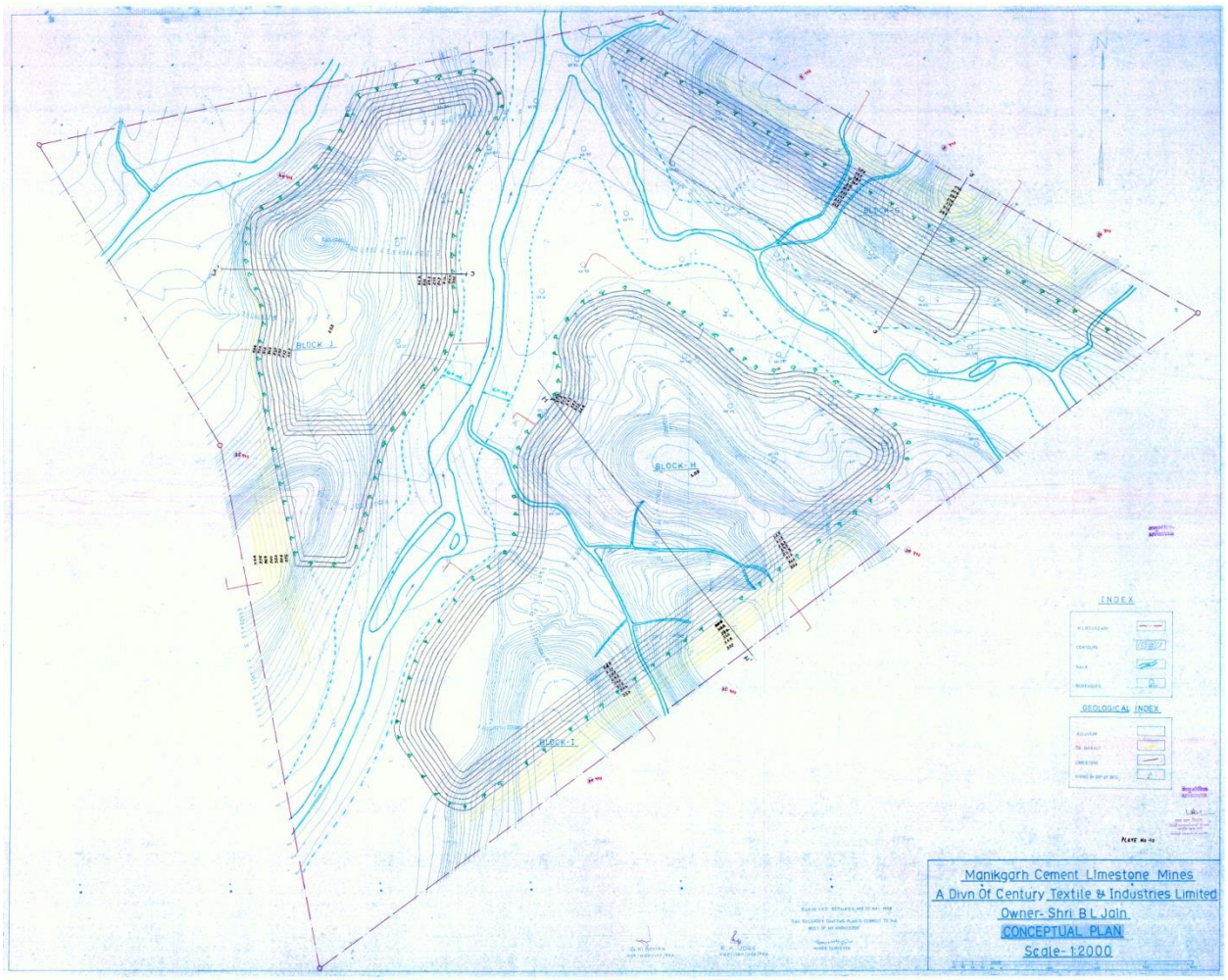

N
BLOCK-G
BLOCK-I
BLOCK-H
BLOCK-J
INDEX
Manikgarh Cement Limestone Mines.
A Divn. Of Century Textile & Industries Limited
Owner Shri: B.L. Jain.
Annual Production Plan 190-42 Ha. Area.
Scale-1:2000

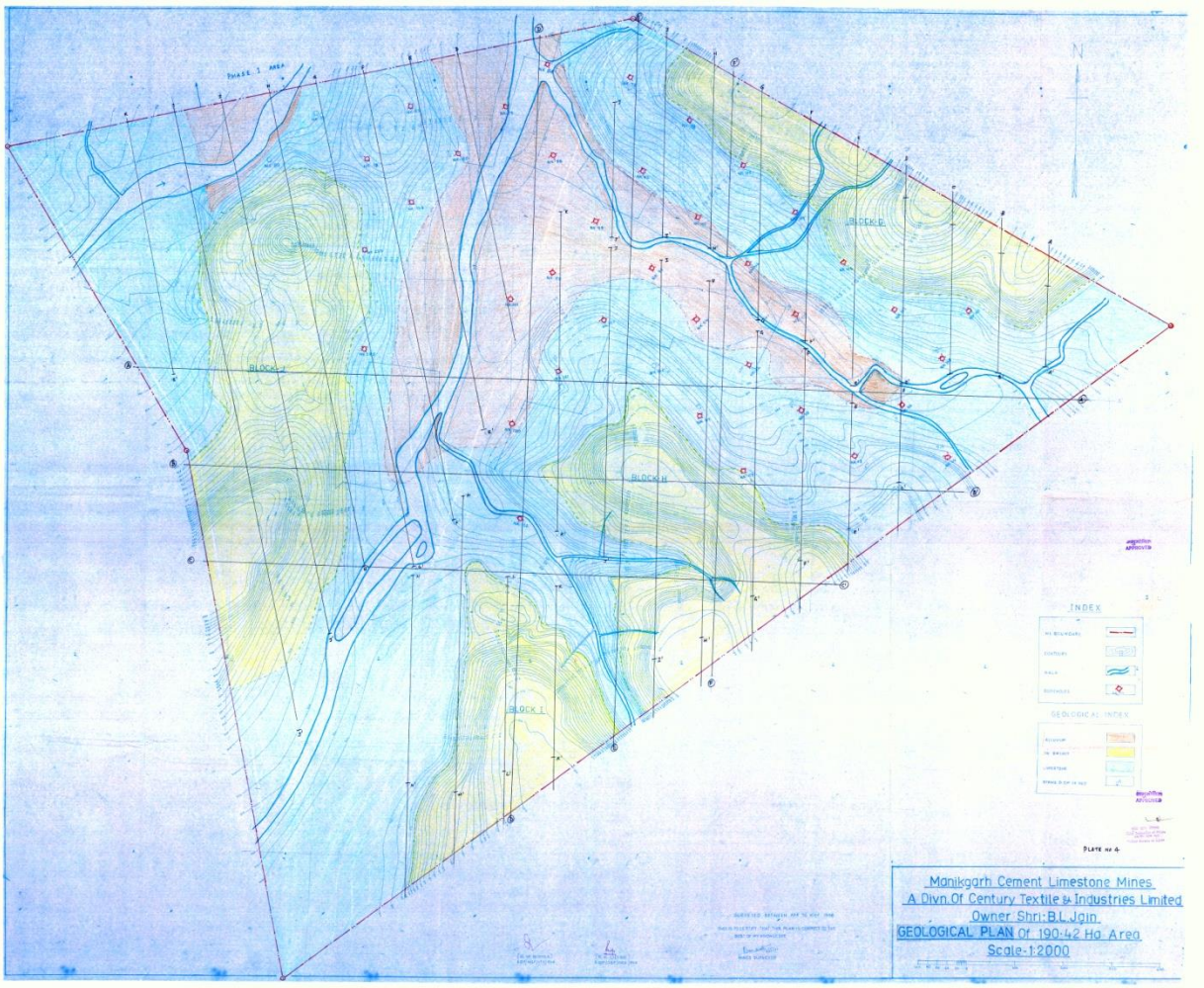

N
BLOCK-II
BLOCK-I
BLOCK-H
BLOCK I
INDEX
Manikgarh Cement Limestone Mines.
A Divn. Of Century Textile & Industries Limited
Owner Shri: B.L. Jain.
Annual Production Plan 190:42 Ha. Area
Scale-1:2000

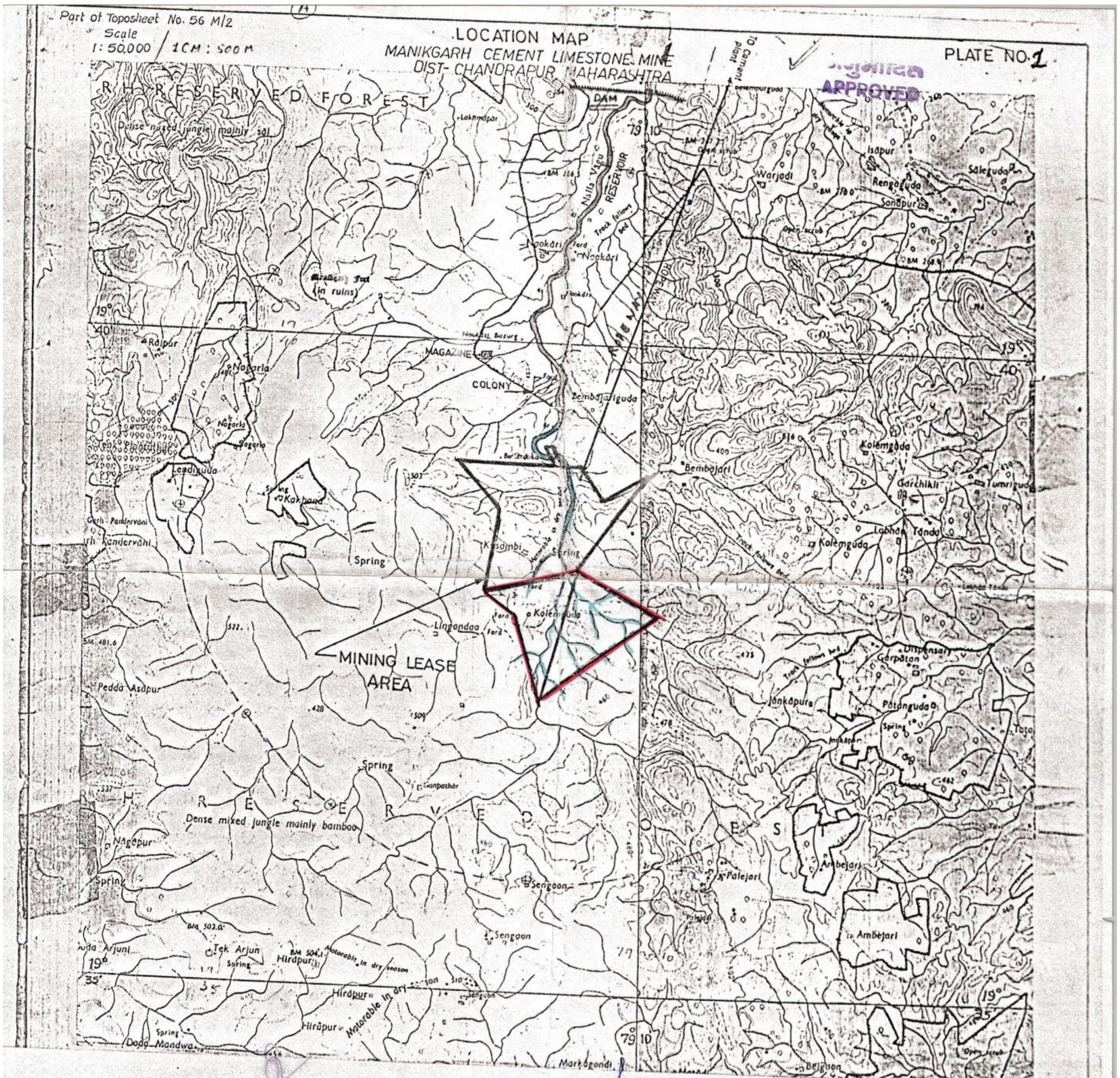


Manikgarh Cement Limestone Mines
A Divn Of Century Textile & Industries Limited
Owner Shri:B.L.Jain
Progressive Mine Closure Plan in 190.42 Ha. Area
Scale-1:2000


N
BLOCK-G
BLOCK-I
BLOCK-H
BLOCK-J
INDEX
PLATE NO 5
Manikgarh Cement Limestone Mines
A Divn.Of Century Textile & Industries Limited
Owner Shri:B.L.Jain
Surface Plan Of 190.42 Ha Area
Scale-1:2000

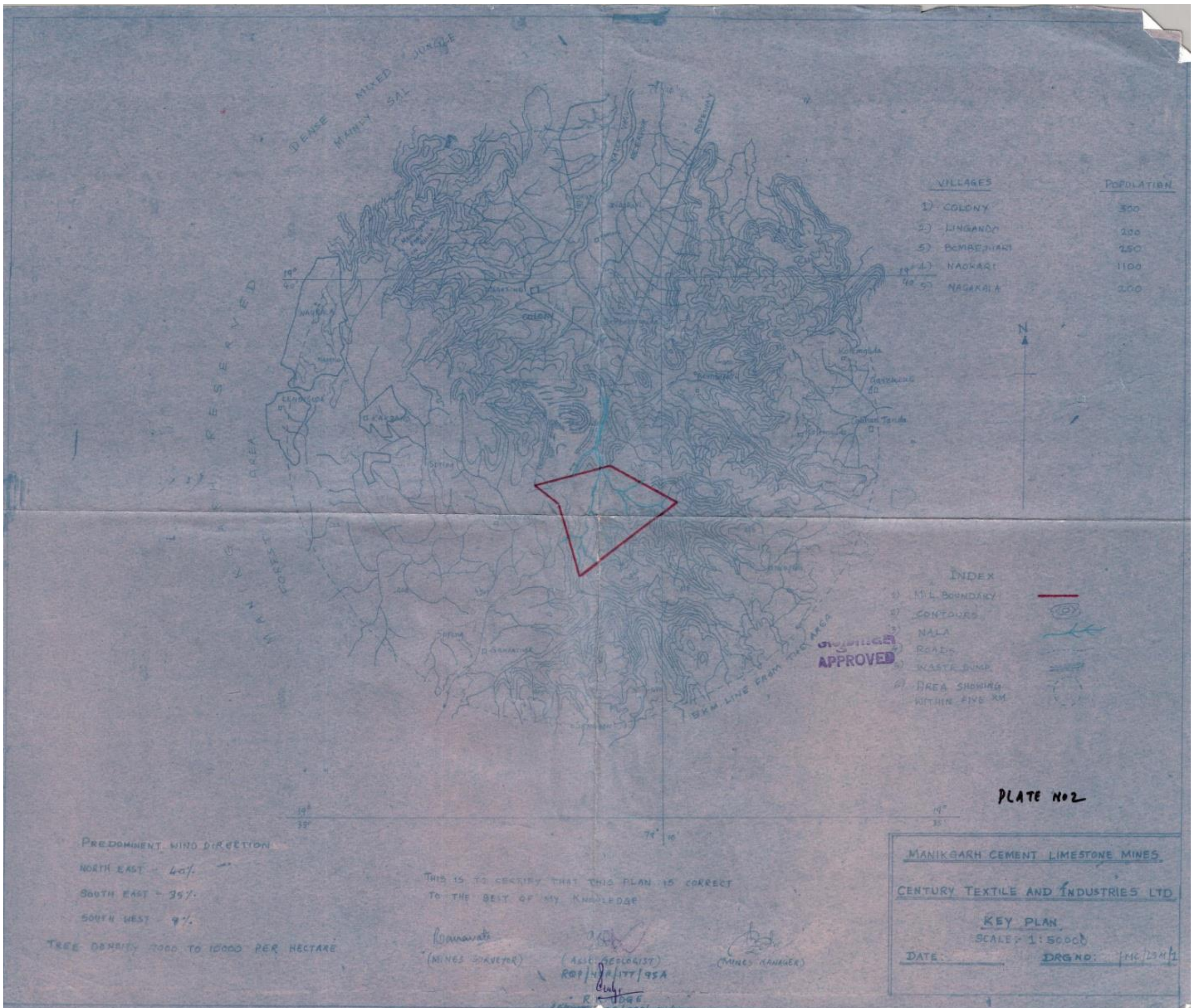

N
BLOCK - J
BLOCK - H
BLOCK - I
INDEX
GEOLOGICAL INDEX
Manikgarh Cement Limestone Mines
A Divn Of Century Textile & Industries Limited
Owner- Shri B L Jain
CONCEPTUAL PLAN
Scale- 1:2000


PHASE I AREA
BLOCK E
BLOCK F
BLOCK H
BLOCK I
N
INDEX
GEOLOGICAL INDEX
PLATE NO 6
Manikgarh Cement Limestone Mines
A Divn Of Century Textile & Industries Limited
Owner Shri: B.L Jain
GEOLOGICAL PLAN Of 190.42 Ha Area
Scale-1:2000



G.M. BOHRA
REG. NO: RQP/NGP/177/95A

R.K. UDGE
REG. NO: RQP/JBP/064/96A.


DENSE MIXED JUNGLE
MAINLY SAL
RESERVED FOREST AREA
VILLAGES
POPULATION
1) COLONY 300
2) LINGANDO 200
3) BOMBEJHARI 250
4) NAOKARI 1100
5) NAGAKALA 200
N
INDEX
1) M.L. BOUNDARY
2) CONTOURS
NALA
ROAD
WASTE DUMP
AREA SHOWING WITHIN FIVE KM
APPROVED
PLATE NO 2
PREDOMINENT WIND DIRECTION
NORTH EAST - 40%
SOUTH EAST - 35%
SOUTH WEST - 9%
TREE DENSITY 2000 TO 10000 PER HECTARE
THIS IS TO CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE
(MINES SURVEYOR)
(ASST. GEOLOGIST)
RQP/
/177/95A
(MINES MANAGER)
MANIKGARH CEMENT LIMESTONE MINES
CENTURY TEXTILE AND INDUSTRIES LTD
KEY PLAN
SCALE :- 1:50000
DATE:
DRG.NO:

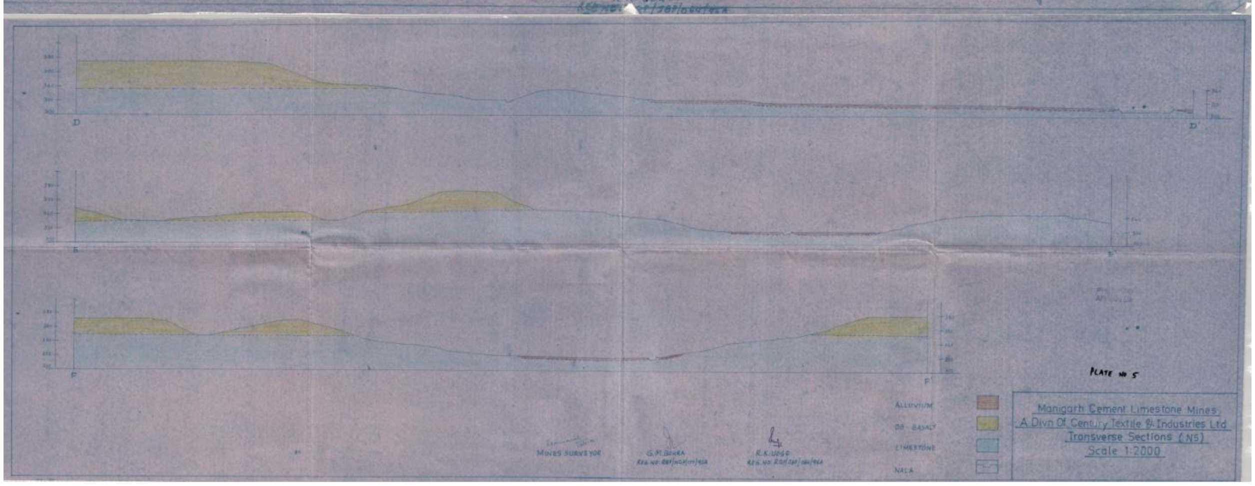


PLATE NO 5
ALLUVIUM
OB - BASALT
LIMESTONE
NALA
MINES SURVEYOR
G.M. BOHRA
R.K. UDGE
Manigarh Cement Limestone Mines
A Divn Of Century Textile & Industries Ltd
Transverse Sections (NS)
Scale 1:2000

APPROVED

PLATE NO. 8

OB - BASALT

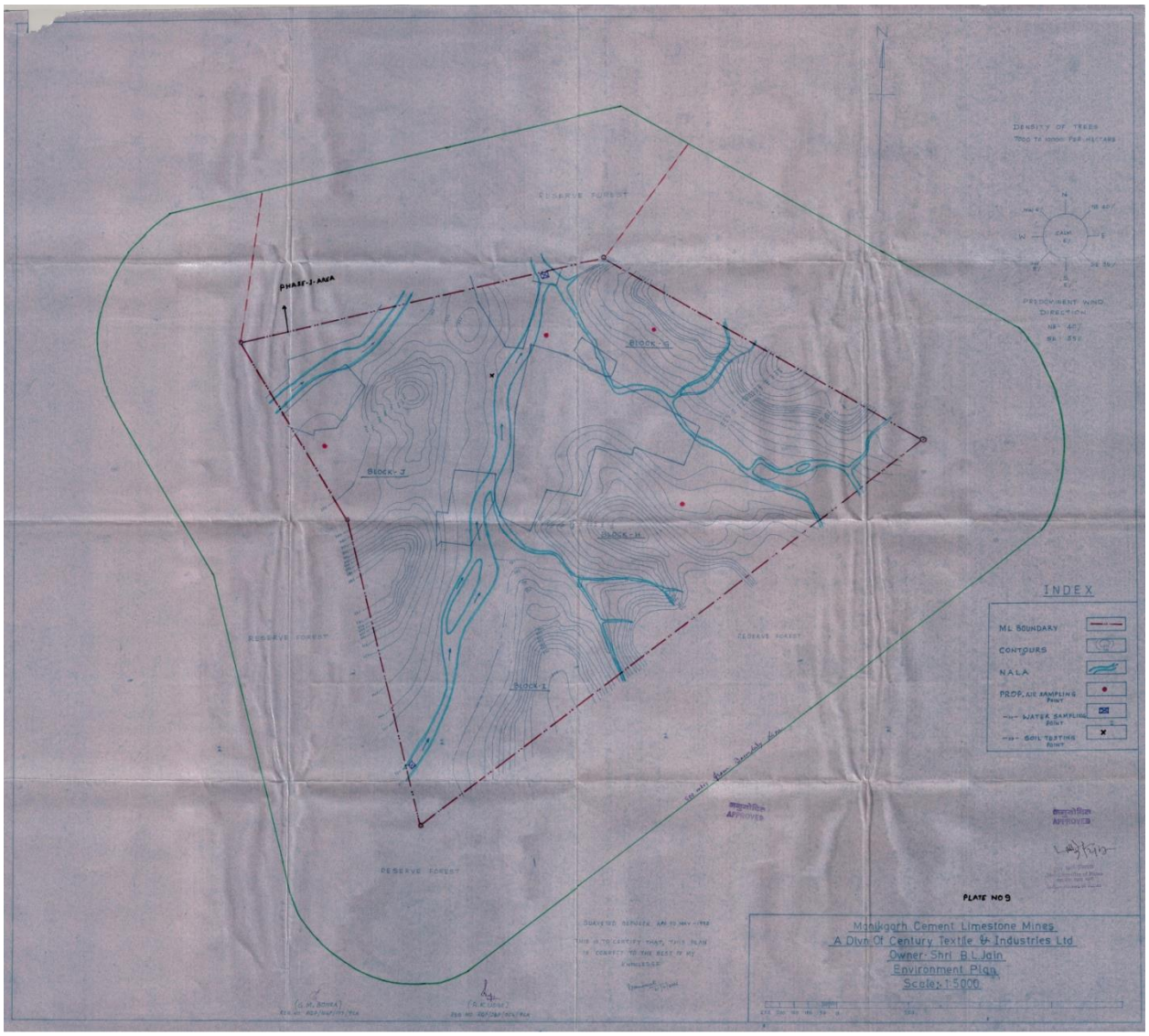
LIMESTONE

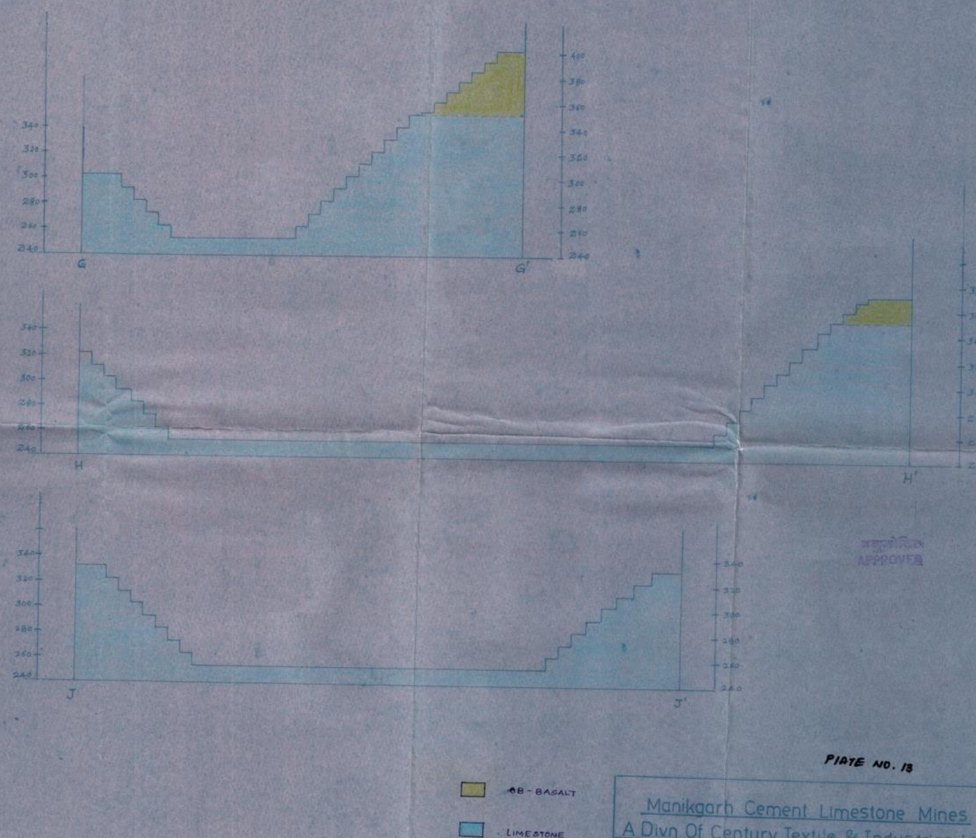
MINES SURVEYOR

G.M. SOMEA
RQP/MSP/177/95A

R.K. JOGE
RQP/JBP/064/96A

Manikgarh Cement Limestone Mines
A Divn Of Century Textile & Industries Ltd
Annual Handling-Section
Scale-1:2000


N
DENSITY OF TREES
1000 TO 1000 PER HECTARE
CALM
PREDOMINENT WIND DIRECTION
NW - 40%
SE - 35%
RESERVE FOREST
PHASE-I AREA
BLOCK-G
BLOCK-J
BLOCK-H
BLOCK-I
INDEX
ML BOUNDARY
CONTOURS
NALA
PROP. AIR SAMPLING POINT
WATER SAMPLING POINT
SOIL TESTING POINT
PLATE NO 9
Manikgarh Cement Limestone Mines
A Div Of Century Textile & Industries Ltd
Owner: Shri B L Jain
Environment Plan
Scale: 1:5000

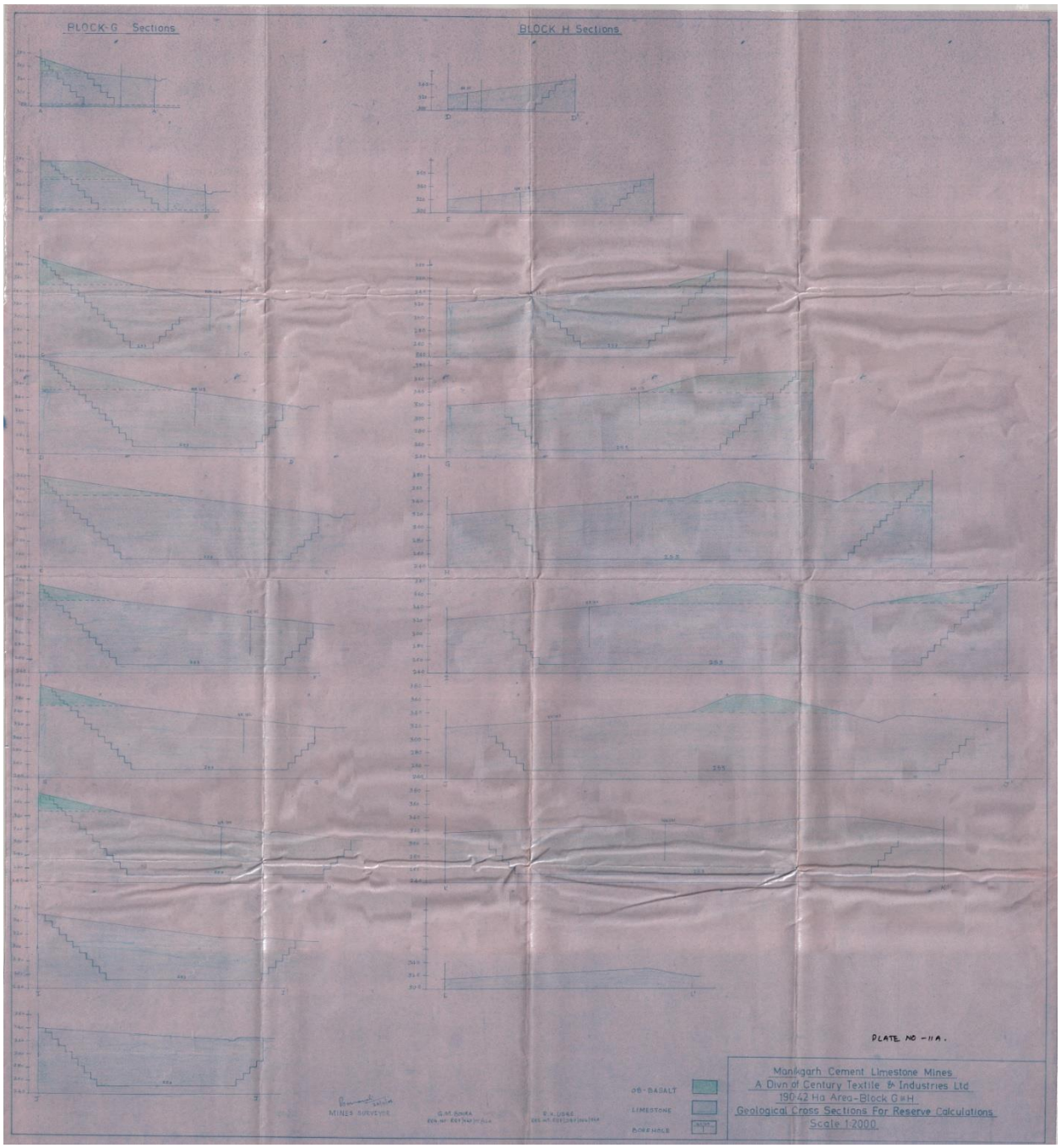


PIATE NO. 13

G.M. BOHRA
REG NO: RQP/NGP/177/95A

R. K. LODE
REG NO: RQP/JBP/064/96A

Manikgarh Cement Limestone Mines
A Divn Of Century Textile & Industries Ltd
Sections For Conceptual Plan
Scale 1:2000


BLOCK-G Sections
BLOCK H Sections
PLATE NO - II A.
Manikgarh Cement Limestone Mines
A Divn of Century Textile & Industries Ltd
190.42 Ha Area-Block G & H
Geological Cross Sections For Reserve Calculations
Scale 1:2000
OB-BASALT
LIMESTONE
BOREHOLE
MINES SURVEYOR

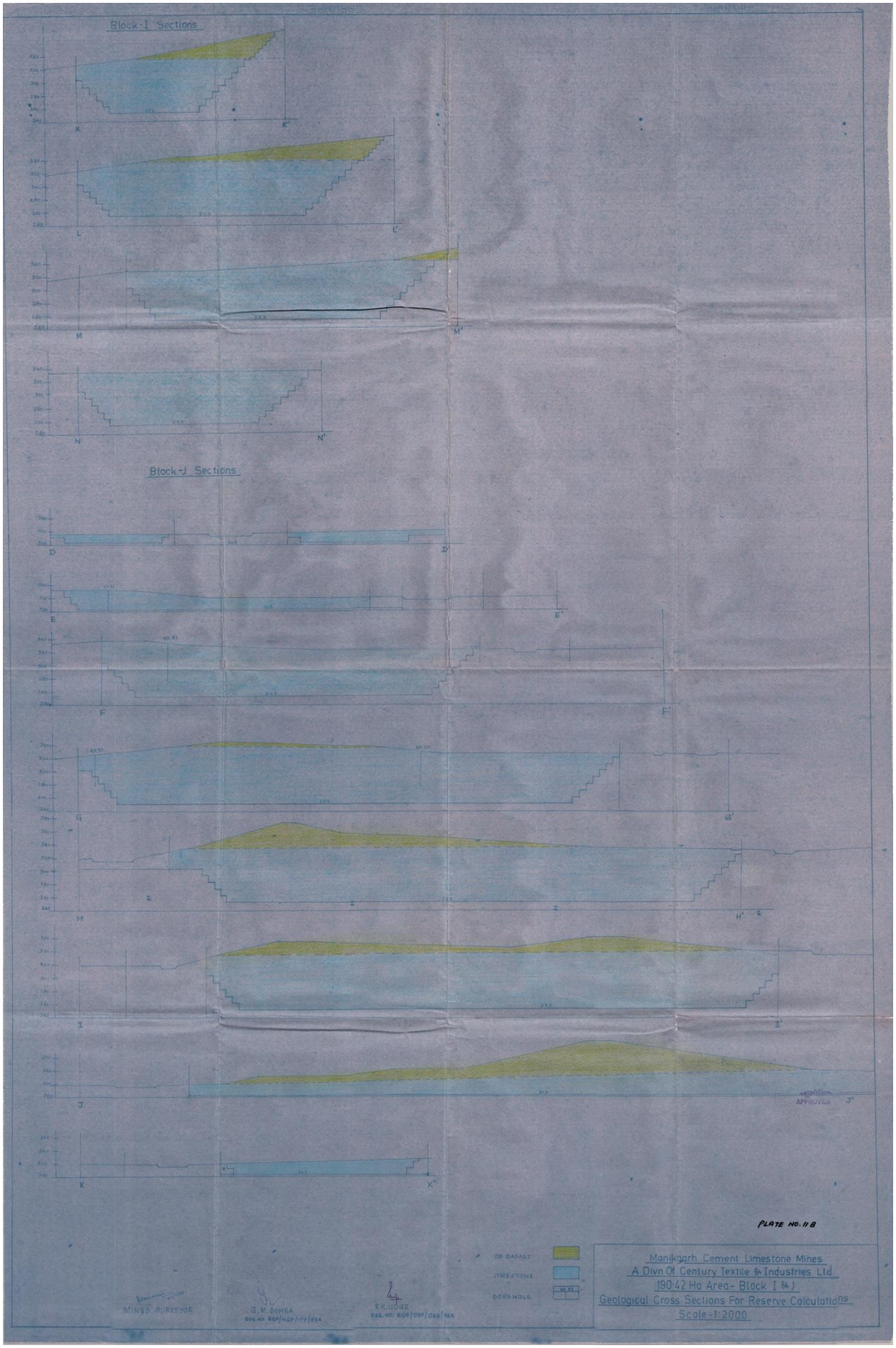


PLATE NO. II B

Manikgarh Cement Limestone Mines
A Divn Of Century Textile & Industries Ltd
190.42 Ha Area - Block I & J
Geological Cross Sections For Reserve Calculations
Scale - 1:2000